5.4

IBM OMEGAMON for Db2 Performance Expert on z/OS Report Reference

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About this information

IBM OMEGAMON for Db2 Performance Expert on z/OS (also referred to as OMEGAMON for Db2 Performance Expert) is a performance analysis, monitoring, and tuning tool for Db2 on z/OS® environments.

The document is part of the OMEGAMON for Db2 Performance Expert documentation library which provides instructions for installing, configuring, and using OMEGAMON for Db2 Performance Expert and is designed to help database administrators, system programmers, application programmers, and system operators perform these tasks:

- Plan for the installation of OMEGAMON for Db2 Performance Expert
- Install and operate OMEGAMON for Db2 Performance Expert
- Customize your OMEGAMON for Db2 Performance Expert environment
- Diagnose and recover from OMEGAMON for Db2 Performance Expert problems
- Design and write applications for OMEGAMON for Db2 Performance Expert
- Use OMEGAMON for Db2 Performance Expert with other DB2 products

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Chapter 1. Overview

IBM OMEGAMON for Db2 Performance Expert on z/OS (OMEGAMON for Db2 Performance Expert) enables you to monitor, analyze, and tune the performance of your Db2 subsystems and Db2 applications.

Service updates and support information

Service updates and support information for this product, including software fix packs, PTFs, frequently asked questions (FAQs), technical notes, troubleshooting information, and downloads, are available from the web.

To find service updates and support information, see the following website:

https://www.ibm.com/support/pages/omegamon-xe-db2-pepm-web-based-delivery-and-updates-windows-and-unix-based-components

How to read syntax diagrams

The rules in this section apply to the syntax diagrams that are used in this publication.

Arrow symbols

Read the syntax diagrams from left to right, from top to bottom, following the path of the line.

►►—

Two right arrows followed by a line indicate the beginning of a statement.

—►

One right arrow at the end of a line indicates that the statement syntax is continued on the next line.

►—

One right arrow followed by a line indicates that a statement is continued from the previous line.

—►◄

A line followed by a right arrow and a left error indicates the end of a statement.

Conventions

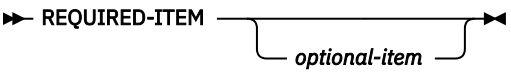
- SQL commands appear in uppercase.
- Variables appear in italics (for example, *column-name*). They represent user-defined parameters or suboptions.
- When entering commands, separate parameters and keywords by at least one blank if there is no intervening punctuation.
- Enter punctuation marks (slashes, commas, periods, parentheses, quotation marks, equal signs) and numbers exactly as given.
- Footnotes are shown by a number in parentheses, for example, (1).

Required items

Required items appear on the horizontal line (the main path).

Optional items

Optional items appear below the main path.



If an optional item appears above the main path, that item has no effect on the execution of the statement and is used only for readability.

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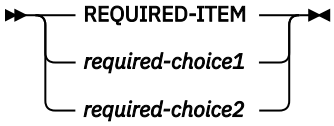
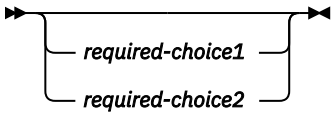
Multiple required or optional items

If you can choose from two or more items, they appear vertically in a stack. If you *must* choose one of the items, one item of the stack appears on the stack main path.

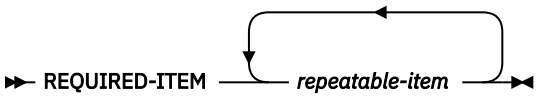


If choosing one of the items is optional, the entire stack appears below the main path.

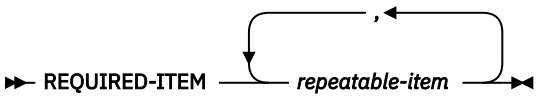


Repeatable items

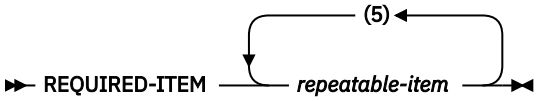
An arrow returning to the left above the main line indicates that an item can be repeated.



If the repeat arrow contains a comma, you must separate repeated items with a comma.



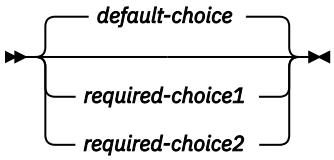
If the repeat arrow contains a number in parenthesis, the number represents the maximum number of times that the item can be repeated.



A repeat arrow above a stack indicates that you can specify more than one of the choices in the stack.

Default keywords

IBM-supplied default keywords appear above the main path, and the remaining choices are shown below the main path. In the parameter list following the syntax diagram, the default choices are underlined.



Conventions

These conventions are used throughout the documentation.

Symbols

The following symbols might appear in command syntax:

Symbol	Usage
|	The **or** symbol is used to denote a choice. You can use the argument on the left or the argument on the right. For example: `YES | NO` In this example, you can specify YES or NO.
( )	Denotes optional arguments. Arguments that are not enclosed in square brackets are required. For example: `APPLDEST DEST (ALTDEST)` In this example, DEST is a required argument and ALTDEST is optional.
{ }	Some documents use braces to denote mandatory arguments, or to group arguments for clarity. For example: `COMPARE {workload} - REPORT={SUMMARY | HISTOGRAM}` In this example, the workload variable is mandatory. The REPORT keyword must be specified with a value of SUMMARY or HISTOGRAM.
_	Default values are underscored. For example: `COPY infile outfile - [COMPRESS={YES | NO}]` In this example, the COMPRESS keyword is optional. If specified, the only valid values are YES or NO. If omitted, the default is YES.

Notation conventions

The following conventions are used when referring to high-level qualifiers:

hilev
A high-level qualifier. The high-level qualifier is the first prefix or set of prefixes in the data set name. Site-specific high-level qualifiers are shown in italics.

For example:

- *thilev* refers to the high-level qualifier for your target data set.
- *rhilev* refers to the high-level qualifier for your runtime data set.

  For members in target libraries, the high-level qualifier is *thilev* rather than *rhilev*.
- *shilev* refers to the SMP/E library high-level qualifier.

Terminology

The following table shows the products that are described in this publication and the short names with which they are referred to throughout this publication.

Table 1. Product names and their short names

Product name	Short name
IBM OMEGAMON for Db2 Performance Expert on z/OS	OMEGAMON for Db2 Performance Expert

Accessibility features

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use a software product successfully.

The major accessibility features in this product enable users to perform the following activities:

- Use assistive technologies such as screen readers and screen magnifier software. Consult the assistive technology documentation for specific information when using it to access z/OS interfaces.
- Customize display attributes such as color, contrast, and font size.
- Operate specific or equivalent features by using only the keyboard. Refer to the following publications for information about accessing ISPF interfaces:
  - *z/OS ISPF User's Guide, Volume 1*
  - *z/OS TSO/E Primer*
  - *z/OS TSO/E User's Guide*

  These guides describe how to use the ISPF interface, including the use of keyboard shortcuts or function keys (PF keys), include the default settings for the PF keys, and explain how to modify their functions.

Chapter 2. Logs

This topic provides information about the OMEGAMON® for Db2 PE logs.

The OMEGAMON for Db2 PE logs provide summarized information about various events during OMEGAMON for Db2 PE execution. You can save some of this summarized information for use in later processing. The following events are reported:

- Records in exception status
- DB2 START/STOP TRACE commands
- Reduction interval completion by report set
- SAVE subcommand completion by report set
- RESTORE subcommand completion by report set
- Errors and messages
- IFCID record distribution

How to generate logs or how to prevent log generation

The OMEGAMON for Db2 PE logs are generated automatically for each OMEGAMON for Db2 PE execution, provided there are valid DD statements in your JCL. To prevent generation of these logs, omit the ddname from your JCL (the preferred method), or specify DUMMY in the definition.

Different log types

The following OMEGAMON for Db2 PE logs are available:

- The *DPMLOG execution log* provides a listing of messages issued during command stream validation and OMEGAMON for Db2 PE initialization. It also reports any errors during the execution of OMEGAMON for Db2 PE.
- The *exception log* provides a listing identifying accounting and statistics records with at least one field containing a value outside user-specified limits.
- The *job summary log* includes the following occurrences in OMEGAMON for Db2 PE processing:
  - Detection of a DB2 START TRACE or DB2 STOP TRACE command
  - Reduction interval completion by report set
  - SAVE subcommand completion by report set
  - RESTORE subcommand completion by report set
  - Key error and warning messages
- The *IFCID frequency distribution log* provides the count of the input and processed trace records accumulated by IFCID. For each IFCID, a percentage of the total number of input and processed records is calculated.

DPMLOG Execution Log

This topic provides details about the DPMLOG Execution log.

The DPMLOG Execution log shows:

- Messages issued during OMEGAMON for Db2 PE initialization
- Command stream syntax errors
- Information, warning, and error messages issued during processing

Note: It is recommended that you check the DPMLOG messages after each batch execution, even if the job returned "0" as completion code.

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How to generate a DPMLOG Execution log

If the DPMLOG DD statement is omitted, such a statement is dynamically allocated and the output is directed to the default SYSOUT class specified for the job.

Example of a DPMLOG Execution log - SYSPRINT message log

The field labels shown in the following sample of a SYSPRINT message log are described in the following section.

```
                                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1
                                                   EXECUTION LOG                                RUN DATE: 06/05/15 11:00:49.22


MSG.ID.    DESCRIPTION
---------  ------------------------------------------------------------------------------------------------------------------------
FPEC2001I  COMMAND INPUT FROM DDNAME SYSIN

            ACCOUNTING

                 REDUCE

                    INTERVAL (5)

                 REPORT

                    ORDER    (INTERVAL)

           EXEC
FPEC1999I  SYSTEM INITIALIZATION COMPLETE. RETURN CODE 0

FPEC0999I  EXECUTION COMPLETE. RETURN CODE 0
```

The following sections describe the header and the fields in the DPMLOG Execution log.

The DPMLOG Execution Log Header

This topic describes the header of the DPMLOG Execution log.

The header of the DPMLOG Execution log contains the following information:

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

EXECUTION LOG
The name of the log report.

RUN DATE
The date and time of the OMEGAMON XE for DB2 PE job generating the log. The default format is *mm/dd/yy hh:mm:ss.th*, which can be changed with the DATEFORMAT parameter.

Field Descriptions

This topic describes the fields shown in the DPMLOG Execution log.

MSG.ID.
The message identification in the format *FPEcnnnni*, where:

- *FPE* is the product code for OMEGAMON for Db2 PE
- *c* is the OMEGAMON for Db2 PE module component code
- *nnnn* is the error message number
- *i* is an action code. It can have the following values:
  - I (informational)
  - W (warning)
  - E (error)
  - S (severe error)
  - U (unrecoverable error)

DESCRIPTION
The complete text of the error message.

Exception Log

This topic provides details about the Exception log.

The exception log identifies and lists Accounting and Statistics records with at least one field outside user-specified limits. You can use it to identify DB2 threads and Statistics intervals that contain fields with exceptional values. This helps you recognize performance problems in the DB2 subsystem and in threads.

Exception processing is accomplished by setting values in the exception threshold data set. You can define exception thresholds for specific Accounting and Statistics fields. When exception processing is requested, the instrumentation data is checked against these values. Only records with at least one field containing a value outside the user-specified limits are reported.

The exception log file data set is a sequential data set suitable for use by the DB2 load utility. It contains a listing of Accounting and Statistics exception records identical to the listing in the exception log.

Exception traces are available in the Accounting and Statistics report sets. Each of these relates separately to accounting or statistics data. The exception log reports Accounting and Statistics trace exceptions in the same report, in timestamp order. This helps you identify:

- Applications that might be causing exceptional conditions in the DB2 subsystem
- Exceptional DB2 subsystem conditions that might be causing thread performance problems

Although Accounting and Statistics exception reports are available in addition to traces, report entries are neither listed in the exception log nor stored in the exception log file data set.

Input to Exception Logs

DB2 Statistics and Accounting trace records with IFCID 001 and 002 (statistics) and IFCID 003 and 239 (accounting) are used as input to the exception log.

How to generate an Exception Log

This topic describes how to generate an Exception Log.

There is no OMEGAMON for Db2 PE command to generate the exception log. The exception log is generated automatically for an OMEGAMON for Db2 PE execution when the following DD statements are defined in your JCL:

EXCPTDD
Exception threshold data set

EXTRCDD1
Exception log

To prevent generation of the exception log, omit the EXTRCDD1 statement from your JCL (the preferred method), or specify DUMMY in the definition.

The amount of data reported in the exception log can be controlled by the GLOBAL INCLUDE or GLOBAL EXCLUDE and FROM and TO specifications.

Example of the Exception Log

This topic provides an example of an Exception Log.

Exception Log - example

The header and fields shown in the example of the Exception Log are described in the following sections.

```
   LOCATION: LOCA1_LAB                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: N/P                                    EXCEPTION LOG
     MEMBER: N/P
  SUBSYSTEM: DB1G                                                                          ACTUAL FROM: 06/30/15
20:34:09.92
DB2 VERSION: V10                                                                             PAGE DATE: 06/30/15

PRIMAUTH CONNECT  EXCEPTION TIME   PER                                                          CALCULATED          THRESHOLD
ORIGAUTH CORRNAME INSTANCE               FIELD ID FIELD DESCRIPTION                          BY       OR      OP   VALUE     TYPE
PLANNAME CORRNMBR CONNTYPE                                                                    FIELD VALUE
-------- -------- -------------- ----- -------- ---------------------------------------- ------ ------------ - ------------ ----
ADMF001  BATCH    20:34:09.925838 PLAN  ADCPUT   CPU TIME IN APPLICATION (CLASS 1)        TOTAL      0.328675 > 0            PROB
ADMF001  L282DML  X'A981C569657F'       ADRECETT ELAPSED TIME IN APPLICATION (CLASS 1)    TOTAL      3.613503 > 0            PROB
DSNTEP3  'BLANK'  TSO                  ADTDDL   TOTAL SQL DDL STATEMENTS                 TOTAL             0 < 1            WARN
MAINPACK:DSNTEP3                       ADTOTPFL TOTAL PARALL.GROUPS FELL TO SEQUENTIAL   TOTAL             0 < 1            WARN
                                       ADTWTAP  TOTAL WAIT TIME IN APPLICATION (CLASS 1) TOTAL      3.284828 > 0            PROB
                                       ALCLKET  TOTAL LOCK ESCALATIONS                   TOTAL             0 < 1            WARN
                                       ALLPSUSP TOTAL ALL SUSPENSIONS (LOCAL AND GLOBAL) TOTAL             0 < 1            WARN
                                       ALRSUSP  TOTAL ALL SUSPENSIONS                    TOTAL             0 < 1            WARN
                                       ARTTERM  RID LIST TERMINATED - ANY REASON         TOTAL             0 < 1            WARN
                                       ASCDCL   TOTAL SQL DCL STATEMENTS                 TOTAL             1 > 0            PROB
                                       ASCDML   TOTAL SQL DML STATEMENTS                 TOTAL            27 > 0            PROB
                                       ASIUD    TOTAL INSERTS, UPDATES AND DELETES       TOTAL             0 < 1            WARN
                                       QTXACLUN CLAIM REQUESTS UNSUCCESSFUL              TOTAL             0 < 1            WARN
                                       QTXADEA  DEADLOCKS                                TOTAL             0 < 1            WARN
                                       QTXADRUN DRAIN REQUESTS UNSUCCESSFUL              TOTAL             0 < 1            WARN
                                       QTXALES  LOCK ESCALATIONS - SHARED                TOTAL             0 < 1            WARN
                                       QTXALEX  LOCK ESCALATIONS - EXCLUSIVE             TOTAL             0 < 1            WARN
                                       QTXANPL  MAXIMUM PAGE LOCKS HELD                  TOTAL             7 > 0            PROB
                                       QTXASLOC LOCK SUSPENSIONS                         TOTAL             0 < 1            WARN
                                       QTXATIM  TIMEOUTS                                 TOTAL             0 < 1            WARN
                                       QWACABRT ROLLBACKS                                TOTAL             0 < 1            WARN
                                       QWACCOMM COMMITS                                  TOTAL             1 > 0            PROB
                                       QXCALLAB STORED PROCEDURE ABENDS                  TOTAL             0 < 1            WARN
                                       QXCALLRJ CALL STATEMENT REJECTS                   TOTAL             0 < 1            WARN
                                       QXCALLTO CALL STATEMENT TIMEOUTS                  TOTAL             0 < 1            WARN
                                       QXDEGBUF PARALL.GROUPS FELL TO SEQ-NO BUFFER      TOTAL             0 < 1            WARN
                                       QXDEGCUR PARALL.GROUPS FELL TO SEQ-CURSOR UPD/DEL TOTAL             0 < 1            WARN
                                       QXDEGESA PARALL.GROUPS FELL TO SEQ-NO ESA SORT    TOTAL             0 < 1            WARN
                                       QXINCRB  INCREMENTAL BINDS                        TOTAL             0 < 1            WARN
                                       QXMAXDEG MAX DEGREE OF I/O PARALLELISM            TOTAL             3 > 0            PROB
                                       QXMRMIAP RID LIST TERMINATED - MAXIMUM LIMIT      TOTAL             0 < 1            WARN
                                       QXNSMIAP RID LIST TERMINATED - NO STORAGE         TOTAL             0 < 1            WARN
                                       QXREDGRP PARALL.GROUPS RUN WITH REDUCED DEGREE    TOTAL             0 < 1            WARN
                                       ABCLSPR  BP0 TOTAL PREFETCH REQUESTS              TOTAL             0 < 1            WARN
                                       QBACGET  BP0 GETPAGES                             TOTAL            33 > 0            PROB
                                       QBACIMW  BP0 SYNCHRONOUS WRITES                   TOTAL             0 < 1            WARN
                                       QBACRIO  BP0 SYNCHRONOUS READS                    TOTAL             0 < 1            WARN

EXCEPTION LOG COMPLETE
```

The following sections describe the header and the fields in the Exception Log.

The Exception Log Header

This topic describes the header of the Exception log.

The header of the Exception log contains the following information:

LOCATION
The DB2 reporting location. If the location name is not available, the DB2 data sharing group name is printed in this field. If the DB2 data sharing group name does not exist, the DB2 subsystem ID is printed.

GROUP
The name of the DB2 data sharing group. This field shows N/A if there is no group name.

MEMBER
The name of the DB2 data sharing member or the member name of the DB2 subsystem. This field shows N/A if there is no member name.

This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data. This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

DB2 VERSION
The DB2 version number of the subsystem that generated the data.

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

EXECUTION LOG
The name of the log report.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

ACTUAL FROM/TO
The date and time of the first and last record included in the log for a location, group, subsystem, or member.

PAGE DATE
The date of the timestamps printed on this page. A page break occurs at the change of the date. This is useful if a trace page contains more than one entry and the date is not shown for each entry.

Field Descriptions

This topic describes the fields of an Exception Log.

The following fields are shown including OMEGAMON for Db2 PE:

PRIMAUTH
The primary authorization ID of the thread.

ORIGAUTH
The original authorization ID of the thread.

PLANNAME
The DB2 application plan name of the thread.

CONNECT
The DB2 connection ID of the thread.

CORRNAME
The correlation name of the thread.

CORRNMBR
The correlation number of the thread.

EXCEPTION TIME
For accounting records, this is the accounting timestamp. For statistics records, this is the END TIME of the statistics interval in which the exception occurred.

INSTANCE
The LUW instance number.

CONNTYPE
The type of connection for the associated thread. Values are:

CICS
CICS® Attach

DB2 PRIV
DB2 private protocol

DB2CALL
DB2 CALL Attach

DLI-BTCH
DL/I Batch

DRDA
DRDA protocol

IMS-CNTL
IMS Control Region

IMS-BMP
IMS nontransaction-oriented BMP

IMS-MPP
IMS Attach MPP

IMS-TBMP
IMS transaction-oriented BMP

RRS
RRS attach

TSO
TSO foreground and background

UTILITY
Utility attach

If connection type is not present, 'BLANK' is printed.

MAINPACK
This identifier is used to distinguish plans according to the packages they contain.

PER
This identifies the log entry as an exception per system, per plan, or per program.

FIELD ID
The field ID of the accounting or statistics field in exception status.

FIELD DESCRIPTION
A description of the field in exception status. This description matches, as closely as possible, the terminology used in the Accounting and Statistics reports. If the field in exception status is a buffer pool field, the buffer pool ID is printed in front of the field description on the same line. Values are:

- BP0 — BP49
- BP32K — BP32K9

All nondistributed fields for an accounting thread or statistics interval are listed first. Any distributed fields in exception status follow the nondistributed fields and are grouped by remote location. Packages follow after DDF and are grouped by package name.

BY
The basis used for comparing values in the records to values in the exception threshold data set. Values are:

- TOTAL — an absolute value (the default)
- MINUTE — by minute
- SECOND — by second
- COMMIT — by commit
- THREAD — by thread

CALCULATED OR FIELD VALUE
The value from the field in exception status — either an absolute value or a value calculated according to the comparison basis.

Time values are reported in the format *sssssss.thtt*, where *sssssss* is time in seconds and *thtt* is in tenths, hundredths, thousandths, and ten-thousandths of seconds. Integer values such as aborts and selects are reported in the format *nnnnnnnnnnn*. Other values are reported in the format *nnnnnnnnn.nn*.

OP
The greater than (>) or less than (<) operator.

THRESHOLD VALUE
The value defined in the exception threshold data set, above or below which the actual value must fall to be considered in exception status.

THRESHOLD TYPE
Describes whether the THRESHOLD VALUE is defined in the exception threshold data set as a WARNing or a PROBlem.

Note: PRIMAUTH, ORIGAUTH, PLANNAME, CONNECT, CORRNAME, CORRNMBR, INSTANCE, CONNTYPE, and MAINPACK do not apply to statistics records. Except for MAINPACK, N/A is printed for these fields. For MAINPACK, nothing is printed.

Job Summary Log

This topic provides details about the Job Summary Log.

The OMEGAMON for Db2 PE job summary log provides a summary of events during OMEGAMON for Db2 PE execution, and other information about DB2 that helps you interpret OMEGAMON for Db2 PE reports. The job summary log includes the following events:

- Detection of a DB2 START TRACE or DB2 STOP TRACE command.
- Reduction interval completion by report set.

  There is a summary of all intervals for each report set at the end of the reduction phase.
- RESTORE subcommand completion by report set. This includes the completion code, DB2 subsystem ID, timestamp information on any restored data, and the ddname of the RESTORE file.
- SAVE subcommand completion by report set. This includes the completion code, DB2 subsystem ID, timestamp information on any restored data, and the ddname of the SAVE file.
- Warning and Error Messages that identify corrupted performance trace input records.

Note: It is recommended that you check the DPMLOG messages after each batch execution, even if the job returned "0" as completion code.

How to Generate the Job Summary Log

This topic shows how to generate a Job Summary log.

There is no OMEGAMON for Db2 PE command to generate the job summary log. The log is generated automatically for each OMEGAMON for Db2 PE execution, provided that the appropriate ddname is defined in your JCL.

The ddname for the job summary log is JOBSUMDD.

To prevent generation of the job summary log, omit the ddname from your JCL (the preferred method), or specify DUMMY in the definition.

Note: Omitting the ddname for the job summary log also prevents the generation of the IFCID frequency distribution log because both reports are written to JOBSUMDD.

Example of the Job Summary log

This topic provides an example of the Job Summary log.

Job Summary log - example

The fields shown in the example of the Job Summary log are described in the following sections.

```
                                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1
                                                 JOB SUMMARY LOG                          RUN DATE: 01/30/15 09:40:27.27


MSG.ID.    LOCATION          GROUP     SSID  MEMBER    TIMESTAMP
           DESCRIPTION
---------  ----------------------------------------------------------------------------------------------------------------------
FPEC4060I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:25:23.86
           DB2 START TRACE NUMBER 01 DB2 SUBSYSTEM ID = TEK1
           TEXT = -STA TRACE (S )C (* )RMID (* )D (GTF )PLAN (* )AUTHID (* )IFCID (217 )BUFSIZE (* )USERID (* )APPNAME (* )WRKSTN (*
           )PKGLOC (* )PKGCOL (* )PKGPROG (* )CONNID (* )CORRID (* )ROLE (* )
FPEC4065I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:26:23.84
           DB2 STOP TRACE NUMBER 01 DB2 SUBSYSTEM ID = TEK1
           TEXT = -STOP TRACE (*) TNO (01) COMMENT('TRACE STOPPED BY MODIFY COMMAND')
FPEC4060I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:26:23.84
           DB2 START TRACE NUMBER 01 DB2 SUBSYSTEM ID = TEK1
           TEXT = -MOD TRACE (S )C (* )TNO (1 )IFCID (217 )
FPEC4060I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:26:23.84
           DB2 START TRACE NUMBER 02 DB2 SUBSYSTEM ID = TEK1
           TEXT = -STA TRACE (A )C (1 2 3 7 8 10 )RMID (* )D (GTF )PLAN (* )AUTHID (* )IFCID (* )BUFSIZE (* )USERID (* )APPNAME (* )
           WRKSTN (* )PKGLOC (* )PKGCOL (* )PKGPROG (* )CONNID (* )CORRID (* )ROLE (* )
FPEC4065I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:27:23.83
           DB2 STOP TRACE NUMBER 01 DB2 SUBSYSTEM ID = TEK1
           TEXT = -STOP TRACE (*) TNO (01) COMMENT('TRACE STOPPED BY MODIFY COMMAND')
FPEC4060I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:27:23.83
           DB2 START TRACE NUMBER 01 DB2 SUBSYSTEM ID = TEK1
           TEXT = -MOD TRACE (S )C (* )TNO (1 )IFCID (217 )
...
FPEC4060I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:34:23.77
           DB2 START TRACE NUMBER 01 DB2 SUBSYSTEM ID = TEK1
           TEXT = -MOD TRACE (S )C (* )TNO (1 )IFCID (217 )
FPEC4065I  DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:34:24.76
           DB2 STOP TRACE NUMBER 01 DB2 SUBSYSTEM ID = TEK1
           TEXT = -STO TRACE (S )CLASS (* )RMID (* )PLAN (* )AUTHID (* )TNO (* )USERID (* )APPNAME (* )WRKSTN (* )PKGLOC (* )PKGCOL
           (* )PKGPROG (* )CONNID (* )CORRID (* )ROLE (* )
FPEC9200I  STATISTICS REDUCE COMPLETED. SUMMARY OF REDUCED DATA FOLLOWS
           LOCATION          GROUP     SSID  MEMBER    INTERVAL START       INTERVAL END             COUNT
           ----------------  --------  ----  --------  -------------------  -------------------  --------
           DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:24:00.00  01/30/15 20:27:00.00         3
           DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:27:00.00  01/30/15 20:30:00.00         8
           DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:30:00.00  01/30/15 20:33:00.00         6
           DSNTEK0           DSNTEK0   TEK1  TEK1      01/30/15 20:33:00.00  01/30/15 20:36:00.00         3
FPES0020I  STATISTICS REDUCE COMPLETE
....
                                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 3
                                                 JOB SUMMARY LOG                          RUN DATE: 01/30/15 09:40:27.27


MSG.ID.    LOCATION          GROUP     SSID  MEMBER    TIMESTAMP
           DESCRIPTION
---------  ----------------------------------------------------------------------------------------------------------------------
FPEC4005I  DSNTEK0           DSNTEK0   TEK1  TEK1
           NUMBER OF RECORDS PROCESSED WITHOUT A CPU HEADER WAS 210
FPEC4010I  DSNTEK0           DSNTEK0   TEK1  TEK1
           NUMBER OF RECORDS PROCESSED WITHOUT A CORRELATION HEADER WAS 149
```

The following sections describe the header and the fields in the Job Summary log.

The Job Summary Log Header

This topic describes the header of the Job Summary log.

The header of the Job Summary log contains the following information:

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

JOB SUMMARY LOG
The name of the log report.

RUN DATE
The date and time of the OMEGAMON XE for DB2 PE job generating the log. The default format is *mm/dd/yy hh:mm:ss.th*, which can be changed with the DATEFORMAT parameter.

Field Descriptions

This topic describes the fields of the Job Summary log.

The following fields are shown:

MSG.ID.
The message identification in the format *FPEcnnnni*, where:

- *FPE* is the product code for OMEGAMON for Db2 PE
- *c* is the OMEGAMON for Db2 PE module component code
- *nnnn* is the message number
- *i* is an action code with possible values of:

- I (informational)
- W (warning)
- E (error)
- S (severe error)
- U (unrecoverable error)

LOCATION
The DB2 location to which the message applies. If there is no location data, the subsystem ID (DB2ID) is printed.

DESCRIPTION
The complete text of the message.

GROUP
The name of the data sharing group.

SSID
The ID of the data sharing subsystem.

MEMBER
The name of the data sharing member.

TIME_STAMP
The date and time of the current input trace record, in the format *mm/dd/yy hh:mm:ss.th*.

Job Summary VSAM Data Set

The job summary VSAM data set (JSSRSDD) is used for saving and restoring data-related Job Summary information.

When accounting or statistics data is saved and JSSRSDD has been included in the job stream, related Job Summary information is written to JSSRSDD. If JSSRSDD has been included in the job stream and data is restored, Job Summary information is restored to the job summary log.

If you are restoring data, the data set defined by JSSRSDD and the data set defined by the restore data set must match, that is, be produced by the same save operation.

JSSRSDD is optional. If you omit JSSRSDD, information about the previous processing of saved data is not restored or information about current processing is not saved.

The VSAM data set defined by JSSRSDD must already exist when you run OMEGAMON for Db2 PE. Either specify an existing data set from a previous OMEGAMON for Db2 PE run (when restoring data), or specify a new data set allocated using the IDCAMS DEFINE CLUSTER function. If an existing data set is used and the SAVE subcommand is specified, the new Job Summary data is added to the previous content.

See the *Reporting User's Guide* for the attributes of OMEGAMON for Db2 PE VSAM data sets.

Note: Do not specify DUMMY for JSSRSDD.

IFCID Frequency Distribution Log

The IFCID Frequency Distribution log provides counts of the trace records by IFCID. There are counts for the number of valid records provided as input to OMEGAMON for Db2 PE as well as for the number of records that are processed after GLOBAL filtering and after duplicate records are dropped.

An IFCID count is listed, and a percentage of the total number of records is calculated.

One copy of the IFCID Frequency Distribution log is produced for each location.

Input to the IFCID Frequency Distribution logs

All records supplied as input to OMEGAMON for Db2 PE are used automatically as input to the IFCID Frequency Distribution Log.

How to Generate an IFCID Frequency Distribution Log

This topic shows how to generate an IFCID Frequency Distribution log.

There is no OMEGAMON for Db2 PE command to generate the IFCID Frequency Distribution log. The log is generated automatically for each OMEGAMON for Db2 PE execution, provided that the appropriate ddname is defined in your JCL.

The ddname for the IFCID Frequency Distribution log is JOBSUMDD.

To prevent the generation of the IFCID Frequency Distribution log, omit the ddname from your JCL (the preferred method), or specify DUMMY in the definition.

Note: Omitting the ddname for the IFCID Frequency Distribution log also prevents the generation of the Job Summary log because both logs are written to JOBSUMDD.

Example of the IFCID Frequency Distribution Log

This topic provides an example of an IFCID Frequency Distribution Log.

IFCID Frequency Distribution Log - example

The header and fields shown in the example of the IFCID Frequency Distribution Log are described in the following sections.

```
   LOCATION: DSNTEK0                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1
      GROUP: DSNTEK0                         IFCID FREQUENCY DISTRIBUTION LOG                        RUN DATE: 01/30/15 09:40:29.48
     MEMBER: TEK1
  SUBSYSTEM: TEK1                                                                                   ACTUAL FROM: 01/30/15 20:25:23.86
DB2 VERSION: V10                                                                                        TO: 01/30/15 20:34:24.76
              INPUT        INPUT      PROCESSED     PROCESSED                          INPUT        INPUT      PROCESSED     PROCESSED
    IFCID     COUNT     PCT OF TOTAL    COUNT     PCT OF TOTAL          IFCID     COUNT     PCT OF TOTAL    COUNT     PCT OF TOTAL
   -------  ----------  ------------  ----------  ------------         -------  ----------  ------------  ----------  ------------
        1           11      0.00%            11      5.23%              199          143      0.06%            143     68.09%
        2           11      0.00%            11      5.23%              202           11      0.00%             11      5.23%
        3      109,219     49.93%             0      0.00%              217           66      0.03%              0      0.00%
        4           11      0.00%             0      0.00%              225           11      0.00%             11      5.23%
        5           11      0.00%             0      0.00%              230           11      0.00%             11      5.23%
      105           22      0.01%             0      0.00%              239      109,170     49.91%              0      0.00%
      106           12      0.00%            12      5.71%              258            1      0.00%              0      0.00%
      172            4      0.00%             0      0.00%
       TOTAL INPUT TRACE RECORDS  =           218,714
       TOTAL PROCESSED TRACE RECORDS =            210
```

The following sections describe the header and the fields in the IFCID Frequency Distribution log.

The IFCID Frequency Distribution Log Header

This topic describes the header of the IFCID Frequency Distribution log.

The header of the IFCID Frequency Distribution log contains the following information:

LOCATION
The DB2 reporting location. If the location name is not available, the DB2 data sharing group name is printed in this field. If the DB2 data sharing group name does not exist, the DB2 subsystem ID is printed.

GROUP
The name of the DB2 data sharing group. This field shows N/A if there is no group name.

MEMBER
The name of the DB2 data sharing member or the member name of the DB2 subsystem. This field shows N/A if there is no member name.

This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data. This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

DB2 VERSION
The DB2 version number of the subsystem that generated the data.

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

IFCID FREQUENCY DISTRIBUTION LOG
The title of the log report.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

RUN DATE
The date and time of the OMEGAMON XE for DB2 PE job generating the log. The default format is *mm/dd/yy hh:mm:ss.th*, which can be changed with the DATEFORMAT parameter.

ACTUAL FROM/TO
The date and time of the first and last record included in the log for a location, group, subsystem, or member.

Field Descriptions

This topic describes the fields of the IFCID Frequency Distribution log.

The following fields are shown:

IFCID
The IFCID number of the record. The identifier is listed in decimal.

INPUT COUNT
The total number of occurrences of each IFCID in the raw data, after invalid records are rejected and partial GTF records are combined.

INPUT PCT OF TOTAL
The percentage of the total number of input records that the number in INPUT COUNT represents.

PROCESSED COUNT
The total number of occurrences of each IFCID in the processed data after GLOBAL filtering and after duplicate records are dropped. When DPMOUTDD is specified in the JCL, the value in this field is a reflection of the contents of the DPMOUT data set.

PROCESSED PCT OF TOTAL
The percentage of the total number of records in the processed data that the number in PROCESSED COUNT represents.

TOTAL INPUT TRACE RECORDS
The total of the INPUT COUNT column.

TOTAL PROCESSED TRACE RECORDS
The total of the PROCESSED COUNT column.

Chapter 3. Accounting Report Set

These topics provide information about the Accounting reports.

Note: For an introduction to the Accounting report set and general accounting information refer to the *Reporting User's Guide*. It also provides information on input to Accounting reports and traces.

Accounting Default Layouts

This topic provides examples of the Accounting default layout for SHORT and LONG.

When data from a particular DB2 version is processed, N/A is printed for all fields in the report that are not applicable to that version.

For Accounting, the LAYOUT subcommand option ACCEL provides detailed thread-related Accelerator activity data.

You can use the user-tailored reporting (UTR) facility to modify the layouts and store the changes. If you do this, store your layouts under a different name to avoid confusion and keep the layouts relevant to this documentation.

Headers Used in Accounting

This topic describes the header of the Accounting report layout.

OMEGAMON for Db2 PE header information is printed at the top of each page of an Accounting report or trace. For a report, the header differs depending on whether it is a member-scope or group-scope report.

Accounting Report Header Member-Scope

Here is a sample header for an Accounting report generated with member-scope.

```
   LOCATION: PMODBN1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: DBN1                             ACCOUNTING REPORT - SHORT                 REQUESTED FROM: NOT SPECIFIED
     MEMBER: SN11                                                                                 TO: NOT SPECIFIED
  SUBSYSTEM: SN11                              ORDER: PRIMAUTH-PLANNAME                   INTERVAL FROM: 01/30/15 22:53:32.60
DB2 VERSION: V10                                   SCOPE: MEMBER                                    TO: 01/30/15 22:50:05.07
```

Accounting Report Header-Group-Scope

Here is a sample header for an Accounting report generated with group-scope.

```
   LOCATION: DSNCAT                   OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: DSNCAT                           ACCOUNTING REPORT - SHORT                 REQUESTED FROM: NOT SPECIFIED
                                                                                                   TO: NOT SPECIFIED
                                               ORDER: PRIMAUTH-PLANNAME                   INTERVAL FROM: 01/30/15 18:47:13.28
DB2 VERSION: V10                                   SCOPE: GROUP                                     TO: 01/30/15 19:55:28.69
```

Accounting Trace Header

Here is a sample header for an Accounting trace.

```
   LOCATION: PMODBN1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: DBN1                             ACCOUNTING TRACE - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SN11                                                                                 TO: NOT SPECIFIED
  SUBSYSTEM: SN11                                                                      ACTUAL FROM: 01/30/15 22:53:32.60
DB2 VERSION: V10                                                                          PAGE DATE: 01/30/15
```

Description of the Accounting header fields

The Accounting headers, shown in “Accounting Report Header Member-Scope” on page 17, “Accounting Report Header-Group-Scope” on page 17, and “Accounting Trace Header” on page 17 contain the following information:

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LOCATION
The DB2 reporting location. If the location name is not available, the DB2 data sharing group name is printed in this field. If the DB2 data sharing group name does not exist, the DB2 subsystem ID is printed.

GROUP
The name of the DB2 data sharing group. This field shows N/A if there is no group name.

MEMBER
The name of the DB2 data sharing member or the member name of the DB2 subsystem. This field shows N/A if there is no member name.

This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data. This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

DB2 VERSION
The DB2 version number of the subsystem that generated the data.

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

Title - layout
The title of the report and the layout. The layout can be a default layout provided with OMEGAMON for Db2 PE or a layout you have tailored yourself.

ORDER
If the ORDER option of the REPORT or TRACE subcommand was used to arrange the report entries, the selected keywords are shown in this field. Depending on the context, the OMEGAMON for Db2 PE identifiers by which lock events are grouped are shown here.

SCOPE
Scope of the report or trace, this can be MEMBER or GROUP. A member-scope report or trace shows data from a group for each individual member. In a group-scope report or trace, the data from individual members is consolidated and presented for the entire group.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

REQUESTED FROM and TO
The FROM and TO dates and times specified in the REPORT or TRACE subcommand.

If both FROM and TO dates and times are omitted from the REPORT subcommand, the FROM and TO dates and times specified in GLOBAL are printed. If only the FROM date and time or only the TO date and time has been specified, NOT SPECIFIED is printed for the unspecified value.

If FROM and TO are not specified in REPORT or GLOBAL, NOT SPECIFIED appears for both the FROM and TO values.

If you have specified FROM and TO times without dates in REPORT or GLOBAL, ALL DATES is printed along with the specified times.

INTERVAL FROM
The start date and time of the first reduction interval covered by the report. If REDUCE is not specified, the INTERVAL defaults to 0 and the timestamps of the first and last events are printed.

INTERVAL TO
The end date and time of the last reduction interval covered by the report. If REDUCE is not specified, the INTERVAL defaults to 0 and the timestamps of the first and last events are printed.

PAGE DATE
The date of the timestamps printed on this page. A page break occurs at the change of the date. This is useful if a trace page contains more than one entry and the date is not shown for each entry.

How Averages Are Calculated

Accounting reports show times and events averaged over the number of threads whilst Accounting traces show times and events as totals for each thread.

Fields in an Accounting report can show:

- **Averages** presented with two decimal places behind the point.
- **Totals** presented as whole numbers. If it is not possible to distinguish the type of data, totals are indicated with a hash (**#**) as the first character in the label.
- **Times** presented with six decimal places behind the point.

Averages are calculated by dividing totals by QPACRLNU, which is the number of threads to roll data into this QPAC data section.

```
Average = Total of package counter or time (QPACxxxx)
           / Number of threads that roll data into this QPAC data section (QPACRLNU)
```

This applies to package class 7, 8, or 10 times and events:

- “Package buffer pool activity - Class 10 ” on page 165
- “Package Locking Activity - Class 10 ” on page 179
- “Package SQL Activity - Class 10 ” on page 182
- “Package Times - Class 7 ” on page 190
- “Package Global Contention P-Locks - Class 8 ” on page 169
- “Package Global Contention L-Locks - Class 8 ” on page 168
- “Package Times - Class 8 - Suspensions ” on page 183
- “Package Identification - Report ” on page 170
- “Package Identification - Trace ” on page 175
- “Package General (Short Report) ” on page 29
- “Package General (Short Trace) ” on page 53

For more information refer to the Accounting trace sections for a package.

Averages of plan level counters in repeating data sections are calculated by dividing totals by the number of data sections which are aggregated to produce the report entry (this includes the DDF and RLF count).

Averages of buffer pool counters are calculated on a per-record basis.

Accounting Report - Short

The short Accounting report shows some of the most significant fields averaged over the number of threads.

Short Accounting reports are arranged in blocks. Each block contains Accounting information about a particular activity. The layout of each block is presented followed by the field descriptions.

You can generate a short version of the Accounting report using the following command:

```
...
ACCOUNTING
   REPORT
   LAYOUT (SHORT)
   ORDER  (PRIMAUTH-PLANNAME)
   SCOPE  (MEMBER)
...
```

Accounting Report - Short

This is an example of a short Accounting report.

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-1
      GROUP: N/P                              ACCOUNTING REPORT - SHORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA5                               ORDER: PRIMAUTH-PLANNAME                        INTERVAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10                                  SCOPE: MEMBER                                        TO: 08/24/16 09:41:00.00

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

DB2PM                                 1       0    0.00    0.00           0.00            N/P      N/P     0.00
 'BLANK'                              0    0.00    0.00    0.00    8:13.695925            N/P      N/P        0
                                      0    0.00    0.00    0.00       0.002014            N/P      N/P

DB2PM                                10     655    0.60  505.20         10.40       0.060370     1.20     0.00
 DB2PM                                0  443.20   12.60  505.20    5:40.386999       0.052687     0.60        0
                                      1 1551.70    0.00    3.20       0.115894        3318.30   168.50

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZDATE            PACKAGE        10     4081  4081.00       0.047074       0.039262       0.000000      0.00!
    !DGOZPC1             PACKAGE        10      154  1069.00       0.038439       0.035705       0.001971    154.00!
    !DGOZPC2             PACKAGE        10     4158    17.6K       0.414151       0.359071       0.000003      2.00!
    !DGOZPC4             PACKAGE        10       77   308.00       0.010961       0.010693       0.000000      0.00!
    !FPEVWRPA            PACKAGE        10        1     2.00       0.000913       0.000473       0.000000      0.00!
    !FPEVWR2C            PACKAGE        10        1   192.00       0.048516       0.043706       0.001238      6.00!
    ------------------------------------------------------------------------------------------------------------

DB2PM                                22   13214   42.09 4776.82         209.64       1.213447   168.95     0.18
 KO2PLAN                              0 4106.95  104.09 4776.82 1:03:48.234755       0.596238     9.45        0
                                      2 9503.18    0.00   33.91       0.960242       29212.68   152.05

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZCHKB            PACKAGE        10        1     2.00       0.001000       0.000779       0.000000      0.00!
    !DGOZDATE            PACKAGE        20    22716    44.3K       0.519441       0.424610       0.000000      0.00!
    !DGOZPC1             PACKAGE        20     3331  8775.00       0.480424       0.408331       0.041889   1672.50!
    !DGOZPC2             PACKAGE        20    24381   190.7K       8.798312       3.824541       0.001399      9.50!
    !DGOZPC4             PACKAGE        20     1665  3330.00       0.125221       0.118657       0.000000      0.00!
    !DGOVEXCP            PACKAGE        10        1  7922.00       2.222845       1.690191       0.463894   1379.00!
    !FPEVWRPA            PACKAGE        20        3    11.33       0.005725       0.003119       0.001866      2.67!
    !FPEVWR2C            PACKAGE        20        2  2001.00       0.648361       0.510854       0.014540     75.50!
    ------------------------------------------------------------------------------------------------------------

***  TOTAL  ***
DB2PM                                33   13869   28.24 3337.64         142.91       0.829088   116.53     0.12
                                      0 2872.27   73.21 3337.64   44:30.264561       0.413458     6.69        0
                                      3 6805.67    0.00   23.58       0.675342       21120.69   157.19

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       200    60572    25.2K       1.140219       0.607773       0.028017    241.14!
    ------------------------------------------------------------------------------------------------------------

MIS                                   2       2    0.00    0.00           0.00       0.004471      N/P     0.00
 'BLANK'                              0    0.00    0.00    0.00       0.004492       0.000403      N/P        0
                                      0    0.00    0.00    0.00       0.000411            N/P      N/P
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-2
      GROUP: N/P                              ACCOUNTING REPORT - SHORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA5                               ORDER: PRIMAUTH-PLANNAME                        INTERVAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10                                  SCOPE: MEMBER                                        TO: 08/24/16 09:41:00.00

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

MIS                                   2      17    1.00    4.00           9.00       0.193028   416.00     0.00
 ADB                                  0    0.00    0.00    4.00    1:59.441151       0.040293    21.50        0
                                      0   11.50    0.00    0.00       0.047758        1519.50    57.00

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADBMAIN             PACKAGE        2       18     4.83       0.021397       0.004427       0.048849      6.94!
    !ADB2CON             PACKAGE        2        2     1.00       0.000041       0.000041       0.000000      0.00!
    !ADB2GET             PACKAGE        2        4     6.00       0.000326       0.000322       0.000000      0.00!
    ------------------------------------------------------------------------------------------------------------

MIS                                   4       4    0.00    1.00           0.00       0.054070     5.00     0.00
 ADB27SPC                             0    0.50    0.00    1.00       0.055843       0.005919     5.00        0
                                      0    4.25    0.00    0.00       0.006521         348.00    10.50

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE        4        4    11.75       0.047895       0.005826       0.038352      7.50!
    ------------------------------------------------------------------------------------------------------------

MIS                                   2      20    0.00    0.00           0.00       0.158877    12.00     0.00
 DSNUTIL                              0    0.00    0.00    0.00       0.972823       0.018292    18.00        0
                                      2    0.00    0.00    0.00       0.040689         796.50   110.00

***  TOTAL  ***
MIS                                  10      43    0.20    1.20           1.80       0.092903   109.50     0.00
                                      0    0.20    0.00    1.20      24.106031       0.014165    12.38        0
                                      2    4.00    0.00    0.00       0.020380         753.00    47.00

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       10       28     5.69       0.022210       0.003989       0.039718      5.96!
    ------------------------------------------------------------------------------------------------------------

***  GRAND TOTAL  ***
                                     43   13912   21.72 2561.72         110.09       0.645042   115.13     0.09
                                      0 2204.35   56.19 2561.72   34:14.878856       0.320599     7.82        0
                                      5 5223.88    0.00   18.09       0.523025       17047.15   135.15

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       210    60600    11.3K       0.521746       0.273765       0.034490    111.04!
    ------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 2-1
      GROUP: DBC1                             ACCOUNTING REPORT - SHORT                 REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: SC11                              ORDER: PRIMAUTH-PLANNAME                   INTERVAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12                                 SCOPE: MEMBER                                        TO: 08/24/16 09:56:00.00

                                  #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                          #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                         #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
--------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

DB2PM                                 10      30    0.30    1.60           4.60       0.042704     1.40     0.40
 'BLANK'                               0    0.10    2.00    1.60    3:22.884144       0.001992     1.50        0
                                       0    1.60    0.00    0.70       0.008648          71.40     0.00

    ---------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE        10        1     6.00       0.002133       0.000826       0.001043      1.00!
    !FPEVWRP2            PACKAGE        10        2    22.00       0.002520       0.001379       0.000684      1.00!
    ---------------------------------------------------------------------------------------------------------------

DB2PM                                116    2003    9.59   16.56          48.48       0.425692    39.12     3.61
 KO2PLAN                               0    0.15    5.82   16.56   10:50.679206       0.032228     1.40        0
                                       0   46.72    0.00    7.04       0.052569          251.49     3.65

    ---------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOVEXCP            PACKAGE        10        1  9526.00      26.533861       2.278888      23.958403   3383.00!
    !FPEVWRPA            PACKAGE        20        2     6.00       0.014765       0.003113       0.008823      6.50!
    !FPEVWRP2            PACKAGE       113       52    21.85       0.003054       0.001229       0.001327      1.31!
    !FPEVWR2C            PACKAGE        30        3  1398.00       4.516698       0.425947       4.019518    236.33!
    ---------------------------------------------------------------------------------------------------------------

***  TOTAL  ***
DB2PM                                126    2033    8.86   15.37          45.00       0.395296    36.13     3.36
                                       0    0.14    5.52   15.37   10:15.139916       0.029828     1.40        0
                                       0   43.13    0.00    6.54       0.049083          237.20     3.36

    ---------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       193       61   244.56       0.660319       0.059515       0.591902     68.46!
    ---------------------------------------------------------------------------------------------------------------

MIS                                   2       2    0.00    0.00          0.00       0.021518        N/P     0.00
 'BLANK'                              0    0.00    0.00    0.00       0.021522       0.000374        N/P        0
                                      0    0.00    0.00    0.00       0.000378            N/P        N/P

MIS                                   1       9    1.00    5.00         10.00       6.930629     448.00    12.00
 ADB                                  0    0.00    0.00    5.00    4:39.789682       0.317732     102.00        0
                                      0   24.00    0.00    0.00       0.325938       82939.00    5136.00

    ---------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADBMAIN             PACKAGE         1        1    63.00       6.930166       0.317277       4.883117   5206.00!
    !ADB2CON             PACKAGE         1        1     1.00       0.000041       0.000041       0.000000      0.00!
    !ADB2GET             PACKAGE         1        2     6.00       0.000331       0.000324       0.000000      0.00!
    ---------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 2-2
      GROUP: DBC1                             ACCOUNTING REPORT - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: SC11                              ORDER: PRIMAUTH-PLANNAME                        INTERVAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12                                  SCOPE: MEMBER                                        TO: 08/24/16 09:56:00.00

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

MIS                                   2       2    0.00    1.00           0.00       2.375169     0.00     1.00
 ADB27SPC                             0    0.50    0.00    1.00       2.377101       1.029620    30.00        0
                                      0    4.00    0.00    0.00       1.030365       40987.50  2540.50

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE         2        2    11.50       2.369315       1.029301       1.095418   2561.00!
    ------------------------------------------------------------------------------------------------------------

MIS                                   1      28    0.00    0.00           0.00       2.163899   464.00    43.00
 DSNUTIL                              0    0.00    0.00    0.00       2.202907       0.036611   123.00        0
                                      0    0.00    0.00    0.00       0.041090        1651.00    27.00

***  TOTAL  ***
MIS                                   6      41    0.17    1.17           1.67       2.314650   228.00     9.50
                                      0    0.17    0.00    1.17      47.798306       0.402388    71.25        0
                                      0    5.33    0.00    0.00       0.404752       41641.25  2561.00

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE         5        6    18.60       2.333834       0.475249       1.414790   2065.60!
    ------------------------------------------------------------------------------------------------------------

MIS1                                  1      10    0.00    0.00           0.00       0.052472    13.00     3.00
 DSNUTIL                              0    0.00    0.00    0.00       0.075969       0.004677     0.00        0
                                      0    0.00    0.00    0.00       0.006032          57.00     0.00

***  GRAND TOTAL  ***
                                    133    2084    8.40   14.62          42.71       0.479305    41.81     3.63
                                      0    0.14    5.23   14.62    9:44.921016       0.046446     3.53        0
                                      0   41.11    0.00    6.20       0.064804        1500.07    81.43

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       198       67   227.44       0.787100       0.091010       0.654242    219.76!
    ------------------------------------------------------------------------------------------------------------

   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 3-1
      GROUP: DBEE                             ACCOUNTING REPORT - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                              ORDER: PRIMAUTH-PLANNAME                        INTERVAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11                                  SCOPE: MEMBER                                        TO: 08/24/16 09:28:00.00

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

DB2PM                                 9     500    0.44   44.00           2.00       0.268818     1.22     3.11
 'BLANK'                              0   20.44    7.56   44.00    5:16.787789       0.016421    18.56        0
                                      1  388.67    0.00    0.78       0.040730         436.89   117.22

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZDATE            PACKAGE         9       60    60.00       0.002446       0.002390       0.000000      0.00!
    !DGOZPC1             PACKAGE         9      120   603.00       2.149922       0.043017       2.078318    122.00!
    !DGOZPC2             PACKAGE         9      120   420.00       0.070453       0.047602       0.000000      0.00!
    !DGOZPC4             PACKAGE         9       60   240.00       0.028219       0.015639       0.000000      0.00!
    !FPEVWRPA            PACKAGE         9        1     6.00       0.014902       0.004894       0.004718      9.00!
    ------------------------------------------------------------------------------------------------------------

DB2PM                                11      16    0.18    1.00           1.36       0.011619     0.18     0.18
 KO2PLAN                              0    0.18    0.09    1.00      44.183480       0.001087     0.09        0
                                      0    1.00    0.00    0.00       0.002309          10.55     0.00

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        10        2    16.00       0.048211       0.003222       0.003097      2.00!
    ------------------------------------------------------------------------------------------------------------

***  TOTAL  ***
DB2PM                                20     516    0.30   20.35           1.65       0.127358     0.65     1.50
                                      0    9.30    3.45   20.35    2:46.855419       0.007987     8.40        0
                                      1  175.45    0.00    0.35       0.019598         202.40    52.75

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE        55      363   194.43       0.337481       0.017141       0.298461     19.29!
    ------------------------------------------------------------------------------------------------------------

MIS                                   2      36    0.00    0.00           0.00            N/P   240.00    27.50
 DSNUTIL                              0    0.00    0.00    0.00       1.243841            N/P    73.50        0
                                      0    0.00    0.00    0.00       0.154357       72551.00  6397.50

***  GRAND TOTAL  ***
                                     22     552    0.27   18.50           1.50       0.127358    22.41     3.86
                                      0    8.45    3.14   18.50    2:31.799821       0.007261    14.32        0
                                      1  159.50    0.00    0.32       0.031849        6779.55   629.55

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE        55      363   194.43       0.337481       0.017141       0.298461     19.29!
    ------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 4-1
      GROUP: DBEE                             ACCOUNTING REPORT - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE2                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SEE2                              ORDER: PRIMAUTH-PLANNAME                    INTERVAL FROM: 08/24/16 07:08:00.00
DB2 VERSION: V11                                   SCOPE: MEMBER                                     TO: 08/24/16 09:51:14.25

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

DB2PM                                12   11794   38.25  847.08         169.33       2.335032   153.92    28.17
 'BLANK'                              0  269.25  148.58  847.08 1:33:44.881646       0.368045    14.83       0
                                      2 1232.50    0.00   24.50       0.490043        3807.75    90.00

    ---------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZCHKB            PACKAGE        10        1     2.00       0.004624       0.001057       0.002596      3.00!
    !DGOZDATE            PACKAGE        12     1581   790.50       0.032933       0.031186       0.000214      0.50!
    !DGOZPC1             PACKAGE        12     3163  7945.50       1.418494       0.497777       0.652339   1593.50!
    !DGOZPC2             PACKAGE        12     3162  5533.50       1.284005       0.566589       0.487791     25.50!
    !DGOZPC4             PACKAGE        12     1581  3162.00       0.582435       0.182844       0.253138      2.00!
    !DGOVEXCP            PACKAGE        10        1  3942.00       2.192355       0.990217       1.101690   1107.00!
    !FPEVWRPA            PACKAGE        10        3     7.00       0.013585       0.004557       0.006415      9.00!
    !FPEVWRP2            PACKAGE        10        2    23.00       0.003236       0.001213       0.000922      1.50!
    !FPEVWR2C            PACKAGE        10        1  1296.00       2.382283       0.330348       2.000514    199.00!
    ---------------------------------------------------------------------------------------------------------

DB2PM                              129    1652    0.17   10.03          5.17       0.014577       0.67      0.40
 KO2PLAN                             0    3.35    2.71   10.03    2:34.850083       0.004482       0.94         0
                                     2   81.87    0.00    0.71       0.010373          70.29      16.31

    ---------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZCHKB            PACKAGE        10        1    51.00       0.024374       0.014012       0.002236     37.00!
    !DGOZDATE            PACKAGE        20      130    65.00       0.002673       0.002567       0.000000      0.00!
    !DGOZPC1             PACKAGE        20      261   877.50       0.067914       0.041366       0.004863    132.00!
    !DGOZPC2             PACKAGE        20      260   455.00       0.069024       0.046336       0.000098      0.50!
    !DGOZPC4             PACKAGE        20      130   260.00       0.027133       0.015035       0.000000      0.00!
    !DGOVSDOB            PACKAGE        10        1  3054.00       0.023059       0.016264       0.002115      1.00!
    !FPEVTCO1            PACKAGE        10        1     2.00       0.000284       0.000280       0.000000      0.00!
    !FPEVWRPA            PACKAGE        30        6    19.75       0.005831       0.002025       0.002168      3.75!
    !FPEVWRP2            PACKAGE       105       53    22.38       0.002536       0.001205       0.000711      1.44!
    !FPEVWR2C            PACKAGE        30        3   166.00       0.131806       0.040080       0.082693     21.00!
    ---------------------------------------------------------------------------------------------------------

***  TOTAL  ***
DB2PM                              141   13446    3.41   81.27         19.14       0.212062    13.71     2.77
                                     0   25.98   15.12   81.27   10:20.384684       0.035424     2.12        0
                                     4  179.79    0.00    2.74       0.051196         388.37    22.58

    ---------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE      373    10341   568.54       0.143299       0.050848       0.073111     59.16!
    ---------------------------------------------------------------------------------------------------------

MIS                                  1       5    0.00    2.00          2.00       0.084914     0.00     2.00
 ADB                                 0    0.00    0.00    2.00      25.835590       0.007726     9.00        0
                                     0   11.00    0.00    0.00       0.010615         67.00     1.00

   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 4-2
      GROUP: DBEE                             ACCOUNTING REPORT - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE2                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SEE2                              ORDER: PRIMAUTH-PLANNAME                    INTERVAL FROM: 08/24/16 07:08:00.00
DB2 VERSION: V11                                   SCOPE: MEMBER                                     TO: 08/24/16 09:51:14.25

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
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    ---------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADBMAIN             PACKAGE        1        1    19.00       0.084382       0.007224       0.068382     14.00!
    !ADBPARM             PACKAGE        1        1     2.00       0.000224       0.000200       0.000000      0.00!
    !ADB2CON             PACKAGE        1        1     1.00       0.000039       0.000039       0.000000      0.00!
    !ADB2GET             PACKAGE        1        2     6.00       0.000202       0.000197       0.000000      0.00!
    ---------------------------------------------------------------------------------------------------------

***  GRAND TOTAL  ***
                                   142   13451    3.39   80.71         19.02       0.211167    13.61     2.76
                                     0   25.80   15.01   80.71   10:16.197719       0.035229     2.17        0
                                     4  178.61    0.00    2.72       0.050911         386.11    22.43
```

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    ----------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       377    10346   543.30       0.137812       0.048649       0.070594     56.66!
    ----------------------------------------------------------------------------------------------------------------

   LOCATION: OMPDBZ2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 5-1
      GROUP: DBZ2                              ACCOUNTING REPORT - SHORT                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ22                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: SZ22                               ORDER: PRIMAUTH-PLANNAME                     INTERVAL FROM: 08/24/16 07:05:32.04
DB2 VERSION: V10                                  SCOPE: MEMBER                                       TO: 08/24/16 09:41:00.00

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

DB2PM                                12      55    0.25    3.17           9.42       0.015558     1.08     1.50
 'BLANK'                              0    0.50    4.00    3.17    7:35.350865       0.005036    32.25        0
                                      0  575.50    0.00    2.25       0.017628          94.92     5.92

    ----------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         7        1     6.00       0.002059       0.000846       0.000857      1.00!
    !FPEVWRP2            PACKAGE         7        1    22.00       0.002090       0.001043       0.000762      1.00!
    !FPEVWR2C            PACKAGE         5        1   192.00       0.131928       0.047971       0.075986     26.00!
    ----------------------------------------------------------------------------------------------------------------

DB2PM                              102     383    0.07    3.30           7.44       0.256966     0.41     3.51
 KO2PLAN                             0    0.12    2.52    3.04   11:45.739907       0.011790     6.66        0
                                    27  137.96    0.00    1.60       0.020090          27.76     1.89

    ----------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE        14        2     6.00       0.016150       0.003336       0.011599     18.00!
    !FPEVWRP2            PACKAGE        88       48    11.69       0.046769       0.001085       0.004643      2.94!
    !FPEVWR2C            PACKAGE        14        2   729.00       1.457784       0.229839       1.189254    203.50!
    ----------------------------------------------------------------------------------------------------------------

***  TOTAL  ***
DB2PM                              114     438    0.09    3.29           7.65       0.231554     0.48     3.30
                                     0    0.16    2.68    3.05   11:19.383166       0.011079     9.35        0
                                    27  184.02    0.00    1.67       0.019831          34.83     2.32

 ----------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       135       55    40.93       0.096888       0.010332       0.049130     11.13!
    ----------------------------------------------------------------------------------------------------------------

MIS                                  1       1    0.00    0.00           0.00       0.005642      N/P     0.00
 'BLANK'                             0    0.00    0.00    0.00       0.005646       0.000370      N/P        0
                                     0    0.00    0.00    0.00       0.000375           N/P       N/P

MIS                                  1      15    2.00    8.00          18.00       1.040978   764.00     7.00
 ADB                                 0    0.00    0.00    8.00    4:52.468235       0.078167   238.00        0
                                     0   35.00    0.00    0.00       0.089688        1966.00    86.00

    ----------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADBMAIN             PACKAGE         1        1    99.00       0.944751       0.076371       0.568195    282.00!
    !ADB2CON             PACKAGE         1        1     1.00       0.000043       0.000043       0.000000      0.00!
    !ADB2GET             PACKAGE         1        2     6.00       0.072743       0.001239       0.049363      5.00!
    ----------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBZ2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 5-2
      GROUP: DBZ2                             ACCOUNTING REPORT - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ22                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ22                              ORDER: PRIMAUTH-PLANNAME                    INTERVAL FROM: 08/24/16 07:05:32.04
DB2 VERSION: V10                                  SCOPE: MEMBER                                      TO: 08/24/16 09:41:00.00

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

MIS                                     2       2    0.00    1.00           0.00       0.072999     5.00     0.50
 ADB27SPC                               0    0.50    0.00    1.00       0.074793       0.007377    16.50        0
                                        0    4.00    0.00    0.00       0.007991         244.00    13.00

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE         2        2    11.50       0.067391       0.007117       0.050804    17.00!
    ------------------------------------------------------------------------------------------------------------

MIS                                     3      44    0.00    0.00           0.00       0.985921   147.00    16.00
 DSNUTIL                                0    0.00    0.00    0.00       1.022531       0.014510    80.67        0
                                        0    0.00    0.00    0.00       0.016776         670.67    72.67

***  TOTAL  ***
MIS                                     7      62    0.29    1.43           2.57       0.592911   202.50     8.00
                                        0    0.14    0.00    1.43      42.241580       0.019546    85.50        0
                                        0    6.14    0.00    0.00       0.022339         744.33    55.00

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE         5        6    25.80       0.230464       0.018377       0.143833    64.20!
    ------------------------------------------------------------------------------------------------------------

***  GRAND TOTAL  ***
                                      121     500    0.10    3.18           7.36       0.252459    10.58     3.57
                                        0    0.16    2.52    2.96   10:42.523735       0.011568    13.16        0
                                       27  173.73    0.00    1.57       0.019976          70.31     4.95

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE       140       61    39.67       0.108019       0.011003       0.057022    15.55!
    ------------------------------------------------------------------------------------------------------------

   LOCATION: OMPDB51                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 6-1
      GROUP: N/P                              ACCOUNTING REPORT - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: DB51                              ORDER: PRIMAUTH-PLANNAME                    INTERVAL FROM: 08/24/16 08:17:26.37
DB2 VERSION: V11                                  SCOPE: MEMBER                                      TO: 08/24/16 09:29:43.10

                                #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                        #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                       #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
-------------------------------- ------- ------- ------- ------- -------------- -------------- -------- --------

DB2PM                                   9       0    0.00    0.00           0.00       0.001968      N/P     0.00
 'BLANK'                                0    0.00    0.00    0.00 1:01:34.703314       0.001001      N/P        0
                                        0    0.00    0.00    0.00       0.009477            N/P      N/P

DB2PM                                   3   12336    0.00 2923.00           0.00       0.656694     0.00     0.00
 DB2PM                                  0  617.67  586.00 2923.00   59:03.377015       0.614368     2.67        0
                                        3 2923.00    0.00    1.00       0.861259       8301.67   378.67

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZCHKB            PACKAGE         1        1     2.00       0.001980       0.000899       0.000302     1.00!
    !DGOZPC1             PACKAGE         3     3487  5833.00       0.292932       0.264283       0.021860  1164.00!
    !DGOZPC2             PACKAGE         3     1743  1743.00       0.278159       0.268009       0.000190     0.67!
    !DGOZPC4             PACKAGE         3     1743  2324.00       0.085597       0.081679       0.000000     0.00!
    ------------------------------------------------------------------------------------------------------------

DB2PM                                  21    1209   29.67   54.24         174.95       0.251134   118.29     0.05
 KO2PLAN                                0    1.00   30.81   54.24   35:03.049442       0.117918     2.24        0
                                        0  246.10    0.00   31.71       0.171146         805.76     1.19

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOVEXCP            PACKAGE         1        1  5270.00       1.728788       1.364789       0.336860  1065.00!
    !FPEVWRPA            PACKAGE         4        4     9.00       0.003903       0.002244       0.001298     2.00!
    !FPEVWR2C            PACKAGE         3        3  1392.00       0.352809       0.311820       0.009066    52.33!
    ------------------------------------------------------------------------------------------------------------

***  TOTAL  ***
DB2PM                                  33   13545   18.88  300.24         111.33       0.237881   103.50     0.03
                                        0   56.79   72.88  300.24   44:28.075732       0.131163     2.29        0
                                        3  422.33    0.00   20.27       0.189792        1742.75    48.38

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE        18     6982  2176.89       0.265271       0.230669       0.024206    262.50!
    ------------------------------------------------------------------------------------------------------------

MIS                                     2       8    0.00    1.00           1.00       0.096774     0.00     0.00
 ADB                                    0    0.00    0.00    1.00    4:19.000484       0.003043     9.50        0
                                        0    2.00    0.00    0.00       0.005096         26.50     0.00

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADBMAIN             PACKAGE         2        2     6.00       0.048995       0.001987       0.046690     5.50!
    !ADBPARM             PACKAGE         2        2     2.00       0.021260       0.000497       0.020785     2.50!
    !ADB2CON             PACKAGE         2        2     1.00       0.000040       0.000038       0.000000     0.00!
    !ADB2GET             PACKAGE         2        4     6.00       0.012750       0.000365       0.012404     3.00!
    ------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDB51                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 6-2
      GROUP: N/P                              ACCOUNTING REPORT - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DB51                              ORDER: PRIMAUTH-PLANNAME                       INTERVAL FROM: 08/24/16 08:17:26.37
DB2 VERSION: V11                                  SCOPE: MEMBER                                        TO: 08/24/16 09:29:43.10

                                  #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                          #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                         #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
---------------------------------- ------- -------- ------- ------- --------------- --------------- -------- --------

***  GRAND TOTAL  ***
                                       35   13553   17.80  283.14         105.03       0.225611    95.54     0.03
                                        0   53.54   68.71  283.14   42:10.414289       0.123842     2.85        0
                                        3  398.31    0.00   19.11       0.179238        1610.73    44.65

    ------------------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ALL PROG            PACKAGE        26     6992  1508.23       0.190037       0.159916       0.022902    182.58!
    ------------------------------------------------------------------------------------------------------------

ACCOUNTING REPORT COMPLETE
```

General (Short Report)

This topic shows detailed information about "Accounting - General (Short Report)".

Accounting - General (Short Report)

```
...
                             #OCCURS #COMMIT INSERTS   OPENS        PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PRIMAUTH                     #DISTRS SELECTS UPDATES  CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
 PLANNAME                    #ROLLBK FETCHES  MERGES DELETES CLASS1 CPUTIME       GETPAGES TOT.PREF
--------------------------- ------- -------- ------- ------- --------------- --------------- -------- --------

ABC                             1164    1163    0.00    0.66            1.33       0.047610   198.13     0.00
 java                           1164    0.00    0.00    0.11        0.050089       0.009510     1.32        0
                                   2    0.66    0.00    0.00        0.009638         327.38    11.30
...
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

#OCCURS [ASOCCURS]

The number of logical accounting records. A logical accounting record can contain more than one physical record.

For example, in query CP and sysplex query parallelism, several accounting records (IFCID 003 and, optionally, 239) are generated, one for the entire thread and one for each parallel task within the thread.

In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in a record.

This number is used for calculating averages (as a divisor) for class 1, 2, 3, and 5 times and events.

#DISTRS [ASDISTRS]

The number of accounting records with distributed activity, which is the number of accounting records related to allied-distributed, DBAT, or DBAT- distributed threads.

#ROLLBK [QWACABRT]

(Exception field) The number of rollback requests. This is the number of units that were backed out, including rollbacks from attaches.

Special Considerations: This field contains the number of:

- Application program abends
- Application rollback requests
- Application deadlocks on database records
- Applications canceled by operator
- Thread abends due to resource shortage

#COMMIT [QWACCOMM]

(Exception field) The number of successful two-phase (units of recovery) or single-phase (syncs) commit requests. It indicates the number of units of recovery that are completed successfully, and for which the associated commit duration locks were released. It represents the total number of commit requests processed by the Db2 subsystem, whether the request was an explicit or implicit external request from an IMS or a CICS connection, or an implicit internal request within Db2 when Db2 was the commit coordinator or conducted read-only commit processing as a commit participant on phase-1 calls from an IMS or CICS connection.

For parallel queries, only the commits from the initiating (parent) thread are recorded by this counter.

SELECTS [QXSELECT]

(Exception field) The number of SQL SELECT statements executed.

FETCHES [QXFETCH]

The number of FETCH statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

INSERTS [QXINSRT]

The number of INSERT statements executed.

UPDATES [QXUPDTE]

The number of UPDATE statements executed.

MERGES [QXMERGE]

The number of times a MERGE statement was executed.

OPENS [QXOPEN]

The number of OPEN statements executed.

CLOSES [QXCLOSE]

The number of CLOSE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

DELETES [QXDELET]

The number of DELETE statements executed.

PREPARE [QXPREP]

The number of SQL PREPARE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

CLASS1 EL.TIME [ADRECETT]

(Exception field) The class 1 elapsed time of the allied agent.

Special Considerations:

- If the begin time equals zero, or if the end time minus begin time equals zero or is negative, N/C is shown.
- Threads that can be reused, such as CICS protected threads or IMS/VS wait-for-input message regions, can include time during which the thread was inactive and waiting for work.
- Elapsed time to process distributed requests is included for allied-distributed threads.
- This time includes the time for processing SQL statements issued by stored procedures, user-defined functions, or triggers.

- In query CP, sysplex query, or utility parallelism, this is the time shown in the originating record, which overlaps the elapsed times shown in the parallel records.

CLASS1 CPUTIME [ADCPUT]

(Exception field) The class 1 CPU time in an application. It indicates:

- The class 1 CPU time of the allied agent, which may include the accumulated class 1 TCB time for processing stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- In sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks that is related to the originating task.

  In sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the SYSPLEX group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

CLASS2 EL.TIME [ADDB2ETT]

(Exception field) The class 2 elapsed time of the allied agent accumulated in Db2.

CLASS2 CPUTIME [ADDBCPUT]

(Exception field) The class 2 CPU time (in Db2). It indicates:

- The class 2 CPU time for the allied agent. This includes the accumulated class 2 TCB time for processing any stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- For batch reporting, in sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks, related to the originating task.

  For online monitoring, in sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

GETPAGES [QBACGET]

(Exception field) The number of Getpage requests. This counter is incremented by successful Getpage requests for queries processed in parallel for each thread and for all successful and unsuccessful Getpage requests for queries that are not processed in parallel.

Background and Tuning Information

Reducing the number of Getpages can improve Db2 performance by reducing the number of synchronous page reads. With fewer Getpages, the requested page is more likely to be returned from the buffer pool. CPU usage is also reduced.

Check the ratio of Getpages to SQL DML statements, as a rule of thumb, try and keep this ratio below six for a typical online transaction SQL.

You might need to modify the database and query design, for example:

- Add indexes to tables to reduce the number of pages scanned.
- Reassess the number of tables used and denormalize them, if necessary.

  As an example, a large table with many columns can result in several pages being fetched to satisfy a simple query requesting just a few columns. Splitting such a table into several tables with fewer columns, tailored to queries, will result in fewer pages returned for each query.
- Use correlated rather than non-correlated queries to force the use of an index.

BUF.UPDT [QBACSWS]

(Exception field) The number of times a buffer update occurs. This is incremented every time a page is updated and is ready to be written to DASD. If the same page is updated twice, for example, the number is incremented by 2.

This number is kept for all types of pages including data pages and work-file pages.

Background and Tuning Information

A nonzero value indicates any of the following activities:

- SQL INSERT, UPDATE, or DELETE
- Merge scan join
- Internal sort activity on the work files

Check the access path to determine whether sort activity can be minimized or avoided.

SYN.READ [QBACRIO]

(Exception field) The number of synchronous read I/O operations. Db2 increments this counter for each media manager synchronous physical read. Asynchronous I/O requests are not counted.

TOT.PREF [ABCLSPR]

(Exception field) The number of sequential, dynamic, and list prefetch requests.

LOCK SUS [ALTSUSP]

(Exception field) The total number of all lock suspensions. This includes local and global lock suspensions.

#LOCKOUT [ADTIMDLK]

(Exception field) The number of deadlocks and timeouts.

Package General (Short Report)

This topic shows detailed information about "Accounting - Package General (Short Report)".

Accounting - Package General (Short Report)

```
...
-------------------------------------------------------------------------------------------------------------
|PROGRAM NAME        TYPE      #OCCURS  #ALLOCS  SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP|
|PKGNAME             PACKAGE      1164     1164     4.15       0.047610       0.009510       0.023908      4.47|
-------------------------------------------------------------------------------------------------------------
...
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

PROGRAM NAME [QPACPKID]

(Exception field) The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by Db2), the following value is shown *ROLSUM*.

TYPE [ADPCKTYP]

An indicator of whether the block describes a package or a DBRM. Possible values are PACKAGE, DBRM, and BOTH. BOTH can be shown in reports if there are packages and DBRMs with the same program name.

#OCCURS [ADTOTPOC]

This value can be one of the following:

- In general, the total number of accounting trace sections for a package or DBRM regardless of enabled or disabled Db2 trace classes 7 and 8 at the time of writing the trace record. In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in a record.
- If REPORT ORDER (ACTNAME) is specified, the total number of package sections of a special activity type depends on the following:
  - If IFCID 233 or 380 is available, stored procedures (SP) are counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, user-defined functions (UDF) are counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381 is collected, all packages of an activity type are counted. The sum also includes the number of subprograms.

#ALLOCS [APACSWIT]

This value can be one of the following:

- In general, the number of times a package was invoked by a different package. For the first package run by an application, the initial call counts as a package switch. If this package called a nested package (such as a trigger, UDF, or stored procedure), a switch will **not** be counted upon return from such a package.
- If REPORT ORDER (ACTNAME) is specified, the number of times a package of a special activity type is invoked from a different package depends on the following:
  - If IFCID 233 or 380 is available, the invocations of stored procedures (SP) are counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, the invocation of user-defined functions (UDF) are counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381 is collected, all invocations of an activity type are counted. The sum also includes the number of subprograms.

SQLSTMT [QPACSQLC]

(Exception field) The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

CL7 ELAP.TIME [QPACSCT]

(Exception field) The total elapsed time for executing the package or DBRM.

CL7 CPU TIME [ADCPUTP]

(Exception field) The class 7 CPU time spent by the package or DBRM. It indicates:

- The TCB time
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.

In sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included.

This time does not include the CPU time consumed on an IBM specialty engine.

CL8 SUSP.TIME [ADTSUSTP]

(Exception field) The waiting time for the package or DBRM due to class 8 suspensions.

CL8 SUSP [ADTSUSCP]

(Exception field) The number of all types of class 8 suspensions.

Distributed Activity Server (Short Report)

This topic shows detailed information about "Accounting - Distributed Activity Server (Short Report)".

For information on how to calculate total values for multiple lines refer to “Distributed Activity Requester (Short Report) ” on page 33.

Accounting - Distributed Activity Server (Short Report)

```
...
-------------------------------------------------------------------------------------------------------------
|SERVER           PRODUCT ID    PROD VERSION  METH  #DDFS  #ROLLBK  #COMMIT  SQLSENT  ROWRECV  CONVI  ELAPSED REQ|
|PMODA11          Db2           V10R1 M5      N/P       1        0        1     2.00  1095.00   1.00     0.154750|
-------------------------------------------------------------------------------------------------------------
...
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

SERVER [QLACLOCN]

(Exception field) The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a Db2 requester, and a database access thread is created at a Db2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

PRODUCT ID [QLACPRID]

The original Db2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from Db2	Shown as
DSN	Db2
ARI	SQL/DS
QSQ	Db2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from Db2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

PRODUCT VERSION [QLACPRID]

The original Db2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID
It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from Db2	Shown as
DSN	Db2
ARI	SQL/DS
QSQ	Db2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from Db2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

METH [ADPROTOC]

The method of access: Db2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

#DDFS [ASDDF]

The number of occurrences of the remote location and method pair.

#ROLLBK [ADROL12S]

The total number of rollbacks (single phase and two-phase) sent.

#COMMIT [ADCOM12S]

The total number of single-phase and two-phase commit requests sent.

SQLSENT [QLACSQLS]

The number of SQL statements sent to the server location. This value is maintained at the requesting location.

ROWRECV [QLACROWR]

(Exception field) The number of rows of data retrieved from the server location. This value is maintained at the requester location.

Special Considerations:

1. The number of rows received from the server location does not include either the SQLDA or SQLCA.
2. Block fetch can significantly affect the number of rows sent across the network. When used with non-UPDATE cursors, block fetch puts as many rows as possible into the message buffer, and transmits the buffer across the network without requiring a VTAM® message. Consequently, more rows of data might be sent from the server location than are received by the reporting (requester) location. This is especially true when Db2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages sent by the requester.

CONVI [QLACCNVS]

(Exception field) The number of conversations (both successful and unsuccessful) initiated by the requester location to be executed at the server location. This number is maintained at the requester.

ELAPSED REQ [ADDSELRQ]

(Exception field) The elapsed time at the requester. It includes the total of Db2 and network time.

Distributed Activity Requester (Short Report)

This topic shows detailed information about "Accounting - Distributed Activity Requester (Short Report)".

This block is part of the Accounting Short Report.

Note: The total values for each requester (or server) are not calculated if there are multiple lines that result from different product IDs and product versions. However, you can calculate these totals as follows:

1. Field labels that start with a #-sign are totals. The sums of these fields are the values for each requester (or server).
2. The remaining numerical fields are averages for each #DDFS. Multiply the shown average values by the #DDFS value to calculate the absolute value for each requester (or server) and line.
3. Then summarize all absolute values for each requester (or server) and line, and divide the sum by the sum of all #DDFS values for each requester (or server).

You can customize the report layout using the user-tailored reporting (UTR) facility as described in the Reporting *Reporting User's Guide* section about "Tailoring report layouts".

Accounting - Distributed Activity Requester (Short Report)

The field labels shown in the following sample layout of "Accounting - Distributed Activity Requester (Short Report)" are described in the following section.

```
...
-------------------------------------------------------------------------------------------
|REQUESTER         PRODUCT ID    PROD VERSION  METH  #DDFS  #ROLLBK  #COMMIT  SQLRECV  ROWSENT  CONVI|
|::FFFF#1          JDBC DRIVER   V3 R65M0      DRDA      2        0        2     5.50     0.00   1.00|
-------------------------------------------------------------------------------------------
...
```

REQUESTER

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

PRODUCT ID

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)

It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

PRODUCT VERSION

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)

It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

METH

The method of access: DB2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: ADPROTOC

#DDFS

The number of occurrences of the remote location and method pair.

Field Name: ASDDF

#ROLLBK

The total number of rollbacks (single phase and two-phase) received.

Field Name: ADROL12R

#COMMIT

The total number of commits (single phase and two-phase) received.

Field Name: ADCOM12R

SQLRECV

The number of SQL statements received from the requester location.

Field Name: QLACSQLR

ROWSENT

The number of rows sent from the server location to the requester location. The value includes SQLDA and is maintained at the server location.

Field Name: QLACROWS

CONVI

A count of conversations initiated by the requester.

This number is updated at the server location.

Field Name: QLACCNVR

Accounting Trace - Short

The short Accounting trace shows some of the most significant fields summarized by thread.

Short Accounting traces are arranged in blocks. Each block contains Accounting information about a particular activity. The layout of each block is presented followed by the field descriptions.

The following example shows a short version of the Accounting trace produced by the following command:

```
...
ACCOUNTING
   TRACE
   LAYOUT (SHORT)
...
```

Accounting Trace - Short

The following example shows a short version of the Accounting trace.

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

MIS      'BLANK'  08:18:18.929442       0       0              0       0.005557       30        1
ADB      TSO      NORM DEALLOC          1       0              1       0.053410        0        0
MIS      ALLIED                 3       2       0      48.277700       0.003498        4        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB2GET             PACKAGE         6       0.000333       0.000328       0.000000         0!
    !ADB2CON             PACKAGE         1       0.000041       0.000041       0.000000         0!
    !ADBMAIN             PACKAGE         6       0.052952       0.003046       0.049679         7!
    ---------------------------------------------------------------------------------------------

MIS      'BLANK'  08:18:52.804954     N/P     N/P            N/P       0.044812      800      118
DSNUTIL  UTILITY  ABNM PROG ABEND     N/P     N/P            N/P       0.293246       12        0
MISIDC   ALLIED                10     N/P     N/P       1.790735       0.018438       36        0

MIS      'BLANK'  08:21:00.905714       0       0              0       0.002113      346       12
ADB27SPC TSO      NORM DEALLOC          1       0              0       0.075858        0        0
MIS      ALLIED                 1       2       0       0.077495       0.001597        9        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE         9       0.051289       0.001345       0.049855        15!
    ---------------------------------------------------------------------------------------------

MIS      'BLANK'  08:21:01.254177       1       0              0       0.010110      394       16
ADB27SPC TSO      NORM DEALLOC          1       0              0       0.125321       10        0
MIS      ALLIED                 1       7       0       0.127365       0.009326       11        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE        15       0.125278       0.009285       0.103551        15!
    ---------------------------------------------------------------------------------------------

MIS      'BLANK'  08:21:01.343215     N/P     N/P            N/P       0.000433        0        0
'BLANK'  TSO      NORM DEALLOC        N/P     N/P            N/P       0.004626        0      N/P
MIS      ALLIED                 1     N/P     N/P       0.004632       0.000427        0      N/P

MIS      'BLANK'  08:21:37.502064       0       0              0       0.001956      337        0
ADB27SPC TSO      NORM DEALLOC          1       0              0       0.001430        0        0
MIS      ALLIED                 1       2       0       0.003141       0.001370        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE         9       0.001376       0.001322       0.000000         0!
    ---------------------------------------------------------------------------------------------

MIS      'BLANK'  08:21:37.662951       1       0              0       0.011903      315       14
ADB27SPC TSO      NORM DEALLOC          1       0              0       0.013670       10        0
MIS      ALLIED                 1       6       0       0.015371       0.011382        0        0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-2
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE        14       0.013637       0.011353       0.000000         0!
    ---------------------------------------------------------------------------------------------

MIS      'BLANK'  08:21:37.728018     N/P     N/P            N/P       0.000389        0        0
'BLANK'  TSO      NORM DEALLOC        N/P     N/P            N/P       0.004316        0      N/P
MIS      ALLIED                 1     N/P     N/P       0.004353       0.000379        0      N/P

MIS      'BLANK'  08:22:10.306515     N/P     N/P            N/P       0.036566      793      102
DSNUTIL  UTILITY  ABNM PROG ABEND     N/P     N/P            N/P       0.024508       12        0
MISIDC   ALLIED                10     N/P     N/P       0.154912       0.018146        0        0

MIS      'BLANK'  08:22:31.779027       0       0              0       0.089959     3009      113
ADB      TSO      NORM DEALLOC          7       2             17       0.332647      832        0
MIS      ALLIED                14      21       0    3:10.604602       0.077087       39        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB2GET             PACKAGE         6       0.000320       0.000316       0.000000         0!
    !ADB2CON             PACKAGE         1       0.000041       0.000041       0.000000         0!
    !ADBMAIN             PACKAGE        81       0.332195       0.076641       0.829595       118!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:03:22.794879   81493     694              0      19.018617   579314     1567
KO2PLAN  RRSAF    NORM END USER     94930     920           4436      14.068989     3705        3
'BLANK'  ALLIED             11961  183935    2054 21:08:16.92267      12.023208      145        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE        32       0.016758       0.008963       0.005598         8!
    !DGOVEXCP            PACKAGE      7922       2.222845       1.690191       0.463894      1379!
    !FPEVWR2C            PACKAGE      3618       1.167043       0.919444       0.026050       137!
    !DGOZCHKB            PACKAGE         2       0.001000       0.000779       0.000000         0!
    !DGOZPC1             PACKAGE     15960       0.877475       0.743542       0.077204      3027!
    !DGOZPC2             PACKAGE    344874       7.823140       6.911345       0.002493        17!
    !DGOZDATE            PACKAGE     79818       0.934093       0.767495       0.000000         0!
    !DGOZPC4             PACKAGE      6024       0.227013       0.214899       0.000000         0!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:18:00.000440       2       0              0       0.000401       10        0
KO2PLAN  RRSAF    NORM STALENESS        0       0              0            N/P        0        0
'BLANK'  ALLIED                 2       0       0       0.001347            N/P        0        0

DB2PM    'BLANK'  09:21:29.033173    8858      52              0       2.106302    63355     1778
KO2PLAN  RRSAF    NORM END USER     10160       6            176      10.199946       12        1
'BLANK'  ALLIED             1251   25135     236 2:15:24.240585       1.094033       63        0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-3
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         2       0.000417       0.000394       0.000000         0!
    !FPEVWR2C            PACKAGE       384       0.129680       0.102263       0.003030        14!
    !DGOZPC2             PACKAGE     36454       9.773484       0.737737       0.000304         2!
    !DGOZDATE            PACKAGE      8683       0.104788       0.081725       0.000000         0!
    !DGOZPC1             PACKAGE      1590       0.083373       0.073120       0.006574       318!
    !DGOZPC4             PACKAGE       636       0.023430       0.022416       0.000000         0!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:29:43.092513    4432      32             0       1.158943    33183     1685
DB2PM    RRSAF    NORM END USER      5052       6           104       0.603703       12        0
'BLANK'  ALLIED                655   15517     126   56:43.869995       0.526870        6        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         2       0.000913       0.000473       0.000000         0!
    !FPEVWR2C            PACKAGE       192       0.048516       0.043706       0.001238         6!
    !DGOZPC2             PACKAGE     17633       0.414151       0.359071       0.000003         2!
    !DGOZDATE            PACKAGE      4081       0.047074       0.039262       0.000000         0!
    !DGOZPC1             PACKAGE      1069       0.038439       0.035705       0.001971       154!
    !DGOZPC4             PACKAGE       308       0.010961       0.010693       0.000000         0!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:41:00.009453     N/P     N/P            N/P       0.002014        0        0
'BLANK'  RRSAF    NORM STALENESS     N/P     N/P            N/P            N/P        0        0
'BLANK'  ALLIED                0     N/P     N/P    8:13.695925            N/P        0        0
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-1
      GROUP: DBC1                               ACCOUNTING TRACE - SHORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                                 ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  07:02:00.001641       0       0              0       0.006817       48        0
KO2PLAN  RRSAF    NORM STALENESS       20       0             24       0.058363        4        5
'BLANK'  ALLIED                24      20       4       0.058896       0.006288        1        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.047027       0.005399       0.039315        14!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:16:00.002621       0       0              0       0.008521       60        0
KO2PLAN  RRSAF    NORM STALENESS       25       0             30       0.029507        5        0
'BLANK'  ALLIED                30      25       5       0.030244       0.007807        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       110       0.011752       0.006384       0.002717         5!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:30:00.010339       0       0              0       0.008263       60        0
KO2PLAN  RRSAF    NORM STALENESS       25       0             30       0.028963        5        0
'BLANK'  ALLIED                30      25       5       0.029757       0.007562        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       110       0.011564       0.006231       0.003202         5!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:45:00.000945       0       0              0       0.006962       48        0
KO2PLAN  RRSAF    NORM STALENESS       20       0             24       0.026348        4        1
'BLANK'  ALLIED                24      20       4       0.026993       0.006341        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.009209       0.005065       0.002366         4!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:58:00.001003       0       0              0       0.008137       60        0
KO2PLAN  RRSAF    NORM STALENESS       25       0             30       0.024403        5        0
'BLANK'  ALLIED                30      25       5       0.025180       0.007400        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       110       0.012073       0.006284       0.003909         5!
    ---------------------------------------------------------------------------------------------

MIS      'BLANK'  08:06:29.638496       0       0              0       0.002043       12        1
ADB27SPC TSO      NORM DEALLOC          1       0              0       0.049194        0        1
MIS      ALLIED                 1       2       0       0.050798       0.001513        8        0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-2
      GROUP: DBC1                                ACCOUNTING TRACE - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12                                                                             PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE         9      0.037525      0.000906       0.008376         5!
    ----------------------------------------------------------------------------------------

MIS      'BLANK'  08:06:34.489475       1       0             0       2.058687    81963     5080
ADB27SPC TSO      NORM DEALLOC          1       0             0       4.701144        0        1
MIS      ALLIED                 1       6       0       4.703404       2.057726       52        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE        14       4.701106       2.057696       2.182460      5117!
    ----------------------------------------------------------------------------------------

MIS      'BLANK'  08:06:34.601360     N/P     N/P             N/P       0.000408        0        0
'BLANK'  TSO      NORM DEALLOC        N/P     N/P             N/P       0.038540        0      N/P
MIS      ALLIED                 1     N/P     N/P       0.038544       0.000403        0      N/P

MIS      'BLANK'  08:06:34.772147     N/P     N/P             N/P       0.000348        0        0
'BLANK'  TSO      NORM DEALLOC        N/P     N/P             N/P       0.004496        0      N/P
MIS      ALLIED                 1     N/P     N/P       0.004499       0.000344        0      N/P

MIS      'BLANK'  08:08:36.801415     N/P     N/P             N/P       0.041090     1651       27
DSNUTIL  UTILITY  NORM DEALLOC        N/P     N/P             N/P       2.163899      464       43
MISIDC   ALLIED                28     N/P     N/P       2.202907       0.036611      123        0

MIS1     'BLANK'  08:09:37.032181     N/P     N/P             N/P       0.006032       57        0
DSNUTIL  UTILITY  NORM DEALLOC        N/P     N/P             N/P       0.052472       13        3
MISIDC   ALLIED                10     N/P     N/P       0.075969       0.004677        0        0

MIS      'BLANK'  08:09:52.382881       0       0             0       0.325938    82939     5136
ADB      TSO      NORM DEALLOC          5       1            10       6.930629      448       12
MIS      ALLIED                 9      24       0    4:39.789682       0.317732      102        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB2GET             PACKAGE         6       0.000331       0.000324       0.000000         0!
    !ADB2CON             PACKAGE         1       0.000041       0.000041       0.000000         0!
    !ADBMAIN             PACKAGE        63       6.930166       0.317277       4.883117      5206!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:12:00.001684       0       0             0       0.006594       48        0
KO2PLAN  RRSAF    NORM STALENESS       20       0            24       0.026586        4        0
'BLANK'  ALLIED                24      20       4       0.027222       0.006068        0        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.009215       0.004838       0.002516         4!
    ----------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-3
      GROUP: DBC1                                ACCOUNTING TRACE - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12                                                                             PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  08:26:00.003481       0       0             0       0.008326       60        0
KO2PLAN  RRSAF    NORM STALENESS       25       0            30       0.030577        5        0
'BLANK'  ALLIED                30      25       5       0.031337       0.007633        5        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       110       0.013467       0.006254       0.004305        10!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:39:00.000994       0       0             0       0.006871       48        0
KO2PLAN  RRSAF    NORM STALENESS       20       0            24       0.022722        4        0
'BLANK'  ALLIED                24      20       4       0.023335       0.006289        0        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.010631       0.005273       0.002740         4!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:53:00.003331       0       0             0       0.008192       60        0
KO2PLAN  RRSAF    NORM STALENESS       25       0            30       0.030533        5        0
'BLANK'  ALLIED                30      25       5       0.031266       0.007483        0        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       110       0.013516       0.006225       0.004495         6!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:01:19.374179       6     750             0       5.238321    27950      418
KO2PLAN  RRSAF    NORM END USER      1577    1108          5070      45.025345     4479      361
'BLANK'  ALLIED                1586    2743     532 13:18:16.08950       3.440602      152        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        44       0.004293       0.002398       0.001081         2!
    !FPEVWRPA            PACKAGE         6       0.027109       0.005337       0.016964        12!
    !DGOVEXCP            PACKAGE      9526      26.533861       2.278888      23.958403      3383!
    !FPEVWR2C            PACKAGE      3618      13.022947       1.111549      11.716457       627!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:12:47.179187       0       0             0       0.008721       48        0
KO2PLAN  RRSAF    NORM END USER        20       0            24       0.017791        4        0
'BLANK'  ALLIED                24      20       4 2:39:55.959753       0.004344        0        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        66       0.006536       0.003498       0.001276         3!
    ----------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-4
      GROUP: DBC1                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                                  ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12                                                                                     PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  09:13:00.004470     N/P     N/P            N/P       0.195725        0        0
KO2PLAN  RRSAF    NORM STALENESS     N/P     N/P            N/P       3.434947        0        0
OMEGAMON ALLIED                0     N/P     N/P 2:38:29.497535       0.042030        0        0

DB2PM            09:20:20.453396       1       7             0       0.086478      714        0
'BLANK'  RRSAF    NORM END USER        16       3            46       0.427041       14        4
         ALLIED                30      16      20   33:48.841437       0.019919       15        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        44       0.005041       0.002758       0.001368         2!
    !FPEVWRPA            PACKAGE         6       0.002133       0.000826       0.001043         1!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:26:42.034796       5      40             0       0.326233      316        4
KO2PLAN  RRSAF    NORM END USER        61       0           157       0.354745        2       33
'BLANK'  ALLIED                67    1227      59 1:07:57.571559       0.116209        4        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWR2C            PACKAGE       384       0.341052       0.113764       0.214333        57!
    !FPEVWRP2            PACKAGE        22       0.002171       0.001227       0.000513         1!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:32:00.000950     N/P     N/P            N/P       0.034667        0        0
KO2PLAN  RRSAF    NORM STALENESS     N/P     N/P            N/P       0.023040        0        0
OMEGAMON ALLIED                0     N/P     N/P   24:15.880606       0.006538        0        0

DB2PM    'BLANK'  09:40:58.536089       6      27             0       0.219075      317        1
KO2PLAN  RRSAF    NORM END USER        33       5           102       0.228800       12       19
'BLANK'  ALLIED                50    1199      39   49:03.333417       0.061006        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        22       0.001915       0.001066       0.000499         1!
    !FPEVWRPA            PACKAGE         6       0.002420       0.000888       0.000682         1!
    !FPEVWR2C            PACKAGE       192       0.186095       0.052527       0.127764        25!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:56:00.001016       0       0             0       0.006545       50        0
KO2PLAN  RRSAF    NORM STALENESS       25       0            25       0.017547        0        0
'BLANK'  ALLIED                30      25       0      0.171328       0.004822        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        80       0.005422       0.003744       0.000071         4!
    ------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-1
      GROUP: DBEE                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                                  ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11                                                                                     PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

MIS      'BLANK'  08:16:02.787508     N/P     N/P            N/P       0.305161   144960    12788
DSNUTIL  UTILITY  NORM DEALLOC       N/P     N/P            N/P            N/P      467       52
MISIDC   ALLIED                26     N/P     N/P       2.411696            N/P      147        0

MIS      'BLANK'  08:16:02.926351     N/P     N/P            N/P       0.003552      142        7
DSNUTIL  UTILITY  NORM DEALLOC       N/P     N/P            N/P            N/P       13        3
MISIDC   ALLIED                10     N/P     N/P       0.075986            N/P        0        0

DB2PM    'BLANK'  09:16:33.119594       2       0             0       0.010277      116        0
KO2PLAN  RRSAF    NORM END USER        11       2            15       0.113032        2        2
'BLANK'  ALLIED                16      11       1      0.171472       0.007403        1        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        32       0.096422       0.006444       0.006194         4!
    ------------------------------------------------------------------------------------------

DB2PM            09:28:00.001512     184       7             0       0.366568     3932     1055
'BLANK'  RRSAF    NORM STALENESS      396       4            18       2.419360       11       28
         ALLIED               500    3498      68   47:31.090097       0.147791      167        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         6       0.014902       0.004894       0.004718         9!
    !DGOZPC2             PACKAGE       420       0.070453       0.047602       0.000000         0!
    !DGOZDATE            PACKAGE        60       0.002446       0.002390       0.000000         0!
    !DGOZPC1             PACKAGE       603       2.149922       0.043017       2.078318       122!
    !DGOZPC4             PACKAGE       240       0.028219       0.015639       0.000000         0!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:28:00.002481     N/P     N/P            N/P       0.015119        0        0
KO2PLAN  RRSAF    NORM STALENESS     N/P     N/P            N/P       0.014772        0        0
OMEGAMON ALLIED                0     N/P     N/P    8:05.846810       0.004553        0        0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 4-1
      GROUP: DBEE                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE2                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SEE2                                                                                 ACTUAL FROM: 08/24/16 07:08:00.00
DB2 VERSION: V11                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  07:08:00.000991       0       0              0       0.006385       50        0
KO2PLAN  RRSAF    NORM STALENESS       25       0             25       0.018700        0        0
'BLANK'  ALLIED                30      25       0       0.019284       0.005811        2        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       100       0.008006       0.004911       0.000770         7!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:22:00.000580       0       0              0       0.007555       50        0
KO2PLAN  RRSAF    NORM STALENESS       25       0             25       0.025554        0        0
'BLANK'  ALLIED                30      25       0       0.026339       0.006865        1        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       100       0.009323       0.005755       0.000715         8!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:36:00.000721       0       0              0       0.005831       40        0
KO2PLAN  RRSAF    NORM STALENESS       20       0             20       0.022280        0        0
'BLANK'  ALLIED                24      20       0       0.022827       0.005291        1        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        80       0.006712       0.004267       0.000339         5!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:50:00.001371       0       0              0       0.006910       50        0
KO2PLAN  RRSAF    NORM STALENESS       25       0             25       0.026007        0        0
'BLANK'  ALLIED                30      25       0       0.026635       0.006289        2        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       100       0.008166       0.005129       0.000702         7!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:02:00.021003       0       0              0       0.005354       40        0
KO2PLAN  RRSAF    NORM STALENESS       20       0             20       0.017447        0        0
'BLANK'  ALLIED                24      20       0       0.018000       0.004839        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        80       0.006536       0.004107       0.000072         4!
    ------------------------------------------------------------------------------------------

MIS      'BLANK'  08:15:21.225653       0       0              0       0.010615       67        1
ADB      TSO      NORM DEALLOC          2       0              2       0.084914        0        2
MIS      ALLIED                 5      11       0     25.835590       0.007726        9        0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 4-2
      GROUP: DBEE                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE2                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SEE2                                                                                 ACTUAL FROM: 08/24/16 07:08:00.00
DB2 VERSION: V11                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB2GET             PACKAGE         6       0.000202       0.000197       0.000000         0!
    !ADB2CON             PACKAGE         1       0.000039       0.000039       0.000000         0!
    !ADBPARM             PACKAGE         2       0.000224       0.000200       0.000000         0!
    !ADBMAIN             PACKAGE        19       0.084382       0.007224       0.068382        14!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:17:00.002930       0       0              0       0.008907       86        0
KO2PLAN  RRSAF    NORM STALENESS       21       2             37       0.041493        6        4
'BLANK'  ALLIED                26      21      13       0.042180       0.008219        1        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       116       0.025316       0.007099       0.014487        14!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:32:00.000942       0       0              0       0.008235       60        0
KO2PLAN  RRSAF    NORM STALENESS       25       0             30       0.029390        5        0
'BLANK'  ALLIED                30      25       5       0.030244       0.007518        2        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE       110       0.013651       0.006391       0.004327         7!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:45:00.002199       0       0              0       0.006262       48        0
KO2PLAN  RRSAF    NORM STALENESS       20       0             24       0.026913        4        0
'BLANK'  ALLIED                24      20       4       0.027461       0.005726        1        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.010995       0.004747       0.003629         6!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:58:00.004783       0       0              0       0.006567       48        0
KO2PLAN  RRSAF    NORM STALENESS       20       0             24       0.022655        4        0
'BLANK'  ALLIED                24      20       4       0.023452       0.005983        1        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.011504       0.005146       0.003790         5!
    ------------------------------------------------------------------------------------------

DB2PM             09:01:07.387859    3019     293            0       5.605112    42046       43
'BLANK'  RRSAF    NORM END USER      9676     459         2032     27.834364     1847      338
         ALLIED                   11193   14220    1700 18:28:25.39167       4.293098      178        0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 4-3
      GROUP: DBEE                              ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE2                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SEE2                                                                               ACTUAL FROM: 08/24/16 07:08:00.00
DB2 VERSION: V11                                                                                  PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
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    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        46       0.006471       0.002426       0.001844         3!
    !FPEVWRPA            PACKAGE        14       0.027169       0.009114       0.012829        18!
    !DGOVEXCP            PACKAGE      3942       2.192355       0.990217       1.101690      1107!
    !FPEVWR2C            PACKAGE      1296       2.382283       0.330348       2.000514       199!
    !DGOZCHKB            PACKAGE         2       0.004624       0.001057       0.002596         3!
    !DGOZPC1             PACKAGE     15096       2.763138       0.948087       1.302044      3033!
    !DGOZPC2             PACKAGE     10528       2.490285       1.077723       0.975582        51!
    !DGOZDATE            PACKAGE      1504       0.062824       0.059400       0.000427         1!
    !DGOZPC4             PACKAGE      6016       1.133495       0.348258       0.506277         4!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:12:44.174540       2       0              0       0.007890       58        0
KO2PLAN  RRSAF    NORM END USER        20       0             24       0.020276        4        0
'BLANK'  ALLIED                26      20       4       0.038290       0.005021        2        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        66       0.009286       0.004284       0.002651         3!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:13:00.004632     N/P     N/P            N/P       0.303294        0        0
KO2PLAN  RRSAF    NORM STALENESS      N/P     N/P            N/P       0.643887        0        0
OMEGAMON ALLIED                0     N/P     N/P 2:38:29.495333       0.099692        0        0

DB2PM    'BLANK'  09:16:39.383954     292      40              0       0.516880     4855     1053
KO2PLAN  RRSAF    NORM END USER       758       6            154       0.552142       19       27
'BLANK'  ALLIED                934    3914     185 1:25:18.138671       0.259413      104        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         6       0.002049       0.000752       0.000856         1!
    !FPEVWR2C            PACKAGE       258       0.215159       0.067499       0.130415        37!
    !DGOZPC2             PACKAGE       805       0.114918       0.080446       0.000000         0!
    !DGOZDATE            PACKAGE       115       0.004741       0.004543       0.000000         0!
    !DGOZPC1             PACKAGE      1153       0.112785       0.071542       0.004170       231!
    !DGOZPC4             PACKAGE       460       0.047836       0.026444       0.000000         0!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:20:14.841854       3      12              0       0.017845      161        0
KO2PLAN  RRSAF    NORM END USER        22       6             77       0.034442       23        0
'BLANK'  ALLIED                49      22      37    3:35.431707       0.013458        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVTCO1            PACKAGE         2       0.000284       0.000280       0.000000         0!
    !FPEVWRP2            PACKAGE       132       0.013577       0.005936       0.003830         4!
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 4-4
      GROUP: DBEE                              ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE2                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SEE2                                                                               ACTUAL FROM: 08/24/16 07:08:00.00
DB2 VERSION: V11                                                                                  PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

    (CONTINUED)
    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE        67       0.018810       0.006520       0.006902        13!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:21:35.926846     127       8              0       0.249438     3020     1044
KO2PLAN  RRSAF    NORM END USER       229       0             32       0.155214        1        5
'BLANK'  ALLIED                302    3302      49   22:26.619302       0.071734        3        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWR2C            PACKAGE        48       0.010908       0.004423       0.004144         1!
    !DGOVSDOB            PACKAGE      3054       0.023059       0.016264       0.002115         1!
    !DGOZCHKB            PACKAGE        51       0.024374       0.014012       0.002236        37!
    !DGOZPC1             PACKAGE       602       0.023042       0.011190       0.005555        33!
    !DGOZPC2             PACKAGE       105       0.023130       0.012226       0.000196         1!
    !DGOZDATE            PACKAGE        15       0.000606       0.000591            N/P       N/P!
    !DGOZPC4             PACKAGE        60       0.006430       0.003626            N/P       N/P!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:27:00.002528     N/P     N/P            N/P       0.030473        0        0
KO2PLAN  RRSAF    NORM STALENESS      N/P     N/P            N/P       0.023877        0        0
OMEGAMON ALLIED                0     N/P     N/P   14:30.335179       0.009544        0        0

DB2PM    'BLANK'  09:29:44.116433       6      32              0       0.128658      451        7
KO2PLAN  RRSAF    NORM END USER        44       8            130       0.195942       20       16
'BLANK'  ALLIED                73    3082      48   40:48.854570       0.054203        1        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        44       0.004828       0.002246       0.001634         2!
    !FPEVWRPA            PACKAGE         6       0.002465       0.000826       0.000915         1!
    !FPEVWR2C            PACKAGE       192       0.169351       0.048319       0.113521        25!
    ------------------------------------------------------------------------------------------

DB2PM            09:40:00.001842     212       1              0       0.275400     3647     1037
'BLANK'  RRSAF    NORM STALENESS      489       0              0       0.186022        0        0
         ALLIED                601     570      83   16:33.188075       0.123437        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZPC2             PACKAGE       539       0.077726       0.055455            N/P       N/P!
    !DGOZDATE            PACKAGE        77       0.003041       0.002973            N/P       N/P!
    !DGOZPC1             PACKAGE       795       0.073849       0.047466       0.002634       154!
    !DGOZPC4             PACKAGE       308       0.031374       0.017430            N/P       N/P!
    ------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 4-5
      GROUP: DBEE                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE2                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SEE2                                                                                 ACTUAL FROM: 08/24/16 07:08:00.00
DB2 VERSION: V11                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES         MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS        PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  09:40:00.001955     N/P     N/P            N/P       0.015818        0        0
KO2PLAN  RRSAF    NORM STALENESS     N/P     N/P            N/P       0.008832        0        0
OMEGAMON ALLIED                0     N/P     N/P    7:45.553988       0.005219        0        0

DB2PM    'BLANK'  09:51:14.254063       2       0              0       0.005867       50        0
KO2PLAN  RRSAF    NORM END USER        20       0             20       0.015363        0        0
'BLANK'  ALLIED                26      20       0       0.957269       0.003400        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        60       0.003968       0.002645       0.000051         3!
    ---------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBZ2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 5-1
      GROUP: DBZ2                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ22                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SZ22                                                                                 ACTUAL FROM: 08/24/16 07:05:32.04
DB2 VERSION: V10                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES         MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS        PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  07:05:32.045572       0       0              0       0.003533        5        0
KO2PLAN  RRSAF    NORM END USER         5       0              5       0.014251        0        0
'BLANK'  ALLIED                 5       5       0       0.014531       0.003254        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        15       0.003380       0.002343       0.000801        10!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:18:29.692599       0       0              0       0.003329        4        0
KO2PLAN  RRSAF    NORM END USER         4       0              4       0.019136        0        0
'BLANK'  ALLIED                 4       4       0       0.019427       0.003045        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        12       0.002839       0.001997       0.000662         8!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:31:00.001016       0       0              0       0.002992        4        0
KO2PLAN  RRSAF    NORM STALENESS        4       0              4       0.025926        0        0
'BLANK'  ALLIED                 4       4       0       0.026223       0.002741        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        12       0.015225       0.001936       0.013189         9!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:43:51.729755       0       0              0       0.003225        4        0
KO2PLAN  RRSAF    NORM END USER         4       0              4       0.018731        0        0
'BLANK'  ALLIED                 4       4       0       0.019006       0.002959        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        12       0.002705       0.001918       0.000664         8!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  07:57:36.745026       0       0              0       0.003509        5        0
KO2PLAN  RRSAF    NORM END USER         5       0              5       0.014682        0        0
'BLANK'  ALLIED                 5       5       0       0.014946       0.003240        0        0

    ---------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        15       0.003394       0.002379       0.000807        10!
    ---------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:09:49.030656       0       0              0       0.003223        4        0
KO2PLAN  RRSAF    NORM END USER         4       0              4       0.020432        0        0
'BLANK'  ALLIED                 4       4       0       0.020679       0.002970        0        0
```

```
   LOCATION: OMPDBZ2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 5-2
      GROUP: DBZ2                              ACCOUNTING TRACE - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ22                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: SZ22                                                                     ACTUAL FROM: 08/24/16 07:05:32.04
DB2 VERSION: V10                                                                        PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        12       0.002668       0.001907       0.000503         8!
    ------------------------------------------------------------------------------------------

MIS      'BLANK'  08:11:44.410940       0       0              0       0.001597       11        0
ADB27SPC TSO      NORM DEALLOC         1       0              0       0.026215        0        1
MIS      ALLIED                 1       2       0       0.027784       0.001106        7        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE         9       0.015071       0.000656       0.014318         4!
    ------------------------------------------------------------------------------------------

MIS      'BLANK'  08:11:45.764460       1       0              0       0.014385      477       26
ADB27SPC TSO      NORM DEALLOC         1       0              0       0.119782       10        0
MIS      ALLIED                 1       6       0       0.121802       0.013648       26        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB27SP             PACKAGE        14       0.119711       0.013577       0.087290        30!
    ------------------------------------------------------------------------------------------

MIS      'BLANK'  08:11:45.842195     N/P     N/P            N/P       0.000375        0        0
'BLANK'  TSO      NORM DEALLOC        N/P     N/P            N/P       0.005642        0      N/P
MIS      ALLIED                 1     N/P     N/P       0.005646       0.000370        0      N/P

MIS      'BLANK'  08:12:34.842144     N/P     N/P            N/P       0.038508     1789      205
DSNUTIL  UTILITY  NORM DEALLOC        N/P     N/P            N/P       2.790666      412       40
MISIDC   ALLIED                24     N/P     N/P       2.856899       0.033877      163        0

MIS      'BLANK'  08:12:35.035478     N/P     N/P            N/P       0.006573      154       10
DSNUTIL  UTILITY  NORM DEALLOC        N/P     N/P            N/P       0.107999       13        3
MISIDC   ALLIED                10     N/P     N/P       0.128838       0.005444       71        0

MIS      'BLANK'  08:14:30.252056     N/P     N/P            N/P       0.005247       69        3
DSNUTIL  UTILITY  NORM DEALLOC        N/P     N/P            N/P       0.059097       16        5
MISIDC   ALLIED                10     N/P     N/P       0.081857       0.004209        8        0

MIS      'BLANK'  08:14:49.713117       0       0              0       0.089688     1966       86
ADB      TSO      NORM DEALLOC         8       2             18       1.040978      764        7
MIS      ALLIED                15      35       0    4:52.468235       0.078167      238        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB2GET             PACKAGE         6       0.072743       0.001239       0.049363         5!
    !ADB2CON             PACKAGE         1       0.000043       0.000043       0.000000         0!
    !ADBMAIN             PACKAGE        99       0.944751       0.076371       0.568195       282!
    ------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDBZ2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 5-3
      GROUP: DBZ2                              ACCOUNTING TRACE - SHORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ22                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: SZ22                                                                     ACTUAL FROM: 08/24/16 07:05:32.04
DB2 VERSION: V10                                                                        PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  08:23:00.002444       0       0              0       0.006732       61        4
KO2PLAN  RRSAF    NORM STALENESS      16       0             28       0.102024        4        2
'BLANK'  ALLIED                19      16      12       0.102582       0.006182        6        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        87       0.090618       0.005381       0.081550        24!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:34:34.992242       0       0              0       0.015087      158        6
KO2PLAN  RRSAF    NORM END USER       20       0             24       0.154202        4        8
'BLANK'  ALLIED                24      20       4       0.154867       0.014433       24        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.136917       0.013381       0.107816        43!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  08:48:00.000711       0       0              0       0.006748       48        0
KO2PLAN  RRSAF    NORM STALENESS      20       0             24       0.022597        4        0
'BLANK'  ALLIED                24      20       4       0.024144       0.006154        2        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       0.012017       0.005398       0.004213         6!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:00:05.776454       0       0              0       0.008613       48        0
KO2PLAN  RRSAF    NORM END USER       20       0             24       1.973761        4        0
'BLANK'  ALLIED                24      20       4       1.975112       0.008037        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        88       1.955239       0.007001       0.006194         5!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:01:17.301765       6     116              0       1.718414     1688      105
KO2PLAN  RRSAF    NORM END USER       143       2            417      14.540830        7      313
'BLANK'  ALLIED                150    7010     159 15:55:47.22613       1.007260      260        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         6       0.028750       0.005713       0.021168        34!
    !FPEVWR2C            PACKAGE      1074       2.603366       0.334003       2.221136       349!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:08:41.190051       0       0              0       0.006396       24        2
KO2PLAN  RRSAF    NORM END USER       10       0             12       0.008825        2        0
'BLANK'  ALLIED                12      10       2 2:39:52.254519       0.001893        0        0
```

```
   LOCATION: OMPDBZ2                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 5-4
      GROUP: DBZ2                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ22                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SZ22                                                                                 ACTUAL FROM: 08/24/16 07:05:32.04
DB2 VERSION: V10                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES         MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS        PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
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    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        22       0.003711       0.001575       0.001184         1!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:16:57.977947       0       0              0       0.006567       36        0
KO2PLAN  RRSAF    NORM END USER        15       0             18       8.951616        3        0
'BLANK'  ALLIED                18      15       3       8.952266       0.006007        3        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        66       0.011289       0.004584       0.003497         6!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:20:20.463379       1       7              0       0.075596      615        0
'BLANK'  RRSAF    NORM END USER        11       3             40       0.046847       13        4
'BLANK'  ALLIED                24      11      19   50:18.999124       0.011520        8        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        22       0.002090       0.001043       0.000762         1!
    !FPEVWRPA            PACKAGE         6       0.002059       0.000846       0.000857         1!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:21:35.932180       5      40              0       0.233125      624       74
KO2PLAN  RRSAF    NORM END USER        56       0            151       0.317623        1       31
'BLANK'  ALLIED                61    6924      58 1:08:00.424742       0.126415      368        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWR2C            PACKAGE       384       0.312202       0.125676       0.157372        58!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:29:38.911662       1       7              0       0.027651      119        2
KO2PLAN  RRSAF    NORM END USER        11       5             35       0.025847       13        4
OMEGAMON ALLIED                25      11      11   15:54.241370       0.007946       16        0

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRP2            PACKAGE        44       0.004898       0.002263       0.001772         3!
    !FPEVWRPA            PACKAGE         6       0.003549       0.000959       0.002030         2!
    ----------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:41:00.009472       5      20              0       0.135941      524       71
'BLANK'  RRSAF    NORM STALENESS       27       0             73       0.139852        0       14
'BLANK'  ALLIED                31    6895      29   40:45.211259       0.048907      379        0
```

```
   LOCATION: OMPDBZ2                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 5-5
      GROUP: DBZ2                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ22                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SZ22                                                                                 ACTUAL FROM: 08/24/16 07:05:32.04
DB2 VERSION: V10                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES         MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS        PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

    ----------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWR2C            PACKAGE       192       0.131928       0.047971       0.075986        26!
    ----------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDB51                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 6-1
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DB51                                                                             ACTUAL FROM: 08/24/16 08:17:26.37
DB2 VERSION: V11                                                                                PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- ------------- ------- ------- -------------- -------------- -------- --------

MIS      'BLANK'  08:17:26.378658       0       0              0       0.006609       50        0
ADB      TSO      NORM DEALLOC          1       0              1       0.185417        0        0
MIS      ALLIED                 4       2       0    1:14.207272       0.004468       19        0

    -------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB2GET             PACKAGE         6       0.025304       0.000534       0.024807         6!
    !ADB2CON             PACKAGE         1       0.000044       0.000041       0.000000         0!
    !ADBPARM             PACKAGE         2       0.042306       0.000784       0.041570         5!
    !ADBMAIN             PACKAGE         6       0.090362       0.002854       0.087072         8!
    -------------------------------------------------------------------------------------------

MIS      'BLANK'  08:29:58.397531       0       0              0       0.003583        3        0
ADB      TSO      NORM DEALLOC          1       0              1       0.008132        0        0
MIS      ALLIED                 4       2       0    7:23.793696       0.001618        0        0

    -------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !ADB2GET             PACKAGE         6       0.000196       0.000195       0.000000         0!
    !ADB2CON             PACKAGE         1       0.000036       0.000035       0.000000         0!
    !ADBPARM             PACKAGE         2       0.000213       0.000210       0.000000         0!
    !ADBMAIN             PACKAGE         6       0.007628       0.001119       0.006307         3!
    -------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:00:54.937191       0       1              0       0.000482        1        0
KO2PLAN  RRSAF    NORM DEALLOC          0       0              1       0.000546        0        0
'BLANK'  ALLIED                 1       0       0       0.000593       0.000450        0        0

    -------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         2       0.000453       0.000377       0.000000         0!
    -------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:00:54.938142       1     213              0       1.610971    14448        0
KO2PLAN  RRSAF    NORM DEALLOC        608     614           2057       1.781883     2466        0
'BLANK'  ALLIED               628     608      14 2:39:31.437986       1.407663       10        0

    -------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE        30       0.012983       0.007400       0.005191         8!
    !DGOVEXCP            PACKAGE      5270       1.728788       1.364789       0.336860      1065!
    -------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:00:55.933113     N/P     N/P            N/P       0.291987        0        0
KO2PLAN  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.107605        0      N/P
OMEGAMON ALLIED                 0     N/P     N/P 2:38:29.497214       0.086618        0      N/P
```

```
   LOCATION: OMPDB51                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 6-2
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DB51                                                                             ACTUAL FROM: 08/24/16 08:17:26.37
DB2 VERSION: V11                                                                                PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE        COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
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DB2PM             09:01:01.273194     N/P     N/P            N/P       0.033621        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.005422        0      N/P
         ALLIED                 0     N/P     N/P 2:39:25.826397       0.004804        0      N/P

DB2PM    'BLANK'  09:01:01.282988       0     375              0       1.338272     1654        0
KO2PLAN  RRSAF    NORM DEALLOC        450       0           1350       0.948122        0        0
'BLANK'  ALLIED               450     450     525 2:38:56.063826       0.834451        2        0

    -------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWR2C            PACKAGE      3600       0.918044       0.808205       0.022958       136!
    -------------------------------------------------------------------------------------------

DB2PM             09:01:02.290690     N/P     N/P            N/P       0.015337        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.003183        0      N/P
         ALLIED                 0     N/P     N/P 2:39:38.701405       0.003003        0      N/P

DB2PM    'BLANK'  09:01:02.294862       5       0              0       0.037518      166       11
KO2PLAN  RRSAF    NORM DEALLOC          3       0              1            N/P        0        0
'BLANK'  ALLIED                 7    1346       1 2:39:38.496557            N/P       17        0

DB2PM    'BLANK'  09:01:02.298891    1508       1              0       2.026617    16692        6
DB2PM    RRSAF    NORM DEALLOC       7538       0              0       1.700051        0        0
'BLANK'  ALLIED              10553    7538    1509 2:31:55.283518       1.591929        6        0

    -------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZCHKB            PACKAGE         2       0.001980       0.000899       0.000302         1!
    !DGOZPC1             PACKAGE     15089       0.758987       0.685829       0.055789      3018!
    !DGOZPC2             PACKAGE      4518       0.720223       0.693819       0.000570         2!
    !DGOZPC4             PACKAGE      6024       0.220871       0.211337            N/P       N/P!
    -------------------------------------------------------------------------------------------

DB2PM             09:01:02.303557     N/P     N/P            N/P       0.002149        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P            N/P        0      N/P
         ALLIED                 0     N/P     N/P 2:39:38.679996            N/P        0      N/P

DB2PM    'BLANK'  09:03:22.798518     N/P     N/P            N/P       0.000231        0        0
KO2PLAN  RRSAF    NORM DEALLOC        N/P     N/P            N/P            N/P        0      N/P
'BLANK'  ALLIED                 0     N/P     N/P       0.001199            N/P        0      N/P

DB2PM    'BLANK'  09:03:23.096869     N/P     N/P            N/P       0.000151        0        0
KO2PLAN  RRSAF    NORM DEALLOC        N/P     N/P            N/P            N/P        0      N/P
'BLANK'  ALLIED                 0     N/P     N/P       0.001020            N/P        0      N/P

DB2PM    'BLANK'  09:03:23.387349       2       0              0       0.000442       10        0
KO2PLAN  RRSAF    NORM DEALLOC          0       0              0            N/P        0        0
'BLANK'  ALLIED                 2       0       0       0.001107            N/P        2        0
```

```
   LOCATION: OMPDB51                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 6-3
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DB51                                                                                 ACTUAL FROM: 08/24/16 08:17:26.37
DB2 VERSION: V11                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  09:20:14.841489       0       1              0       0.000897        1        0
KO2PLAN  RRSAF    NORM DEALLOC          0       0              1       0.001088        0        0
'BLANK'  ALLIED                1       0       0       0.001402       0.000852        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         2       0.000997       0.000775       0.000000         0!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:20:14.842659       1      10              0       0.014480       58        0
KO2PLAN  RRSAF    NORM DEALLOC          0       6             30       0.008863       12        0
'BLANK'  ALLIED                20       0      14   16:51.755312       0.004627        0        0

DB2PM    'BLANK'  09:20:18.837902     N/P     N/P            N/P       0.026753        0        0
KO2PLAN  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.011812        0      N/P
OMEGAMON ALLIED                 0     N/P     N/P   16:30.332151       0.007462        0      N/P

DB2PM             09:20:20.448310     N/P     N/P            N/P       0.012308        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.000974        0      N/P
         ALLIED                 0     N/P     N/P   16:52.816014       0.000477        0      N/P

DB2PM    'BLANK'  09:20:20.516633       0      40              0       0.160746      176        0
KO2PLAN  RRSAF    NORM DEALLOC         48       0            144       0.102730        0        1
'BLANK'  ALLIED                48      48      56   16:52.872497       0.090561        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWR2C            PACKAGE       384       0.101724       0.090195       0.003082        15!
    ------------------------------------------------------------------------------------------

DB2PM             09:20:21.538346     N/P     N/P            N/P       0.003592        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.000522        0      N/P
         ALLIED                 0     N/P     N/P   16:58.406758       0.000209        0      N/P

DB2PM    'BLANK'  09:20:24.628107       5       0              0       0.013441      140       11
KO2PLAN  RRSAF    NORM DEALLOC          3       0              1            N/P        0        0
'BLANK'  ALLIED                7    1346       1   17:01.224622            N/P       16        0

DB2PM    'BLANK'  09:20:24.641596     214       1              0       0.336412     4563      565
DB2PM    RRSAF    NORM DEALLOC        823       0              0       0.183445        0        0
'BLANK'  ALLIED             1182     823     166   17:01.251885       0.172190        2        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZPC2             PACKAGE       480       0.079168       0.076249            N/P       N/P!
    !DGOZPC1             PACKAGE      1620       0.080401       0.072883       0.005707       320!
    !DGOZPC4             PACKAGE       640       0.023896       0.022949            N/P       N/P!
    ------------------------------------------------------------------------------------------
```

```
   LOCATION: OMPDB51                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 6-4
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DB51                                                                                 ACTUAL FROM: 08/24/16 08:17:26.37
DB2 VERSION: V11                                                                                    PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES        MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS       PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- -------------- ------- ------- -------------- -------------- -------- --------

DB2PM             09:20:24.648777     N/P     N/P            N/P       0.002095        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P            N/P        0      N/P
         ALLIED                 0     N/P     N/P   17:01.486915            N/P        0      N/P

DB2PM    'BLANK'  09:21:29.036287     N/P     N/P            N/P       0.000237        0        0
KO2PLAN  RRSAF    NORM DEALLOC        N/P     N/P            N/P            N/P        0      N/P
'BLANK'  ALLIED                 0     N/P     N/P       0.001063            N/P        0      N/P

DB2PM    'BLANK'  09:21:29.297557     N/P     N/P            N/P       0.000113        0        0
KO2PLAN  RRSAF    NORM DEALLOC        N/P     N/P            N/P            N/P        0      N/P
'BLANK'  ALLIED                 0     N/P     N/P       0.000643            N/P        0      N/P

DB2PM    'BLANK'  09:21:29.493685       2       0              0       0.000467       10        0
KO2PLAN  RRSAF    NORM DEALLOC          0       0              0            N/P        0        0
'BLANK'  ALLIED                 2       0       0       0.000919            N/P        0        0

DB2PM    'BLANK'  09:29:37.918291       0       1              0       0.000523        1        0
KO2PLAN  RRSAF    NORM DEALLOC          0       0              1       0.001244        0        0
'BLANK'  ALLIED                 1       0       0       0.001297       0.000488        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWRPA            PACKAGE         2       0.001179       0.000425       0.000000         0!
    ------------------------------------------------------------------------------------------

DB2PM    'BLANK'  09:29:37.920130       0       5              0       0.005740       28        0
KO2PLAN  RRSAF    NORM DEALLOC          0       3             15       0.002639        6        0
'BLANK'  ALLIED                11       0       7    8:08.632225       0.001135        0        0

DB2PM    'BLANK'  09:29:38.912971     N/P     N/P            N/P       0.015120        0        0
KO2PLAN  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.007384        0      N/P
OMEGAMON ALLIED                 0     N/P     N/P    7:45.553500       0.004561        0      N/P

DB2PM             09:29:38.994436     N/P     N/P            N/P       0.011091        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.001393        0      N/P
         ALLIED                 0     N/P     N/P    8:08.929165       0.000412        0      N/P

DB2PM    'BLANK'  09:29:39.043549       0      20              0       0.065866       88        0
KO2PLAN  RRSAF    NORM DEALLOC         24       0             72       0.039692        0        0
'BLANK'  ALLIED                24      24      28    8:04.675107       0.037410        0        0

    ------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !FPEVWR2C            PACKAGE       192       0.038658       0.037060       0.001159         6!
    ------------------------------------------------------------------------------------------

DB2PM             09:29:43.051345     N/P     N/P            N/P       0.003222        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P       0.000315        0      N/P
         ALLIED                 0     N/P     N/P    8:13.720151       0.000107        0      N/P
```

```
   LOCATION: OMPDB51                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 6-5
      GROUP: N/P                                ACCOUNTING TRACE - SHORT                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: DB51                                                                          ACTUAL FROM: 08/24/16 08:17:26.37
DB2 VERSION: V11                                                                             PAGE DATE: 08/24/16

PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES         MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS        PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

DB2PM    'BLANK'  09:29:43.087422       5       0              0       0.009636      140        3
KO2PLAN  RRSAF    NORM DEALLOC          3       0              1            N/P        0        0
'BLANK'  ALLIED                 7    1346       1    8:13.488041            N/P        0        0

DB2PM    'BLANK'  09:29:43.094462     131       1              0       0.220749     3650      565
DB2PM    RRSAF    NORM DEALLOC        408       0              0       0.086587        0        0
'BLANK'  ALLIED               601     408      83    8:13.595642       0.078985        0        0

    ------------------------------------------------------------------------------------------------
    !PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP!
    !DGOZPC2             PACKAGE       231       0.035085       0.033960            N/P       N/P!
    !DGOZPC1             PACKAGE       790       0.039408       0.034138       0.004084       154!
    !DGOZPC4             PACKAGE       308       0.012025       0.010751            N/P       N/P!
    ------------------------------------------------------------------------------------------------

DB2PM            09:29:43.100470     N/P     N/P            N/P       0.001877        0        0
'BLANK'  RRSAF    NORM DEALLOC        N/P     N/P            N/P            N/P        0      N/P
         ALLIED                 0     N/P     N/P    8:13.763022            N/P        0      N/P

ACCOUNTING TRACE COMPLETE
```

General (Short Trace)

This topic shows detailed information about "Accounting - General (Short Trace)".

This block is part of the Accounting Short Trace.

Accounting - General (Short Trace)

The field labels shown in the following sample layout of "Accounting - General (Short Trace)" are described in the following section.

```
...
PRIMAUTH CORRNMBR  ACCT TIMESTAMP SELECTS DELETES         MERGES  CPU TIME(CL1) GETPAGES TOT.PREF
PLANNAME CONNECT  TERM. CONDITION   OPENS INSERTS        PREPARE  EL. TIME(CL2) BUF.UPDT LOCK SUS
CORRNAME THR.TYPE         COMMITS FETCHES UPDATES  EL. TIME(CL1)  CPU TIME(CL2) SYN.READ LOCKOUTS
-------- -------- --------------- ------- ------- -------------- -------------- -------- --------

ABC      "BLANK"  07:39:25.143756       0       0              0       0.003189       42        1
java.exe SERVER   NORM TYP2 INACT       1       0              1       0.184705        0        0
java.exe DBAT                   1       1       0       0.196676       0.003055       16        0

...
```

PRIMAUTH

The primary authorization ID from a connection or signon. The connection authorization exit and the signon authorization exit can change the primary authorization ID so that it differs from the original primary authorization ID (ORIGAUTH). Distributed authorization ID translation can also change the primary authorization ID.

Field Name: QWHCAID

PLANNAME

The plan name. It is blank for a DB2 command thread; otherwise:

DSNESPRR
For SPUFI with repeatable read.

DSNESPCS
For SPUFI with cursor stability.

DSNUTIL
For utilities.

DSNTEP2
For DSNTEP2.

DSNBIND
For binding.

The application plan name
For IMS.

The application plan name
For CICS.

A blank plan name
For IMS and CICS commands.

DSQPLAN
For QMF.

The first 8 bytes of the application name
For DRDA connections to the common servers.

Field Name: QWHCPLAN

This is an *exception* field.

CORRNAME

This field shows the correlation name. It is obtained by translating the correlation ID into correlation name and number. The default translation depends on the connection type of the thread:

Batch
Job name

TSO or CAF
Original authorization ID

CICS
Transaction ID

IMS
Application PST

RRSAF
Characters 1 to 8 of the parameter correlation ID specified for SIGNON.

You can define your own correlation ID translation, which overrides the default translation.

Field Name: ADCORNME

CORRNMBR

This field shows the correlation number. It is obtained by translating the correlation ID into correlation name and number. The default translation depends on the connection type of the thread:

Batch
Blank

TSO or CAF
Blank

CICS
Pool thread

IMS
Application PSBNAME

RRSAF
Characters 9 - 12 of the parameter correlation ID specified for SIGNON.

You can define your own correlation ID translation which overrides the default translation.

Field Name: ADCORNMB

CONNECT

The connection name. Possible values are:

- For batch: BATCH
- For TSO: TSO
- For QMF: DB2CALL

- For utilities: UTILITY
- For DB2 private protocol this is the DB2 subsystem ID
- For IMS: the IMS ID
- For CICS, this is the CICS ID
- For DRDA connections from non-DB2 requesters: SERVER

Field Name: QWHCCN

This is an *exception* field.

THR.TYPE

The type of thread. This field can contain one of the following values:

ALLIED
The thread is not involved in any distributed activity.

ALLDDIST
The thread is initiated by a DB2 attach and requests data from one or more server locations.

DBAT
The thread is initiated, created, and performing work on behalf of a remote (requester) location. The value DBAT also includes DBAT DISTRIBUTED threads that are initiated by a requester location and executed by the server location that in turn requests data from another server location.

Background and Tuning Information

If the thread is involved in distributed activity, some monitored values can produce different results. For example, the class 1 elapsed time for a distributed thread is higher because the network time is also included.

Field Name: ADTHRTYP

ACCT TIMESTAMP

The store clock value of the time when the accounting record was generated.

Field Name: QWHSSTCK

TERM. CONDITION

The reason for termination, that is, for generating a DB2 accounting record.

Field Name: ADCNDRSN

COMMITS

The number of successful two-phase (units of recovery) or single-phase (syncs) commit requests. It indicates the number of units of recovery that are completed successfully, and for which the associated commit duration locks were released. It represents the total number of commit requests processed by the DB2 subsystem, whether the request was an explicit or implicit external request from an IMS or a CICS connection, or an implicit internal request within DB2 when DB2 was the commit coordinator or conducted read-only commit processing as a commit participant on phase-1 calls from an IMS or CICS connection.

For parallel queries, only the commits from the initiating (parent) thread are recorded by this counter.

Field Name: QWACCOMM

This is an *exception* field.

SELECTS

The number of SQL SELECT statements executed.

Field Name: QXSELECT

This is an *exception* field.

OPENS

The number of OPEN statements executed.

Field Name: QXOPEN

This is an *exception* field.

FETCHES

The number of FETCH statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXFETCH

DELETES

The number of DELETE statements executed.

Field Name: QXDELET

INSERTS

The number of INSERT statements executed.

Field Name: QXINSRT

UPDATES

The number of UPDATE statements executed.

Field Name: QXUPDTE

MERGES

The number of times a MERGE statement was executed.

Field Name: QXMERGE

PREPARE

The number of SQL PREPARE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXPREP

EL. TIME(CL1)

The class 1 elapsed time of the allied agent.

Special Considerations:

- If the begin time equals zero, or if the end time minus begin time equals zero or is negative, N/C is shown.
- Threads that can be reused, such as CICS protected threads or IMS/VS wait-for-input message regions, can include time during which the thread was inactive and waiting for work.
- Elapsed time to process distributed requests is included for allied-distributed threads.
- This time includes the time for processing SQL statements issued by stored procedures, user-defined functions, or triggers.
- In query CP, sysplex query, or utility parallelism, this is the time shown in the originating record, which overlaps the elapsed times shown in the parallel records.

Field Name: ADRECETT

This is an *exception* field.

CPU TIME(CL1)

The class 1 CPU time in an application. It indicates:

- The class 1 CPU time of the allied agent, which may include the accumulated class 1 TCB time for processing stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- In sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks that is related to the originating task.

  In sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the SYSPLEX group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

Field Name: ADCPUT

This is an *exception* field.

EL. TIME(CL2)

The class 2 elapsed time of the allied agent accumulated in DB2.

Field Name: ADDB2ETT

This is an *exception* field.

CPU TIME(CL2)

The class 2 CPU time (in DB2). It indicates:

- The class 2 CPU time for the allied agent. This includes the accumulated class 2 TCB time for processing any stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- For batch reporting, in sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks, related to the originating task.

  For online monitoring, in sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

Field Name: ADDBCPUT

This is an *exception* field.

GETPAGES

The number of Getpage requests. This counter is incremented by successful Getpage requests for queries processed in parallel for each thread and for all successful and unsuccessful Getpage requests for queries that are not processed in parallel.

Background and Tuning Information

Reducing the number of Getpages can improve DB2 performance by reducing the number of synchronous page reads. With fewer Getpages, the requested page is more likely to be returned from the buffer pool. CPU usage is also reduced.

Check the ratio of Getpages to SQL DML statements, as a rule of thumb, try and keep this ratio below six for a typical online transaction SQL.

You might need to modify the database and query design, for example:

- Add indexes to tables to reduce the number of pages scanned.
- Reassess the number of tables used and denormalize them, if necessary.

  As an example, a large table with many columns can result in several pages being fetched to satisfy a simple query requesting just a few columns. Splitting such a table into several tables with fewer columns, tailored to queries, will result in fewer pages returned for each query.

- Use correlated rather than non-correlated queries to force the use of an index.

Field Name: QBACGET

This is an *exception* field.

BUF.UPDT

The number of times a buffer update occurs. This is incremented every time a page is updated and is ready to be written to DASD. If the same page is updated twice, for example, the number is incremented by 2.

This number is kept for all types of pages including data pages and work-file pages.

Background and Tuning Information

A nonzero value indicates any of the following activities:

- SQL INSERT, UPDATE, or DELETE
- Merge scan join
- Internal sort activity on the work files

Check the access path to determine whether sort activity can be minimized or avoided.

Field Name: QBACSWS

This is an *exception* field.

SYN.READ

The number of synchronous read I/O operations. DB2 increments this counter for each media manager synchronous physical read. Asynchronous I/O requests are not counted.

Field Name: QBACRIO

This is an *exception* field.

TOT.PREF

The number of sequential, dynamic, and list prefetch requests.

Field Name: ABCLSPR

This is an *exception* field.

LOCK SUS

The total number of all lock suspensions. This includes local and global lock suspensions.

Field Name: ALTSUSP

This is an *exception* field.

LOCKOUTS

The number of deadlocks and timeouts.

Field Name: ADTIMDLK

This is an *exception* field.

Package General (Short Trace)

This topic shows detailed information about "Accounting - Package General (Short Trace)".

This block is part of the Accounting Short Trace.

Accounting - Package General (Short Trace)

The field labels shown in the following sample layout of "Accounting - Package General (Short Trace)" are described in the following section.

```
...
-------------------------------------------------------------------------------------------
|PROGRAM NAME        TYPE      SQLSTMT  CL7 ELAP.TIME   CL7 CPU TIME  CL8 SUSP.TIME  CL8 SUSP|
|PKGNAME             PACKAGE         4       0.184705       0.003055       0.041534         4|
-------------------------------------------------------------------------------------------
...
```

PROGRAM NAME

The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by DB2), the following value is shown *ROLSUM*.

Field Name: QPACPKID

This is an *exception* field.

TYPE

An indicator of whether the block describes a package or a DBRM. Possible values are PACKAGE, DBRM, and BOTH. BOTH can be shown in reports if there are packages and DBRMs with the same program name.

Field Name: ADPCKTYP

SQLSTMT

The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

Field Name: QPACSQLC

This is an *exception* field.

CL7 ELAP.TIME

The total elapsed time for executing the package or DBRM.

Field Name: QPACSCT

This is an *exception* field.

CL7 CPU TIME

The class 7 CPU time spent by the package or DBRM. It indicates:

- The TCB time
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.

In sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included.

This time does not include the CPU time consumed on an IBM specialty engine.

Field Name: ADCPUTP

This is an *exception* field.

CL8 SUSP.TIME

The waiting time for the package or DBRM due to class 8 suspensions.

Field Name: ADTSUSTP

This is an *exception* field.

CL8 SUSP

The number of all types of class 8 suspensions.

Field Name: ADTSUSCP

This is an *exception* field.

Distributed Activity Server (Short Trace)

This topic shows detailed information about "Accounting - Distributed Activity Server (Short Trace)".

This block is part of the Accounting Short Trace.

Accounting - Distributed Activity Server (Short Trace)

The field labels shown in the following sample layout of "Accounting - Distributed Activity Server (Short Trace)" are described in the following section.

```
...
-------------------------------------------------------------------------------------------------
|SERVER           PRODUCT ID    PROD VERSION  METH  ROLLBCK  COMMITS  SQLSENT  ROWRECV  CONVI  ELAPSED REQ|
|PMODA11          DB2           V10R1 M5      N/P         0        1        2     1095      1     0.154750|
-------------------------------------------------------------------------------------------------
...
```

SERVER

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

PRODUCT ID

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.

- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

PROD VERSION

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID
It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

METH

The method of access: DB2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: ADPROTOC

ROLLBCK

The total number of rollbacks (single phase and two-phase) sent.

Field Name: ADROL12S

COMMITS

The total number of single-phase and two-phase commit requests sent.

Field Name: ADCOM12S

SQLSENT

The number of SQL statements sent to the server location. This value is maintained at the requesting location.

Field Name: QLACSQLS

ROWRECV

The number of rows of data retrieved from the server location. This value is maintained at the requester location.

Special Considerations:

1. The number of rows received from the server location does not include either the SQLDA or SQLCA.
2. Block fetch can significantly affect the number of rows sent across the network. When used with non-UPDATE cursors, block fetch puts as many rows as possible into the message buffer, and transmits the buffer across the network without requiring a VTAM message. Consequently, more rows of data might be sent from the server location than are received by the reporting (requester) location. This is especially true when DB2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages sent by the requester.

Field Name: QLACROWR

This is an *exception* field.

CONVI

The number of conversations (both successful and unsuccessful) initiated by the requester location to be executed at the server location. This number is maintained at the requester.

Field Name: QLACCNVS

This is an *exception* field.

ELAPSED REQ

The elapsed time at the requester. It includes the total of DB2 and network time.

Field Name: ADDSELRQ

This is an *exception* field.

Distributed Activity Requester (Short Trace)

This topic shows detailed information about "Accounting - Distributed Activity Requester (Short Trace)".

This block is part of the Accounting Short Trace.

Accounting - Distributed Activity Requester (Short Trace)

The field labels shown in the following sample layout of "Accounting - Distributed Activity Requester (Short Trace)" are described in the following section.

```
...
-------------------------------------------------------------------------------------
|REQUESTER         PRODUCT ID    PROD VERSION  METH  ROLLBCK  COMMITS  SQLRECV  ROWSENT  CONVI|
|::FFFF#1          JDBC DRIVER   V3 R65M0      DRDA        0        1        4        0      1|
-------------------------------------------------------------------------------------
...
```

REQUESTER

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

PRODUCT ID

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)

It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

PROD VERSION

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)

It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

METH

The method of access: DB2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: ADPROTOC

ROLLBCK

The total number of rollbacks (single phase and two-phase) received.

Field Name: ADROL12R

COMMITS

The total number of commits (single phase and two-phase) received.

Field Name: ADCOM12R

SQLRECV

The number of SQL statements received from the requester location.

Field Name: QLACSQLR

ROWSENT

The number of rows sent from the server location to the requester location. The value includes SQLDA and is maintained at the server location.

Field Name: QLACROWS

CONVI

A count of conversations initiated by the requester.

This number is updated at the server location.

Field Name: QLACCNVR

Accounting Report - Long

This topic shows an example of a long version of the Accounting report.

Use the following command to produce a long version of the Accounting report:

```
...
ACCOUNTING
   REPORT
   LAYOUT (LONG)
   ORDER  (PRIMAUTH-PLANNAME)
   SCOPE  (MEMBER)
...
```

Accounting (Long Report)

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-1
       GROUP: ODS5                              ACCOUNTING REPORT - LONG                  REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCC5                                                                                    TO: NOT SPECIFIED
   SUBSYSTEM: OCC5                            ORDER: PRIMAUTH-PLANNAME                   INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                SCOPE: MEMBER                                        TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

 ELAPSED TIME DISTRIBUTION                                      CLASS 2 TIME DISTRIBUTION
 -------------------------------------------------------------  -------------------------------------------------------------
 APPL   |====================> 40%                              CPU    |====> 8%
 DB2    |=========================> 52%                         SECPU  |=> 2%
 SUSP   |====> 8%                                               NOTACC |=====================================> 77%
                                                                SUSP   |======> 13%

 AVERAGE       APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   AVERAGE TIME  AV.EVENT  TIME/EVENT    HIGHLIGHTS
 ------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
 ELAPSED TIME    0.012772    0.007685    LOCK/LATCH(DB2+IRLM)      0.000000      0.00         N/C    #OCCURRENCES    :        4
  NONNESTED      0.001861    0.000431     IRLM LOCK+LATCH          0.000000      0.00         N/C    #ALLIEDS        :        0
  STORED PROC    0.010911    0.007254     DB2 LATCH                0.000000      0.00         N/C    #ALLIEDS DISTRIB:        0
  UDF            0.000000    0.000000    SYNCHRON. I/O             0.000000      0.00         N/C    #DBATS          :        4
  TRIGGER        0.000000    0.000000     DATABASE I/O             0.000000      0.00         N/C    #DBATS DISTRIB. :        0
                                            READ CACHE HIT         0.000000      0.00         N/C    #NO PROGRAM DATA:        0
 CP CPU TIME     0.001076    0.000624     LOG WRITE I/O            0.000000      0.00         N/C    #NORMAL TERMINAT:        4
  AGENT          0.001076    0.000624    OTHER READ I/O            0.000000      0.00         N/C      #ROLLUP TRAN  :        4
   NONNESTED     0.000248    0.000208    OTHER WRTE I/O            0.000000      0.00         N/C    #DDFRRSAF ROLLUP:        1
   STORED PRC    0.000828    0.000415    SER.TASK SWTCH            0.000980      2.00    0.000490    #ABNORMAL TERMIN:        0
   UDF           0.000000    0.000000     UPDATE COMMIT            0.000000      0.00         N/C    #CP/X PARALLEL. :        0
   TRIGGER       0.000000    0.000000     OPEN/CLOSE               0.000000      0.00         N/C    #UTIL PARALLEL. :        0
  PAR.TASKS      0.000000    0.000000     SYSLGRNG REC             0.000000      0.00         N/C    #IO PARALLELISM :        0
                                          EXT/DEL/DEF              0.000000      0.00         N/C    #PCA RUP COUNT  :        0
 SE CPU TIME     0.000231    0.000186     OTHER SERVICE            0.000980      2.00    0.000490    #RUP AUTONOM. PR:        0
  NONNESTED      0.000231    0.000186    ARC.LOG(QUIES)            0.000000      0.00         N/C    #AUTONOMOUS PR  :        0
  STORED PROC    0.000000    0.000000    LOG READ                  0.000000      0.00         N/C    #INCREMENT. BIND:        0
  UDF            0.000000    0.000000    DRAIN LOCK                0.000000      0.00         N/C    #COMMITS        :        4
  TRIGGER        0.000000    0.000000    CLAIM RELEASE             0.000000      0.00         N/C    #ROLLBACKS      :        0
                                         PAGE LATCH                0.000000      0.00         N/C    #SVPT REQUESTS  :        0
  PAR.TASKS      0.000000    0.000000    NOTIFY MSGS               0.000000      0.00         N/C    #SVPT RELEASE   :        0
                                         GLOBAL CONTENTION         0.000000      0.00         N/C    #SVPT ROLLBACK  :        0
 SUSPEND TIME    0.000343    0.000980    COMMIT PH1 WRITE I/O      0.000000      0.00         N/C    MAX SQL CASC LVL:        1
  AGENT              N/A    0.000980    ASYNCH CF REQUESTS        0.000000      0.00         N/C    UPDATE/COMMIT   :     4.00
  PAR.TASKS          N/A    0.000000    TCP/IP LOB XML            0.000000      0.00         N/C    SYNCH I/O AVG.  :      N/C
  STORED PROC    0.000343         N/A    ACCELERATOR               0.000000      0.00         N/C    MAX WFILE BLKS  :      512
  UDF            0.000000         N/A    AUTONOMOUS PROCEDURE      0.000000      0.00         N/C    #ZHL READ I/O   :     0.00
                                         PQ SYNCHRONIZATION        0.000000      0.00         N/C
 NOT ACCOUNT.         N/A    0.005895    LOB COMPRESSION           0.000000      0.00         N/C
 DB2 ENT/EXIT         N/A        4.00    FAST INSERT PIPE          0.000000      0.00         N/C
 EN/EX-STPROC         N/A       14.00    TOTAL CLASS 3             0.000980      2.00    0.000490
 EN/EX-UDF            N/A        0.00
 DCAPT.DESCR.         N/A         N/A
 LOG EXTRACT.         N/A
N/A
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-2
       GROUP: ODS5                              ACCOUNTING REPORT - LONG                  REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCC5                                                                                    TO: NOT SPECIFIED
   SUBSYSTEM: OCC5                            ORDER: PRIMAUTH-PLANNAME                   INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                SCOPE: MEMBER                                        TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

 SQL DML   AVERAGE    TOTAL    SQL DCL           TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT       AVERAGE     TOTAL
 --------  -------  --------  --------------  --------   ----------  ------  ------  ------   --------------------  --------  --------
 SELECT       0.00         0   LOCK TABLE            0   TABLE           0       0       0   REOPTIMIZATION            0.00         0
 INSERT       2.00         8   GRANT                 0   CRT TTABLE      0     N/A     N/A   NOT FOUND IN CACHE        0.00         0
  ROWS        2.00         8   REVOKE                0   DCL TTABLE      0     N/A     N/A   FOUND IN CACHE            0.00         0
  IAG1        0.00         0   SET CURR.SQLID        0   AUX TABLE       0     N/A     N/A   IMPLICIT PREPARES         0.00         0
  IAG2        0.00         0   SET HOST VAR.         0   INDEX           0       0       0   PREPARES AVOIDED          0.00         0
 UPDATE       0.00         0   SET CUR.DEGREE        0   TABLESPACE      0       0       0   CACHE_LIMIT_EXCEEDED      0.00         0
  ROWS        0.00         0   SET RULES             0   DATABASE        0       0       0   PREP_STMT_PURGED          0.00         0
 MERGE        0.00         0   SET CURR.PATH         0   STOGROUP        0       0       0   STABILIZED PREPARE        0.00         0
 DELETE       2.00         8   SET CURR.PREC.        0   SYNONYM         0       0     N/A   CSWL - STMTS PARSED       0.00         0
  ROWS        0.00         0   CONNECT TYPE 1        0   VIEW            0       0       0   CSWL - LITS REPLACED      0.00         0
                               CONNECT TYPE 2        0   ALIAS           0       0     N/A   CSWL - MATCHES FOUND      0.00         0
 DESCRIBE     0.00         0   SET CONNECTION        0   PACKAGE       N/A       0     N/A   CSWL - DUPLS CREATED      0.00         0
 DESC.TBL     0.00         0   RELEASE               0   PROCEDURE       0       0       0   RDS SORT PERFORMED        1.00         4
 PREPARE      0.00         0   CALL                  4   FUNCTION        0       0       0   RDS SORTL USED            1.00         4
 OPEN         2.00         8   ASSOC LOCATORS        0   TRIGGER         0       0     N/A   ZAI STBLZD PREPARE        0.00         0
 FETCH        2.00         8   ALLOC CURSOR          0   DIST TYPE       0       0     N/A   ZAI SORT FB USED          0.00         0
  ROWS        2.00         8   HOLD LOCATOR          0   SEQUENCE        0       0       0
 CLOSE        0.00         0   FREE LOCATOR          0   TRUST. CTX      0       0       0
                               DCL-ALL               4   ROLE            0       0     N/A
 DML-ALL      8.00        32                             JAR           N/A     N/A       0
                                                         MASK/PERM       0       0       0
                                                         VARIABLE        0       0     N/A

                                                         TOTAL           0       0       0
                                                         TRUNC TBL       0
                                                         RENAME TBL      0
                                                         RENAME IX       0
                                                         COMMENT ON      0
                                                         LABEL ON        0

 MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                AVERAGE     TOTAL    DATA CAPTURE        AVERAGE     TOTAL
 -------------------  ----------  ----------    ----------------------  --------  --------   ------------------  --------  --------
 ELAPSED TIME          0.012772    0.007685    USED                         0.00         0   IFI CALLS MADE         0.00         0
  ELIGIBLE FOR ACCEL         N/A    0.000000                                                 RECORDS CAPTURED       0.00         0
                                               FAIL-NO STORAGE              0.00         0   LOG RECORDS READ       0.00         0
 CP CPU TIME           0.001076    0.000624    FAIL-LIMIT EXCEEDED          0.00         0   ROWS RETURNED          0.00         0
  ELIGIBLE FOR SECP    0.000000         N/A    FAIL-NOT CONSTRUCTED         0.00         0   RECORDS RETURNED       0.00         0
  ELIGIBLE FOR ACCEL         N/A    0.000000                                                 DATA DESC. RETURN      0.00         0
                                               INTERRUPTED-NO STORAGE       0.00         0   TABLES RETURNED        0.00         0
 SE CPU TIME           0.000231    0.000186    INTERRUPTED-LIMIT EXC.       0.00         0   DESCRIBES              0.00         0
  ELIGIBLE FOR ACCEL         N/A    0.000000
                                               OVERFLOWED-NO STORAGE        0.00         0
                                               OVERFLOWED-LIMIT EXC.        0.00         0

                                               SKIPPED-INDEX KNOWN          0.00         0

 STORED PROCEDURES   AVERAGE     TOTAL    UDF         AVERAGE     TOTAL    TRIGGERS            AVERAGE     TOTAL
 -----------------  --------  --------    ----------  --------  --------   ------------------  --------  --------
 CALL STATEMENTS        1.00         4    EXECUTED       0.00         0   STATEMENT TRIGGER      0.00         0
 ABENDED                0.00         0    ABENDED        0.00         0   ROW TRIGGER            0.00         0
 TIMED OUT              0.00         0    TIMED OUT      0.00         0   SQL ERROR OCCUR        0.00         0
 REJECTED               0.00         0    REJECTED       0.00
0
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-3
       GROUP: ODS5                              ACCOUNTING REPORT - LONG                  REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCC5                                                                                    TO: NOT SPECIFIED
   SUBSYSTEM: OCC5                             ORDER: PRIMAUTH-PLANNAME                   INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                SCOPE: MEMBER                                        TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

 GLOBAL       CONTENTION       L-LOCKS  AVERAGE TIME  AV.EVENT    GLOBAL       CONTENTION       P-LOCKS  AVERAGE TIME  AV.EVENT
 ---------------------------------------  ------------  --------    ---------------------------------------  ------------  --------
 L-LOCKS                                     0.000000      0.00    P-LOCKS                                     0.000000      0.00
  PARENT (DB,TS,TAB,PART)                    0.000000      0.00     PAGESET/PARTITION                          0.000000      0.00
  CHILD  (PAGE,ROW)                          0.000000      0.00     PAGE                                       0.000000      0.00
  OTHER                                      0.000000      0.00     OTHER                                      0.000000      0.00

 LOCKING                AVERAGE    TOTAL    DATA SHARING          AVERAGE     TOTAL    QUERY PARALLELISM           AVERAGE     TOTAL
 ---------------------- -------- --------   -------------------   --------  --------   -------------------------   ---------  --------
 TIMEOUTS                  0.00        0    GLOBAL CONT RATE(%)      0.00       N/A    MAXIMUM DEGREE-ESTIMATED       0.00         0
 DEADLOCKS                 0.00        0    FALSE CONT RATE(%)       0.00       N/A    MAXIMUM DEGREE-PLANNED         0.00         0
 ESCAL.(SHARED)            0.00        0    P/L-LOCKS XES(%)        22.22       N/A    MAXIMUM DEGREE-EXECUTED         N/A         0
 ESCAL.(EXCLUS)            0.00        0    LOCK REQ   - PLOCKS      0.00         0    MAXIMUM MEMBERS USED            N/A         0
 MAX PG/ROW LOCKS HELD     0.00        0    UNLOCK REQ - PLOCKS      0.00         0    PARALLEL GROUPS EXECUTED       0.00         0
 LOCK REQUEST              9.00       36    CHANGE REQ - PLOCKS      0.00         0     RAN AS PLANNED                0.00         0
 UNLOCK REQUEST            4.75       19    LOCK REQ   - XES         2.00         8     RAN REDUCED-STORAGE           0.00         0
 QUERY REQUEST             0.00        0    UNLOCK REQ - XES         2.00         8     RAN REDUCED-NEGOTIATION       0.00         0
 CHANGE REQUEST            1.00        4    CHANGE REQ - XES         0.00         0     SEQ-CURSOR                    0.00         0
 OTHER REQUEST             0.00        0    SUSPENDS   - IRLM        0.00         0     SEQ-NO ESA SORT               0.00         0
 TOTAL SUSPENSIONS         0.00        0    SUSPENDS   - XES         0.00         0     SEQ-NO BUFFER                 0.00         0
  LOCK SUSPENSIONS         0.00        0    CONVERSIONS- XES         0.00         0     SEQ-AUTONOMOUS PROC           0.00         0
  IRLM LATCH SUSPENS.      0.00        0    FALSE CONTENTIONS        0.00         0     SEQ-NEGOTIATION               0.00         0
  OTHER SUSPENS.           0.00        0    INCOMPATIBLE LOCKS       0.00         0     ONE DB2-COORDINATOR = NO      0.00         0
                                            NOTIFY MSGS SENT         0.00         0     ONE DB2-ISOLATION LEVEL       0.00         0
                                                                                        ONE DB2-DCL TTABLE            0.00         0
                                                                                       MEMBER SKIPPED (%)              N/C       N/A
                                                                                       DISABLED BY RLF               0.00         0
                                                                                       REFORM PARAL-CONFIG           0.00         0
                                                                                       REFORM PARAL-NO BUF           0.00         0

 DRAIN/CLAIM      AVERAGE     TOTAL    NORMAL TERM.      AVERAGE     TOTAL    ABNORMAL TERM.       TOTAL    IN DOUBT           TOTAL
 --------------  --------  --------   ---------------  --------  --------   -----------------  --------   --------------  --------
 DRAIN REQUESTS      0.00         0    NEW USER             0.00         0    APPL.PROGR. ABEND         0    APPL.PGM ABEND          0
 DRAIN FAILED        0.00         0    DEALLOCATION         0.00         0    END OF MEMORY             0    END OF MEMORY           0
 CLAIM REQUESTS      0.00         0    APPL.PROGR. END      0.00         0    RESOL.IN DOUBT            0    END OF TASK             0
 CLAIM FAILED        0.00         0    RESIGNON             0.00         0    CANCEL FORCE              0    CANCEL FORCE            0
                                       DBAT INACTIVE        0.00         0
                                       TYPE2 INACTIVE       0.00         0
                                       RRS COMMIT           0.00         0

                                       END USER THRESH      0.00         0
                                       BLOCK STOR THR       0.00         0
                                       STALENESS THR        0.25
1
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-4
       GROUP: ODS5                              ACCOUNTING REPORT - LONG                  REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCC5                                                                                    TO: NOT SPECIFIED
   SUBSYSTEM: OCC5                             ORDER: PRIMAUTH-PLANNAME                   INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                SCOPE: MEMBER                                        TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

 ROWID           AVERAGE     TOTAL    LOGGING              AVERAGE     TOTAL    AVERAGE SU          CLASS 1         CLASS 2
 -------------  --------  --------    -------------------  --------  --------   ------------  --------------  --------------
 DIRECT ACCESS       0.00         0    LOG RECORDS WRITTEN      0.00         0    CP CPU               109.50           63.25
 INDEX USED          0.00         0    TOT BYTES WRITTEN        0.00         0     AGENT               109.50           63.25
 TS SCAN USED        0.00         0    LOG RECORD SIZE           N/C       N/A      NONNESTED           25.25           21.00
                                                                                    STORED PRC          84.25           42.25
                                                                                    UDF                  0.00            0.00
                                                                                    TRIGGER              0.00            0.00
                                                                                   PAR.TASKS             0.00            0.00

                                                                                   ELIG SECP             0.00             N/A
                                                                                   ELIG ACCEL             N/A            0.00

                                                                                  SE CPU                23.58           19.00
                                                                                   NONNESTED           23.58           19.00
                                                                                   STORED PROC          0.00            0.00
                                                                                   UDF                  0.00            0.00
                                                                                   TRIGGER              0.00            0.00

                                                                                   PAR.TASKS            0.00            0.00

                                                                                   ELIG ACCEL            N/A            0.00

 MISCELLANEOUS          AVERAGE     TOTAL
 --------------------  --------  --------
 MAX STO LOB VAL (KB)      0.00         0
 MAX STO XML VAL (KB)      0.00         0
 ARRAY EXPANSIONS          0.00         0
 SPARSE IX DISABLED        0.00         0
 SPARSE IX BUILT WF        0.00         0
 NO DM CALL RIDL/LPF       0.00         0
 FETCH 1 BLOCK ONLY        0.00         0

 BP0    BPOOL ACTIVITY   AVERAGE     TOTAL
 ---------------------  --------  --------
 BPOOL HIT RATIO (%)      100.00       N/A
 GETPAGES                  12.00        48
 BUFFER UPDATES             9.00        36
 SYNCHRONOUS WRITE          0.00         0
 SYNCHRONOUS READ           0.00         0
 SEQ. PREFETCH REQS         0.00         0
 LIST PREFETCH REQS         0.00         0
 DYN. PREFETCH REQS         0.00         0
 PAGES READ ASYNCHR.        0.00         0
 ZHL SYNC. READS            0.00         0
 ZHL READ ELPSD TIME    0.000000  0.000000

 ---- DISTRIBUTED ACTIVITY ------------------------------------------------------------------------------------------------------
 REQUESTER      : ::FFFF:192.168#1    #COMMIT(1) RECEIVED:       4    MESSAGES SENT    :      8.00    ROWS SENT    :   12.00
 PRODUCT ID     : JDBC DRIVER         #ROLLBK(1) RECEIVED:       0    MESSAGES RECEIVED:      8.00    BLOCKS SENT  :   16.00
 PRODUCT VERSION: V4 R31M0            SQL RECEIVED       :    4.00    BYTES SENT       :  11280.00    #DDF ACCESSES:       1
 METHOD         : DRDA PROTOCOL                                       BYTES RECEIVED   :   1048.00    #RLUP THREADS:       4
 CONV.INITIATED :             0.00                                    #THREADS INDOUBT :
0
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-5
      GROUP: ODS5                                ACCOUNTING REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                               ORDER: PRIMAUTH-PLANNAME                       INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                   SCOPE: MEMBER                                       TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

    ------------------------------------------------------------------------
    |PROGRAM NAME                  CLASS 7 ELAPSED TIME CONSUMERS           |
    |SYSSTAT           |=============================================> 93%  |
    |DSNADMCD          |==> 4%                                               |
    |DSNADMCW          |=> 2%                                                |
    ------------------------------------------------------------------------

    ------------------------------------------------------------------------
    |PROGRAM NAME                  CLASS 7 CP CPU TIME CONSUMERS            |
    |SYSSTAT           |====================> 42%                           |
    |DSNADMCD          |================> 34%                               |
    |DSNADMCW          |========> 16%                                        |
    ------------------------------------------------------------------------

 SYSSTAT            VALUE                SYSSTAT                   TIMES    SYSSTAT             AVERAGE TIME  AVG.EV    TIME/EVENT
 ------------------ -------------------  ------------------------  -------  ------------------  ------------  ------  ------------
 TYPE               PACKAGE              ELAP-CL7 TIME-AVG       0.007159   LOCK/LATCH              0.000000    0.00           N/C
                                         CP CPU TIME             0.000261    IRLM LOCK+LATCH        0.000000    0.00           N/C
 LOCATION           RS22ODS5               AGENT                 0.000261    DB2 LATCH              0.000000    0.00           N/C
 COLLECTION ID      NULLID                 PAR.TASKS             0.000000   SYNCHRONOUS I/O         0.000000    0.00           N/C
 PROGRAM NAME       SYSSTAT              SE CPU TIME             0.000069   OTHER READ I/O          0.000000    0.00           N/C
                                         SUSPENSION-CL8          0.000980   OTHER WRITE I/O         0.000000    0.00           N/C
 ACTIVITY TYPE      NONNESTED              AGENT                 0.000980   SERV.TASK SWITCH        0.000980    2.00      0.000490
 ACTIVITY NAME      'BLANK'                PAR.TASKS             0.000000   ARCH.LOG(QUIESCE)       0.000000    0.00           N/C
 SCHEMA NAME        'BLANK'              NOT ACCOUNTED           0.005848   ARCHIVE LOG READ        0.000000    0.00           N/C
 INCOMPATIBILITY    NO                   AVG.DB2 ENTRY/EXIT          4.00   DRAIN LOCK              0.000000    0.00           N/C
 SUCC AUTH CHECK                    0    DB2 ENTRY/EXIT                16   CLAIM RELEASE           0.000000    0.00           N/C
 OCCURRENCES                        4                                       PAGE LATCH              0.000000    0.00           N/C
 NBR OF ALLOCATIONS                 4    CP CPU SU                   26.50   NOTIFY MESSAGES         0.000000    0.00           N/C
 SQL STMT - AVERAGE              2.00      AGENT                     26.50   GLOBAL CONTENTION       0.000000    0.00           N/C
 SQL STMT - TOTAL                   8      PAR.TASKS                  0.00   TCP/IP LOB XML          0.000000    0.00           N/C
 NBR RLUP THREADS                   4    SE CPU SU                    7.06   ACCELERATOR             0.000000    0.00           N/C
                                                                             PQ SYNCHRONIZATION      0.000000    0.00           N/C
                                                                             FAST INSERT PIPE        0.000000    0.00           N/C
                                                                             TOTAL CL8 SUSPENS.      0.000980    2.00

0.000490
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-6
      GROUP: ODS5                                ACCOUNTING REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                               ORDER: PRIMAUTH-PLANNAME                       INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                   SCOPE: MEMBER                                       TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

 DSNADMCD           VALUE                DSNADMCD                  TIMES    DSNADMCD            AVERAGE TIME  AVG.EV    TIME/EVENT
 ------------------ -------------------  ------------------------  -------  ------------------  ------------  ------  ------------
 TYPE               PACKAGE              ELAP-CL7 TIME-AVG       0.000321   LOCK/LATCH              0.000000    0.00           N/C
                                         CP CPU TIME             0.000212    IRLM LOCK+LATCH        0.000000    0.00           N/C
 LOCATION           RS22ODS5               AGENT                 0.000212    DB2 LATCH              0.000000    0.00           N/C
 COLLECTION ID      DSNADM                 PAR.TASKS             0.000000   SYNCHRONOUS I/O         0.000000    0.00           N/C
 PROGRAM NAME       DSNADMCD             SE CPU TIME             0.000085   OTHER READ I/O          0.000000    0.00           N/C
                                         SUSPENSION-CL8          0.000000   OTHER WRITE I/O         0.000000    0.00           N/C
 ACTIVITY TYPE      STORED PROC            AGENT                 0.000000   SERV.TASK SWITCH        0.000000    0.00           N/C
 ACTIVITY NAME      ADMIN_COMMAND_DB2      PAR.TASKS             0.000000   ARCH.LOG(QUIESCE)       0.000000    0.00           N/C
 SCHEMA NAME        SYSPROC              NOT ACCOUNTED           0.000024   ARCHIVE LOG READ        0.000000    0.00           N/C
 INCOMPATIBILITY    NO                   AVG.DB2 ENTRY/EXIT         14.00   DRAIN LOCK              0.000000    0.00           N/C
 SUCC AUTH CHECK                    0    DB2 ENTRY/EXIT                56   CLAIM RELEASE           0.000000    0.00           N/C
 OCCURRENCES                        4                                       PAGE LATCH              0.000000    0.00           N/C
 NBR OF ALLOCATIONS                12    CP CPU SU                   21.50   NOTIFY MESSAGES         0.000000    0.00           N/C
 SQL STMT - AVERAGE              8.00      AGENT                     21.50   GLOBAL CONTENTION       0.000000    0.00           N/C
 SQL STMT - TOTAL                  32      PAR.TASKS                  0.00   TCP/IP LOB XML          0.000000    0.00           N/C
 NBR RLUP THREADS                   4    SE CPU SU                    8.68   ACCELERATOR             0.000000    0.00           N/C
                                                                             PQ SYNCHRONIZATION      0.000000    0.00           N/C
                                                                             FAST INSERT PIPE        0.000000    0.00           N/C
                                                                             TOTAL CL8 SUSPENS.      0.000000    0.00           N/C

 DSNADMCW           VALUE                DSNADMCW                  TIMES    DSNADMCW            AVERAGE TIME  AVG.EV    TIME/EVENT
 ------------------ -------------------  ------------------------  -------  ------------------  ------------  ------  ------------
 TYPE               PACKAGE              ELAP-CL7 TIME-AVG       0.000118   LOCK/LATCH              0.000000    0.00           N/C
                                         CP CPU TIME             0.000100    IRLM LOCK+LATCH        0.000000    0.00           N/C
 LOCATION           RS22ODS5               AGENT                 0.000100    DB2 LATCH              0.000000    0.00           N/C
 COLLECTION ID      DSNADM                 PAR.TASKS             0.000000   SYNCHRONOUS I/O         0.000000    0.00           N/C
 PROGRAM NAME       DSNADMCW             SE CPU TIME             0.000000   OTHER READ I/O          0.000000    0.00           N/C
                                         SUSPENSION-CL8          0.000000   OTHER WRITE I/O         0.000000    0.00           N/C
 ACTIVITY TYPE      STORED PROC            AGENT                 0.000000   SERV.TASK SWITCH        0.000000    0.00           N/C
 ACTIVITY NAME      ADMIN_COMMAND_DB2      PAR.TASKS             0.000000   ARCH.LOG(QUIESCE)       0.000000    0.00           N/C
 SCHEMA NAME        SYSPROC              NOT ACCOUNTED           0.000018   ARCHIVE LOG READ        0.000000    0.00           N/C
 INCOMPATIBILITY    NO                   AVG.DB2 ENTRY/EXIT          4.00   DRAIN LOCK              0.000000    0.00           N/C
 SUCC AUTH CHECK                    0    DB2 ENTRY/EXIT                16   CLAIM RELEASE           0.000000    0.00           N/C
 OCCURRENCES                        4                                       PAGE LATCH              0.000000    0.00           N/C
 NBR OF ALLOCATIONS                 4    CP CPU SU                   10.00   NOTIFY MESSAGES         0.000000    0.00           N/C
 SQL STMT - AVERAGE              2.00      AGENT                     10.00   GLOBAL CONTENTION       0.000000    0.00           N/C
 SQL STMT - TOTAL                   8      PAR.TASKS                  0.00   TCP/IP LOB XML          0.000000    0.00           N/C
 NBR RLUP THREADS                   4    SE CPU SU                    0.00   ACCELERATOR             0.000000    0.00           N/C
                                                                             PQ SYNCHRONIZATION      0.000000    0.00           N/C
                                                                             FAST INSERT PIPE        0.000000    0.00           N/C
                                                                             TOTAL CL8 SUSPENS.      0.000000    0.00           N/C

 SYSSTAT                    AVERAGE TIME  AV.EVENT    SYSSTAT                    AVERAGE TIME  AV.EVENT
 -------------------------  ------------  --------    -------------------------  ------------  --------
 GLOBAL CONTENTION L-LOCKS      0.000000      0.00    GLOBAL CONTENTION P-LOCKS      0.000000      0.00
  PARENT (DB,TS,TAB,PART)       0.000000      0.00     PAGESET/PARTITION             0.000000      0.00
  CHILD  (PAGE,ROW)             0.000000      0.00     PAGE                          0.000000      0.00
  OTHER                         0.000000      0.00     OTHER                         0.000000
0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-7
      GROUP: ODS5                               ACCOUNTING REPORT - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                               ORDER: PRIMAUTH-PLANNAME                     INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                   SCOPE: MEMBER                                      TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

 DSNADMCD                   AVERAGE TIME  AV.EVENT    DSNADMCD                   AVERAGE TIME  AV.EVENT
 -------------------------  ------------  --------    -------------------------  ------------  --------
 GLOBAL CONTENTION L-LOCKS      0.000000      0.00    GLOBAL CONTENTION P-LOCKS      0.000000      0.00
  PARENT (DB,TS,TAB,PART)       0.000000      0.00     PAGESET/PARTITION             0.000000      0.00
  CHILD  (PAGE,ROW)             0.000000      0.00     PAGE                          0.000000      0.00
  OTHER                         0.000000      0.00     OTHER                         0.000000      0.00

 DSNADMCW                   AVERAGE TIME  AV.EVENT    DSNADMCW                   AVERAGE TIME  AV.EVENT
 -------------------------  ------------  --------    -------------------------  ------------  --------
 GLOBAL CONTENTION L-LOCKS      0.000000      0.00    GLOBAL CONTENTION P-LOCKS      0.000000      0.00
  PARENT (DB,TS,TAB,PART)       0.000000      0.00     PAGESET/PARTITION             0.000000      0.00
  CHILD  (PAGE,ROW)             0.000000      0.00     PAGE                          0.000000      0.00
  OTHER                         0.000000      0.00     OTHER                         0.000000      0.00

 SYSSTAT              AVERAGE     TOTAL    DSNADMCD             AVERAGE     TOTAL    DSNADMCW             AVERAGE     TOTAL
 -------------------  --------  --------   -------------------  --------  --------   -------------------  --------  --------
 SELECT                  0.00         0    SELECT                  0.00         0    SELECT                  0.00         0
 INSERT                  0.00         0    INSERT                  0.00         0    INSERT                  0.00         0
 UPDATE                  0.00         0    UPDATE                  0.00         0    UPDATE                  0.00         0
 DELETE                  0.00         0    DELETE                  0.00         0    DELETE                  0.00         0

 DESCRIBE                0.00         0    DESCRIBE                0.00         0    DESCRIBE                0.00         0
 PREPARE                 0.00         0    PREPARE                 0.00         0    PREPARE                 0.00         0
 OPEN                    0.00         0    OPEN                    0.00         0    OPEN                    0.00         0
 FETCH                   0.00         0    FETCH                   0.00         0    FETCH                   0.00         0
 CLOSE                   0.00         0    CLOSE                   0.00         0    CLOSE                   0.00         0

 LOCK TABLE              0.00         0    LOCK TABLE              0.00         0    LOCK TABLE              0.00         0
 CALL                    0.00         0    CALL                    0.00         0    CALL                    0.00         0

 SYSSTAT                AVERAGE      TOTAL    DSNADMCD               AVERAGE      TOTAL    DSNADMCW               AVERAGE      TOTAL
 --------------------   --------  --------    --------------------   --------  --------    --------------------   --------  --------
 BPOOL HIT RATIO (%)         N/C       N/A    BPOOL HIT RATIO (%)         N/C       N/A    BPOOL HIT RATIO (%)         N/C       N/A
 GETPAGES                   0.00         0    GETPAGES                   0.00         0    GETPAGES                   0.00         0
 BUFFER UPDATES             0.00         0    BUFFER UPDATES             0.00         0    BUFFER UPDATES             0.00         0
 SYNCHRONOUS WRITE          0.00         0    SYNCHRONOUS WRITE          0.00         0    SYNCHRONOUS WRITE          0.00         0
 SYNCHRONOUS READ           0.00         0    SYNCHRONOUS READ           0.00         0    SYNCHRONOUS READ           0.00         0
 SEQ. PREFETCH REQS         0.00         0    SEQ. PREFETCH REQS         0.00         0    SEQ. PREFETCH REQS         0.00         0
 LIST PREFETCH REQS         0.00         0    LIST PREFETCH REQS         0.00         0    LIST PREFETCH REQS         0.00         0
 DYN. PREFETCH REQS         0.00         0    DYN. PREFETCH REQS         0.00         0    DYN. PREFETCH REQS         0.00         0
 PAGES READ ASYNCHR.        0.00         0    PAGES READ ASYNCHR.        0.00         0    PAGES READ ASYNCHR.        0.00         0
 ZHL SYNC. READ             0.00         0    ZHL SYNC. READ             0.00         0    ZHL SYNC. READ             0.00         0
 ZHL CPU TIME READ     0.000000   0.000000    ZHL CPU TIME READ     0.000000   0.000000    ZHL CPU TIME READ     0.000000
0.000000
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-8
      GROUP: ODS5                               ACCOUNTING REPORT - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                               ORDER: PRIMAUTH-PLANNAME                     INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                   SCOPE: MEMBER                                      TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

 SYSSTAT                  AVERAGE     TOTAL    DSNADMCD                 AVERAGE     TOTAL    DSNADMCW                 AVERAGE     TOTAL
 ----------------------   --------  --------   ----------------------   --------  --------   ----------------------   --------  --------
 TIMEOUTS                    0.00         0    TIMEOUTS                    0.00         0    TIMEOUTS                    0.00         0
 DEADLOCKS                   0.00         0    DEADLOCKS                   0.00         0    DEADLOCKS                   0.00         0
 ESCAL.(SHARED)              0.00         0    ESCAL.(SHARED)              0.00         0    ESCAL.(SHARED)              0.00         0
 ESCAL.(EXCLUS)              0.00         0    ESCAL.(EXCLUS)              0.00         0    ESCAL.(EXCLUS)              0.00         0
 MAX PG/ROW LOCKS HELD       0.00         0    MAX PG/ROW LOCKS HELD       0.00         0    MAX PG/ROW LOCKS HELD       0.00         0
 LOCK REQUEST                0.00         0    LOCK REQUEST                0.00         0    LOCK REQUEST                0.00         0
 UNLOCK REQUEST              0.00         0    UNLOCK REQUEST              0.00         0    UNLOCK REQUEST              0.00         0
 QUERY REQUEST               0.00         0    QUERY REQUEST               0.00         0    QUERY REQUEST               0.00         0
 CHANGE REQUEST              0.00         0    CHANGE REQUEST              0.00         0    CHANGE REQUEST              0.00         0
 OTHER REQUEST               0.00         0    OTHER REQUEST               0.00         0    OTHER REQUEST               0.00         0
 TOTAL SUSPENSIONS           0.00         0    TOTAL SUSPENSIONS           0.00         0    TOTAL SUSPENSIONS           0.00         0
  LOCK SUSPENSIONS           0.00         0     LOCK SUSPENSIONS           0.00         0     LOCK SUSPENSIONS           0.00         0
  IRLM LATCH SUSPENS.        0.00         0     IRLM LATCH SUSPENS.        0.00         0     IRLM LATCH SUSPENS.        0.00         0
  OTHER SUSPENS.             0.00         0     OTHER SUSPENS.             0.00         0     OTHER SUSPENS.             0.00         0

 AVERAGE TIMES CL. 5  IFI (CL.5)
 -------------------  ----------
 ELAPSED TIME            0.000000
 CP CPU TIME             0.000000
 DCAPT.DESCR.            0.000000
 LOG EXTRACT.            0.000000
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-9
      GROUP: ODS5                               ACCOUNTING REPORT - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                               ORDER: PRIMAUTH-PLANNAME                     INTERVAL FROM: 11/06/23 08:35:00.27
 DB2 VERSION: V12                                   SCOPE: MEMBER                                      TO: 11/06/23 08:35:00.27

 PRIMAUTH: CSMVDQO  PLANNAME: db2jcc_a

    ------------------------------------------------------------------------------------------------------------------------------
    |TRUNCATED VALUE                FULL VALUE                                                                                   |
    |::FFFF:192.168#1               ::FFFF:192.168.55.27                                                                         |
    ------------------------------------------------------------------------------------------------------------------------------

 ACCOUNTING REPORT COMPLETE
```

Accounting Trace - Long

This topic shows an example of a long version of the Accounting trace.

The following example shows an extract from a long version of the Accounting trace produced by the following command:

```
...

ACCOUNTING
   TRACE
    LAYOUT (LONG)
...
```

Accounting (Long Trace)

The following example shows an extract from a long version of the Accounting trace.

```
      LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-1
      GROUP: N/P                                ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                   ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB             WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'         LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

MVS ACCOUNTING DATA   : DE03704
ACCOUNTING TOKEN(CHAR): N/A
ACCOUNTING TOKEN(HEX) : N/A

ELAPSED TIME DISTRIBUTION                                        CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------    ---------------------------------------------------------------
APPL   !================================================> 100%    CPU    !===> 7%
DB2    !                                                         SECPU  !
SUSP   !                                                         NOTACC !
                                                                 SUSP   !==============================================> 93%
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-2
      GROUP: N/P                             ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                   ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB             WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'         LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME   48.277700    0.053410    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED     48.277700    0.053410     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC    0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : DEALLOC
 UDF            0.000000    0.000000    SYNCHRON. I/O             0.011191         4    0.002798    PARALLELISM   : NO
 TRIGGER        0.000000    0.000000     DATABASE I/O             0.011191         4    0.002798    PCA RUP COUNT :        N/A
                                         LOG WRITE I/O            0.000000         0         N/C    RUP AUTONOM.PR:        N/A
CP CPU TIME     0.005557    0.003498    OTHER READ I/O            0.000000         0         N/C    AUTONOMOUS PR :        N/A
 AGENT          0.005557    0.003498    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          0
  NONNESTED     0.005557    0.003498    SER.TASK SWTCH            0.038488         3    0.012829    COMMITS       :          3
  STORED PRC    0.000000    0.000000     UPDATE COMMIT            0.000034         1    0.000034    ROLLBACK      :          0
  UDF           0.000000    0.000000     OPEN/CLOSE               0.000000         0         N/C    SVPT REQUESTS :          0
  TRIGGER       0.000000    0.000000     SYSLGRNG REC             0.000000         0         N/C    SVPT RELEASE  :          0
 PAR.TASKS      0.000000    0.000000     EXT/DEL/DEF              0.000000         0         N/C    SVPT ROLLBACK :          0
                                         OTHER SERVICE            0.038454         2    0.019227    INCREM.BINDS  :          0
SE CPU TIME     0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.00
 NONNESTED      0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:   0.002798
 STORED PROC    0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          3
 UDF            0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          0
 TRIGGER        0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:        N/A
                                         NOTIFY MSGS               0.000000         0         N/C
 PAR.TASKS      0.000000    0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                         COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME    0.000000    0.049679    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT              N/A    0.049679    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS          N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC    0.000000         N/A    AUTONOMOUS PROCEDURE          N/A       N/A         N/A
 UDF            0.000000         N/A    PQ SYNCHRONIZATION            N/A       N/A         N/A
                                         LOB COMPRESSION               N/A       N/A         N/A
NOT ACCOUNT.        N/A    0.000233    FAST INSERT PIPE              N/A       N/A         N/A
DB2 ENT/EXIT        N/A          36    TOTAL CLASS 3             0.049679         7    0.007097
EN/EX-STPROC        N/A           0
EN/EX-UDF           N/A           0
DCAPT.DESCR.        N/A         N/A
LOG EXTRACT.        N/A         N/A
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-3
      GROUP: N/P                                ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB            WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P            LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P            LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS            LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'        LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                     TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                     WSNAME  : TSO

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------  ---------- --------  ---------- ------ ------ ------  --------------------  --------
SELECT          0    LOCK TABLE        0    TABLE           0      0      0    REOPTIMIZATION              0
INSERT          0    GRANT             0    CRT TTABLE      0    N/A    N/A    NOT FOUND IN CACHE          1
 ROWS           0    REVOKE            0    DCL TTABLE      0    N/A    N/A    FOUND IN CACHE              0
UPDATE          0    SET SQLID         0    AUX TABLE       0    N/A    N/A    IMPLICIT PREPARES           0
 ROWS           0    SET H.VAR.        4    INDEX           0      0      0    PREPARES AVOIDED            0
MERGE           0    SET DEGREE        0    TABLESPACE      0      0      0    CACHE_LIMIT_EXCEEDED        0
DELETE          0    SET RULES         0    DATABASE        0      0      0    PREP_STMT_PURGED            0
 ROWS           0    SET PATH          0    STOGROUP        0      0      0    STABILIZED PREPARE        N/A
                     SET PREC.         0    SYNONYM         0      0    N/A    CSWL - STMTS PARSED         1
DESCRIBE        1    CONNECT 1         0    VIEW            0      0      0    CSWL - LITS REPLACED        0
DESC.TBL        0    CONNECT 2         1    ALIAS           0      0    N/A    CSWL - MATCHES FOUND        0
PREPARE         1    SET CONNEC        0    PACKAGE       N/A      0    N/A    CSWL - DUPLS CREATED        0
OPEN            1    RELEASE           0    PROCEDURE       0      0      0
FETCH           2    CALL              0    FUNCTION        0      0      0
 ROWS           1    ASSOC LOC.        0    TRIGGER         0      0    N/A
CLOSE           1    ALLOC CUR.        0    DIST TYPE       0      0    N/A
                     HOLD LOC.         0    SEQUENCE        0      0      0
DML-ALL         6    FREE LOC.         0    TRUST. CTX      0      0      0
                     DCL-ALL           5    ROLE            0      0    N/A
                                            JAR           N/A    N/A      0
                                            MASK/PERM       0      0      0
                                            VARIABLE      N/A    N/A    N/A

                                            TOTAL           0      0      0
                                            TRUNC TBL       0
                                            RENAME TBL      0
                                            RENAME IX       0
                                            COMMENT ON      0
                                            LABEL ON        0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-4
      GROUP: N/P                                ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB            WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P            LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P            LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS            LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'        LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                     TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                     WSNAME  : TSO

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                  TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------    ------------  --------    ----------  --------
ELAPSED TIME          48.277700    0.053410    USED                           0    IFI CALLS            0    DIR ACCESS          0
 ELIGIBLE FOR ACCEL         N/A    0.000000                                        REC.CAPTURED         0    INDEX USED          0
                                             FAIL-NO STORAGE                0    LOG REC.READ         0    TS SCAN             0
CP CPU TIME            0.005557    0.003498    FAIL-LIMIT EXC.                0    ROWS RETURN          0
 ELIGIBLE FOR SECP     0.000000         N/A                                        RECORDS RET.         0
 ELIGIBLE FOR ACCEL         N/A    0.000000    INTERRUPTED-NO STORAGE         0    DATA DES.RET         0
                                             INTERRUPTED-LIMIT EXC.         0    TABLES RET.          0
SE CPU TIME            0.000000    0.000000                                        DESCRIBES            0
 ELIGIBLE FOR ACCEL         N/A    0.000000    OVERFLOWED-NO STORAGE          0
                                             OVERFLOWED-LIMIT EXC.          0

                                             SKIPPED-INDEX KNOWN            0

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------  ----------------------------------  ------------  --------
L-LOCKS                                  0.000000         0    P-LOCKS                               0.000000         0
 PARENT (DB,TS,TAB,PART)                 0.000000         0     PAGESET/PARTITION                    0.000000         0
 CHILD  (PAGE,ROW)                       0.000000         0     PAGE                                 0.000000         0
 OTHER                                   0.000000         0     OTHER                                0.000000         0

LOCKING                TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM             TOTAL    DRAIN/CLAIM      TOTAL
--------------------  --------  ------------ --------  ------------------------  ---------  -------------  --------
TIMEOUTS                     0    GLOB CONT(%)      N/C    MAXIMUM DEGREE-ESTIMATED        N/A    DRAIN REQST          0
DEADLOCKS                    0    FALS CONT(%)      N/C    MAXIMUM DEGREE-PLANNED          N/A    DRAIN FAILED         0
ESCAL.(SHAR)                 0    P/L-LOCKS(%)      N/P    MAXIMUM DEGREE-EXECUTED           0    CLAIM REQST         23
ESCAL.(EXCL)                 0    P-LOCK REQ        N/P    MAXIMUM MEMBERS USED            N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD          0    P-UNLOCK REQ      N/P    PARALLEL GROUPS EXECUTED          0
LOCK REQUEST                39    P-CHANGE REQ      N/P     RAN AS PLANNED                   0
UNLOCK REQST                 4    LOCK - XES        N/P     RAN REDUCED-STORAGE              0
QUERY REQST                  0    UNLOCK-XES        N/P     RAN REDUCED-NEGOTIATION        N/A
CHANGE REQST                 1    CHANGE-XES        N/P     SEQ-CURSOR                       0
OTHER REQST                  0    SUSP - IRLM       N/P     SEQ-NO ESA SORT                  0
TOTAL SUSPENSIONS            0    SUSP - XES        N/P     SEQ-NO BUFFER                    0
 LOCK SUSPENS                0    CONV - XES        N/P     SEQ-AUTONOMOUS PROC            N/A
 IRLM LATCH SUSPENS          0    FALSE CONT        N/P     SEQ-NEGOTIATION                N/A
 OTHER SUSPENS               0    INCOMP.LOCK       N/P     ONE DB2-COORDINATOR = NO         0
                                  NOTIFY SENT       N/P     ONE DB2-ISOLATION LEVEL          0
                                                            ONE DB2-DCL TTABLE               0
                                                           MEMB SKIPPED(%)                   0
                                                           DISABLED BY RLF              NO
                                                           REFORM PARAL-CONFIG               0
                                                           REFORM PARAL-NO BUF               0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-5
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                 ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB            WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P            LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P            LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS            LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'        LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                     TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                     WSNAME  : TSO

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------  ---------  --------  ------------  --------  -----------------  --------
CALL STMTS           0    EXECUTED          0    STMT TRIGGER         0    LOG RECS WRITTEN          0
ABENDED              0    ABENDED           0    ROW TRIGGER          0    TOT BYTES WRITTEN         0
TIMED OUT            0    TIMED OUT         0    SQL ERROR            0
REJECTED             0    REJECTED          0

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
-----------  --------------  --------------  -------------------  --------
CP CPU                  359             226    MAX STO LOB VAL (KB)          0
 AGENT                  359             226    MAX STO XML VAL (KB)          0
  NONNESTED             359             226    ARRAY EXPANSIONS            N/A
  STORED PRC              0               0    SPARSE IX DISABLED          N/A
  UDF                     0               0    SPARSE IX BUILT WF          N/A
  TRIGGER                 0               0
 PAR.TASKS                0               0

 ELIG SECP                0             N/A
 ELIG ACCEL             N/A               0

SE CPU                    0               0
 NONNESTED                0               0
 STORED PROC              0               0
 UDF                      0               0
 TRIGGER                  0               0

 PAR.TASKS                0               0

 ELIG ACCEL             N/A               0

---- RESOURCE LIMIT FACILITY ----------------------------------------------------------------------------------------------
TYPE: N/P                              TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS: 0.000000    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP8K   BPOOL ACTIVITY     TOTAL    TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------   --------------------  --------   --------------------  --------
BPOOL HIT RATIO (%)          86   BPOOL HIT RATIO (%)         100   BPOOL HIT RATIO (%)          87
GETPAGES                     28   GETPAGES                      2   GETPAGES                     30
BUFFER UPDATES                0   BUFFER UPDATES                0   BUFFER UPDATES               0
SYNCHRONOUS WRITE             0   SYNCHRONOUS WRITE             0   SYNCHRONOUS WRITE            0
SYNCHRONOUS READ              4   SYNCHRONOUS READ              0   SYNCHRONOUS READ             4
SEQ. PREFETCH REQS            0   SEQ. PREFETCH REQS            0   SEQ. PREFETCH REQS           0
LIST PREFETCH REQS            0   LIST PREFETCH REQS            0   LIST PREFETCH REQS           0
DYN. PREFETCH REQS            0   DYN. PREFETCH REQS            1   DYN. PREFETCH REQS           1
PAGES READ ASYNCHR.           0   PAGES READ ASYNCHR.           0   PAGES READ ASYNCHR.          0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-6
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                 ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB            WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P            LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P            LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS            LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'        LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                     TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                     WSNAME  : TSO

    ------------------------------------------------------------------------
    !PROGRAM NAME                  CLASS 7 ELAPSED TIME CONSUMERS           !
    !ADB2GET            !> 1%                                               !
    !ADB2CON            !                                                  !
    !ADBMAIN            !================================================> 99%  !
    ------------------------------------------------------------------------

    ------------------------------------------------------------------------
    !PROGRAM NAME                  CLASS 7 CP CPU TIME CONSUMERS            !
    !ADB2GET            !=====> 10%                                        !
    !ADB2CON            !> 1%                                              !
    !ADBMAIN            !============================================> 89%      !
    ------------------------------------------------------------------------

ADB2GET            VALUE               ADB2GET                   TIMES    ADB2GET                   TIME  EVENTS    TIME/EVENT
-----------------  ------------------  ------------------------  -------  ------------------------  ------  ------  ----------
TYPE               PACKAGE             ELAPSED TIME - CL7      0.000333   LOCK/LATCH             0.000000       0         N/C
LOCATION           OMPDA5              CP CPU TIME             0.000328    IRLM LOCK+LATCH       0.000000       0         N/C
COLLECTION ID      ADBL                  AGENT                 0.000328    DB2 LATCH             0.000000       0         N/C
PROGRAM NAME       ADB2GET               PAR.TASKS             0.000000   SYNCHRONOUS I/O        0.000000       0         N/C
CONSISTENCY TOKEN  196091EA1913F078    SE CPU TIME             0.000000   OTHER READ I/O         0.000000       0         N/C
ACTIVITY TYPE      NONNESTED           SUSPENSION-CL8          0.000000   OTHER WRITE I/O        0.000000       0         N/C
ACTIVITY NAME      'BLANK'               AGENT                 0.000000   SERV.TASK SWITCH       0.000000       0         N/C
SCHEMA NAME        'BLANK'               PAR.TASKS             0.000000   ARCH.LOG(QUIESCE)      0.000000       0         N/C
SUCC AUTH CHECK    NO                  NOT ACCOUNTED           0.000005   ARCHIVE LOG READ       0.000000       0         N/C
NBR OF ALLOCATIONS                2                                       DRAIN LOCK             0.000000       0         N/C
SQL STMT - AVERAGE             6.00   CP CPU SU                     21    CLAIM RELEASE          0.000000       0         N/C
SQL STMT - TOTAL                  6     AGENT                       21    PAGE LATCH             0.000000       0         N/C
NBR RLUP THREADS                  1     PAR.TASKS                    0    NOTIFY MESSAGES        0.000000       0         N/C
                                      SE CPU SU                      0    GLOBAL CONTENTION      0.000000       0         N/C
                                                                          TCP/IP LOB XML         0.000000       0         N/C
                                      DB2 ENTRY/EXIT                14    ACCELERATOR            0.000000       0         N/C
                                                                          PQ SYNCHRONIZATION           N/A     N/A         N/A
                                                                          FAST INSERT PIPE             N/A     N/A         N/A
                                                                          TOTAL CL8 SUSPENS.     0.000000       0         N/C
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-7
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB            WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P            LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P            LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS            LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'        LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                     TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                     WSNAME  : TSO

ADB2CON             VALUE                ADB2CON                    TIMES    ADB2CON                    TIME  EVENTS    TIME/EVENT
------------------  -------------------  -----------------  ------------  -----------------  ------------  ------  ------------
TYPE                PACKAGE              ELAPSED TIME - CL7      0.000041    LOCK/LATCH            0.000000       0           N/C
LOCATION            OMPDA5               CP CPU TIME             0.000041     IRLM LOCK+LATCH      0.000000       0           N/C
COLLECTION ID       ADBL                   AGENT                 0.000041     DB2 LATCH            0.000000       0           N/C
PROGRAM NAME        ADB2CON                PAR.TASKS             0.000000    SYNCHRONOUS I/O       0.000000       0           N/C
CONSISTENCY TOKEN   193DB3EF185991D1     SE CPU TIME             0.000000    OTHER READ I/O        0.000000       0           N/C
ACTIVITY TYPE       NONNESTED            SUSPENSION-CL8          0.000000    OTHER WRITE I/O       0.000000       0           N/C
ACTIVITY NAME       'BLANK'                AGENT                 0.000000    SERV.TASK SWITCH      0.000000       0           N/C
SCHEMA NAME         'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)     0.000000       0           N/C
SUCC AUTH CHECK     NO                   NOT ACCOUNTED           0.000000    ARCHIVE LOG READ      0.000000       0           N/C
NBR OF ALLOCATIONS                1                                         DRAIN LOCK            0.000000       0           N/C
SQL STMT - AVERAGE             1.00    CP CPU SU                     3     CLAIM RELEASE         0.000000       0           N/C
SQL STMT - TOTAL                  1      AGENT                       3     PAGE LATCH            0.000000       0           N/C
NBR RLUP THREADS                  1      PAR.TASKS                   0     NOTIFY MESSAGES       0.000000       0           N/C
                                         SE CPU SU                   0     GLOBAL CONTENTION     0.000000       0           N/C
                                                                           TCP/IP LOB XML        0.000000       0           N/C
                                         DB2 ENTRY/EXIT              2     ACCELERATOR           0.000000       0           N/C
                                                                           PQ SYNCHRONIZATION          N/A     N/A           N/A
                                                                           FAST INSERT PIPE            N/A     N/A           N/A
                                                                           TOTAL CL8 SUSPENS.    0.000000       0           N/C

ADBMAIN             VALUE                ADBMAIN                    TIMES    ADBMAIN                    TIME  EVENTS    TIME/EVENT
------------------  -------------------  -----------------  ------------  -----------------  ------------  ------  ------------
TYPE                PACKAGE              ELAPSED TIME - CL7      0.052952    LOCK/LATCH            0.000000       0           N/C
LOCATION            OMPDA5               CP CPU TIME             0.003046     IRLM LOCK+LATCH      0.000000       0           N/C
COLLECTION ID       ADBL                   AGENT                 0.003046     DB2 LATCH            0.000000       0           N/C
PROGRAM NAME        ADBMAIN                PAR.TASKS             0.000000    SYNCHRONOUS I/O       0.011191       4      0.002798
CONSISTENCY TOKEN   1990BC141CA76A7C     SE CPU TIME             0.000000    OTHER READ I/O        0.000000       0           N/C
ACTIVITY TYPE       NONNESTED            SUSPENSION-CL8          0.049679    OTHER WRITE I/O       0.000000       0           N/C
ACTIVITY NAME       'BLANK'                AGENT                 0.049679    SERV.TASK SWITCH      0.038488       3      0.012829
SCHEMA NAME         'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)     0.000000       0           N/C
SUCC AUTH CHECK     NO                   NOT ACCOUNTED           0.000228    ARCHIVE LOG READ      0.000000       0           N/C
NBR OF ALLOCATIONS                1                                         DRAIN LOCK            0.000000       0           N/C
SQL STMT - AVERAGE             6.00    CP CPU SU                   197     CLAIM RELEASE         0.000000       0           N/C
SQL STMT - TOTAL                  6      AGENT                     197     PAGE LATCH            0.000000       0           N/C
NBR RLUP THREADS                  1      PAR.TASKS                   0     NOTIFY MESSAGES       0.000000       0           N/C
                                         SE CPU SU                   0     GLOBAL CONTENTION     0.000000       0           N/C
                                                                           TCP/IP LOB XML        0.000000       0           N/C
                                         DB2 ENTRY/EXIT             18     ACCELERATOR           0.000000       0           N/C
                                                                           PQ SYNCHRONIZATION          N/A     N/A           N/A
                                                                           FAST INSERT PIPE            N/A     N/A           N/A
                                                                           TOTAL CL8 SUSPENS.    0.049679       7      0.007097
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-8
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB            WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P            LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P            LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS            LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'        LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                     TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                     WSNAME  : TSO

ADB2GET                   ELAPSED TIME    EVENTS    ADB2GET                   ELAPSED TIME    EVENTS
------------------------  ------------  --------  ------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS     0.000000         0    GLOBAL CONTENTION P-LOCKS     0.000000         0
 PARENT (DB,TS,TAB,PART)      0.000000         0     PAGESET/PARTITION            0.000000         0
 CHILD  (PAGE,ROW)            0.000000         0     PAGE                         0.000000         0
 OTHER                        0.000000         0     OTHER                        0.000000         0

ADB2CON                   ELAPSED TIME    EVENTS    ADB2CON                   ELAPSED TIME    EVENTS
------------------------  ------------  --------  ------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS     0.000000         0    GLOBAL CONTENTION P-LOCKS     0.000000         0
 PARENT (DB,TS,TAB,PART)      0.000000         0     PAGESET/PARTITION            0.000000         0
 CHILD  (PAGE,ROW)            0.000000         0     PAGE                         0.000000         0
 OTHER                        0.000000         0     OTHER                        0.000000         0

ADBMAIN                   ELAPSED TIME    EVENTS    ADBMAIN                   ELAPSED TIME    EVENTS
------------------------  ------------  --------  ------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS     0.000000         0    GLOBAL CONTENTION P-LOCKS     0.000000         0
 PARENT (DB,TS,TAB,PART)      0.000000         0     PAGESET/PARTITION            0.000000         0
 CHILD  (PAGE,ROW)            0.000000         0     PAGE                         0.000000         0
 OTHER                        0.000000         0     OTHER                        0.000000         0

ADB2GET                  TOTAL    ADB2CON                  TOTAL    ADBMAIN                  TOTAL
-------------------     --------  -------------------     --------  -------------------     --------
SELECT                         0    SELECT                     0    SELECT                     0
INSERT                         0    INSERT                     0    INSERT                     0
UPDATE                         0    UPDATE                     0    UPDATE                     0
DELETE                         0    DELETE                     0    DELETE                     0

DESCRIBE                       0    DESCRIBE                   0    DESCRIBE                   1
PREPARE                        0    PREPARE                    0    PREPARE                    1
OPEN                           0    OPEN                       0    OPEN                       1
FETCH                          0    FETCH                      0    FETCH                      2
CLOSE                          0    CLOSE                      0    CLOSE                      1

LOCK TABLE                     0    LOCK TABLE                 0    LOCK TABLE                 0
CALL                           0    CALL                       0    CALL                       0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-9
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:18.92    PLANNAME: ADB             WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:17:30.65    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD32594B7
MAINPACK   : ADB2GET                 CORRNMBR: 'BLANK'         LUW SEQ:            4    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

ADB2GET                    TOTAL    ADB2CON                    TOTAL    ADBMAIN                    TOTAL
--------------------    --------    --------------------    --------    --------------------    --------
BPOOL HIT RATIO (%)            0    BPOOL HIT RATIO (%)            0    BPOOL HIT RATIO (%)           86
GETPAGES                       0    GETPAGES                       0    GETPAGES                      30
BUFFER UPDATES                 0    BUFFER UPDATES                 0    BUFFER UPDATES                 0
SYNCHRONOUS WRITE              0    SYNCHRONOUS WRITE              0    SYNCHRONOUS WRITE              0
SYNCHRONOUS READ               0    SYNCHRONOUS READ               0    SYNCHRONOUS READ               4
SEQ. PREFETCH REQS             0    SEQ. PREFETCH REQS             0    SEQ. PREFETCH REQS             0
LIST PREFETCH REQS             0    LIST PREFETCH REQS             0    LIST PREFETCH REQS             0
DYN. PREFETCH REQS             0    DYN. PREFETCH REQS             0    DYN. PREFETCH REQS             1
PAGES READ ASYNCHR.            0    PAGES READ ASYNCHR.            0    PAGES READ ASYNCHR.            0

ADB2GET                    TOTAL    ADB2CON                    TOTAL    ADBMAIN                    TOTAL
----------------------  --------    ----------------------  --------    ----------------------  --------
TIMEOUTS                       0    TIMEOUTS                       0    TIMEOUTS                       0
DEADLOCKS                      0    DEADLOCKS                      0    DEADLOCKS                      0
ESCAL.(SHARED)                 0    ESCAL.(SHARED)                 0    ESCAL.(SHARED)                 0
ESCAL.(EXCLUS)                 0    ESCAL.(EXCLUS)                 0    ESCAL.(EXCLUS)                 0
MAX PG/ROW LOCKS HELD          0    MAX PG/ROW LOCKS HELD          0    MAX PG/ROW LOCKS HELD          0
LOCK REQUEST                   2    LOCK REQUEST                   0    LOCK REQUEST                  36
UNLOCK REQUEST                 1    UNLOCK REQUEST                 0    UNLOCK REQUEST                 3
QUERY REQUEST                  0    QUERY REQUEST                  0    QUERY REQUEST                  0
CHANGE REQUEST                 0    CHANGE REQUEST                 0    CHANGE REQUEST                 1
OTHER REQUEST                  0    OTHER REQUEST                  0    OTHER REQUEST                  0
TOTAL SUSPENSIONS              0    TOTAL SUSPENSIONS              0    TOTAL SUSPENSIONS              0
 LOCK SUSPENS                  0     LOCK SUSPENS                  0     LOCK SUSPENS                  0
 IRLM LATCH SUSPENS            0     IRLM LATCH SUSPENS            0     IRLM LATCH SUSPENS            0
 OTHER SUSPENS                 0     OTHER SUSPENS                 0     OTHER SUSPENS                 0

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME     0.000000
CP CPU TIME      0.000000
DCAPT.DESCR.     0.000000
LOG EXTRACT.     0.000000
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-10
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:52.80    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:18:51.01    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:52.80    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MISIDC          LUW INS: D13DD372387C
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           12    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

MVS ACCOUNTING DATA   : 00816,B000,MIS
ACCOUNTING TOKEN(CHAR): N/A
ACCOUNTING TOKEN(HEX) : N/A

ELAPSED TIME DISTRIBUTION                                    CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------   ------------------------------------------------------------------
APPL   !==========================================> 84%       CPU    !===> 6%
DB2    !> 1%                                                  SECPU  !
SUSP   !=======> 15%                                         NOTACC !> 1%
                                                             SUSP   !==============================================> 92%
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-11
      GROUP: N/P                                ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                               ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:52.80    PLANNAME: DSNUTIL          WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:18:51.01    PROD TYP: N/P              LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:52.80    PROD VER: N/P              LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MISIDC           LUW INS: D13DD372387C
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'          LUW SEQ:           12    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                   TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                   WSNAME  : UTILITY

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME     1.790735    0.293246    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED       1.790735    0.293246     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: ABNORMAL
 STORED PROC     0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : PROG ABEND
 UDF             0.000000    0.000000    SYNCHRON. I/O             0.113679        37    0.003072    PARALLELISM   : NO
 TRIGGER         0.000000    0.000000     DATABASE I/O             0.113336        36    0.003148    PCA RUP COUNT :        N/A
                                          LOG WRITE I/O            0.000343         1    0.000343    RUP AUTONOM.PR:        N/A
CP CPU TIME      0.044812    0.018438    OTHER READ I/O            0.058167        23    0.002529    AUTONOMOUS PR :        N/A
 AGENT           0.044812    0.018438    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          0
  NONNESTED      0.044812    0.018438    SER.TASK SWTCH            0.099313        14    0.007094    COMMITS       :         10
  STORED PRC     0.000000    0.000000     UPDATE COMMIT            0.004054         8    0.000507    ROLLBACK      :          1
  UDF            0.000000    0.000000     OPEN/CLOSE               0.040600         2    0.020300    SVPT REQUESTS :          0
  TRIGGER        0.000000    0.000000     SYSLGRNG REC             0.007556         1    0.007556    SVPT RELEASE  :          0
 PAR.TASKS       0.000000    0.000000     EXT/DEL/DEF              0.045423         2    0.022711    SVPT ROLLBACK :          0
                                          OTHER SERVICE            0.001680         1    0.001680    INCREM.BINDS  :        N/P
SE CPU TIME      0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :        N/P
 NONNESTED       0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:   0.003072
 STORED PROC     0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          0
 UDF             0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :        N/P
 TRIGGER         0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:        N/A
                                          NOTIFY MSGS               0.000000         0         N/C
 PAR.TASKS       0.000000    0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                          COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME     0.000000    0.271160    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT               N/A    0.271160    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS           N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC     0.000000         N/A    AUTONOMOUS PROCEDURE          N/A       N/A         N/A
 UDF             0.000000         N/A    PQ SYNCHRONIZATION            N/A       N/A         N/A
                                          LOB COMPRESSION               N/A       N/A         N/A
NOT ACCOUNT.         N/A    0.003648    FAST INSERT PIPE              N/A       N/A         N/A
DB2 ENT/EXIT         N/A          52    TOTAL CLASS 3             0.271160        74    0.003664
EN/EX-STPROC         N/A           0
EN/EX-UDF            N/A           0
DCAPT.DESCR.         N/A         N/A
LOG EXTRACT.         N/A         N/A
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-12
      GROUP: N/P                                ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                               ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:52.80    PLANNAME: DSNUTIL          WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:18:51.01    PROD TYP: N/P              LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:52.80    PROD VER: N/P              LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MISIDC           LUW INS: D13DD372387C
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'          LUW SEQ:           12    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                   TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                   WSNAME  : UTILITY

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------   ---------- --------   ---------- ------ ------ ------    --------------------  --------
SELECT         N/P    LOCK TABLE       N/P    TABLE         N/P    N/P    N/P    REOPTIMIZATION             N/P
INSERT         N/P    GRANT            N/P    CRT TTABLE    N/P    N/A    N/A    NOT FOUND IN CACHE         N/P
 ROWS          N/P    REVOKE           N/P    DCL TTABLE    N/P    N/A    N/A    FOUND IN CACHE             N/P
UPDATE         N/P    SET SQLID        N/P    AUX TABLE     N/P    N/A    N/A    IMPLICIT PREPARES          N/P
 ROWS          N/P    SET H.VAR.       N/P    INDEX         N/P    N/P    N/P    PREPARES AVOIDED           N/P
MERGE          N/P    SET DEGREE       N/P    TABLESPACE    N/P    N/P    N/P    CACHE_LIMIT_EXCEEDED       N/P
DELETE         N/P    SET RULES        N/P    DATABASE      N/P    N/P    N/P    PREP_STMT_PURGED           N/P
 ROWS          N/P    SET PATH         N/P    STOGROUP      N/P    N/P    N/P    STABILIZED PREPARE         N/A
                     SET PREC.        N/P    SYNONYM       N/P    N/P    N/A    CSWL - STMTS PARSED        N/P
DESCRIBE       N/P    CONNECT 1        N/P    VIEW          N/P    N/P    N/P    CSWL - LITS REPLACED       N/P
DESC.TBL       N/P    CONNECT 2        N/P    ALIAS         N/P    N/P    N/A    CSWL - MATCHES FOUND       N/P
PREPARE        N/P    SET CONNEC       N/P    PACKAGE       N/A    N/P    N/A    CSWL - DUPLS CREATED       N/P
OPEN           N/P    RELEASE          N/P    PROCEDURE     N/P    N/P    N/P
FETCH          N/P    CALL             N/P    FUNCTION      N/P    N/P    N/P
 ROWS          N/P    ASSOC LOC.       N/P    TRIGGER       N/P    N/P    N/A
CLOSE          N/P    ALLOC CUR.       N/P    DIST TYPE     N/P    N/P    N/A
                     HOLD LOC.        N/P    SEQUENCE      N/P    N/P    N/P
DML-ALL        N/P    FREE LOC.        N/P    TRUST. CTX    N/P    N/P    N/P
                     DCL-ALL          N/P    ROLE          N/P    N/P    N/A
                                             JAR           N/A    N/A    N/P
                                             MASK/PERM     N/P    N/P    N/P
                                             VARIABLE      N/A    N/A    N/A

                                             TOTAL         N/P    N/P    N/P
                                             TRUNC TBL     N/P
                                             RENAME TBL    N/P
                                             RENAME IX     N/P
                                             COMMENT ON    N/P
                                             LABEL ON      N/P
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-13
      GROUP: N/P                                ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:52.80    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:18:51.01    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:52.80    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MISIDC          LUW INS: D13DD372387C
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           12    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------  -------------  --------  ----------  --------
ELAPSED TIME           1.790735    0.293246    USED                         N/P    IFI CALLS         N/P    DIR ACCESS       N/P
 ELIGIBLE FOR ACCEL          N/A    0.000000                                       REC.CAPTURED      N/P    INDEX USED       N/P
                                                FAIL-NO STORAGE              N/P    LOG REC.READ      N/P    TS SCAN          N/P
CP CPU TIME            0.044812    0.018438    FAIL-LIMIT EXC.              N/P    ROWS RETURN       N/P
 ELIGIBLE FOR SECP     0.000000         N/A                                       RECORDS RET.      N/P
 ELIGIBLE FOR ACCEL          N/A    0.000000    INTERRUPTED-NO STORAGE       N/P    DATA DES.RET      N/P
                                                INTERRUPTED-LIMIT EXC.       N/P    TABLES RET.       N/P
SE CPU TIME            0.000000    0.000000                                       DESCRIBES         N/P
 ELIGIBLE FOR ACCEL          N/A    0.000000    OVERFLOWED-NO STORAGE        N/P
                                                OVERFLOWED-LIMIT EXC.        N/P

                                                SKIPPED-INDEX KNOWN          N/P

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------    -----------------------------------  ------------  --------
L-LOCKS                                  0.000000         0    P-LOCKS                                  0.000000         0
 PARENT (DB,TS,TAB,PART)                 0.000000         0     PAGESET/PARTITION                       0.000000         0
 CHILD  (PAGE,ROW)                       0.000000         0     PAGE                                    0.000000         0
 OTHER                                   0.000000         0     OTHER                                   0.000000         0

LOCKING               TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM            TOTAL    DRAIN/CLAIM      TOTAL
--------------------  --------  ------------  --------  -------------------------  --------  ------------  --------
TIMEOUTS                   0    GLOB CONT(%)       N/C    MAXIMUM DEGREE-ESTIMATED       N/A    DRAIN REQST          1
DEADLOCKS                  0    FALS CONT(%)       N/C    MAXIMUM DEGREE-PLANNED         N/A    DRAIN FAILED         0
ESCAL.(SHAR)               0    P/L-LOCKS(%)       N/P    MAXIMUM DEGREE-EXECUTED        N/P    CLAIM REQST         51
ESCAL.(EXCL)               0    P-LOCK REQ         N/P    MAXIMUM MEMBERS USED           N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD        4    P-UNLOCK REQ       N/P    PARALLEL GROUPS EXECUTED       N/P
LOCK REQUEST              51    P-CHANGE REQ       N/P     RAN AS PLANNED                N/P
UNLOCK REQST              26    LOCK - XES         N/P     RAN REDUCED-STORAGE           N/P
QUERY REQST                2    UNLOCK-XES         N/P     RAN REDUCED-NEGOTIATION       N/A
CHANGE REQST               6    CHANGE-XES         N/P     SEQ-CURSOR                    N/P
OTHER REQST                0    SUSP - IRLM        N/P     SEQ-NO ESA SORT               N/P
TOTAL SUSPENSIONS          0    SUSP - XES         N/P     SEQ-NO BUFFER                 N/P
 LOCK SUSPENS              0    CONV - XES         N/P     SEQ-AUTONOMOUS PROC           N/A
 IRLM LATCH SUSPENS        0    FALSE CONT         N/P     SEQ-NEGOTIATION               N/A
 OTHER SUSPENS             0    INCOMP.LOCK        N/P     ONE DB2-COORDINATOR = NO      N/P
                                 NOTIFY SENT        N/P     ONE DB2-ISOLATION LEVEL       N/P
                                                            ONE DB2-DCL TTABLE            N/P
                                                           MEMB SKIPPED(%)                N/P
                                                           DISABLED BY RLF            N/P
                                                           REFORM PARAL-CONFIG            N/P
                                                           REFORM PARAL-NO BUF            N/P
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-14
      GROUP: N/P                                ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:52.80    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:18:51.01    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:52.80    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MISIDC          LUW INS: D13DD372387C
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           12    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING                TOTAL
------------  --------  ---------  --------  ------------  --------  -----------------  --------
CALL STMTS         N/P    EXECUTED        N/P    STMT TRIGGER        N/P    LOG RECS WRITTEN         47
ABENDED            N/P    ABENDED         N/P    ROW TRIGGER         N/P    TOT BYTES WRITTEN     34283
TIMED OUT          N/P    TIMED OUT       N/P    SQL ERROR           N/P
REJECTED           N/P    REJECTED        N/P

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
-----------  --------------  --------------  --------------------  --------
CP CPU                 2902            1194    MAX STO LOB VAL (KB)       N/P
 AGENT                 2902            1194    MAX STO XML VAL (KB)       N/P
  NONNESTED            2902            1194    ARRAY EXPANSIONS           N/A
  STORED PRC              0               0    SPARSE IX DISABLED         N/A
  UDF                     0               0    SPARSE IX BUILT WF         N/A
  TRIGGER                 0               0
 PAR.TASKS                0               0

 ELIG SECP                0             N/A
 ELIG ACCEL             N/A               0

SE CPU                    0               0
 NONNESTED                0               0
 STORED PROC              0               0
 UDF                      0               0
 TRIGGER                  0               0

 PAR.TASKS                0               0

 ELIG ACCEL             N/A               0

---- RESOURCE LIMIT FACILITY ----------------------------------------------------------------------------------------------
TYPE: N/P                            TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS: 0.000000    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    BP8K   BPOOL ACTIVITY     TOTAL
---------------------  --------    ---------------------  --------    ---------------------  --------
BPOOL HIT RATIO (%)          53    BPOOL HIT RATIO (%)         -23    BPOOL HIT RATIO (%)          96
GETPAGES                     95    GETPAGES                    215    GETPAGES                    490
BUFFER UPDATES                3    BUFFER UPDATES                9    BUFFER UPDATES                0
SYNCHRONOUS WRITE             0    SYNCHRONOUS WRITE             0    SYNCHRONOUS WRITE             0
SYNCHRONOUS READ             28    SYNCHRONOUS READ              8    SYNCHRONOUS READ              0
SEQ. PREFETCH REQS            0    SEQ. PREFETCH REQS           16    SEQ. PREFETCH REQS            0
LIST PREFETCH REQS            0    LIST PREFETCH REQS            0    LIST PREFETCH REQS            0
DYN. PREFETCH REQS            4    DYN. PREFETCH REQS           36    DYN. PREFETCH REQS           62
PAGES READ ASYNCHR.          17    PAGES READ ASYNCHR.         256    PAGES READ ASYNCHR.          22
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-15
      GROUP: N/P                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                        ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION --------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:18:52.80    PLANNAME: DSNUTIL          WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:18:51.01    PROD TYP: N/P              LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:18:52.80    PROD VER: N/P              LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MISIDC           LUW INS: D13DD372387C
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'          LUW SEQ:           12    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                   TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                   WSNAME  : UTILITY

TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------
BPOOL HIT RATIO (%)          59
GETPAGES                    800
BUFFER UPDATES               12
SYNCHRONOUS WRITE             0
SYNCHRONOUS READ             36
SEQ. PREFETCH REQS           16
LIST PREFETCH REQS            0
DYN. PREFETCH REQS          102
PAGES READ ASYNCHR.         295

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME          N/P
CP CPU TIME           N/P
DCAPT.DESCR.          N/P
LOG EXTRACT.          N/P
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-16
      GROUP: N/P                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                        ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION --------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:00.90    PLANNAME: ADB27SPC         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:00.82    PROD TYP: N/P              LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:00.90    PROD VER: N/P              LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS              LUW INS: D13DD3EE0073
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'          LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                       TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                       WSNAME  : TSO

MVS ACCOUNTING DATA   : DE03704
ACCOUNTING TOKEN(CHAR): N/A
ACCOUNTING TOKEN(HEX) : N/A

ELAPSED TIME DISTRIBUTION                                    CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------  ------------------------------------------------------------
APPL   !=> 2%                                                CPU    !=> 2%
DB2    !=> 2%                                                SECPU  !
SUSP   !================================================> 96%  NOTACC !
                                                             SUSP   !================================================> 98%
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-17
      GROUP: N/P                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                        ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION --------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:00.90    PLANNAME: ADB27SPC         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:00.82    PROD TYP: N/P              LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:00.90    PROD VER: N/P              LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS              LUW INS: D13DD3EE0073
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'          LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                       TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                       WSNAME  : TSO

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME    0.077495    0.075858    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED      0.077495    0.075858     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC    0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : DEALLOC
 UDF            0.000000    0.000000    SYNCHRON. I/O             0.037141         9    0.004127    PARALLELISM   : NO
 TRIGGER        0.000000    0.000000     DATABASE I/O             0.037141         9    0.004127    PCA RUP COUNT :        N/A
                                         LOG WRITE I/O            0.000000         0         N/C    RUP AUTONOM.PR:        N/A
CP CPU TIME     0.002113    0.001597    OTHER READ I/O            0.037073        11    0.003370    AUTONOMOUS PR :        N/A
 AGENT          0.002113    0.001597    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          0
  NONNESTED     0.002113    0.001597    SER.TASK SWTCH            0.000000         0         N/C    COMMITS       :          1
  STORED PRC    0.000000    0.000000     UPDATE COMMIT            0.000000         0         N/C    ROLLBACK      :          0
  UDF           0.000000    0.000000     OPEN/CLOSE               0.000000         0         N/C    SVPT REQUESTS :          0
  TRIGGER       0.000000    0.000000     SYSLGRNG REC             0.000000         0         N/C    SVPT RELEASE  :          0
 PAR.TASKS      0.000000    0.000000     EXT/DEL/DEF              0.000000         0         N/C    SVPT ROLLBACK :          0
                                         OTHER SERVICE            0.000000         0         N/C    INCREM.BINDS  :          0
SE CPU TIME     0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.00
 NONNESTED      0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:   0.004127
 STORED PROC    0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          1
 UDF            0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          0
 TRIGGER        0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:        N/A
                                         NOTIFY MSGS               0.000000         0         N/C
 PAR.TASKS      0.000000    0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                         COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME    0.000000    0.074214    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT              N/A    0.074214    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS          N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC    0.000000         N/A    AUTONOMOUS PROCEDURE          N/A       N/A         N/A
 UDF            0.000000         N/A    PQ SYNCHRONIZATION            N/A       N/A         N/A
                                         LOB COMPRESSION               N/A       N/A         N/A
NOT ACCOUNT.        N/A    0.000047    FAST INSERT PIPE              N/A       N/A         N/A
DB2 ENT/EXIT        N/A          22    TOTAL CLASS 3             0.074214        20    0.003711
EN/EX-STPROC        N/A           0
EN/EX-UDF           N/A           0
DCAPT.DESCR.        N/A         N/A
LOG EXTRACT.        N/A         N/A
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-18
      GROUP: N/P                                ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:00.90    PLANNAME: ADB27SPC        WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:00.82    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:00.90    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD3EE0073
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'         LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------  ---------- --------  ---------- ------ ------ ------  --------------------  --------
SELECT          0    LOCK TABLE        0    TABLE           0      0      0    REOPTIMIZATION               0
INSERT          0    GRANT             0    CRT TTABLE      0    N/A    N/A    NOT FOUND IN CACHE           0
 ROWS           0    REVOKE            0    DCL TTABLE      0    N/A    N/A    FOUND IN CACHE               0
UPDATE          0    SET SQLID         0    AUX TABLE       0    N/A    N/A    IMPLICIT PREPARES            0
 ROWS           0    SET H.VAR.        3    INDEX           0      0      0    PREPARES AVOIDED             0
MERGE           0    SET DEGREE        0    TABLESPACE      0      0      0    CACHE_LIMIT_EXCEEDED         0
DELETE          0    SET RULES         0    DATABASE        0      0      0    PREP_STMT_PURGED             0
 ROWS           0    SET PATH          0    STOGROUP        0      0      0    STABILIZED PREPARE         N/A
                     SET PREC.         0    SYNONYM         0      0    N/A    CSWL - STMTS PARSED          0
DESCRIBE        0    CONNECT 1         0    VIEW            0      0      0    CSWL - LITS REPLACED         0
DESC.TBL        0    CONNECT 2         1    ALIAS           0      0    N/A    CSWL - MATCHES FOUND         0
PREPARE         0    SET CONNEC        0    PACKAGE       N/A      0    N/A    CSWL - DUPLS CREATED         0
OPEN            1    RELEASE           0    PROCEDURE       0      0      0
FETCH           2    CALL              0    FUNCTION        0      0      0
 ROWS           1    ASSOC LOC.        0    TRIGGER         0      0    N/A
CLOSE           1    ALLOC CUR.        0    DIST TYPE       0      0    N/A
                     HOLD LOC.         0    SEQUENCE        0      0      0
DML-ALL         4    FREE LOC.         0    TRUST. CTX      0      0      0
                     DCL-ALL           4    ROLE            0      0    N/A
                                            JAR           N/A    N/A      0
                                            MASK/PERM       0      0      0
                                            VARIABLE      N/A    N/A    N/A

                                            TOTAL           0      0      0
                                            TRUNC TBL       0
                                            RENAME TBL      0
                                            RENAME IX       0
                                            COMMENT ON      0
                                            LABEL ON        0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-19
      GROUP: N/P                                ACCOUNTING TRACE - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:00.90    PLANNAME: ADB27SPC        WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:00.82    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:00.90    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD3EE0073
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'         LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------    ------------  --------    ----------  --------
ELAPSED TIME           0.077495    0.075858    USED                           0    IFI CALLS          N/P    DIR ACCESS         0
 ELIGIBLE FOR ACCEL         N/A    0.000000                                        REC.CAPTURED       N/P    INDEX USED         0
                                               FAIL-NO STORAGE                0    LOG REC.READ       N/P    TS SCAN            0
CP CPU TIME            0.002113    0.001597    FAIL-LIMIT EXC.                0    ROWS RETURN        N/P
 ELIGIBLE FOR SECP     0.000000         N/A                                        RECORDS RET.       N/P
 ELIGIBLE FOR ACCEL         N/A    0.000000    INTERRUPTED-NO STORAGE         0    DATA DES.RET       N/P
                                               INTERRUPTED-LIMIT EXC.         0    TABLES RET.        N/P
SE CPU TIME            0.000000    0.000000                                        DESCRIBES          N/P
 ELIGIBLE FOR ACCEL         N/A    0.000000    OVERFLOWED-NO STORAGE          0
                                               OVERFLOWED-LIMIT EXC.          0

                                               SKIPPED-INDEX KNOWN            0

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------  ----------------------------------  ------------  --------
L-LOCKS                                 0.000000         0    P-LOCKS                              0.000000         0
 PARENT (DB,TS,TAB,PART)                0.000000         0     PAGESET/PARTITION                   0.000000         0
 CHILD  (PAGE,ROW)                      0.000000         0     PAGE                                0.000000         0
 OTHER                                  0.000000         0     OTHER                               0.000000         0

LOCKING                TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM             TOTAL    DRAIN/CLAIM      TOTAL
--------------------  --------  ------------ --------  ------------------------  --------  -------------  --------
TIMEOUTS                    0    GLOB CONT(%)      N/C    MAXIMUM DEGREE-ESTIMATED       N/A    DRAIN REQST         0
DEADLOCKS                   0    FALS CONT(%)      N/C    MAXIMUM DEGREE-PLANNED         N/A    DRAIN FAILED        0
ESCAL.(SHAR)                0    P/L-LOCKS(%)      N/P    MAXIMUM DEGREE-EXECUTED          0    CLAIM REQST         7
ESCAL.(EXCL)                0    P-LOCK REQ        N/P    MAXIMUM MEMBERS USED           N/P    CLAIM FAILED        0
MAX PG/ROW LCK HELD         2    P-UNLOCK REQ      N/P    PARALLEL GROUPS EXECUTED         0
LOCK REQUEST                5    P-CHANGE REQ      N/P     RAN AS PLANNED                  0
UNLOCK REQST                3    LOCK - XES        N/P     RAN REDUCED-STORAGE             0
QUERY REQST                 0    UNLOCK-XES        N/P     RAN REDUCED-NEGOTIATION       N/A
CHANGE REQST                0    CHANGE-XES        N/P     SEQ-CURSOR                      0
OTHER REQST                 0    SUSP - IRLM       N/P     SEQ-NO ESA SORT                 0
TOTAL SUSPENSIONS           0    SUSP - XES        N/P     SEQ-NO BUFFER                   0
 LOCK SUSPENS               0    CONV - XES        N/P     SEQ-AUTONOMOUS PROC           N/A
 IRLM LATCH SUSPENS         0    FALSE CONT        N/P     SEQ-NEGOTIATION               N/A
 OTHER SUSPENS              0    INCOMP.LOCK       N/P     ONE DB2-COORDINATOR = NO        0
                                 NOTIFY SENT       N/P     ONE DB2-ISOLATION LEVEL         0
                                                           ONE DB2-DCL TTABLE              0
                                                   MEMB SKIPPED(%)                         0
                                                   DISABLED BY RLF                NO
                                                   REFORM PARAL-CONFIG             0
                                                   REFORM PARAL-NO BUF             0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-20
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:00.90    PLANNAME: ADB27SPC        WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:00.82    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:00.90    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD3EE0073
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'         LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------    ---------  --------    ------------  --------    -----------------  --------
CALL STMTS           0    EXECUTED           0    STMT TRIGGER         0    LOG RECS WRITTEN          0
ABENDED              0    ABENDED            0    ROW TRIGGER          0    TOT BYTES WRITTEN         0
TIMED OUT            0    TIMED OUT          0    SQL ERROR            0
REJECTED             0    REJECTED           0

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
-----------  --------------  --------------  -------------------  --------
CP CPU                136             103    MAX STO LOB VAL (KB)          0
 AGENT                136             103    MAX STO XML VAL (KB)          0
  NONNESTED           136             103    ARRAY EXPANSIONS            N/A
  STORED PRC            0               0    SPARSE IX DISABLED          N/A
  UDF                   0               0    SPARSE IX BUILT WF          N/A
  TRIGGER               0               0
 PAR.TASKS              0               0

 ELIG SECP              0             N/A
 ELIG ACCEL           N/A               0

SE CPU                 0               0
 NONNESTED             0               0
 STORED PROC           0               0
 UDF                   0               0
 TRIGGER               0               0

 PAR.TASKS             0               0

 ELIG ACCEL           N/A               0

---- RESOURCE LIMIT FACILITY ----------------------------------------------------------------------------------------------
TYPE: N/P                            TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS: 0.000000    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    TOTAL  BPOOL ACTIVITY     TOTAL
---------------------  --------    ---------------------  --------    ---------------------  --------
BPOOL HIT RATIO (%)          -9    BPOOL HIT RATIO (%)          0    BPOOL HIT RATIO (%)          -9
GETPAGES                   342    GETPAGES                     4    GETPAGES                   346
BUFFER UPDATES               0    BUFFER UPDATES               0    BUFFER UPDATES               0
SYNCHRONOUS WRITE            0    SYNCHRONOUS WRITE            0    SYNCHRONOUS WRITE            0
SYNCHRONOUS READ             5    SYNCHRONOUS READ             4    SYNCHRONOUS READ             9
SEQ. PREFETCH REQS          12    SEQ. PREFETCH REQS           0    SEQ. PREFETCH REQS          12
LIST PREFETCH REQS           0    LIST PREFETCH REQS           0    LIST PREFETCH REQS           0
DYN. PREFETCH REQS           0    DYN. PREFETCH REQS           0    DYN. PREFETCH REQS           0
PAGES READ ASYNCHR.        368    PAGES READ ASYNCHR.          0    PAGES READ ASYNCHR.        368
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-21
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                                  ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:00.90    PLANNAME: ADB27SPC        WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:00.82    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:00.90    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD3EE0073
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'         LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

ADB27SP            VALUE                ADB27SP                    TIMES    ADB27SP                  TIME  EVENTS    TIME/EVENT
-----------------  -------------------  -----------------------  ----------  -----------------------  ----------  ------  ----------
TYPE               PACKAGE              ELAPSED TIME - CL7      0.051289    LOCK/LATCH              0.000000       0         N/C
LOCATION           OMPDA5               CP CPU TIME             0.001345     IRLM LOCK+LATCH        0.000000       0         N/C
COLLECTION ID      ADBL                   AGENT                 0.001345     DB2 LATCH              0.000000       0         N/C
PROGRAM NAME       ADB27SP                PAR.TASKS             0.000000    SYNCHRONOUS I/O         0.012782       4    0.003196
CONSISTENCY TOKEN  193DB59E0EC52F17     SE CPU TIME             0.000000    OTHER READ I/O          0.037073      11    0.003370
ACTIVITY TYPE      NONNESTED            SUSPENSION-CL8          0.049855    OTHER WRITE I/O         0.000000       0         N/C
ACTIVITY NAME      'BLANK'                AGENT                 0.049855    SERV.TASK SWITCH        0.000000       0         N/C
SCHEMA NAME        'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)       0.000000       0         N/C
SUCC AUTH CHECK    NO                   NOT ACCOUNTED           0.000088    ARCHIVE LOG READ        0.000000       0         N/C
NBR OF ALLOCATIONS                1                                        DRAIN LOCK              0.000000       0         N/C
SQL STMT - AVERAGE             9.00    CP CPU SU                    87    CLAIM RELEASE           0.000000       0         N/C
SQL STMT - TOTAL                  9      AGENT                      87    PAGE LATCH              0.000000       0         N/C
NBR RLUP THREADS                  1      PAR.TASKS                   0    NOTIFY MESSAGES         0.000000       0         N/C
                                         SE CPU SU                   0    GLOBAL CONTENTION       0.000000       0         N/C
                                                                          TCP/IP LOB XML          0.000000       0         N/C
                                         DB2 ENTRY/EXIT             20    ACCELERATOR             0.000000       0         N/C
                                                                          PQ SYNCHRONIZATION           N/A     N/A         N/A
                                                                          FAST INSERT PIPE             N/A     N/A         N/A
                                                                          TOTAL CL8 SUSPENS.      0.049855      15    0.003324

ADB27SP                    ELAPSED TIME    EVENTS    ADB27SP                    ELAPSED TIME    EVENTS
-------------------------  ------------  --------    -------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS      0.000000         0    GLOBAL CONTENTION P-LOCKS      0.000000         0
 PARENT (DB,TS,TAB,PART)       0.000000         0     PAGESET/PARTITION             0.000000         0
 CHILD  (PAGE,ROW)             0.000000         0     PAGE                          0.000000         0
 OTHER                         0.000000         0     OTHER                         0.000000         0

ADB27SP                  TOTAL
-------------------     --------
SELECT                        0
INSERT                        0
UPDATE                        0
DELETE                        0

DESCRIBE                      0
PREPARE                       0
OPEN                          1
FETCH                         2
CLOSE                         1

LOCK TABLE                    0
CALL                          0
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-22
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                              ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:00.90    PLANNAME: ADB27SPC        WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:00.82    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:00.90    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD3EE0073
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'         LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

ADB27SP                   TOTAL
--------------------    --------
BPOOL HIT RATIO (%)           -9
GETPAGES                     339
BUFFER UPDATES                 0
SYNCHRONOUS WRITE              0
SYNCHRONOUS READ               4
SEQ. PREFETCH REQS            12
LIST PREFETCH REQS             0
DYN. PREFETCH REQS             0
PAGES READ ASYNCHR.          368

ADB27SP                   TOTAL
----------------------  --------
TIMEOUTS                       0
DEADLOCKS                      0
ESCAL.(SHARED)                 0
ESCAL.(EXCLUS)                 0
MAX PG/ROW LOCKS HELD          2
LOCK REQUEST                   2
UNLOCK REQUEST                 2
QUERY REQUEST                  0
CHANGE REQUEST                 0
OTHER REQUEST                  0
TOTAL SUSPENSIONS              0
 LOCK SUSPENS                  0
 IRLM LATCH SUSPENS            0
 OTHER SUSPENS                 0

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME          N/P
CP CPU TIME           N/P
DCAPT.DESCR.          N/P
LOG EXTRACT.          N/P
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-23
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                              ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:01.25    PLANNAME: ADB27SPC        WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:01.12    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:01.25    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD3EE4E35
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'         LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

MVS ACCOUNTING DATA   : DE03704
ACCOUNTING TOKEN(CHAR): N/A
ACCOUNTING TOKEN(HEX) : N/A

ELAPSED TIME DISTRIBUTION                                    CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------  -------------------------------------------------------------
APPL   !=> 2%                                                CPU    !===> 7%
DB2    !========> 17%                                        SECPU  !
SUSP   !========================================> 81%       NOTACC !=====> 10%
                                                             SUSP   !=========================================> 83%
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-24
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                              ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:21:01.25    PLANNAME: ADB27SPC        WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:21:01.12    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:21:01.25    PROD VER: N/P             LUW LUN: IPUAPZA5        CICS INS: N/A
REQUESTER  : OMPDA5                  CORRNAME: MIS             LUW INS: D13DD3EE4E35
MAINPACK   : ADB27SP                 CORRNMBR: 'BLANK'         LUW SEQ:            2    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: TSO                                      TRANSACT: MIS
ORIGAUTH   : MIS                     CONNECT : TSO                                      WSNAME  : TSO

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME    0.127365    0.125321    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED      0.127365    0.125321     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC    0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : DEALLOC
 UDF            0.000000    0.000000    SYNCHRON. I/O             0.017855        11    0.001623    PARALLELISM   : NO
 TRIGGER        0.000000    0.000000     DATABASE I/O             0.017855        11    0.001623    PCA RUP COUNT :        N/A
                                         LOG WRITE I/O            0.000000         0         N/C    RUP AUTONOM.PR:        N/A
CP CPU TIME     0.010110    0.009326    OTHER READ I/O            0.040477         2    0.020239    AUTONOMOUS PR :        N/A
 AGENT          0.010110    0.009326    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          0
  NONNESTED     0.010110    0.009326    SER.TASK SWTCH            0.045219         2    0.022610    COMMITS       :          1
  STORED PRC    0.000000    0.000000     UPDATE COMMIT            0.000000         0         N/C    ROLLBACK      :          0
  UDF           0.000000    0.000000     OPEN/CLOSE               0.018981         1    0.018981    SVPT REQUESTS :          0
  TRIGGER       0.000000    0.000000     SYSLGRNG REC             0.000000         0         N/C    SVPT RELEASE  :          0
 PAR.TASKS      0.000000    0.000000     EXT/DEL/DEF              0.026238         1    0.026238    SVPT ROLLBACK :          0
                                         OTHER SERVICE            0.000000         0         N/C    INCREM.BINDS  :          0
SE CPU TIME     0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.00
 NONNESTED      0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:   0.001623
 STORED PROC    0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          1
 UDF            0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          0
 TRIGGER        0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:        N/A
                                         NOTIFY MSGS               0.000000         0         N/C
 PAR.TASKS      0.000000    0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                         COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME    0.000000    0.103551    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT              N/A    0.103551    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS          N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC    0.000000         N/A    AUTONOMOUS PROCEDURE          N/A       N/A         N/A
 UDF            0.000000         N/A    PQ SYNCHRONIZATION            N/A       N/A         N/A
                                         LOB COMPRESSION               N/A       N/A         N/A
NOT ACCOUNT.         N/A    0.012443    FAST INSERT PIPE              N/A       N/A         N/A
DB2 ENT/EXIT         N/A          34    TOTAL CLASS 3             0.103551        15    0.006903
EN/EX-STPROC         N/A           0
EN/EX-UDF            N/A           0
DCAPT.DESCR.         N/A         N/A
LOG EXTRACT.         N/A         N/A
```

```
   LOCATION: OMPDA5                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-25
      GROUP: N/P                                ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA5                                                                              ACTUAL FROM: 08/24/16 08:18:18.92
DB2 VERSION: V10
```

```
...
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-1
      GROUP: DBC1                               ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                             ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MVS ACCOUNTING DATA   : 'BLANK'
ACCOUNTING TOKEN(CHAR): 'BLANK'
ACCOUNTING TOKEN(HEX) : 00000000000000000000000000000000000000000000000000

ELAPSED TIME DISTRIBUTION                                        CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------    -------------------------------------------------------------
APPL   !> 1%                                                     CPU    !=====> 11%
DB2    !=======> 15%                                             SECPU  !
SUSP   !=========================================> 84%          NOTACC !==> 4%
                                                                 SUSP   !=========================================> 85%
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-2
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME     0.058896    0.058363    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED       0.058896    0.058363     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC     0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : STALENESS
 UDF             0.000000    0.000000    SYNCHRON. I/O             0.000957         3    0.000319    PARALLELISM   : N/A
 TRIGGER         0.000000    0.000000     DATABASE I/O             0.000239         1    0.000239    PCA RUP COUNT :          0
                                          LOG WRITE I/O            0.000718         2    0.000359    RUP AUTONOM.PR:          0
CP CPU TIME      0.006817    0.006288    OTHER READ I/O            0.000000         0         N/C    AUTONOMOUS PR :          0
 AGENT           0.006817    0.006288    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          6
  NONNESTED      0.006817    0.006288    SER.TASK SWTCH            0.014162         9    0.001574    COMMITS       :         24
  STORED PRC     0.000000    0.000000     UPDATE COMMIT            0.002054         4    0.000513    ROLLBACK      :          0
  UDF            0.000000    0.000000     OPEN/CLOSE               0.000000         0         N/C    SVPT REQUESTS :          0
  TRIGGER        0.000000    0.000000     SYSLGRNG REC             0.001873         1    0.001873    SVPT RELEASE  :          0
 PAR.TASKS       0.000000    0.000000     EXT/DEL/DEF              0.000000         0         N/C    SVPT ROLLBACK :          0
                                          OTHER SERVICE            0.010236         4    0.002559    INCREM.BINDS  :          0
SE CPU TIME      0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.17
 NONNESTED       0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:   0.000319
 STORED PROC     0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          1
 UDF             0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          0
 TRIGGER         0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:          0
                                          NOTIFY MSGS               0.000000         0         N/C
 PAR.TASKS       0.000000    0.000000    GLOBAL CONTENTION         0.034432         6    0.005739
                                          COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME     0.000000    0.049551    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT                N/A    0.049551    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS            N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC     0.000000         N/A    AUTONOMOUS PROCEDURE      0.000000         0         N/C
 UDF             0.000000         N/A    PQ SYNCHRONIZATION        0.000000         0         N/C
                                          LOB COMPRESSION           0.000000         0         N/C
NOT ACCOUNT.         N/A    0.002524    FAST INSERT PIPE          0.000000         0         N/C
DB2 ENT/EXIT         N/A         252    TOTAL CLASS 3             0.049551        18    0.002753
EN/EX-STPROC         N/A           0
EN/EX-UDF            N/A           0
DCAPT.DESCR.         N/A         N/A
LOG EXTRACT.         N/A         N/A
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-3
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------  ---------- --------  ---------- ------ ------ ------    --------------------  --------
SELECT           0    LOCK TABLE         0    TABLE           0      0      0    REOPTIMIZATION               0
INSERT           0    GRANT              0    CRT TTABLE      0    N/A    N/A    NOT FOUND IN CACHE           0
 ROWS            0    REVOKE             0    DCL TTABLE      0    N/A    N/A    FOUND IN CACHE              24
UPDATE           4    SET SQLID          0    AUX TABLE       0    N/A    N/A    IMPLICIT PREPARES            0
 ROWS            4    SET H.VAR.         0    INDEX           0      0      0    PREPARES AVOIDED             0
MERGE            0    SET DEGREE         0    TABLESPACE      0      0      0    CACHE_LIMIT_EXCEEDED         0
DELETE           0    SET RULES          0    DATABASE        0      0      0    PREP_STMT_PURGED             0
 ROWS            0    SET PATH           0    STOGROUP        0      0      0    STABILIZED PREPARE           0
                      SET PREC.          0    SYNONYM         0      0    N/A    CSWL - STMTS PARSED          0
DESCRIBE         0    CONNECT 1          0    VIEW            0      0      0    CSWL - LITS REPLACED         0
DESC.TBL         0    CONNECT 2          0    ALIAS           0      0    N/A    CSWL - MATCHES FOUND         0
PREPARE         24    SET CONNEC         0    PACKAGE       N/A      0    N/A    CSWL - DUPLS CREATED         0
OPEN            20    RELEASE            0    PROCEDURE       0      0      0
FETCH           20    CALL               0    FUNCTION        0      0      0
 ROWS           20    ASSOC LOC.         0    TRIGGER         0      0    N/A
CLOSE           20    ALLOC CUR.         0    DIST TYPE       0      0    N/A
                      HOLD LOC.          0    SEQUENCE        0      0      0
DML-ALL         88    FREE LOC.          0    TRUST. CTX      0      0      0
                      DCL-ALL            0    ROLE            0      0    N/A
                                              JAR           N/A    N/A      0
                                              MASK/PERM       0      0      0
                                              VARIABLE        0      0    N/A

                                              TOTAL           0      0      0
                                              TRUNC TBL       0
                                              RENAME TBL      0
                                              RENAME IX       0
                                              COMMENT ON      0
                                              LABEL ON        0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-4
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------  -------------  --------  -----------  --------
ELAPSED TIME           0.058896    0.058363    USED                           0    IFI CALLS             0    DIR ACCESS         0
 ELIGIBLE FOR ACCEL         N/A    0.000000                                      REC.CAPTURED          0    INDEX USED         0
                                               FAIL-NO STORAGE                0    LOG REC.READ          0    TS SCAN            0
CP CPU TIME            0.006817    0.006288    FAIL-LIMIT EXC.                0    ROWS RETURN           0
 ELIGIBLE FOR SECP     0.000000         N/A                                      RECORDS RET.          0
 ELIGIBLE FOR ACCEL         N/A    0.000000    INTERRUPTED-NO STORAGE         0    DATA DES.RET          0
                                               INTERRUPTED-LIMIT EXC.         0    TABLES RET.           0
SE CPU TIME            0.000000    0.000000                                      DESCRIBES             0
 ELIGIBLE FOR ACCEL         N/A    0.000000    OVERFLOWED-NO STORAGE          0
                                               OVERFLOWED-LIMIT EXC.          0

                                               SKIPPED-INDEX KNOWN            0

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------  ----------------------------------  ------------  --------
L-LOCKS                                  0.000000         0  P-LOCKS                                  0.034432         6
 PARENT (DB,TS,TAB,PART)                 0.000000         0   PAGESET/PARTITION                       0.017702         2
 CHILD  (PAGE,ROW)                       0.000000         0   PAGE                                    0.006694         2
 OTHER                                   0.000000         0   OTHER                                   0.010035         2

LOCKING               TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM            TOTAL    DRAIN/CLAIM      TOTAL
-------------------- --------  ------------ --------    ------------------------  --------    ------------  --------
TIMEOUTS                 0    GLOB CONT(%)     5.68    MAXIMUM DEGREE-ESTIMATED          0    DRAIN REQST          0
DEADLOCKS                0    FALS CONT(%)     0.00    MAXIMUM DEGREE-PLANNED            0    DRAIN FAILED         0
ESCAL.(SHAR)             0    P/L-LOCKS(%)       70    MAXIMUM DEGREE-EXECUTED           0    CLAIM REQST         28
ESCAL.(EXCL)             0    P-LOCK REQ         21    MAXIMUM MEMBERS USED            N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD      1    P-UNLOCK REQ       18    PARALLEL GROUPS EXECUTED          0
LOCK REQUEST            59    P-CHANGE REQ        1     RAN AS PLANNED                   0
UNLOCK REQST            27    LOCK - XES         56     RAN REDUCED-STORAGE              0
QUERY REQST              0    UNLOCK-XES         21     RAN REDUCED-NEGOTIATION          0
CHANGE REQST             4    CHANGE-XES          5     SEQ-CURSOR                       0
OTHER REQST              0    SUSP - IRLM         4     SEQ-NO ESA SORT                  0
TOTAL SUSPENSIONS        0    SUSP - XES          1     SEQ-NO BUFFER                    0
 LOCK SUSPENS            0    CONV - XES          1     SEQ-AUTONOMOUS PROC              0
 IRLM LATCH SUSPENS      0    FALSE CONT          0     SEQ-NEGOTIATION                  0
 OTHER SUSPENS           0    INCOMP.LOCK         0     ONE DB2-COORDINATOR = NO         0
                              NOTIFY SENT         0     ONE DB2-ISOLATION LEVEL          0
                                                        ONE DB2-DCL TTABLE               0
                                                       MEMB SKIPPED(%)                   0
                                                       DISABLED BY RLF             NO
                                                       REFORM PARAL-CONFIG               0
                                                       REFORM PARAL-NO BUF               0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-5
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------  ---------  --------  ------------  --------  ------------------  --------
CALL STMTS           0    EXECUTED          0    STMT TRIGGER         0    LOG RECS WRITTEN         26
ABENDED              0    ABENDED           0    ROW TRIGGER          0    TOT BYTES WRITTEN      3530
TIMED OUT            0    TIMED OUT         0    SQL ERROR            0
REJECTED             0    REJECTED          0

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
------------  --------------  --------------  --------------------  --------
CP CPU                441             407    MAX STO LOB VAL (KB)         0
 AGENT                441             407    MAX STO XML VAL (KB)         0
  NONNESTED           441             407    ARRAY EXPANSIONS             0
  STORED PRC            0               0    SPARSE IX DISABLED           0
  UDF                   0               0    SPARSE IX BUILT WF           0
  TRIGGER               0               0
 PAR.TASKS              0               0

 ELIG SECP              0             N/A
 ELIG ACCEL           N/A               0

SE CPU                  0               0
 NONNESTED              0               0
 STORED PROC            0               0
 UDF                    0               0
 TRIGGER                0               0

 PAR.TASKS              0               0

 ELIG ACCEL           N/A               0

---- RESOURCE LIMIT FACILITY ----------------------------------------------------------------------------------------
TYPE: N/P                            TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS:      N/P    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------    --------------------  --------    --------------------  --------
BPOOL HIT RATIO (%)         97    BPOOL HIT RATIO (%)         100    BPOOL HIT RATIO (%)         98
GETPAGES                    32    GETPAGES                     16    GETPAGES                    48
BUFFER UPDATES               4    BUFFER UPDATES                0    BUFFER UPDATES               4
SYNCHRONOUS WRITE            0    SYNCHRONOUS WRITE             0    SYNCHRONOUS WRITE            0
SYNCHRONOUS READ             1    SYNCHRONOUS READ              0    SYNCHRONOUS READ             1
SEQ. PREFETCH REQS           0    SEQ. PREFETCH REQS            0    SEQ. PREFETCH REQS           0
LIST PREFETCH REQS           0    LIST PREFETCH REQS            0    LIST PREFETCH REQS           0
DYN. PREFETCH REQS           0    DYN. PREFETCH REQS            0    DYN. PREFETCH REQS           0
PAGES READ ASYNCHR.          0    PAGES READ ASYNCHR.           0    PAGES READ ASYNCHR.          0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-6
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

GROUP BP0                 TOTAL    GROUP BP32K               TOTAL    GROUP TOTAL               TOTAL
-----------------------  --------  -----------------------  --------  -----------------------  --------
GBP-DEPEND GETPAGES           32    GBP-DEPEND GETPAGES           16    GBP-DEPEND GETPAGES           48
READ(XI)-DATA RETUR            1    READ(XI)-DATA RETUR            0    READ(XI)-DATA RETUR            1
READ(XI)-NO DATA RT            1    READ(XI)-NO DATA RT            0    READ(XI)-NO DATA RT            1
READ(NF)-DATA RETUR            0    READ(NF)-DATA RETUR            0    READ(NF)-DATA RETUR            0
READ(NF)-NO DATA RT            0    READ(NF)-NO DATA RT            0    READ(NF)-NO DATA RT            0
PREFETCH PAGES READ            0    PREFETCH PAGES READ            0    PREFETCH PAGES READ            0
CLEAN PAGES WRITTEN            0    CLEAN PAGES WRITTEN            0    CLEAN PAGES WRITTEN            0
UNREGISTER PAGE                0    UNREGISTER PAGE                0    UNREGISTER PAGE                0
ASYNCH GBP REQUESTS            0    ASYNCH GBP REQUESTS            0    ASYNCH GBP REQUESTS            0
EXPLICIT X-INVALID             0    EXPLICIT X-INVALID             0    EXPLICIT X-INVALID             0
ASYNCH SEC-GBP REQ             0    ASYNCH SEC-GBP REQ             0    ASYNCH SEC-GBP REQ             0
PG P-LOCK LOCK REQ            16    PG P-LOCK LOCK REQ             2    PG P-LOCK LOCK REQ            18
 SPACE MAP PAGES              16     SPACE MAP PAGES               2     SPACE MAP PAGES              18
 DATA PAGES                    0     DATA PAGES                    0     DATA PAGES                    0
 INDEX LEAF PAGES              0     INDEX LEAF PAGES              0     INDEX LEAF PAGES              0
PG P-LOCK UNLOCK REQ          16    PG P-LOCK UNLOCK REQ           2    PG P-LOCK UNLOCK REQ          18
PG P-LOCK LOCK SUSP            2    PG P-LOCK LOCK SUSP            0    PG P-LOCK LOCK SUSP            2
 SPACE MAP PAGES               2     SPACE MAP PAGES               0     SPACE MAP PAGES               2
 DATA PAGES                    0     DATA PAGES                    0     DATA PAGES                    0
 INDEX LEAF PAGES              0     INDEX LEAF PAGES              0     INDEX LEAF PAGES              0
WRITE AND REGISTER             4    WRITE AND REGISTER             0    WRITE AND REGISTER             4
WRITE & REGISTER MULT          0    WRITE & REGISTER MULT          0    WRITE & REGISTER MULT          0
CHANGED PAGES WRITTEN          4    CHANGED PAGES WRITTEN          0    CHANGED PAGES WRITTEN          4
COMPL CHECKS SUSPEND           0    COMPL CHECKS SUSPEND           0    COMPL CHECKS SUSPEND           0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-7
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2            VALUE                FPEVWRP2                    TIMES    FPEVWRP2                    TIME  EVENTS    TIME/EVENT
------------------  -------------------  ------------------  ------------    ------------------  ------------  ------  ------------
TYPE                PACKAGE              ELAPSED TIME - CL7      0.047027    LOCK/LATCH             0.000000       0           N/C
LOCATION            OMPDBC1              CP CPU TIME             0.005399     IRLM LOCK+LATCH       0.000000       0           N/C
COLLECTION ID       KO2OM530               AGENT                 0.005399     DB2 LATCH             0.000000       0           N/C
PROGRAM NAME        FPEVWRP2               PAR.TASKS             0.000000    SYNCHRONOUS I/O        0.000957       3      0.000319
CONSISTENCY TOKEN   1A20F0C107FBA51D     SE CPU TIME             0.000000    OTHER READ I/O         0.000000       0           N/C
ACTIVITY TYPE       NONNESTED            SUSPENSION-CL8          0.039315    OTHER WRITE I/O        0.000000       0           N/C
ACTIVITY NAME       'BLANK'                AGENT                 0.039315    SERV.TASK SWITCH       0.003927       5      0.000785
SCHEMA NAME         'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)      0.000000       0           N/C
SUCC AUTH CHECK     N/P                  NOT ACCOUNTED           0.002313    ARCHIVE LOG READ       0.000000       0           N/C
NBR OF ALLOCATIONS                4                                        DRAIN LOCK             0.000000       0           N/C
SQL STMT - AVERAGE            22.00    CP CPU SU                   350    CLAIM RELEASE          0.000000       0           N/C
SQL STMT - TOTAL                 88      AGENT                     350    PAGE LATCH             0.000000       0           N/C
NBR RLUP THREADS                  4      PAR.TASKS                   0    NOTIFY MESSAGES        0.000000       0           N/C
                                       SE CPU SU                     0    GLOBAL CONTENTION      0.034432       6      0.005739
                                                                          TCP/IP LOB XML         0.000000       0           N/C
                                       DB2 ENTRY/EXIT              232    ACCELERATOR            0.000000       0           N/C
                                                                          PQ SYNCHRONIZATION     0.000000       0           N/C
                                                                          FAST INSERT PIPE       0.000000       0           N/C
                                                                          TOTAL CL8 SUSPENS.     0.039315      14      0.002808

FPEVWRP2                  ELAPSED TIME    EVENTS    FPEVWRP2                    ELAPSED TIME    EVENTS
------------------------  ------------  --------  --------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS      0.000000         0    GLOBAL CONTENTION P-LOCKS      0.034432         6
 PARENT (DB,TS,TAB,PART)       0.000000         0     PAGESET/PARTITION             0.017702         2
 CHILD  (PAGE,ROW)             0.000000         0     PAGE                          0.006694         2
 OTHER                         0.000000         0     OTHER                         0.010035         2

FPEVWRP2                 TOTAL
-------------------     --------
SELECT                         0
INSERT                         0
UPDATE                         4
DELETE                         0

DESCRIBE                       0
PREPARE                       24
OPEN                          20
FETCH                         20
CLOSE                         20

LOCK TABLE                     0
CALL                           0
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-8
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:02:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 06:49:59.14    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC1A0FC96
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2                  TOTAL
--------------------    --------
BPOOL HIT RATIO (%)           97
GETPAGES                      48
BUFFER UPDATES                 4
SYNCHRONOUS WRITE              0
SYNCHRONOUS READ               1
SEQ. PREFETCH REQS             0
LIST PREFETCH REQS             0
DYN. PREFETCH REQS             0
PAGES READ ASYNCHR.            0

FPEVWRP2                  TOTAL
----------------------  --------
TIMEOUTS                       0
DEADLOCKS                      0
ESCAL.(SHARED)                 0
ESCAL.(EXCLUS)                 0
MAX PG/ROW LOCKS HELD          1
LOCK REQUEST                  55
UNLOCK REQUEST                27
QUERY REQUEST                  0
CHANGE REQUEST                 4
OTHER REQUEST                  0
TOTAL SUSPENSIONS              0
 LOCK SUSPENS                  0
 IRLM LATCH SUSPENS            0
 OTHER SUSPENS                 0

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME     0.000000
CP CPU TIME      0.000000
DCAPT.DESCR.     0.000000
LOG EXTRACT.     0.000000
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-9
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MVS ACCOUNTING DATA   : 'BLANK'
ACCOUNTING TOKEN(CHAR): 'BLANK'
ACCOUNTING TOKEN(HEX) : 00000000000000000000000000000000000000000000000000

ELAPSED TIME DISTRIBUTION                                    CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------  ------------------------------------------------------------------
APPL   !=> 2%                                                CPU    !=============> 26%
DB2    !================> 35%                                 SECPU  !
SUSP   !==============================> 62%                   NOTACC !=====> 10%
                                                             SUSP   !================================> 64%
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                   PAGE: 2-10
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                 REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                     ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:             7   ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME     0.030244    0.029507    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED       0.030244    0.029507     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC     0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : STALENESS
 UDF             0.000000    0.000000    SYNCHRON. I/O             0.000750         2    0.000375    PARALLELISM   : N/A
 TRIGGER         0.000000    0.000000     DATABASE I/O             0.000000         0         N/C    PCA RUP COUNT :          0
                                          LOG WRITE I/O            0.000750         2    0.000375    RUP AUTONOM.PR:          0
CP CPU TIME      0.008521    0.007807    OTHER READ I/O            0.000000         0         N/C    AUTONOMOUS PR :          0
 AGENT           0.008521    0.007807    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          8
  NONNESTED      0.008521    0.007807    SER.TASK SWTCH            0.018026         9    0.002003    COMMITS       :         30
  STORED PRC     0.000000    0.000000     UPDATE COMMIT            0.001967         3    0.000656    ROLLBACK      :          0
  UDF            0.000000    0.000000     OPEN/CLOSE               0.000000         0         N/C    SVPT REQUESTS :          0
  TRIGGER        0.000000    0.000000     SYSLGRNG REC             0.000000         0         N/C    SVPT RELEASE  :          0
 PAR.TASKS       0.000000    0.000000     EXT/DEL/DEF              0.000000         0         N/C    SVPT ROLLBACK :          0
                                          OTHER SERVICE            0.016059         6    0.002676    INCREM.BINDS  :          0
SE CPU TIME      0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.17
 NONNESTED       0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:   0.000375
 STORED PROC     0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          1
 UDF             0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          0
 TRIGGER         0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:          0
                                          NOTIFY MSGS               0.000000         0         N/C
 PAR.TASKS       0.000000    0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                          COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME     0.000000    0.018776    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT                N/A    0.018776    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS            N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC     0.000000         N/A    AUTONOMOUS PROCEDURE      0.000000         0         N/C
 UDF             0.000000         N/A    PQ SYNCHRONIZATION        0.000000         0         N/C
                                          LOB COMPRESSION           0.000000         0         N/C
NOT ACCOUNT.         N/A    0.002924    FAST INSERT PIPE          0.000000         0         N/C
DB2 ENT/EXIT         N/A         318    TOTAL CLASS 3             0.018776        11    0.001707
EN/EX-STPROC         N/A           0
EN/EX-UDF            N/A           0
DCAPT.DESCR.         N/A         N/A
LOG EXTRACT.         N/A         N/A
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                   PAGE: 2-11
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                 REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                     ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:             7   ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------   ---------- --------   ---------- ------ ------ ------    --------------------  --------
SELECT           0    LOCK TABLE         0    TABLE           0      0      0    REOPTIMIZATION               0
INSERT           0    GRANT              0    CRT TTABLE      0    N/A    N/A    NOT FOUND IN CACHE           0
 ROWS            0    REVOKE             0    DCL TTABLE      0    N/A    N/A    FOUND IN CACHE              30
UPDATE           5    SET SQLID          0    AUX TABLE       0    N/A    N/A    IMPLICIT PREPARES            0
 ROWS            5    SET H.VAR.         0    INDEX           0      0      0    PREPARES AVOIDED             0
MERGE            0    SET DEGREE         0    TABLESPACE      0      0      0    CACHE_LIMIT_EXCEEDED         0
DELETE           0    SET RULES          0    DATABASE        0      0      0    PREP_STMT_PURGED             0
 ROWS            0    SET PATH           0    STOGROUP        0      0      0    STABILIZED PREPARE           0
                      SET PREC.          0    SYNONYM         0      0    N/A    CSWL - STMTS PARSED          0
DESCRIBE         0    CONNECT 1          0    VIEW            0      0      0    CSWL - LITS REPLACED         0
DESC.TBL         0    CONNECT 2          0    ALIAS           0      0    N/A    CSWL - MATCHES FOUND         0
PREPARE         30    SET CONNEC         0    PACKAGE       N/A      0    N/A    CSWL - DUPLS CREATED         0
OPEN            25    RELEASE            0    PROCEDURE       0      0      0
FETCH           25    CALL               0    FUNCTION        0      0      0
 ROWS           25    ASSOC LOC.         0    TRIGGER         0      0    N/A
CLOSE           25    ALLOC CUR.         0    DIST TYPE       0      0    N/A
                      HOLD LOC.          0    SEQUENCE        0      0      0
DML-ALL        110    FREE LOC.          0    TRUST. CTX      0      0      0
                      DCL-ALL            0    ROLE            0      0    N/A
                                              JAR           N/A    N/A      0
                                              MASK/PERM       0      0      0
                                              VARIABLE        0      0    N/A

                                              TOTAL           0      0      0
                                              TRUNC TBL       0
                                              RENAME TBL      0
                                              RENAME IX       0
                                              COMMENT ON      0
                                              LABEL ON        0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-12
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------  -------------  --------  ----------  --------
ELAPSED TIME           0.030244    0.029507    USED                           0    IFI CALLS             0    DIR ACCESS         0
 ELIGIBLE FOR ACCEL         N/A    0.000000                                       REC.CAPTURED          0    INDEX USED         0
                                                FAIL-NO STORAGE                0    LOG REC.READ          0    TS SCAN            0
CP CPU TIME            0.008521    0.007807    FAIL-LIMIT EXC.                0    ROWS RETURN           0
 ELIGIBLE FOR SECP     0.000000         N/A                                       RECORDS RET.          0
 ELIGIBLE FOR ACCEL         N/A    0.000000    INTERRUPTED-NO STORAGE         0    DATA DES.RET          0
                                                INTERRUPTED-LIMIT EXC.         0    TABLES RET.           0
SE CPU TIME            0.000000    0.000000                                       DESCRIBES             0
 ELIGIBLE FOR ACCEL         N/A    0.000000    OVERFLOWED-NO STORAGE          0
                                                OVERFLOWED-LIMIT EXC.          0

                                                SKIPPED-INDEX KNOWN            0

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------    ------------------------------------  ------------  --------
L-LOCKS                                  0.000000         0    P-LOCKS                                  0.000000         0
 PARENT (DB,TS,TAB,PART)                 0.000000         0     PAGESET/PARTITION                       0.000000         0
 CHILD  (PAGE,ROW)                       0.000000         0     PAGE                                    0.000000         0
 OTHER                                   0.000000         0     OTHER                                   0.000000         0

LOCKING               TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM            TOTAL    DRAIN/CLAIM      TOTAL
-------------------- --------  ------------ --------    ------------------------  --------    ------------  --------
TIMEOUTS                 0     GLOB CONT(%)     0.00    MAXIMUM DEGREE-ESTIMATED          0    DRAIN REQST          0
DEADLOCKS                0     FALS CONT(%)     0.00    MAXIMUM DEGREE-PLANNED            0    DRAIN FAILED         0
ESCAL.(SHAR)             0     P/L-LOCKS(%)       57    MAXIMUM DEGREE-EXECUTED           0    CLAIM REQST         35
ESCAL.(EXCL)             0     P-LOCK REQ          0    MAXIMUM MEMBERS USED            N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD      1     P-UNLOCK REQ        0    PARALLEL GROUPS EXECUTED          0
LOCK REQUEST            70     P-CHANGE REQ        0     RAN AS PLANNED                   0
UNLOCK REQST            30     LOCK - XES         40     RAN REDUCED-STORAGE              0
QUERY REQST              0     UNLOCK-XES          0     RAN REDUCED-NEGOTIATION          0
CHANGE REQST             5     CHANGE-XES          5     SEQ-CURSOR                       0
OTHER REQST              0     SUSP - IRLM         0     SEQ-NO ESA SORT                  0
TOTAL SUSPENSIONS        0     SUSP - XES          0     SEQ-NO BUFFER                    0
 LOCK SUSPENS            0     CONV - XES          0     SEQ-AUTONOMOUS PROC              0
 IRLM LATCH SUSPENS      0     FALSE CONT          0     SEQ-NEGOTIATION                  0
 OTHER SUSPENS           0     INCOMP.LOCK         0     ONE DB2-COORDINATOR = NO         0
                               NOTIFY SENT         0     ONE DB2-ISOLATION LEVEL          0
                                                         ONE DB2-DCL TTABLE               0
                                                        MEMB SKIPPED(%)                   0
                                                        DISABLED BY RLF            NO
                                                        REFORM PARAL-CONFIG               0
                                                        REFORM PARAL-NO BUF               0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-13
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------   ---------  --------   ------------  --------   ------------------  --------
CALL STMTS           0    EXECUTED          0    STMT TRIGGER         0    LOG RECS WRITTEN         30
ABENDED              0    ABENDED           0    ROW TRIGGER          0    TOT BYTES WRITTEN      3781
TIMED OUT            0    TIMED OUT         0    SQL ERROR            0
REJECTED             0    REJECTED          0

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
------------  --------------  --------------   ---------------------  --------
CP CPU                  551             505    MAX STO LOB VAL (KB)          0
 AGENT                  551             505    MAX STO XML VAL (KB)          0
  NONNESTED             551             505    ARRAY EXPANSIONS              0
  STORED PRC              0               0    SPARSE IX DISABLED            0
  UDF                     0               0    SPARSE IX BUILT WF            0
  TRIGGER                 0               0
 PAR.TASKS                0               0

 ELIG SECP                0             N/A
 ELIG ACCEL             N/A               0

SE CPU                    0               0
 NONNESTED                0               0
 STORED PROC              0               0
 UDF                      0               0
 TRIGGER                  0               0

 PAR.TASKS                0               0

 ELIG ACCEL             N/A               0

---- RESOURCE LIMIT FACILITY ----------------------------------------------------------------------------------------
TYPE: N/P                          TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS:      N/P    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------    ---------------------  --------    ---------------------  --------
BPOOL HIT RATIO (%)         100    BPOOL HIT RATIO (%)         100    BPOOL HIT RATIO (%)         100
GETPAGES                     40    GETPAGES                     20    GETPAGES                     60
BUFFER UPDATES                5    BUFFER UPDATES               0    BUFFER UPDATES               5
SYNCHRONOUS WRITE             0    SYNCHRONOUS WRITE            0    SYNCHRONOUS WRITE            0
SYNCHRONOUS READ              0    SYNCHRONOUS READ             0    SYNCHRONOUS READ             0
SEQ. PREFETCH REQS            0    SEQ. PREFETCH REQS           0    SEQ. PREFETCH REQS           0
LIST PREFETCH REQS            0    LIST PREFETCH REQS           0    LIST PREFETCH REQS           0
DYN. PREFETCH REQS            0    DYN. PREFETCH REQS           0    DYN. PREFETCH REQS           0
PAGES READ ASYNCHR.           0    PAGES READ ASYNCHR.          0    PAGES READ ASYNCHR.          0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-14
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

GROUP BP0                 TOTAL    GROUP BP32K               TOTAL    GROUP TOTAL               TOTAL
---------------------  --------    ---------------------  --------    ---------------------  --------
GBP-DEPEND GETPAGES           40    GBP-DEPEND GETPAGES           20    GBP-DEPEND GETPAGES           60
READ(XI)-DATA RETUR            0    READ(XI)-DATA RETUR            0    READ(XI)-DATA RETUR            0
READ(XI)-NO DATA RT            0    READ(XI)-NO DATA RT            0    READ(XI)-NO DATA RT            0
READ(NF)-DATA RETUR            0    READ(NF)-DATA RETUR            0    READ(NF)-DATA RETUR            0
READ(NF)-NO DATA RT            0    READ(NF)-NO DATA RT            0    READ(NF)-NO DATA RT            0
PREFETCH PAGES READ            0    PREFETCH PAGES READ            0    PREFETCH PAGES READ            0
CLEAN PAGES WRITTEN            0    CLEAN PAGES WRITTEN            0    CLEAN PAGES WRITTEN            0
UNREGISTER PAGE                0    UNREGISTER PAGE                0    UNREGISTER PAGE                0
ASYNCH GBP REQUESTS            0    ASYNCH GBP REQUESTS            0    ASYNCH GBP REQUESTS            0
EXPLICIT X-INVALID             0    EXPLICIT X-INVALID             0    EXPLICIT X-INVALID             0
ASYNCH SEC-GBP REQ             0    ASYNCH SEC-GBP REQ             0    ASYNCH SEC-GBP REQ             0
PG P-LOCK LOCK REQ             0    PG P-LOCK LOCK REQ             0    PG P-LOCK LOCK REQ             0
 SPACE MAP PAGES               0     SPACE MAP PAGES               0     SPACE MAP PAGES               0
 DATA PAGES                    0     DATA PAGES                    0     DATA PAGES                    0
 INDEX LEAF PAGES              0     INDEX LEAF PAGES              0     INDEX LEAF PAGES              0
PG P-LOCK UNLOCK REQ           0    PG P-LOCK UNLOCK REQ           0    PG P-LOCK UNLOCK REQ           0
PG P-LOCK LOCK SUSP            0    PG P-LOCK LOCK SUSP            0    PG P-LOCK LOCK SUSP            0
 SPACE MAP PAGES               0     SPACE MAP PAGES               0     SPACE MAP PAGES               0
 DATA PAGES                    0     DATA PAGES                    0     DATA PAGES                    0
 INDEX LEAF PAGES              0     INDEX LEAF PAGES              0     INDEX LEAF PAGES              0
WRITE AND REGISTER             5    WRITE AND REGISTER             0    WRITE AND REGISTER             5
WRITE & REGISTER MULT          0    WRITE & REGISTER MULT          0    WRITE & REGISTER MULT          0
CHANGED PAGES WRITTEN          5    CHANGED PAGES WRITTEN          0    CHANGED PAGES WRITTEN          5
COMPL CHECKS SUSPEND           0    COMPL CHECKS SUSPEND           0    COMPL CHECKS SUSPEND           0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-15
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2            VALUE                FPEVWRP2                    TIMES    FPEVWRP2                    TIME  EVENTS    TIME/EVENT
------------------  -------------------  ------------------  ------------    ------------------  ------------  ------  ------------
TYPE                PACKAGE              ELAPSED TIME - CL7      0.011752    LOCK/LATCH             0.000000       0           N/C
LOCATION            OMPDBC1              CP CPU TIME             0.006384     IRLM LOCK+LATCH       0.000000       0           N/C
COLLECTION ID       KO2OM530               AGENT                 0.006384     DB2 LATCH             0.000000       0           N/C
PROGRAM NAME        FPEVWRP2               PAR.TASKS             0.000000    SYNCHRONOUS I/O        0.000750       2      0.000375
CONSISTENCY TOKEN   1A20F0C107FBA51D     SE CPU TIME             0.000000    OTHER READ I/O         0.000000       0           N/C
ACTIVITY TYPE       NONNESTED            SUSPENSION-CL8          0.002717    OTHER WRITE I/O        0.000000       0           N/C
ACTIVITY NAME       'BLANK'                AGENT                 0.002717    SERV.TASK SWITCH       0.001967       3      0.000656
SCHEMA NAME         'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)      0.000000       0           N/C
SUCC AUTH CHECK     N/P                  NOT ACCOUNTED           0.002650    ARCHIVE LOG READ       0.000000       0           N/C
NBR OF ALLOCATIONS                5                                        DRAIN LOCK             0.000000       0           N/C
SQL STMT - AVERAGE               22.00   CP CPU SU                   414    CLAIM RELEASE          0.000000       0           N/C
SQL STMT - TOTAL                   110     AGENT                     414    PAGE LATCH             0.000000       0           N/C
NBR RLUP THREADS                     5     PAR.TASKS                   0    NOTIFY MESSAGES        0.000000       0           N/C
                                         SE CPU SU                     0    GLOBAL CONTENTION      0.000000       0           N/C
                                                                            TCP/IP LOB XML         0.000000       0           N/C
                                         DB2 ENTRY/EXIT              290    ACCELERATOR            0.000000       0           N/C
                                                                            PQ SYNCHRONIZATION     0.000000       0           N/C
                                                                            FAST INSERT PIPE       0.000000       0           N/C
                                                                            TOTAL CL8 SUSPENS.     0.002717       5      0.000543

FPEVWRP2                  ELAPSED TIME    EVENTS    FPEVWRP2                  ELAPSED TIME    EVENTS
------------------------  ------------  --------    ------------------------  ------------  -------
GLOBAL CONTENTION L-LOCKS     0.000000         0    GLOBAL CONTENTION P-LOCKS     0.000000         0
 PARENT (DB,TS,TAB,PART)      0.000000         0     PAGESET/PARTITION            0.000000         0
 CHILD  (PAGE,ROW)            0.000000         0     PAGE                         0.000000         0
 OTHER                        0.000000         0     OTHER                        0.000000         0

FPEVWRP2                 TOTAL
-------------------     -------
SELECT                       0
INSERT                       0
UPDATE                       5
DELETE                       0

DESCRIBE                     0
PREPARE                     30
OPEN                        25
FETCH                       25
CLOSE                       25

LOCK TABLE                   0
CALL                         0
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-16
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:16:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:02:20.03    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC513780A
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2                  TOTAL
--------------------    --------
BPOOL HIT RATIO (%)          100
GETPAGES                      60
BUFFER UPDATES                 5
SYNCHRONOUS WRITE              0
SYNCHRONOUS READ               0
SEQ. PREFETCH REQS             0
LIST PREFETCH REQS             0
DYN. PREFETCH REQS             0
PAGES READ ASYNCHR.            0

FPEVWRP2                  TOTAL
----------------------  --------
TIMEOUTS                       0
DEADLOCKS                      0
ESCAL.(SHARED)                 0
ESCAL.(EXCLUS)                 0
MAX PG/ROW LOCKS HELD          1
LOCK REQUEST                  65
UNLOCK REQUEST                30
QUERY REQUEST                  0
CHANGE REQUEST                 5
OTHER REQUEST                  0
TOTAL SUSPENSIONS              0
 LOCK SUSPENS                  0
 IRLM LATCH SUSPENS            0
 OTHER SUSPENS                 0

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME     0.000000
CP CPU TIME      0.000000
DCAPT.DESCR.     0.000000
LOG EXTRACT.     0.000000
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-17
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MVS ACCOUNTING DATA   : 'BLANK'
ACCOUNTING TOKEN(CHAR): 'BLANK'
ACCOUNTING TOKEN(HEX) : 00000000000000000000000000000000000000000000000000

ELAPSED TIME DISTRIBUTION                                    CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------  -------------------------------------------------------------
APPL   !=> 3%                                                CPU    !=============> 26%
DB2    !================> 33%                                 SECPU  !
SUSP   !================================> 64%                 NOTACC !====> 8%
                                                             SUSP   !================================> 66%
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                   PAGE: 2-18
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:             7   ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME     0.029757    0.028963    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED       0.029757    0.028963     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC     0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : STALENESS
 UDF             0.000000    0.000000    SYNCHRON. I/O             0.000000         0         N/C    PARALLELISM   : N/A
 TRIGGER         0.000000    0.000000     DATABASE I/O             0.000000         0         N/C    PCA RUP COUNT :          0
                                          LOG WRITE I/O            0.000000         0         N/C    RUP AUTONOM.PR:          0
CP CPU TIME      0.008263    0.007562    OTHER READ I/O            0.000000         0         N/C    AUTONOMOUS PR :          0
 AGENT           0.008263    0.007562    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          8
  NONNESTED      0.008263    0.007562    SER.TASK SWTCH            0.019115        11    0.001738    COMMITS       :         30
  STORED PRC     0.000000    0.000000     UPDATE COMMIT            0.003202         5    0.000640    ROLLBACK      :          0
  UDF            0.000000    0.000000     OPEN/CLOSE               0.000000         0         N/C    SVPT REQUESTS :          0
  TRIGGER        0.000000    0.000000     SYSLGRNG REC             0.000000         0         N/C    SVPT RELEASE  :          0
 PAR.TASKS       0.000000    0.000000     EXT/DEL/DEF              0.000000         0         N/C    SVPT ROLLBACK :          0
                                          OTHER SERVICE            0.015912         6    0.002652    INCREM.BINDS  :          0
SE CPU TIME      0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.17
 NONNESTED       0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:        N/C
 STORED PROC     0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          1
 UDF             0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          0
 TRIGGER         0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:          0
                                          NOTIFY MSGS               0.000000         0         N/C
 PAR.TASKS       0.000000    0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                          COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME     0.000000    0.019115    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT                N/A    0.019115    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS            N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC     0.000000         N/A    AUTONOMOUS PROCEDURE      0.000000         0         N/C
 UDF             0.000000         N/A    PQ SYNCHRONIZATION        0.000000         0         N/C
                                          LOB COMPRESSION           0.000000         0         N/C
NOT ACCOUNT.         N/A    0.002286    FAST INSERT PIPE          0.000000         0         N/C
DB2 ENT/EXIT         N/A         318    TOTAL CLASS 3             0.019115        11    0.001738
EN/EX-STPROC         N/A           0
EN/EX-UDF            N/A           0
DCAPT.DESCR.         N/A         N/A
LOG EXTRACT.         N/A         N/A
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                   PAGE: 2-19
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:             7   ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------   ---------- --------   ---------- ------ ------ ------    --------------------  --------
SELECT           0    LOCK TABLE         0    TABLE           0      0      0    REOPTIMIZATION               0
INSERT           0    GRANT              0    CRT TTABLE      0    N/A    N/A    NOT FOUND IN CACHE           0
 ROWS            0    REVOKE             0    DCL TTABLE      0    N/A    N/A    FOUND IN CACHE              30
UPDATE           5    SET SQLID          0    AUX TABLE       0    N/A    N/A    IMPLICIT PREPARES            0
 ROWS            5    SET H.VAR.         0    INDEX           0      0      0    PREPARES AVOIDED             0
MERGE            0    SET DEGREE         0    TABLESPACE      0      0      0    CACHE_LIMIT_EXCEEDED         0
DELETE           0    SET RULES          0    DATABASE        0      0      0    PREP_STMT_PURGED             0
 ROWS            0    SET PATH           0    STOGROUP        0      0      0    STABILIZED PREPARE           0
                      SET PREC.          0    SYNONYM         0      0    N/A    CSWL - STMTS PARSED          0
DESCRIBE         0    CONNECT 1          0    VIEW            0      0      0    CSWL - LITS REPLACED         0
DESC.TBL         0    CONNECT 2          0    ALIAS           0      0    N/A    CSWL - MATCHES FOUND         0
PREPARE         30    SET CONNEC         0    PACKAGE       N/A      0    N/A    CSWL - DUPLS CREATED         0
OPEN            25    RELEASE            0    PROCEDURE       0      0      0
FETCH           25    CALL               0    FUNCTION        0      0      0
 ROWS           25    ASSOC LOC.         0    TRIGGER         0      0    N/A
CLOSE           25    ALLOC CUR.         0    DIST TYPE       0      0    N/A
                      HOLD LOC.          0    SEQUENCE        0      0      0
DML-ALL        110    FREE LOC.          0    TRUST. CTX      0      0      0
                      DCL-ALL            0    ROLE            0      0    N/A
                                              JAR           N/A    N/A      0
                                              MASK/PERM       0      0      0
                                              VARIABLE        0      0    N/A

                                              TOTAL           0      0      0
                                              TRUNC TBL       0
                                              RENAME TBL      0
                                              RENAME IX       0
                                              COMMENT ON      0
                                              LABEL ON        0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-20
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------  ----------------------  --------  -------------  --------  ----------  --------
ELAPSED TIME           0.029757    0.028963  USED                           0    IFI CALLS             0  DIR ACCESS         0
 ELIGIBLE FOR ACCEL         N/A    0.000000                                     REC.CAPTURED          0  INDEX USED         0
                                             FAIL-NO STORAGE                0    LOG REC.READ          0  TS SCAN            0
CP CPU TIME            0.008263    0.007562  FAIL-LIMIT EXC.                0    ROWS RETURN           0
 ELIGIBLE FOR SECP     0.000000         N/A                                     RECORDS RET.          0
 ELIGIBLE FOR ACCEL         N/A    0.000000  INTERRUPTED-NO STORAGE         0    DATA DES.RET          0
                                             INTERRUPTED-LIMIT EXC.         0    TABLES RET.           0
SE CPU TIME            0.000000    0.000000                                     DESCRIBES             0
 ELIGIBLE FOR ACCEL         N/A    0.000000  OVERFLOWED-NO STORAGE          0
                                             OVERFLOWED-LIMIT EXC.          0

                                             SKIPPED-INDEX KNOWN            0

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------  ----------------------------------  ------------  --------
L-LOCKS                                  0.000000         0  P-LOCKS                                0.000000         0
 PARENT (DB,TS,TAB,PART)                 0.000000         0   PAGESET/PARTITION                     0.000000         0
 CHILD  (PAGE,ROW)                       0.000000         0   PAGE                                  0.000000         0
 OTHER                                   0.000000         0   OTHER                                 0.000000         0

LOCKING               TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM            TOTAL    DRAIN/CLAIM      TOTAL
-------------------- --------  ------------ --------  -------------------------  --------    ------------  --------
TIMEOUTS                 0    GLOB CONT(%)     0.00    MAXIMUM DEGREE-ESTIMATED          0    DRAIN REQST          0
DEADLOCKS                0    FALS CONT(%)     0.00    MAXIMUM DEGREE-PLANNED            0    DRAIN FAILED         0
ESCAL.(SHAR)             0    P/L-LOCKS(%)       57    MAXIMUM DEGREE-EXECUTED           0    CLAIM REQST         35
ESCAL.(EXCL)             0    P-LOCK REQ          0    MAXIMUM MEMBERS USED            N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD      1    P-UNLOCK REQ        0    PARALLEL GROUPS EXECUTED          0
LOCK REQUEST            70    P-CHANGE REQ        0     RAN AS PLANNED                   0
UNLOCK REQST            30    LOCK - XES         40     RAN REDUCED-STORAGE              0
QUERY REQST              0    UNLOCK-XES          0     RAN REDUCED-NEGOTIATION          0
CHANGE REQST             5    CHANGE-XES          5     SEQ-CURSOR                       0
OTHER REQST              0    SUSP - IRLM         0     SEQ-NO ESA SORT                  0
TOTAL SUSPENSIONS        0    SUSP - XES          0     SEQ-NO BUFFER                    0
 LOCK SUSPENS            0    CONV - XES          0     SEQ-AUTONOMOUS PROC              0
 IRLM LATCH SUSPENS      0    FALSE CONT          0     SEQ-NEGOTIATION                  0
 OTHER SUSPENS           0    INCOMP.LOCK         0     ONE DB2-COORDINATOR = NO         0
                              NOTIFY SENT         0     ONE DB2-ISOLATION LEVEL          0
                                                        ONE DB2-DCL TTABLE               0
                                                       MEMB SKIPPED(%)                   0
                                                       DISABLED BY RLF            NO
                                                       REFORM PARAL-CONFIG               0
                                                       REFORM PARAL-NO BUF               0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-21
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------  ---------  --------  ------------  --------  ------------------  --------
CALL STMTS           0    EXECUTED          0    STMT TRIGGER         0    LOG RECS WRITTEN         30
ABENDED              0    ABENDED           0    ROW TRIGGER          0    TOT BYTES WRITTEN      3783
TIMED OUT            0    TIMED OUT         0    SQL ERROR            0
REJECTED             0    REJECTED          0

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
-------------  --------------  --------------  ---------------------  --------
CP CPU                   535             489    MAX STO LOB VAL (KB)          0
 AGENT                   535             489    MAX STO XML VAL (KB)          0
  NONNESTED              535             489    ARRAY EXPANSIONS              0
  STORED PRC               0               0    SPARSE IX DISABLED            0
  UDF                      0               0    SPARSE IX BUILT WF            0
  TRIGGER                  0               0
 PAR.TASKS                 0               0

 ELIG SECP                 0             N/A
 ELIG ACCEL              N/A               0

SE CPU                     0               0
 NONNESTED                 0               0
 STORED PROC               0               0
 UDF                       0               0
 TRIGGER                   0               0

 PAR.TASKS                 0               0

 ELIG ACCEL              N/A               0

---- RESOURCE LIMIT FACILITY ----------------------------------------------------------------------------------------
TYPE: N/P                          TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS:      N/P    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------    ---------------------  --------    ---------------------  --------
BPOOL HIT RATIO (%)        100    BPOOL HIT RATIO (%)        100    BPOOL HIT RATIO (%)        100
GETPAGES                    40    GETPAGES                    20    GETPAGES                    60
BUFFER UPDATES               5    BUFFER UPDATES               0    BUFFER UPDATES               5
SYNCHRONOUS WRITE            0    SYNCHRONOUS WRITE            0    SYNCHRONOUS WRITE            0
SYNCHRONOUS READ             0    SYNCHRONOUS READ             0    SYNCHRONOUS READ             0
SEQ. PREFETCH REQS           0    SEQ. PREFETCH REQS           0    SEQ. PREFETCH REQS           0
LIST PREFETCH REQS           0    LIST PREFETCH REQS           0    LIST PREFETCH REQS           0
DYN. PREFETCH REQS           0    DYN. PREFETCH REQS           0    DYN. PREFETCH REQS           0
PAGES READ ASYNCHR.          0    PAGES READ ASYNCHR.          0    PAGES READ ASYNCHR.          0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-22
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

GROUP BP0                 TOTAL    GROUP BP32K               TOTAL    GROUP TOTAL               TOTAL
---------------------  --------    ---------------------  --------    ---------------------  --------
GBP-DEPEND GETPAGES           40    GBP-DEPEND GETPAGES           20    GBP-DEPEND GETPAGES           60
READ(XI)-DATA RETUR            0    READ(XI)-DATA RETUR            0    READ(XI)-DATA RETUR            0
READ(XI)-NO DATA RT            0    READ(XI)-NO DATA RT            0    READ(XI)-NO DATA RT            0
READ(NF)-DATA RETUR            0    READ(NF)-DATA RETUR            0    READ(NF)-DATA RETUR            0
READ(NF)-NO DATA RT            0    READ(NF)-NO DATA RT            0    READ(NF)-NO DATA RT            0
PREFETCH PAGES READ            0    PREFETCH PAGES READ            0    PREFETCH PAGES READ            0
CLEAN PAGES WRITTEN            0    CLEAN PAGES WRITTEN            0    CLEAN PAGES WRITTEN            0
UNREGISTER PAGE                0    UNREGISTER PAGE                0    UNREGISTER PAGE                0
ASYNCH GBP REQUESTS            0    ASYNCH GBP REQUESTS            0    ASYNCH GBP REQUESTS            0
EXPLICIT X-INVALID             0    EXPLICIT X-INVALID             0    EXPLICIT X-INVALID             0
ASYNCH SEC-GBP REQ             0    ASYNCH SEC-GBP REQ             0    ASYNCH SEC-GBP REQ             0
PG P-LOCK LOCK REQ             0    PG P-LOCK LOCK REQ             0    PG P-LOCK LOCK REQ             0
 SPACE MAP PAGES               0     SPACE MAP PAGES               0     SPACE MAP PAGES               0
 DATA PAGES                    0     DATA PAGES                    0     DATA PAGES                    0
 INDEX LEAF PAGES              0     INDEX LEAF PAGES              0     INDEX LEAF PAGES              0
PG P-LOCK UNLOCK REQ           0    PG P-LOCK UNLOCK REQ           0    PG P-LOCK UNLOCK REQ           0
PG P-LOCK LOCK SUSP            0    PG P-LOCK LOCK SUSP            0    PG P-LOCK LOCK SUSP            0
 SPACE MAP PAGES               0     SPACE MAP PAGES               0     SPACE MAP PAGES               0
 DATA PAGES                    0     DATA PAGES                    0     DATA PAGES                    0
 INDEX LEAF PAGES              0     INDEX LEAF PAGES              0     INDEX LEAF PAGES              0
WRITE AND REGISTER             5    WRITE AND REGISTER             0    WRITE AND REGISTER             5
WRITE & REGISTER MULT          0    WRITE & REGISTER MULT          0    WRITE & REGISTER MULT          0
CHANGED PAGES WRITTEN          5    CHANGED PAGES WRITTEN          0    CHANGED PAGES WRITTEN          5
COMPL CHECKS SUSPEND           0    COMPL CHECKS SUSPEND           0    COMPL CHECKS SUSPEND           0
```

```
   LOCATION: OMPDBC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-23
      GROUP: DBC1                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                       ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            7    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2            VALUE                FPEVWRP2                    TIMES    FPEVWRP2                    TIME  EVENTS    TIME/EVENT
------------------  -------------------  ------------------  ------------    ------------------  ------------  ------  ------------
TYPE                PACKAGE              ELAPSED TIME - CL7      0.011564    LOCK/LATCH             0.000000       0           N/C
LOCATION            OMPDBC1              CP CPU TIME             0.006231     IRLM LOCK+LATCH       0.000000       0           N/C
COLLECTION ID       KO2OM530               AGENT                 0.006231     DB2 LATCH             0.000000       0           N/C
PROGRAM NAME        FPEVWRP2               PAR.TASKS             0.000000    SYNCHRONOUS I/O        0.000000       0           N/C
CONSISTENCY TOKEN   1A20F0C107FBA51D     SE CPU TIME             0.000000    OTHER READ I/O         0.000000       0           N/C
ACTIVITY TYPE       NONNESTED            SUSPENSION-CL8          0.003202    OTHER WRITE I/O        0.000000       0           N/C
ACTIVITY NAME       'BLANK'                AGENT                 0.003202    SERV.TASK SWITCH       0.003202       5      0.000640
SCHEMA NAME         'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)      0.000000       0           N/C
SUCC AUTH CHECK     N/P                  NOT ACCOUNTED           0.002131    ARCHIVE LOG READ       0.000000       0           N/C
NBR OF ALLOCATIONS                5                                        DRAIN LOCK             0.000000       0           N/C
SQL STMT - AVERAGE            22.00    CP CPU SU                   404    CLAIM RELEASE          0.000000       0           N/C
SQL STMT - TOTAL                110      AGENT                     404    PAGE LATCH             0.000000       0           N/C
NBR RLUP THREADS                  5      PAR.TASKS                   0    NOTIFY MESSAGES        0.000000       0           N/C
                                       SE CPU SU                     0    GLOBAL CONTENTION      0.000000       0           N/C
                                                                          TCP/IP LOB XML         0.000000       0           N/C
                                       DB2 ENTRY/EXIT              290    ACCELERATOR            0.000000       0           N/C
                                                                          PQ SYNCHRONIZATION     0.000000       0           N/C
                                                                          FAST INSERT PIPE       0.000000       0           N/C
                                                                          TOTAL CL8 SUSPENS.     0.003202       5      0.000640

FPEVWRP2                  ELAPSED TIME    EVENTS    FPEVWRP2                    ELAPSED TIME    EVENTS
------------------------  ------------  --------    ------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS     0.000000         0    GLOBAL CONTENTION P-LOCKS     0.000000         0
 PARENT (DB,TS,TAB,PART)      0.000000         0     PAGESET/PARTITION            0.000000         0
 CHILD  (PAGE,ROW)            0.000000         0     PAGE                         0.000000         0
 OTHER                        0.000000         0     OTHER                        0.000000         0

FPEVWRP2                 TOTAL
-------------------     --------
SELECT                        0
INSERT                        0
UPDATE                        5
DELETE                        0

DESCRIBE                      0
PREPARE                      30
OPEN                         25
FETCH                        25
CLOSE                        25

LOCK TABLE                    0
CALL                          0
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-24
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:30:00.01    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:17:38.21    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DC880FD5E
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:             7   ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2                  TOTAL
------------------------  --------
BPOOL HIT RATIO (%)          100
GETPAGES                      60
BUFFER UPDATES                 5
SYNCHRONOUS WRITE              0
SYNCHRONOUS READ               0
SEQ. PREFETCH REQS             0
LIST PREFETCH REQS             0
DYN. PREFETCH REQS             0
PAGES READ ASYNCHR.            0

FPEVWRP2                  TOTAL
------------------------  --------
TIMEOUTS                       0
DEADLOCKS                      0
ESCAL.(SHARED)                 0
ESCAL.(EXCLUS)                 0
MAX PG/ROW LOCKS HELD          1
LOCK REQUEST                  65
UNLOCK REQUEST                30
QUERY REQUEST                  0
CHANGE REQUEST                 5
OTHER REQUEST                  0
TOTAL SUSPENSIONS              0
 LOCK SUSPENS                  0
 IRLM LATCH SUSPENS            0
 OTHER SUSPENS                 0

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME     0.000000
CP CPU TIME      0.000000
DCAPT.DESCR.     0.000000
LOG EXTRACT.     0.000000
```

```
   LOCATION: OMPDBC1                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-25
      GROUP: DBC1                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SC11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SC11                                                                          ACTUAL FROM: 08/24/16 07:02:00.00
DB2 VERSION: V12

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 07:45:00.00    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 07:32:58.16    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPC11        CICS INS: N/A
REQUESTER  : OMPDBC1                 CORRNAME: 'BLANK'         LUW INS: D13DCBA02BC7
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:             1   ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MVS ACCOUNTING DATA   : 'BLANK'
ACCOUNTING TOKEN(CHAR): 'BLANK'
ACCOUNTING TOKEN(HEX) : 00000000000000000000000000000000000000000000000000

ELAPSED TIME DISTRIBUTION                                    CLASS 2 TIME DISTRIBUTION
-----------------------------------------------------------  -----------------------------------------------------------
APPL   !=> 2%                                                CPU    !============> 24%
DB2    !===============> 31%                                 SECPU  !
SUSP   !================================> 66%                NOTACC !====> 8%
                                                             SUSP   !================================> 68%
```

```
...
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-1
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                     ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.78    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:00.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.78    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2CF7CB8
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           27    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

MVS ACCOUNTING DATA   : 00816,B000,MIS
ACCOUNTING TOKEN(CHAR): N/A
ACCOUNTING TOKEN(HEX) : N/A

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    -------------------   ------------  --------  ----------    --------------------------
ELAPSED TIME    2.411696         N/P    LOCK/LATCH(DB2+IRLM)          N/P       N/P         N/P    THREAD TYPE   : ALLIED
 NONNESTED      2.411696         N/P     IRLM LOCK+LATCH              N/P       N/P         N/P    TERM.CONDITION: NORMAL
 STORED PROC         N/P         N/P     DB2 LATCH                    N/P       N/P         N/P    INVOKE REASON : DEALLOC
 UDF            0.000000    0.000000    SYNCHRON. I/O                N/P       N/P         N/P    PARALLELISM   : N/A
 TRIGGER        0.000000    0.000000     DATABASE I/O                N/P       N/P         N/P    PCA RUP COUNT :         N/P
                                         LOG WRITE I/O               N/P       N/P         N/P    RUP AUTONOM.PR:           0
CP CPU TIME     0.305161         N/P    OTHER READ I/O               N/P       N/P         N/P    AUTONOMOUS PR :         N/P
 AGENT          0.305161         N/P    OTHER WRTE I/O               N/P       N/P         N/P    QUANTITY      :           0
  NONNESTED     0.305161         N/P    SER.TASK SWTCH               N/P       N/P         N/P    COMMITS       :          26
  STORED PRC    0.000000         N/P     UPDATE COMMIT               N/P       N/P         N/P    ROLLBACK      :           0
  UDF           0.000000    0.000000     OPEN/CLOSE                  N/P       N/P         N/P    SVPT REQUESTS :           0
  TRIGGER       0.000000    0.000000     SYSLGRNG REC                N/P       N/P         N/P    SVPT RELEASE  :           0
 PAR.TASKS      0.000000         N/P     EXT/DEL/DEF                 N/P       N/P         N/P    SVPT ROLLBACK :           0
                                         OTHER SERVICE               N/P       N/P         N/P    INCREM.BINDS  :         N/P
SE CPU TIME     0.000000    0.000000    ARC.LOG(QUIES)               N/P       N/P         N/P    UPDATE/COMMIT :         N/P
 NONNESTED      0.000000    0.000000    LOG READ                     N/P       N/P         N/P    SYNCH I/O AVG.:         N/P
 STORED PROC    0.000000    0.000000    DRAIN LOCK                   N/P       N/P         N/P    PROGRAMS      :           0
 UDF            0.000000    0.000000    CLAIM RELEASE                N/P       N/P         N/P    MAX CASCADE   :         N/P
 TRIGGER        0.000000    0.000000    PAGE LATCH                   N/P       N/P         N/P    MAX WFILE BLKS:         N/A
                                         NOTIFY MSGS                 N/P       N/P         N/P
 PAR.TASKS      0.000000    0.000000    GLOBAL CONTENTION            N/P       N/P         N/P
                                         COMMIT PH1 WRITE I/O        N/P       N/P         N/P
SUSPEND TIME         N/P         N/P    ASYNCH CF REQUESTS           N/P       N/P         N/P
 AGENT               N/A         N/P    TCP/IP LOB XML               N/P       N/P         N/P
 PAR.TASKS           N/A         N/P    ACCELERATOR                  N/P       N/P         N/P
 STORED PROC         N/P         N/A    AUTONOMOUS PROCEDURE         N/P       N/P         N/P
 UDF                 N/P         N/A    PQ SYNCHRONIZATION           N/P       N/P         N/P
                                         LOB COMPRESSION              N/A       N/A         N/A
NOT ACCOUNT.         N/A         N/P    FAST INSERT PIPE             N/A       N/A         N/A
DB2 ENT/EXIT         N/A         N/P    TOTAL CLASS 3                N/P       N/P         N/P
EN/EX-STPROC         N/A         N/P
EN/EX-UDF            N/A         N/P
DCAPT.DESCR.         N/A         N/A
LOG EXTRACT.         N/A         N/A
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-2
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                     ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.78    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:00.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.78    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2CF7CB8
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           27    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------  --------  ----------  --------   ----------  ------ ------ ------    --------------------  --------
SELECT         N/P  LOCK TABLE       N/P    TABLE          N/P    N/P    N/P    REOPTIMIZATION            N/P
INSERT         N/P  GRANT            N/P    CRT TTABLE     N/P    N/A    N/A    NOT FOUND IN CACHE        N/P
 ROWS          N/P  REVOKE           N/P    DCL TTABLE     N/P    N/A    N/A    FOUND IN CACHE            N/P
UPDATE         N/P  SET SQLID        N/P    AUX TABLE      N/P    N/A    N/A    IMPLICIT PREPARES         N/P
 ROWS          N/P  SET H.VAR.       N/P    INDEX          N/P    N/P    N/P    PREPARES AVOIDED          N/P
MERGE          N/P  SET DEGREE       N/P    TABLESPACE     N/P    N/P    N/P    CACHE_LIMIT_EXCEEDED      N/P
DELETE         N/P  SET RULES        N/P    DATABASE       N/P    N/P    N/P    PREP_STMT_PURGED          N/P
 ROWS          N/P  SET PATH         N/P    STOGROUP       N/P    N/P    N/P    STABILIZED PREPARE        N/A
                   SET PREC.        N/P    SYNONYM        N/P    N/P    N/A    CSWL - STMTS PARSED       N/P
DESCRIBE       N/P  CONNECT 1        N/P    VIEW           N/P    N/P    N/P    CSWL - LITS REPLACED      N/P
DESC.TBL       N/P  CONNECT 2        N/P    ALIAS          N/P    N/P    N/A    CSWL - MATCHES FOUND      N/P
PREPARE        N/P  SET CONNEC       N/P    PACKAGE        N/A    N/P    N/A    CSWL - DUPLS CREATED      N/P
OPEN           N/P  RELEASE          N/P    PROCEDURE      N/P    N/P    N/P
FETCH          N/P  CALL             N/P    FUNCTION       N/P    N/P    N/P
 ROWS          N/P  ASSOC LOC.       N/P    TRIGGER        N/P    N/P    N/A
CLOSE          N/P  ALLOC CUR.       N/P    DIST TYPE      N/P    N/P    N/A
                   HOLD LOC.        N/P    SEQUENCE       N/P    N/P    N/P
DML-ALL        N/P  FREE LOC.        N/P    TRUST. CTX     N/P    N/P    N/P
                   DCL-ALL          N/P    ROLE           N/P    N/P    N/A
                                           JAR            N/A    N/A    N/P
                                           MASK/PERM      N/P    N/P    N/P
                                           VARIABLE       N/P    N/P    N/A

                                           TOTAL          N/P    N/P    N/P
                                           TRUNC TBL      N/P
                                           RENAME TBL     N/P
                                           RENAME IX      N/P
                                           COMMENT ON     N/P
                                           LABEL ON       N/P
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-3
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.78    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:00.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.78    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2CF7CB8
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           27    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------    ------------  --------    ----------  --------
ELAPSED TIME            2.411696         N/P    USED                         N/P    IFI CALLS        N/P    DIR ACCESS       N/P
 ELIGIBLE FOR ACCEL          N/A    0.000000                                       REC.CAPTURED     N/P    INDEX USED       N/P
                                                FAIL-NO STORAGE              N/P    LOG REC.READ     N/P    TS SCAN          N/P
CP CPU TIME             0.305161         N/P    FAIL-LIMIT EXC.              N/P    ROWS RETURN      N/P
 ELIGIBLE FOR SECP      0.000000         N/A                                       RECORDS RET.     N/P
 ELIGIBLE FOR ACCEL          N/A    0.000000    INTERRUPTED-NO STORAGE       N/P    DATA DES.RET     N/P
                                                INTERRUPTED-LIMIT EXC.       N/P    TABLES RET.      N/P
SE CPU TIME             0.000000    0.000000                                       DESCRIBES        N/P
 ELIGIBLE FOR ACCEL          N/A    0.000000    OVERFLOWED-NO STORAGE        N/P
                                                OVERFLOWED-LIMIT EXC.        N/P

                                                SKIPPED-INDEX KNOWN          N/P

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------    -----------------------------------  ------------  --------
L-LOCKS                                       N/P       N/P    P-LOCKS                                       N/P       N/P
 PARENT (DB,TS,TAB,PART)                      N/P       N/P     PAGESET/PARTITION                            N/P       N/P
 CHILD  (PAGE,ROW)                            N/P       N/P     PAGE                                         N/P       N/P
 OTHER                                        N/P       N/P     OTHER                                        N/P       N/P

LOCKING               TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM            TOTAL    DRAIN/CLAIM      TOTAL
-------------------- --------  ------------ --------    ------------------------  --------    ------------  --------
TIMEOUTS                 0    GLOB CONT(%)     7.25    MAXIMUM DEGREE-ESTIMATED        N/P    DRAIN REQST          2
DEADLOCKS                0    FALS CONT(%)     3.14    MAXIMUM DEGREE-PLANNED          N/P    DRAIN FAILED         0
ESCAL.(SHAR)             0    P/L-LOCKS(%)        1    MAXIMUM DEGREE-EXECUTED         N/P    CLAIM REQST        168
ESCAL.(EXCL)             0    P-LOCK REQ        178    MAXIMUM MEMBERS USED            N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD     19    P-UNLOCK REQ      117    PARALLEL GROUPS EXECUTED        N/P
LOCK REQUEST         25304    P-CHANGE REQ       18     RAN AS PLANNED                 N/P
UNLOCK REQST         25137    LOCK - XES        439     RAN REDUCED-STORAGE            N/P
QUERY REQST              8    UNLOCK-XES        255     RAN REDUCED-NEGOTIATION        N/P
CHANGE REQST            56    CHANGE-XES         74     SEQ-CURSOR                     N/P
OTHER REQST              0    SUSP - IRLM        29     SEQ-NO ESA SORT                N/P
TOTAL SUSPENSIONS       18    SUSP - XES          5     SEQ-NO BUFFER                  N/P
 LOCK SUSPENS            0    CONV - XES          0     SEQ-AUTONOMOUS PROC            N/P
 IRLM LATCH SUSPENS      0    FALSE CONT         26     SEQ-NEGOTIATION                N/P
 OTHER SUSPENS          18    INCOMP.LOCK         0     ONE DB2-COORDINATOR = NO       N/P
                              NOTIFY SENT        18     ONE DB2-ISOLATION LEVEL        N/P
                                                        ONE DB2-DCL TTABLE             N/P
                                                       MEMB SKIPPED(%)                 N/P
                                                       DISABLED BY RLF            N/P
                                                       REFORM PARAL-CONFIG             N/P
                                                       REFORM PARAL-NO BUF             N/P
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-4
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.78    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:00.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.78    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2CF7CB8
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           27    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------    ---------  --------    ------------  --------    ------------------  --------
CALL STMTS         N/P    EXECUTED         N/P    STMT TRIGGER        N/P    LOG RECS WRITTEN        596
ABENDED            N/P    ABENDED          N/P    ROW TRIGGER         N/P    TOT BYTES WRITTEN    918905
TIMED OUT          N/P    TIMED OUT        N/P    SQL ERROR           N/P
REJECTED           N/P    REJECTED         N/P

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
------------  --------------  --------------    ----------------------  --------
CP CPU                19767             N/P    MAX STO LOB VAL (KB)        N/P
 AGENT                19767               0    MAX STO XML VAL (KB)        N/P
  NONNESTED           19767               0    ARRAY EXPANSIONS            N/P
  STORED PRC              0             N/P    SPARSE IX DISABLED          N/P
  UDF                     0               0    SPARSE IX BUILT WF          N/P
  TRIGGER               N/P             N/P
 PAR.TASKS                0             N/P

 ELIG SECP                0             N/A
 ELIG ACCEL             N/A               0

SE CPU                    0               0
 NONNESTED                0               0
 STORED PROC              0               0
 UDF                      0               0
 TRIGGER                  0               0

 PAR.TASKS                0               0

 ELIG ACCEL             N/A               0

---- RESOURCE LIMIT FACILITY ----------------------------------------------------------------------------------------
TYPE: N/P                            TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS: 0.000000    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    BP8K   BPOOL ACTIVITY     TOTAL
---------------------  --------    ---------------------  --------    ---------------------  --------
BPOOL HIT RATIO (%)          97    BPOOL HIT RATIO (%)          86    BPOOL HIT RATIO (%)         100
GETPAGES                   7377    GETPAGES                     90    GETPAGES                 137493
BUFFER UPDATES              401    BUFFER UPDATES               66    BUFFER UPDATES                0
SYNCHRONOUS WRITE             0    SYNCHRONOUS WRITE             3    SYNCHRONOUS WRITE             0
SYNCHRONOUS READ            115    SYNCHRONOUS READ             12    SYNCHRONOUS READ             20
SEQ. PREFETCH REQS            0    SEQ. PREFETCH REQS            0    SEQ. PREFETCH REQS            0
LIST PREFETCH REQS            0    LIST PREFETCH REQS            0    LIST PREFETCH REQS            0
DYN. PREFETCH REQS         2559    DYN. PREFETCH REQS            1    DYN. PREFETCH REQS        10228
PAGES READ ASYNCHR.         115    PAGES READ ASYNCHR.           1    PAGES READ ASYNCHR.          56
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-5
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                          ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.78    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:00.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.78    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2CF7CB8
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           27    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------
BPOOL HIT RATIO (%)          100
GETPAGES                  144960
BUFFER UPDATES               467
SYNCHRONOUS WRITE              3
SYNCHRONOUS READ             147
SEQ. PREFETCH REQS             0
LIST PREFETCH REQS             0
DYN. PREFETCH REQS         12788
PAGES READ ASYNCHR.          172

GROUP BP0                TOTAL    GROUP BP32K              TOTAL    GROUP TOTAL              TOTAL
---------------------  --------   ---------------------  --------   ---------------------  --------
GBP-DEPEND GETPAGES          516    GBP-DEPEND GETPAGES          31    GBP-DEPEND GETPAGES        547
READ(XI)-DATA RETUR            1    READ(XI)-DATA RETUR           0    READ(XI)-DATA RETUR          1
READ(XI)-NO DATA RT           12    READ(XI)-NO DATA RT           1    READ(XI)-NO DATA RT         13
READ(NF)-DATA RETUR            1    READ(NF)-DATA RETUR           0    READ(NF)-DATA RETUR          1
READ(NF)-NO DATA RT           44    READ(NF)-NO DATA RT           2    READ(NF)-NO DATA RT         46
PREFETCH PAGES READ            0    PREFETCH PAGES READ           0    PREFETCH PAGES READ          0
CLEAN PAGES WRITTEN            0    CLEAN PAGES WRITTEN           0    CLEAN PAGES WRITTEN          0
UNREGISTER PAGE               52    UNREGISTER PAGE              12    UNREGISTER PAGE             64
ASYNCH GBP REQUESTS           27    ASYNCH GBP REQUESTS           5    ASYNCH GBP REQUESTS         32
EXPLICIT X-INVALID             0    EXPLICIT X-INVALID            0    EXPLICIT X-INVALID           0
ASYNCH SEC-GBP REQ             0    ASYNCH SEC-GBP REQ            0    ASYNCH SEC-GBP REQ           0
PG P-LOCK LOCK REQ            94    PG P-LOCK LOCK REQ            6    PG P-LOCK LOCK REQ         100
 SPACE MAP PAGES              43     SPACE MAP PAGES              6     SPACE MAP PAGES             49
 DATA PAGES                   12     DATA PAGES                   0     DATA PAGES                  12
 INDEX LEAF PAGES             39     INDEX LEAF PAGES             0     INDEX LEAF PAGES            39
PG P-LOCK UNLOCK REQ          107    PG P-LOCK UNLOCK REQ          2    PG P-LOCK UNLOCK REQ        109
PG P-LOCK LOCK SUSP            0    PG P-LOCK LOCK SUSP           0    PG P-LOCK LOCK SUSP          0
 SPACE MAP PAGES               0     SPACE MAP PAGES              0     SPACE MAP PAGES             0
 DATA PAGES                    0     DATA PAGES                   0     DATA PAGES                  0
 INDEX LEAF PAGES              0     INDEX LEAF PAGES             0     INDEX LEAF PAGES            0
WRITE AND REGISTER            37    WRITE AND REGISTER            5    WRITE AND REGISTER          42
WRITE & REGISTER MULT         27    WRITE & REGISTER MULT         0    WRITE & REGISTER MULT       27
CHANGED PAGES WRITTEN        268    CHANGED PAGES WRITTEN         5    CHANGED PAGES WRITTEN       273
COMPL CHECKS SUSPEND           0    COMPL CHECKS SUSPEND          0    COMPL CHECKS SUSPEND          0

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME          N/P
CP CPU TIME           N/P
DCAPT.DESCR.          N/P
LOG EXTRACT.          N/P
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-6
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                          ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.92    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:02.85    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.92    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2D1D8E0
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           11    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

MVS ACCOUNTING DATA   : 00816,B000,MIS
ACCOUNTING TOKEN(CHAR): N/A
ACCOUNTING TOKEN(HEX) : N/A

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ----------  ----------    --------------------  ------------  --------  ----------    --------------------------
ELAPSED TIME    0.075986         N/P    LOCK/LATCH(DB2+IRLM)          N/P       N/P         N/P    THREAD TYPE   : ALLIED
 NONNESTED      0.075986         N/P     IRLM LOCK+LATCH              N/P       N/P         N/P    TERM.CONDITION: NORMAL
 STORED PROC          N/P        N/P     DB2 LATCH                    N/P       N/P         N/P    INVOKE REASON : DEALLOC
 UDF            0.000000    0.000000    SYNCHRON. I/O                N/P       N/P         N/P    PARALLELISM   : N/A
 TRIGGER        0.000000    0.000000     DATABASE I/O                N/P       N/P         N/P    PCA RUP COUNT :         N/P
                                         LOG WRITE I/O               N/P       N/P         N/P    RUP AUTONOM.PR:           0
CP CPU TIME     0.003552         N/P    OTHER READ I/O               N/P       N/P         N/P    AUTONOMOUS PR :         N/P
 AGENT          0.003552         N/P    OTHER WRTE I/O               N/P       N/P         N/P    QUANTITY      :           0
  NONNESTED     0.003552         N/P    SER.TASK SWTCH               N/P       N/P         N/P    COMMITS       :          10
  STORED PRC    0.000000         N/P     UPDATE COMMIT               N/P       N/P         N/P    ROLLBACK      :           0
   UDF          0.000000    0.000000     OPEN/CLOSE                  N/P       N/P         N/P    SVPT REQUESTS :           0
  TRIGGER       0.000000    0.000000     SYSLGRNG REC                N/P       N/P         N/P    SVPT RELEASE  :           0
 PAR.TASKS      0.000000         N/P     EXT/DEL/DEF                 N/P       N/P         N/P    SVPT ROLLBACK :           0
                                         OTHER SERVICE               N/P       N/P         N/P    INCREM.BINDS  :         N/P
SE CPU TIME     0.000000    0.000000    ARC.LOG(QUIES)               N/P       N/P         N/P    UPDATE/COMMIT :         N/P
 NONNESTED      0.000000    0.000000    LOG READ                     N/P       N/P         N/P    SYNCH I/O AVG.:         N/P
 STORED PROC    0.000000    0.000000    DRAIN LOCK                   N/P       N/P         N/P    PROGRAMS      :           0
 UDF            0.000000    0.000000    CLAIM RELEASE                N/P       N/P         N/P    MAX CASCADE   :         N/P
 TRIGGER        0.000000    0.000000    PAGE LATCH                   N/P       N/P         N/P    MAX WFILE BLKS:         N/A
                                         NOTIFY MSGS                 N/P       N/P         N/P
 PAR.TASKS      0.000000    0.000000    GLOBAL CONTENTION            N/P       N/P         N/P
                                         COMMIT PH1 WRITE I/O        N/P       N/P         N/P
SUSPEND TIME          N/P         N/P   ASYNCH CF REQUESTS           N/P       N/P         N/P
 AGENT                N/A         N/P   TCP/IP LOB XML               N/P       N/P         N/P
 PAR.TASKS            N/A         N/P   ACCELERATOR                  N/P       N/P         N/P
 STORED PROC          N/P         N/A   AUTONOMOUS PROCEDURE         N/P       N/P         N/P
 UDF                  N/P         N/A   PQ SYNCHRONIZATION           N/P       N/P         N/P
                                         LOB COMPRESSION              N/A       N/A         N/A
NOT ACCOUNT.          N/A         N/P   FAST INSERT PIPE             N/A       N/A         N/A
DB2 ENT/EXIT          N/A         N/P   TOTAL CLASS 3                N/P       N/P         N/P
EN/EX-STPROC          N/A         N/P
EN/EX-UDF             N/A         N/P
DCAPT.DESCR.          N/A         N/A
LOG EXTRACT.          N/A         N/A
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-7
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.92    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:02.85    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.92    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2D1D8E0
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           11    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------  ---------- --------  ---------- ------ ------ ------  --------------------  --------
SELECT         N/P  LOCK TABLE       N/P  TABLE         N/P    N/P    N/P  REOPTIMIZATION             N/P
INSERT         N/P  GRANT            N/P  CRT TTABLE    N/P    N/A    N/A  NOT FOUND IN CACHE         N/P
 ROWS          N/P  REVOKE           N/P  DCL TTABLE    N/P    N/A    N/A  FOUND IN CACHE             N/P
UPDATE         N/P  SET SQLID        N/P  AUX TABLE     N/P    N/A    N/A  IMPLICIT PREPARES          N/P
 ROWS          N/P  SET H.VAR.      N/P  INDEX         N/P    N/P    N/P  PREPARES AVOIDED           N/P
MERGE          N/P  SET DEGREE      N/P  TABLESPACE    N/P    N/P    N/P  CACHE_LIMIT_EXCEEDED       N/P
DELETE         N/P  SET RULES       N/P  DATABASE      N/P    N/P    N/P  PREP_STMT_PURGED           N/P
 ROWS          N/P  SET PATH        N/P  STOGROUP      N/P    N/P    N/P  STABILIZED PREPARE         N/A
                    SET PREC.       N/P  SYNONYM       N/P    N/P    N/A  CSWL - STMTS PARSED        N/P
DESCRIBE       N/P  CONNECT 1       N/P  VIEW          N/P    N/P    N/P  CSWL - LITS REPLACED       N/P
DESC.TBL       N/P  CONNECT 2       N/P  ALIAS         N/P    N/P    N/A  CSWL - MATCHES FOUND       N/P
PREPARE        N/P  SET CONNEC      N/P  PACKAGE       N/A    N/P    N/A  CSWL - DUPLS CREATED       N/P
OPEN           N/P  RELEASE         N/P  PROCEDURE     N/P    N/P    N/P
FETCH          N/P  CALL            N/P  FUNCTION      N/P    N/P    N/P
 ROWS          N/P  ASSOC LOC.      N/P  TRIGGER       N/P    N/P    N/A
CLOSE          N/P  ALLOC CUR.      N/P  DIST TYPE     N/P    N/P    N/A
                    HOLD LOC.       N/P  SEQUENCE      N/P    N/P    N/P
DML-ALL        N/P  FREE LOC.       N/P  TRUST. CTX    N/P    N/P    N/P
                    DCL-ALL         N/P  ROLE          N/P    N/P    N/A
                                         JAR           N/A    N/A    N/P
                                         MASK/PERM     N/P    N/P    N/P
                                         VARIABLE      N/P    N/P    N/A

                                         TOTAL         N/P    N/P    N/P
                                         TRUNC TBL     N/P
                                         RENAME TBL    N/P
                                         RENAME IX     N/P
                                         COMMENT ON    N/P
                                         LABEL ON      N/P
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-8
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.92    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:02.85    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.92    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2D1D8E0
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           11    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------    ------------  --------    ----------  --------
ELAPSED TIME           0.075986         N/P    USED                         N/P    IFI CALLS          N/P    DIR ACCESS       N/P
 ELIGIBLE FOR ACCEL         N/A    0.000000                                        REC.CAPTURED       N/P    INDEX USED       N/P
                                              FAIL-NO STORAGE              N/P    LOG REC.READ       N/P    TS SCAN          N/P
CP CPU TIME            0.003552         N/P   FAIL-LIMIT EXC.              N/P    ROWS RETURN        N/P
 ELIGIBLE FOR SECP     0.000000         N/A                                      RECORDS RET.       N/P
 ELIGIBLE FOR ACCEL         N/A    0.000000   INTERRUPTED-NO STORAGE       N/P    DATA DES.RET       N/P
                                              INTERRUPTED-LIMIT EXC.       N/P    TABLES RET.        N/P
SE CPU TIME            0.000000    0.000000                                      DESCRIBES          N/P
 ELIGIBLE FOR ACCEL         N/A    0.000000   OVERFLOWED-NO STORAGE        N/P
                                              OVERFLOWED-LIMIT EXC.        N/P

                                              SKIPPED-INDEX KNOWN          N/P

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------    ----------------------------------  ------------  --------
L-LOCKS                                       N/P       N/P    P-LOCKS                                   N/P       N/P
 PARENT (DB,TS,TAB,PART)                      N/P       N/P     PAGESET/PARTITION                        N/P       N/P
 CHILD  (PAGE,ROW)                            N/P       N/P     PAGE                                     N/P       N/P
 OTHER                                        N/P       N/P     OTHER                                    N/P       N/P

LOCKING                TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM             TOTAL    DRAIN/CLAIM      TOTAL
--------------------  --------  ------------ --------  ------------------------  --------  -------------  --------
TIMEOUTS                    0    GLOB CONT(%)     0.00    MAXIMUM DEGREE-ESTIMATED       N/P    DRAIN REQST          0
DEADLOCKS                   0    FALS CONT(%)     0.00    MAXIMUM DEGREE-PLANNED         N/P    DRAIN FAILED         0
ESCAL.(SHAR)                0    P/L-LOCKS(%)       77    MAXIMUM DEGREE-EXECUTED        N/P    CLAIM REQST         50
ESCAL.(EXCL)                0    P-LOCK REQ          6    MAXIMUM MEMBERS USED           N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD        11    P-UNLOCK REQ        5    PARALLEL GROUPS EXECUTED       N/P
LOCK REQUEST               73    P-CHANGE REQ        0     RAN AS PLANNED                N/P
UNLOCK REQST               50    LOCK - XES         61     RAN REDUCED-STORAGE           N/P
QUERY REQST                 0    UNLOCK-XES         37     RAN REDUCED-NEGOTIATION       N/P
CHANGE REQST                7    CHANGE-XES          7     SEQ-CURSOR                    N/P
OTHER REQST                 0    SUSP - IRLM         0     SEQ-NO ESA SORT               N/P
TOTAL SUSPENSIONS           3    SUSP - XES          0     SEQ-NO BUFFER                 N/P
 LOCK SUSPENS               0    CONV - XES          0     SEQ-AUTONOMOUS PROC           N/P
 IRLM LATCH SUSPENS         0    FALSE CONT          0     SEQ-NEGOTIATION               N/P
 OTHER SUSPENS              3    INCOMP.LOCK         0     ONE DB2-COORDINATOR = NO      N/P
                                 NOTIFY SENT         3     ONE DB2-ISOLATION LEVEL       N/P
                                                           ONE DB2-DCL TTABLE            N/P
                                                     MEMB SKIPPED(%)                     N/P
                                                     DISABLED BY RLF              N/P
                                                     REFORM PARAL-CONFIG           N/P
                                                     REFORM PARAL-NO BUF           N/P
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-9
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.92    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:02.85    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.92    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2D1D8E0
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           11    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------  ---------  ---------  ------------  --------  -----------------  --------
CALL STMTS         N/P    EXECUTED        N/P    STMT TRIGGER       N/P    LOG RECS WRITTEN         52
ABENDED            N/P    ABENDED         N/P    ROW TRIGGER        N/P    TOT BYTES WRITTEN     51582
TIMED OUT          N/P    TIMED OUT       N/P    SQL ERROR          N/P
REJECTED           N/P    REJECTED        N/P

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
-----------  --------------  --------------  -------------------  --------
CP CPU                  230             N/P    MAX STO LOB VAL (KB)       N/P
 AGENT                  230               0    MAX STO XML VAL (KB)       N/P
  NONNESTED             230               0    ARRAY EXPANSIONS           N/P
  STORED PRC              0             N/P    SPARSE IX DISABLED         N/P
  UDF                     0               0    SPARSE IX BUILT WF         N/P
  TRIGGER               N/P             N/P
 PAR.TASKS                0             N/P

 ELIG SECP                0             N/A
 ELIG ACCEL             N/A               0

SE CPU                    0               0
 NONNESTED                0               0
 STORED PROC              0               0
 UDF                      0               0
 TRIGGER                  0               0

 PAR.TASKS                0               0

 ELIG ACCEL             N/A               0

---- RESOURCE LIMIT FACILITY ---------------------------------------------------------------------------------------
TYPE: N/P                              TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS: 0.000000    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------    --------------------  --------    --------------------  --------
BPOOL HIT RATIO (%)         100    BPOOL HIT RATIO (%)         100    BPOOL HIT RATIO (%)         100
GETPAGES                    129    GETPAGES                     13    GETPAGES                    142
BUFFER UPDATES                3    BUFFER UPDATES               10    BUFFER UPDATES               13
SYNCHRONOUS WRITE             0    SYNCHRONOUS WRITE             0    SYNCHRONOUS WRITE             0
SYNCHRONOUS READ              0    SYNCHRONOUS READ              0    SYNCHRONOUS READ              0
SEQ. PREFETCH REQS            0    SEQ. PREFETCH REQS            0    SEQ. PREFETCH REQS            0
LIST PREFETCH REQS            7    LIST PREFETCH REQS            0    LIST PREFETCH REQS            7
DYN. PREFETCH REQS            0    DYN. PREFETCH REQS            0    DYN. PREFETCH REQS            0
PAGES READ ASYNCHR.           0    PAGES READ ASYNCHR.           0    PAGES READ ASYNCHR.           0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-10
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 08:16:02.92    PLANNAME: DSNUTIL         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 08:16:02.85    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.92    PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: MISIDC          LUW INS: D13DD2D1D8E0
MAINPACK   : DSNUTIL                 CORRNMBR: 'BLANK'         LUW SEQ:           11    ENDUSER : MIS
PRIMAUTH   : MIS                     CONNTYPE: UTILITY                                  TRANSACT: MISIDC
ORIGAUTH   : MIS                     CONNECT : UTILITY                                  WSNAME  : UTILITY

GROUP BP0                TOTAL    GROUP BP32K              TOTAL    GROUP TOTAL              TOTAL
--------------------  --------    --------------------  --------    --------------------  --------
GBP-DEPEND GETPAGES         107    GBP-DEPEND GETPAGES          13    GBP-DEPEND GETPAGES         120
READ(XI)-DATA RETUR           0    READ(XI)-DATA RETUR           0    READ(XI)-DATA RETUR           0
READ(XI)-NO DATA RT           0    READ(XI)-NO DATA RT           0    READ(XI)-NO DATA RT           0
READ(NF)-DATA RETUR           0    READ(NF)-DATA RETUR           0    READ(NF)-DATA RETUR           0
READ(NF)-NO DATA RT           0    READ(NF)-NO DATA RT           0    READ(NF)-NO DATA RT           0
PREFETCH PAGES READ           0    PREFETCH PAGES READ           0    PREFETCH PAGES READ           0
CLEAN PAGES WRITTEN           0    CLEAN PAGES WRITTEN           0    CLEAN PAGES WRITTEN           0
UNREGISTER PAGE               0    UNREGISTER PAGE               0    UNREGISTER PAGE               0
ASYNCH GBP REQUESTS           0    ASYNCH GBP REQUESTS           5    ASYNCH GBP REQUESTS           5
EXPLICIT X-INVALID            0    EXPLICIT X-INVALID            0    EXPLICIT X-INVALID            0
ASYNCH SEC-GBP REQ            0    ASYNCH SEC-GBP REQ            0    ASYNCH SEC-GBP REQ            0
PG P-LOCK LOCK REQ            2    PG P-LOCK LOCK REQ            2    PG P-LOCK LOCK REQ            4
 SPACE MAP PAGES              0     SPACE MAP PAGES              2     SPACE MAP PAGES              2
 DATA PAGES                   0     DATA PAGES                   0     DATA PAGES                   0
 INDEX LEAF PAGES             2     INDEX LEAF PAGES             0     INDEX LEAF PAGES             2
PG P-LOCK UNLOCK REQ          2    PG P-LOCK UNLOCK REQ          2    PG P-LOCK UNLOCK REQ          4
PG P-LOCK LOCK SUSP           0    PG P-LOCK LOCK SUSP           0    PG P-LOCK LOCK SUSP           0
 SPACE MAP PAGES              0     SPACE MAP PAGES              0     SPACE MAP PAGES              0
 DATA PAGES                   0     DATA PAGES                   0     DATA PAGES                   0
 INDEX LEAF PAGES             0     INDEX LEAF PAGES             0     INDEX LEAF PAGES             0
WRITE AND REGISTER            3    WRITE AND REGISTER            5    WRITE AND REGISTER            8
WRITE & REGISTER MULT         0    WRITE & REGISTER MULT         0    WRITE & REGISTER MULT         0
CHANGED PAGES WRITTEN         3    CHANGED PAGES WRITTEN         5    CHANGED PAGES WRITTEN         8
COMPL CHECKS SUSPEND          0    COMPL CHECKS SUSPEND          0    COMPL CHECKS SUSPEND          0

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME           N/P
CP CPU TIME            N/P
DCAPT.DESCR.           N/P
LOG EXTRACT.           N/P
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-11
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MVS ACCOUNTING DATA   : 'BLANK'
ACCOUNTING TOKEN(CHAR): 'BLANK'
ACCOUNTING TOKEN(HEX) : 00000000000000000000000000000000000000000000

ELAPSED TIME DISTRIBUTION                                    CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------  ------------------------------------------------------------
APPL   !=================> 34%                                CPU    !===> 7%
DB2    !=========================> 53%                        SECPU  !
SUSP   !======> 13%                                          NOTACC !====================================> 74%
                                                             SUSP   !=========> 19%
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-12
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ---------  ---------    ---------------------  ------------  --------  ----------    --------------------------
ELAPSED TIME    0.171472   0.113032    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED      0.171472   0.113032     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC    0.000000   0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : END USER
 UDF            0.000000   0.000000    SYNCHRON. I/O             0.000000         0         N/C    PARALLELISM   : N/A
 TRIGGER        0.000000   0.000000     DATABASE I/O             0.000000         0         N/C    PCA RUP COUNT :          0
                                        LOG WRITE I/O            0.000000         0         N/C    RUP AUTONOM.PR:          0
CP CPU TIME     0.010277   0.007403    OTHER READ I/O            0.000000         0         N/C    AUTONOMOUS PR :          0
 AGENT          0.010277   0.007403    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :         10
  NONNESTED     0.010277   0.007403    SER.TASK SWTCH            0.016517         8    0.002065    COMMITS       :         16
  STORED PRC    0.000000   0.000000     UPDATE COMMIT            0.001120         2    0.000560    ROLLBACK      :          0
  UDF           0.000000   0.000000     OPEN/CLOSE               0.000000         0         N/C    SVPT REQUESTS :          0
  TRIGGER       0.000000   0.000000     SYSLGRNG REC             0.000000         0         N/C    SVPT RELEASE  :          0
 PAR.TASKS      0.000000   0.000000     EXT/DEL/DEF              0.000000         0         N/C    SVPT ROLLBACK :          0
                                        OTHER SERVICE            0.015397         6    0.002566    INCREM.BINDS  :          0
SE CPU TIME     0.000000   0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.19
 NONNESTED      0.000000   0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:        N/C
 STORED PROC    0.000000   0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          1
 UDF            0.000000   0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          0
 TRIGGER        0.000000   0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:        N/A
                                        NOTIFY MSGS               0.005074         2    0.002537
 PAR.TASKS      0.000000   0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                        COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME    0.000000   0.021591    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT              N/A   0.021591    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS          N/A   0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC    0.000000        N/A    AUTONOMOUS PROCEDURE      0.000000         0         N/C
 UDF            0.000000        N/A    PQ SYNCHRONIZATION        0.000000         0         N/C
                                        LOB COMPRESSION               N/A       N/A         N/A
NOT ACCOUNT.        N/A   0.084038    FAST INSERT PIPE              N/A       N/A         N/A
DB2 ENT/EXIT        N/A        108    TOTAL CLASS 3             0.021591        10    0.002159
EN/EX-STPROC        N/A          0
EN/EX-UDF           N/A          0
DCAPT.DESCR.        N/A        N/A
LOG EXTRACT.        N/A        N/A
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-13
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------  ---------- --------  ---------- ------ ------ ------  --------------------  --------
SELECT          2    LOCK TABLE        1    TABLE           0      0      0    REOPTIMIZATION             0
INSERT          2    GRANT             0    CRT TTABLE      0    N/A    N/A    NOT FOUND IN CACHE         3
 ROWS           2    REVOKE            0    DCL TTABLE      0    N/A    N/A    FOUND IN CACHE            11
UPDATE          1    SET SQLID         0    AUX TABLE       0    N/A    N/A    IMPLICIT PREPARES          0
 ROWS           0    SET H.VAR.        0    INDEX           0      0      0    PREPARES AVOIDED           0
MERGE           0    SET DEGREE        0    TABLESPACE      0      0      0    CACHE_LIMIT_EXCEEDED       0
DELETE          0    SET RULES         0    DATABASE        0      0      0    PREP_STMT_PURGED           0
 ROWS           0    SET PATH          0    STOGROUP        0      0      0    STABILIZED PREPARE       N/A
                     SET PREC.         0    SYNONYM         0      0    N/A    CSWL - STMTS PARSED        0
DESCRIBE        0    CONNECT 1         0    VIEW            0      0      0    CSWL - LITS REPLACED       0
DESC.TBL        0    CONNECT 2         0    ALIAS           0      0    N/A    CSWL - MATCHES FOUND       0
PREPARE        15    SET CONNEC        0    PACKAGE       N/A      0    N/A    CSWL - DUPLS CREATED       0
OPEN           11    RELEASE           0    PROCEDURE       0      0      0
FETCH          11    CALL              0    FUNCTION        0      0      0
 ROWS          10    ASSOC LOC.        0    TRIGGER         0      0    N/A
CLOSE          11    ALLOC CUR.        0    DIST TYPE       0      0    N/A
                     HOLD LOC.         0    SEQUENCE        0      0      0
DML-ALL        53    FREE LOC.         0    TRUST. CTX      0      0      0
                     DCL-ALL           1    ROLE            0      0    N/A
                                            JAR           N/A    N/A      0
                                            MASK/PERM       0      0      0
                                            VARIABLE        0      0    N/A

                                            TOTAL           0      0      0
                                            TRUNC TBL       0
                                            RENAME TBL      0
                                            RENAME IX       0
                                            COMMENT ON      0
                                            LABEL ON        0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-14
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                   TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------    ------------  --------    ----------  --------
ELAPSED TIME           0.171472    0.113032    USED                           0    IFI CALLS            0    DIR ACCESS         0
 ELIGIBLE FOR ACCEL         N/A    0.000000                                        REC.CAPTURED         0    INDEX USED         0
                                               FAIL-NO STORAGE                0    LOG REC.READ         0    TS SCAN            0
CP CPU TIME            0.010277    0.007403    FAIL-LIMIT EXC.                0    ROWS RETURN          0
 ELIGIBLE FOR SECP     0.000000         N/A                                        RECORDS RET.         0
 ELIGIBLE FOR ACCEL         N/A    0.000000    INTERRUPTED-NO STORAGE         0    DATA DES.RET         0
                                               INTERRUPTED-LIMIT EXC.         0    TABLES RET.          0
SE CPU TIME            0.000000    0.000000                                        DESCRIBES            0
 ELIGIBLE FOR ACCEL         N/A    0.000000    OVERFLOWED-NO STORAGE          0
                                               OVERFLOWED-LIMIT EXC.          0

                                               SKIPPED-INDEX KNOWN            0

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------    -----------------------------------  ------------  --------
L-LOCKS                                 0.000000         0    P-LOCKS                                 0.000000         0
 PARENT (DB,TS,TAB,PART)                0.000000         0     PAGESET/PARTITION                      0.000000         0
 CHILD  (PAGE,ROW)                      0.000000         0     PAGE                                   0.000000         0
 OTHER                                  0.000000         0     OTHER                                  0.000000         0

LOCKING               TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM            TOTAL    DRAIN/CLAIM     TOTAL
--------------------- --------  ------------ --------  -------------------------  --------  ------------  --------
TIMEOUTS                   0    GLOB CONT(%)     0.00    MAXIMUM DEGREE-ESTIMATED          0    DRAIN REQST          0
DEADLOCKS                  0    FALS CONT(%)     0.00    MAXIMUM DEGREE-PLANNED            0    DRAIN FAILED         0
ESCAL.(SHAR)               0    P/L-LOCKS(%)       40    MAXIMUM DEGREE-EXECUTED           0    CLAIM REQST         55
ESCAL.(EXCL)               0    P-LOCK REQ         12    MAXIMUM MEMBERS USED            N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD        1    P-UNLOCK REQ       11    PARALLEL GROUPS EXECUTED          0
LOCK REQUEST              76    P-CHANGE REQ        0     RAN AS PLANNED                   0
UNLOCK REQST              28    LOCK - XES         36     RAN REDUCED-STORAGE              0
QUERY REQST                0    UNLOCK-XES         17     RAN REDUCED-NEGOTIATION          0
CHANGE REQST               5    CHANGE-XES          0     SEQ-CURSOR                       0
OTHER REQST                0    SUSP - IRLM         0     SEQ-NO ESA SORT                  0
TOTAL SUSPENSIONS          2    SUSP - XES          0     SEQ-NO BUFFER                    0
 LOCK SUSPENS              0    CONV - XES          0     SEQ-AUTONOMOUS PROC              0
 IRLM LATCH SUSPENS        0    FALSE CONT          0     SEQ-NEGOTIATION                  0
 OTHER SUSPENS             2    INCOMP.LOCK         0     ONE DB2-COORDINATOR = NO         0
                                 NOTIFY SENT         2     ONE DB2-ISOLATION LEVEL          0
                                                           ONE DB2-DCL TTABLE               0
                                                         MEMB SKIPPED(%)                    0
                                                         DISABLED BY RLF              NO
                                                         REFORM PARAL-CONFIG                0
                                                         REFORM PARAL-NO BUF                0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-15
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

STORED PROC.     TOTAL    UDF           TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------  ---------  --------  ------------  --------  -----------------  --------
CALL STMTS           0   EXECUTED           0   STMT TRIGGER          0   LOG RECS WRITTEN          7
ABENDED              0   ABENDED            0   ROW TRIGGER           0   TOT BYTES WRITTEN       948
TIMED OUT            0   TIMED OUT          0   SQL ERROR             0
REJECTED             0   REJECTED           0

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
-----------  --------------  --------------  ----------------------  --------
CP CPU                  665             479    MAX STO LOB VAL (KB)           0
 AGENT                  665             479    MAX STO XML VAL (KB)           0
  NONNESTED             665             479    ARRAY EXPANSIONS               0
  STORED PRC              0               0    SPARSE IX DISABLED             0
  UDF                     0               0    SPARSE IX BUILT WF             0
  TRIGGER                 0               0
 PAR.TASKS                0               0

 ELIG SECP                0             N/A
 ELIG ACCEL             N/A               0

SE CPU                    0               0
 NONNESTED                0               0
 STORED PROC              0               0
 UDF                      0               0
 TRIGGER                  0               0

 PAR.TASKS                0               0

 ELIG ACCEL             N/A               0

---- RESOURCE LIMIT FACILITY ---------------------------------------------------------------------------------------
TYPE: N/P                              TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS:      N/P    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    BP8K   BPOOL ACTIVITY     TOTAL
---------------------  --------   ---------------------  --------   ---------------------  --------
BPOOL HIT RATIO (%)         100   BPOOL HIT RATIO (%)          89   BPOOL HIT RATIO (%)         100
GETPAGES                    102   GETPAGES                      9   GETPAGES                      5
BUFFER UPDATES                2   BUFFER UPDATES                0   BUFFER UPDATES                0
SYNCHRONOUS WRITE             0   SYNCHRONOUS WRITE             0   SYNCHRONOUS WRITE             0
SYNCHRONOUS READ              0   SYNCHRONOUS READ              1   SYNCHRONOUS READ              0
SEQ. PREFETCH REQS            0   SEQ. PREFETCH REQS            0   SEQ. PREFETCH REQS            0
LIST PREFETCH REQS            0   LIST PREFETCH REQS            0   LIST PREFETCH REQS            0
DYN. PREFETCH REQS            0   DYN. PREFETCH REQS            0   DYN. PREFETCH REQS            0
PAGES READ ASYNCHR.           0   PAGES READ ASYNCHR.           0   PAGES READ ASYNCHR.           0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-16
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

TOTAL  BPOOL ACTIVITY     TOTAL
---------------------  --------
BPOOL HIT RATIO (%)          99
GETPAGES                    116
BUFFER UPDATES                2
SYNCHRONOUS WRITE             0
SYNCHRONOUS READ              1
SEQ. PREFETCH REQS            0
LIST PREFETCH REQS            0
DYN. PREFETCH REQS            0
PAGES READ ASYNCHR.           0

GROUP BP0                TOTAL    GROUP BP32K              TOTAL    GROUP TOTAL              TOTAL
----------------------  --------  ----------------------  --------  ----------------------  --------
GBP-DEPEND GETPAGES          20   GBP-DEPEND GETPAGES           8   GBP-DEPEND GETPAGES          28
READ(XI)-DATA RETUR           2   READ(XI)-DATA RETUR           0   READ(XI)-DATA RETUR           2
READ(XI)-NO DATA RT           0   READ(XI)-NO DATA RT           0   READ(XI)-NO DATA RT           0
READ(NF)-DATA RETUR           0   READ(NF)-DATA RETUR           0   READ(NF)-DATA RETUR           0
READ(NF)-NO DATA RT           0   READ(NF)-NO DATA RT           0   READ(NF)-NO DATA RT           0
PREFETCH PAGES READ           0   PREFETCH PAGES READ           0   PREFETCH PAGES READ           0
CLEAN PAGES WRITTEN           0   CLEAN PAGES WRITTEN           0   CLEAN PAGES WRITTEN           0
UNREGISTER PAGE               0   UNREGISTER PAGE               0   UNREGISTER PAGE               0
ASYNCH GBP REQUESTS           0   ASYNCH GBP REQUESTS           0   ASYNCH GBP REQUESTS           0
EXPLICIT X-INVALID            0   EXPLICIT X-INVALID            0   EXPLICIT X-INVALID            0
ASYNCH SEC-GBP REQ            0   ASYNCH SEC-GBP REQ            0   ASYNCH SEC-GBP REQ            0
PG P-LOCK LOCK REQ            7   PG P-LOCK LOCK REQ            4   PG P-LOCK LOCK REQ           11
 SPACE MAP PAGES              7    SPACE MAP PAGES              4    SPACE MAP PAGES             11
 DATA PAGES                   0    DATA PAGES                   0    DATA PAGES                   0
 INDEX LEAF PAGES             0    INDEX LEAF PAGES             0    INDEX LEAF PAGES             0
PG P-LOCK UNLOCK REQ          7   PG P-LOCK UNLOCK REQ          4   PG P-LOCK UNLOCK REQ         11
PG P-LOCK LOCK SUSP           0   PG P-LOCK LOCK SUSP           0   PG P-LOCK LOCK SUSP           0
 SPACE MAP PAGES              0    SPACE MAP PAGES              0    SPACE MAP PAGES              0
 DATA PAGES                   0    DATA PAGES                   0    DATA PAGES                   0
 INDEX LEAF PAGES             0    INDEX LEAF PAGES             0    INDEX LEAF PAGES             0
WRITE AND REGISTER            1   WRITE AND REGISTER            0   WRITE AND REGISTER            1
WRITE & REGISTER MULT         0   WRITE & REGISTER MULT         0   WRITE & REGISTER MULT         0
CHANGED PAGES WRITTEN         1   CHANGED PAGES WRITTEN         0   CHANGED PAGES WRITTEN         1
COMPL CHECKS SUSPEND          0   COMPL CHECKS SUSPEND          0   COMPL CHECKS SUSPEND          0
```

```
   LOCATION: OMPDBEE                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-17
      GROUP: DBEE                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                   TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2            VALUE                FPEVWRP2                   TIMES    FPEVWRP2                    TIME  EVENTS    TIME/EVENT
------------------  -------------------  -----------------  ------------  -------------------  ------------  ------  ------------
TYPE                PACKAGE              ELAPSED TIME - CL7      0.096422    LOCK/LATCH             0.000000       0           N/C
LOCATION            OMPDBEE              CP CPU TIME             0.006444     IRLM LOCK+LATCH       0.000000       0           N/C
COLLECTION ID       KO2OM530               AGENT                 0.006444     DB2 LATCH             0.000000       0           N/C
PROGRAM NAME        FPEVWRP2               PAR.TASKS             0.000000    SYNCHRONOUS I/O        0.000000       0           N/C
CONSISTENCY TOKEN   1A20F0C107FBA51D     SE CPU TIME             0.000000    OTHER READ I/O         0.000000       0           N/C
ACTIVITY TYPE       NONNESTED            SUSPENSION-CL8          0.006194    OTHER WRITE I/O        0.000000       0           N/C
ACTIVITY NAME       'BLANK'                AGENT                 0.006194    SERV.TASK SWITCH       0.001120       2      0.000560
SCHEMA NAME         'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)      0.000000       0           N/C
SUCC AUTH CHECK     N/P                  NOT ACCOUNTED           0.083785    ARCHIVE LOG READ       0.000000       0           N/C
NBR OF ALLOCATIONS                 2                                        DRAIN LOCK             0.000000       0           N/C
SQL STMT - AVERAGE              16.00    CP CPU SU                   417    CLAIM RELEASE          0.000000       0           N/C
SQL STMT - TOTAL                   32      AGENT                     417    PAGE LATCH             0.000000       0           N/C
NBR RLUP THREADS                    2      PAR.TASKS                   0    NOTIFY MESSAGES        0.005074       2      0.002537
                                           SE CPU SU                   0    GLOBAL CONTENTION      0.000000       0           N/C
                                                                            TCP/IP LOB XML         0.000000       0           N/C
                                           DB2 ENTRY/EXIT               86    ACCELERATOR            0.000000       0           N/C
                                                                            PQ SYNCHRONIZATION     0.000000       0           N/C
                                                                            FAST INSERT PIPE            N/A     N/A          N/A
                                                                            TOTAL CL8 SUSPENS.     0.006194       4      0.001548

FPEVWRP2                   ELAPSED TIME    EVENTS    FPEVWRP2                   ELAPSED TIME    EVENTS
-------------------------  ------------  --------    -------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS      0.000000         0    GLOBAL CONTENTION P-LOCKS      0.000000         0
 PARENT (DB,TS,TAB,PART)       0.000000         0     PAGESET/PARTITION             0.000000         0
 CHILD  (PAGE,ROW)             0.000000         0     PAGE                          0.000000         0
 OTHER                         0.000000         0     OTHER                         0.000000         0

FPEVWRP2                 TOTAL
-------------------     --------
SELECT                        0
INSERT                        2
UPDATE                        1
DELETE                        0

DESCRIBE                      0
PREPARE                      10
OPEN                          6
FETCH                         6
CLOSE                         6

LOCK TABLE                    1
CALL                          0
```

```
   LOCATION: OMPDBEE                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-18
      GROUP: DBEE                              ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                   TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:16:33.11    PLANNAME: KO2PLAN         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME: 'BLANK'         LUW INS: D13DE057D9BB
MAINPACK   : KO2PLAN                 CORRNMBR: 'BLANK'         LUW SEQ:            3    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

FPEVWRP2                 TOTAL
-------------------     --------
BPOOL HIT RATIO (%)         100
GETPAGES                     92
BUFFER UPDATES                2
SYNCHRONOUS WRITE             0
SYNCHRONOUS READ              0
SEQ. PREFETCH REQS            0
LIST PREFETCH REQS            0
DYN. PREFETCH REQS            0
PAGES READ ASYNCHR.           0

FPEVWRP2                 TOTAL
----------------------  --------
TIMEOUTS                      0
DEADLOCKS                     0
ESCAL.(SHARED)                0
ESCAL.(EXCLUS)                0
MAX PG/ROW LOCKS HELD         0
LOCK REQUEST                 60
UNLOCK REQUEST               19
QUERY REQUEST                 0
CHANGE REQUEST                5
OTHER REQUEST                 0
TOTAL SUSPENSIONS             2
 LOCK SUSPENS                 0
 IRLM LATCH SUSPENS           0
 OTHER SUSPENS                2

TIMES CLASS 5  IFI (CL.5)
-------------  ----------
ELAPSED TIME     0.000000
CP CPU TIME      0.000000
DCAPT.DESCR.     0.000000
LOG EXTRACT.     0.000000
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-19
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:28:00.00    PLANNAME: 'BLANK'         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.47    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME:                 LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'                 CORRNMBR:                 LUW SEQ:            1    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MVS ACCOUNTING DATA   : 'BLANK'
ACCOUNTING TOKEN(CHAR): 'BLANK'
ACCOUNTING TOKEN(HEX) : 00000000000000000000000000000000000000000000

ELAPSED TIME DISTRIBUTION                                      CLASS 2 TIME DISTRIBUTION
-------------------------------------------------------------  ------------------------------------------------------------
APPL   !================================================> 100%  CPU    !===> 6%
DB2    !                                                       SECPU  !
SUSP   !                                                       NOTACC !=> 3%
                                                               SUSP   !==============================================> 91%
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-20
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                        ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:28:00.00    PLANNAME: 'BLANK'         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.47    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME:                 LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'                 CORRNMBR:                 LUW SEQ:            1    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)    CLASS 3 SUSPENSIONS   ELAPSED TIME    EVENTS  TIME/EVENT    HIGHLIGHTS
------------  ---------  ----------    --------------------  ------------  --------  ----------    --------------------------
ELAPSED TIME  47:31.0901    2.419360    LOCK/LATCH(DB2+IRLM)      0.000000         0         N/C    THREAD TYPE   : ALLIED
 NONNESTED    47:31.0901    2.419352     IRLM LOCK+LATCH          0.000000         0         N/C    TERM.CONDITION: NORMAL
 STORED PROC     0.000000    0.000000     DB2 LATCH                0.000000         0         N/C    INVOKE REASON : STALENESS
 UDF             0.000000    0.000000    SYNCHRON. I/O             0.001744         6    0.000291    PARALLELISM   : N/A
 TRIGGER         0.000009    0.000009     DATABASE I/O             0.001744         6    0.000291    PCA RUP COUNT :          0
                                          LOG WRITE I/O            0.000000         0         N/C    RUP AUTONOM.PR:          0
CP CPU TIME     0.366568    0.147791    OTHER READ I/O            0.000000         0         N/C    AUTONOMOUS PR :          0
 AGENT          0.366568    0.147791    OTHER WRTE I/O            0.000000         0         N/C    QUANTITY      :          9
  NONNESTED     0.366559    0.147782    SER.TASK SWTCH            0.024953       159    0.000157    COMMITS       :        500
  STORED PRC    0.000000    0.000000     UPDATE COMMIT            0.003726       122    0.000031    ROLLBACK      :          1
  UDF           0.000000    0.000000     OPEN/CLOSE               0.000000         0         N/C    SVPT REQUESTS :          0
  TRIGGER       0.000009    0.000009     SYSLGRNG REC             0.000000         0         N/C    SVPT RELEASE  :          0
 PAR.TASKS      0.000000    0.000000     EXT/DEL/DEF              0.000000         0         N/C    SVPT ROLLBACK :          0
                                         OTHER SERVICE            0.021226        37    0.000574    INCREM.BINDS  :          0
SE CPU TIME     0.000000    0.000000    ARC.LOG(QUIES)            0.000000         0         N/C    UPDATE/COMMIT :       0.16
 NONNESTED      0.000000    0.000000    LOG READ                  0.000000         0         N/C    SYNCH I/O AVG.:   0.000291
 STORED PROC    0.000000    0.000000    DRAIN LOCK                0.000000         0         N/C    PROGRAMS      :          5
 UDF            0.000000    0.000000    CLAIM RELEASE             0.000000         0         N/C    MAX CASCADE   :          1
 TRIGGER        0.000000    0.000000    PAGE LATCH                0.000000         0         N/C    MAX WFILE BLKS:        N/A
                                         NOTIFY MSGS               2.173722        16    0.135858
 PAR.TASKS      0.000000    0.000000    GLOBAL CONTENTION         0.000000         0         N/C
                                         COMMIT PH1 WRITE I/O      0.000000         0         N/C
SUSPEND TIME    0.000000    2.200419    ASYNCH CF REQUESTS        0.000000         0         N/C
 AGENT              N/A    2.200419    TCP/IP LOB XML            0.000000         0         N/C
 PAR.TASKS          N/A    0.000000    ACCELERATOR               0.000000         0         N/C
 STORED PROC    0.000000         N/A    AUTONOMOUS PROCEDURE      0.000000         0         N/C
 UDF            0.000000         N/A    PQ SYNCHRONIZATION        0.000000         0         N/C
                                         LOB COMPRESSION               N/A       N/A         N/A
NOT ACCOUNT.        N/A    0.071151    FAST INSERT PIPE              N/A       N/A         N/A
DB2 ENT/EXIT        N/A        3618    TOTAL CLASS 3             2.200419       181    0.012157
EN/EX-STPROC        N/A           0
EN/EX-UDF           N/A           0
DCAPT.DESCR.        N/A         N/A
LOG EXTRACT.        N/A         N/A
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-21
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:28:00.00    PLANNAME: 'BLANK'         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.47    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME:                 LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'                 CORRNMBR:                 LUW SEQ:            1    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

SQL DML     TOTAL    SQL DCL       TOTAL    SQL DDL    CREATE   DROP  ALTER    DYNAMIC SQL STMT         TOTAL
--------- --------  ---------- --------  ---------- ------ ------ ------  --------------------  --------
SELECT        184    LOCK TABLE        0    TABLE           0      0      0    REOPTIMIZATION             0
INSERT          4    GRANT             0    CRT TTABLE      0    N/A    N/A    NOT FOUND IN CACHE        12
 ROWS           4    REVOKE            0    DCL TTABLE      0    N/A    N/A    FOUND IN CACHE             6
UPDATE         68    SET SQLID         1    AUX TABLE       0    N/A    N/A    IMPLICIT PREPARES          0
 ROWS           2    SET H.VAR.        0    INDEX           0      0      0    PREPARES AVOIDED           0
MERGE           0    SET DEGREE        0    TABLESPACE      0      0      0    CACHE_LIMIT_EXCEEDED       0
DELETE          7    SET RULES         0    DATABASE        0      0      0    PREP_STMT_PURGED           0
 ROWS           6    SET PATH          0    STOGROUP        0      0      0    STABILIZED PREPARE       N/A
                     SET PREC.         0    SYNONYM         0      0    N/A    CSWL - STMTS PARSED        0
DESCRIBE        0    CONNECT 1         0    VIEW            0      0      0    CSWL - LITS REPLACED       0
DESC.TBL        0    CONNECT 2         0    ALIAS           0      0    N/A    CSWL - MATCHES FOUND       0
PREPARE        18    SET CONNEC        0    PACKAGE       N/A      0    N/A    CSWL - DUPLS CREATED       0
OPEN          396    RELEASE           0    PROCEDURE       0      0      0
FETCH        3498    CALL              0    FUNCTION        0      0      0
 ROWS        3111    ASSOC LOC.        0    TRIGGER         0      0    N/A
CLOSE         396    ALLOC CUR.        0    DIST TYPE       0      0    N/A
                     HOLD LOC.         0    SEQUENCE        0      0      0
DML-ALL      4571    FREE LOC.         0    TRUST. CTX      0      0      0
                     DCL-ALL           1    ROLE            0      0    N/A
                                            JAR           N/A    N/A      0
                                            MASK/PERM       0      0      0
                                            VARIABLE        0      0    N/A

                                            TOTAL           0      0      0
                                            TRUNC TBL       0
                                            RENAME TBL      0
                                            RENAME IX       0
                                            COMMENT ON      0
                                            LABEL ON        0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-22
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:28:00.00    PLANNAME: 'BLANK'         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.47    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME:                 LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'                 CORRNMBR:                 LUW SEQ:            1    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)    RID LIST                  TOTAL    DATA CAPTURE     TOTAL    ROWID          TOTAL
-------------------  ----------  ----------    ----------------------  --------    ------------  --------    ----------  --------
ELAPSED TIME         47:31.0901    2.419360    USED                           3    IFI CALLS            0    DIR ACCESS         0
 ELIGIBLE FOR ACCEL         N/A    0.000000                                        REC.CAPTURED         0    INDEX USED         0
                                             FAIL-NO STORAGE                0    LOG REC.READ         0    TS SCAN            0
CP CPU TIME            0.366568    0.147791 FAIL-LIMIT EXC.                0    ROWS RETURN          0
 ELIGIBLE FOR SECP     0.000000         N/A                                     RECORDS RET.         0
 ELIGIBLE FOR ACCEL         N/A    0.000000 INTERRUPTED-NO STORAGE         0    DATA DES.RET         0
                                             INTERRUPTED-LIMIT EXC.         0    TABLES RET.          0
SE CPU TIME            0.000000    0.000000                                     DESCRIBES            0
 ELIGIBLE FOR ACCEL         N/A    0.000000 OVERFLOWED-NO STORAGE          0
                                             OVERFLOWED-LIMIT EXC.          0

                                             SKIPPED-INDEX KNOWN            0

GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS    GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------    -----------------------------------  ------------  --------
L-LOCKS                               0.000000         0    P-LOCKS                                0.000000         0
 PARENT (DB,TS,TAB,PART)              0.000000         0     PAGESET/PARTITION                     0.000000         0
 CHILD  (PAGE,ROW)                    0.000000         0     PAGE                                  0.000000         0
 OTHER                                0.000000         0     OTHER                                 0.000000         0

LOCKING               TOTAL    DATA SHARING    TOTAL    QUERY PARALLELISM            TOTAL    DRAIN/CLAIM      TOTAL
--------------------  --------  ------------ --------  ------------------------  --------    -------------  --------
TIMEOUTS                 0    GLOB CONT(%)     0.41    MAXIMUM DEGREE-ESTIMATED         0    DRAIN REQST          0
DEADLOCKS                0    FALS CONT(%)     0.00    MAXIMUM DEGREE-PLANNED           0    DRAIN FAILED         0
ESCAL.(SHAR)             0    P/L-LOCKS(%)       73    MAXIMUM DEGREE-EXECUTED          0    CLAIM REQST        684
ESCAL.(EXCL)             0    P-LOCK REQ        488    MAXIMUM MEMBERS USED           N/P    CLAIM FAILED         0
MAX PG/ROW LCK HELD      2    P-UNLOCK REQ      469    PARALLEL GROUPS EXECUTED         0
LOCK REQUEST          1587    P-CHANGE REQ        1     RAN AS PLANNED                  0
UNLOCK REQST           571    LOCK - XES       1521     RAN REDUCED-STORAGE             0
QUERY REQST              0    UNLOCK-XES        515     RAN REDUCED-NEGOTIATION         0
CHANGE REQST           149    CHANGE-XES        137     SEQ-CURSOR                      0
OTHER REQST              0    SUSP - IRLM         4     SEQ-NO ESA SORT                 0
TOTAL SUSPENSIONS       19    SUSP - XES          5     SEQ-NO BUFFER                   0
 LOCK SUSPENS            0    CONV - XES          0     SEQ-AUTONOMOUS PROC             0
 IRLM LATCH SUSPENS      0    FALSE CONT          0     SEQ-NEGOTIATION                 0
 OTHER SUSPENS          19    INCOMP.LOCK         0     ONE DB2-COORDINATOR = NO        0
                              NOTIFY SENT        19     ONE DB2-ISOLATION LEVEL         0
                                                        ONE DB2-DCL TTABLE              0
                                                       MEMB SKIPPED(%)                  0
                                                       DISABLED BY RLF             NO
                                                       REFORM PARAL-CONFIG              0
                                                       REFORM PARAL-NO BUF              0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-23
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:28:00.00    PLANNAME: 'BLANK'         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.47    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME:                 LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'                 CORRNMBR:                 LUW SEQ:            1    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

STORED PROC.     TOTAL    UDF          TOTAL    TRIGGERS         TOTAL    LOGGING               TOTAL
------------  --------  ---------  ---------  ------------  --------  -----------------  --------
CALL STMTS           0    EXECUTED         0    STMT TRIGGER         0    LOG RECS WRITTEN        39
ABENDED              0    ABENDED          0    ROW TRIGGER          0    TOT BYTES WRITTEN     5433
TIMED OUT            0    TIMED OUT        0    SQL ERROR            0
REJECTED             0    REJECTED         0

TOTAL SU             CLASS 1         CLASS 2    MISCELLANEOUS            TOTAL
-----------  --------------  --------------  ----------------  --------
CP CPU                23745            9573    MAX STO LOB VAL (KB)         0
 AGENT                23745            9573    MAX STO XML VAL (KB)         0
  NONNESTED           23744            9572    ARRAY EXPANSIONS             0
  STORED PRC              0               0    SPARSE IX DISABLED           0
  UDF                     0               0    SPARSE IX BUILT WF           0
  TRIGGER                 0               0
 PAR.TASKS                0               0

 ELIG SECP                0             N/A
 ELIG ACCEL             N/A               0

SE CPU                    0               0
 NONNESTED                0               0
 STORED PROC              0               0
 UDF                      0               0
 TRIGGER                  0               0

 PAR.TASKS                0               0

 ELIG ACCEL             N/A               0

---- RESOURCE LIMIT FACILITY ---------------------------------------------------------------------------------------
TYPE: N/P                            TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS:      N/P    MAX CPU SEC:      N/P

BP0    BPOOL ACTIVITY     TOTAL    BP32K  BPOOL ACTIVITY     TOTAL    BP8K   BPOOL ACTIVITY     TOTAL
--------------------  --------   --------------------  --------   --------------------  --------
BPOOL HIT RATIO (%)         88   BPOOL HIT RATIO (%)          41   BPOOL HIT RATIO (%)          85
GETPAGES                  3885   GETPAGES                     34   GETPAGES                     13
BUFFER UPDATES              11   BUFFER UPDATES                0   BUFFER UPDATES                0
SYNCHRONOUS WRITE            0   SYNCHRONOUS WRITE             0   SYNCHRONOUS WRITE             0
SYNCHRONOUS READ           145   SYNCHRONOUS READ             20   SYNCHRONOUS READ              2
SEQ. PREFETCH REQS          11   SEQ. PREFETCH REQS            0   SEQ. PREFETCH REQS            0
LIST PREFETCH REQS           3   LIST PREFETCH REQS            0   LIST PREFETCH REQS            0
DYN. PREFETCH REQS        1041   DYN. PREFETCH REQS            0   DYN. PREFETCH REQS            0
PAGES READ ASYNCHR.        337   PAGES READ ASYNCHR.           0   PAGES READ ASYNCHR.           0
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-24
      GROUP: DBEE                             ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                       ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION ------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:28:00.00    PLANNAME: 'BLANK'         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.47    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME:                 LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'                 CORRNMBR:                 LUW SEQ:            1    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

TOTAL  BPOOL ACTIVITY     TOTAL
--------------------  --------
BPOOL HIT RATIO (%)         87
GETPAGES                  3932
BUFFER UPDATES              11
SYNCHRONOUS WRITE            0
SYNCHRONOUS READ           167
SEQ. PREFETCH REQS          11
LIST PREFETCH REQS           3
DYN. PREFETCH REQS        1041
PAGES READ ASYNCHR.        337

GROUP BP0                TOTAL    GROUP BP32K              TOTAL    GROUP TOTAL              TOTAL
----------------------  --------  ----------------------  --------  ----------------------  --------
GBP-DEPEND GETPAGES        1214    GBP-DEPEND GETPAGES           5    GBP-DEPEND GETPAGES        1219
READ(XI)-DATA RETUR           1    READ(XI)-DATA RETUR           0    READ(XI)-DATA RETUR           1
READ(XI)-NO DATA RT           3    READ(XI)-NO DATA RT           0    READ(XI)-NO DATA RT           3
READ(NF)-DATA RETUR           1    READ(NF)-DATA RETUR           1    READ(NF)-DATA RETUR           2
READ(NF)-NO DATA RT           7    READ(NF)-NO DATA RT           1    READ(NF)-NO DATA RT           8
PREFETCH PAGES READ           0    PREFETCH PAGES READ           0    PREFETCH PAGES READ           0
CLEAN PAGES WRITTEN           0    CLEAN PAGES WRITTEN           0    CLEAN PAGES WRITTEN           0
UNREGISTER PAGE             119    UNREGISTER PAGE              13    UNREGISTER PAGE             132
ASYNCH GBP REQUESTS           0    ASYNCH GBP REQUESTS           1    ASYNCH GBP REQUESTS           1
EXPLICIT X-INVALID            0    EXPLICIT X-INVALID            0    EXPLICIT X-INVALID            0
ASYNCH SEC-GBP REQ            0    ASYNCH SEC-GBP REQ            0    ASYNCH SEC-GBP REQ            0
PG P-LOCK LOCK REQ          466    PG P-LOCK LOCK REQ            3    PG P-LOCK LOCK REQ          469
 SPACE MAP PAGES            465     SPACE MAP PAGES              2     SPACE MAP PAGES            467
 DATA PAGES                   1     DATA PAGES                   1     DATA PAGES                   2
 INDEX LEAF PAGES             0     INDEX LEAF PAGES             0     INDEX LEAF PAGES             0
PG P-LOCK UNLOCK REQ        466    PG P-LOCK UNLOCK REQ          3    PG P-LOCK UNLOCK REQ        469
PG P-LOCK LOCK SUSP           0    PG P-LOCK LOCK SUSP           0    PG P-LOCK LOCK SUSP           0
 SPACE MAP PAGES              0     SPACE MAP PAGES              0     SPACE MAP PAGES              0
 DATA PAGES                   0     DATA PAGES                   0     DATA PAGES                   0
 INDEX LEAF PAGES             0     INDEX LEAF PAGES             0     INDEX LEAF PAGES             0
WRITE AND REGISTER            5    WRITE AND REGISTER            0    WRITE AND REGISTER            5
WRITE & REGISTER MULT         0    WRITE & REGISTER MULT         0    WRITE & REGISTER MULT         0
CHANGED PAGES WRITTEN         5    CHANGED PAGES WRITTEN         0    CHANGED PAGES WRITTEN         5
COMPL CHECKS SUSPEND          0    COMPL CHECKS SUSPEND          0    COMPL CHECKS SUSPEND          0

    ------------------------------------------------------------------------
    !PROGRAM NAME                 CLASS 7 ELAPSED TIME CONSUMERS           !
    !FPEVWRPA           !> 1%                                               !
    !DGOZPC2            !=> 3%                                              !
    !DGOZDATE           !                                                   !
    !DGOZPC1            !================================================> 95%    !
```

```
   LOCATION: OMPDBEE                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 3-25
      GROUP: DBEE                                ACCOUNTING TRACE - LONG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SEE1                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SEE1                                                                               ACTUAL FROM: 08/24/16 08:16:02.78
DB2 VERSION: V11

---- IDENTIFICATION -------------------------------------------------------------------------------------------------------
ACCT TSTAMP: 08/24/16 09:28:00.00    PLANNAME: 'BLANK'         WLM SCL: 'BLANK'         CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.47    PROD TYP: N/P             LUW NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                     PROD VER: N/P             LUW LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE                 CORRNAME:                 LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'                 CORRNMBR:                 LUW SEQ:            1    ENDUSER : DB2PM
PRIMAUTH   : DB2PM                   CONNTYPE: RRS                                      TRANSACT: 'BLANK'
ORIGAUTH   : DB2PM                   CONNECT : RRSAF                                    WSNAME  : RRSAF

    (CONTINUED)
    ------------------------------------------------------------------------------
    !PROGRAM NAME                    CLASS 7 ELAPSED TIME CONSUMERS               !
    !DGOZPC4            !> 1%                                                     !
    ------------------------------------------------------------------------------

    ------------------------------------------------------------------------------
    !PROGRAM NAME                    CLASS 7 CP CPU TIME CONSUMERS                !
    !FPEVWRPA           !==> 4%                                                   !
    !DGOZPC2            !====================> 42%                               !
    !DGOZDATE           !=> 2%                                                    !
    !DGOZPC1            !==================> 38%                                 !
    !DGOZPC4            !=======> 14%                                             !
    ------------------------------------------------------------------------------

FPEVWRPA            VALUE                FPEVWRPA                   TIMES    FPEVWRPA                    TIME  EVENTS    TIME/EVENT
------------------  -------------------  -------------------  -------------  --------------------  ----------  ------  ------------
TYPE                PACKAGE              ELAPSED TIME - CL7      0.014902    LOCK/LATCH             0.000000       0           N/C
LOCATION            OMPDBEE              CP CPU TIME             0.004894     IRLM LOCK+LATCH       0.000000       0           N/C
COLLECTION ID       KO2OM530               AGENT                 0.004894     DB2 LATCH             0.000000       0           N/C
PROGRAM NAME        FPEVWRPA               PAR.TASKS             0.000000    SYNCHRONOUS I/O        0.001744       6      0.000291
CONSISTENCY TOKEN   1A20F08810059FB5     SE CPU TIME             0.000000    OTHER READ I/O         0.000000       0           N/C
ACTIVITY TYPE       NONNESTED            SUSPENSION-CL8          0.004718    OTHER WRITE I/O        0.000000       0           N/C
ACTIVITY NAME       'BLANK'                AGENT                 0.004718    SERV.TASK SWITCH       0.000820       1      0.000820
SCHEMA NAME         'BLANK'                PAR.TASKS             0.000000    ARCH.LOG(QUIESCE)      0.000000       0           N/C
SUCC AUTH CHECK     N/P                  NOT ACCOUNTED           0.005290    ARCHIVE LOG READ       0.000000       0           N/C
NBR OF ALLOCATIONS                1                                        DRAIN LOCK             0.000000       0           N/C
SQL STMT - AVERAGE             6.00    CP CPU SU                   317    CLAIM RELEASE          0.000000       0           N/C
SQL STMT - TOTAL                  6      AGENT                     317    PAGE LATCH             0.000000       0           N/C
NBR RLUP THREADS                  1      PAR.TASKS                   0    NOTIFY MESSAGES        0.002153       2      0.001077
                                       SE CPU SU                     0    GLOBAL CONTENTION      0.000000       0           N/C
                                                                          TCP/IP LOB XML         0.000000       0           N/C
                                       DB2 ENTRY/EXIT               16    ACCELERATOR            0.000000       0           N/C
                                                                          PQ SYNCHRONIZATION     0.000000       0           N/C
                                                                          FAST INSERT PIPE            N/A     N/A           N/A
                                                                          TOTAL CL8 SUSPENS.     0.004718       9      0.000524
```

```
...
```

```
ACCOUNTING TRACE COMPLETE
```

Accounting Report and Trace Blocks

Accounting reports and traces are arranged in blocks. Each block contains accounting information about a particular activity. The layout of each block is presented followed by the field descriptions.

The layout of the Accounting report blocks and the corresponding trace blocks is similar, the main difference is that Accounting reports show times and events averaged over the number of threads, and accounting traces show times and events as totals for each thread.

Fields in an Accounting report can show average values, totals or times. Normally the columns within the blocks of a report are labeled to indicate the type of data shown, and are shown as follows:

Averages
Have two decimal places behind the point

Totals
Are whole numbers

Times
Have six decimal places behind the point

Where it is not possible to distinguish the type of data, totals are indicated with a hash (**#**) as the first character in the label.

This topic shows each block in alphabetical order. Each field in the block is listed in the order that it appears, showing the field name (as shown in the long report and trace) followed by a description.

Each block is presented in the default layout. Some blocks can have columns, rows or fields that are not included in the default layout. For example, the SQL DCL, SQL DML, RID List, buffer pool and group buffer pool activity blocks have a /COMMIT column that is not shown in the default layout. You can include columns, rows, and fields not shown in the default layouts with *user-tailored reporting* (UTR).

Field names used in short reports and traces can vary slightly from those used in the long versions. This is to allow the layout of the printed report or trace to align properly.

If a counter value or specific information in reports, in windows, or on panels is not shown, the following notation is used to indicate the reason:

N/A
Not applicable is shown if DB2 never produces a counter value in a specific context. Examples are:

- A counter is not available in one DB2 version.
- Counters are mutually exclusive.

N/C
Not calculated is shown for a derived field where the value cannot be calculated or is useless. Examples are:

- A divide by zero (percentages, ratios).
- Suppression of negative elapsed time values.
- Required counter values for calculation marked as N/A or N/P.
- Insufficient data or small counter values to allow significant statements (meaningless or misleading averages).

N/P
Not present is shown for a field where DB2 can present values, but does not in this instance. Examples are:

- When counter values are not generated because of operational conditions (a trace class is not active).
- An application does not provide a value because it is optional.

Short, Unique, or Long Names or Strings

The following types of names or strings are used in this information:

Short name or string
A short name or short string is either the value of an original DB2 field if it less than or equal to the defined length of the field, or it is the abbreviation of a longer value which is populated in a field of varying length.

Unique name or string
A unique name or unique string is a generated string based on the short string and its length, with a right-adjusted #-sign and a sequence number. This sequence number depends on the amount of long fields found during processing, which have the same string prefix and length as the short string. For example:

```
WSNAME: IS-255-012345678#1
```

Long name or string
A long name or long string is the complete string populated in a field of varying length. This depends on the context where it is used.

Accelerator

This topic shows detailed information about "Accounting - Accelerator".

The Accounting Accelerator report block is shown for each accelerator that provided services to a DB2 thread. The block consists of three adjacent columns which contain the accelerator identification, the activity-related counters, and the corresponding times.

Note:

- For product identifiers of IBM DB2 Analytics Accelerator for z/OS prior to AQT04015 the values of the following fields are N/A: SQL DML, SQL DDL, ROWS RETURN, COMMIT, and ROLLBACK.
- The Accounting trace shows values and times for each Q8AC section. The Accounting report does not only show accumulated values and times, but also average values and times calculated for one occurrence. It shows the sum of a counter or time of all Q8AC sections processed, divided by the number of processed Q8AC sections.

For more information on the Accounting fields referred to in the field descriptions below, see:

- “Times - Class 1 - Application Time ” on page 218
- “Times - Class 2 - DB2 Time ” on page 223

In the following example both layouts are shown, the report layout is followed by the trace layout.

Accounting - Accelerator

The field labels shown in the following sample layout of "Accounting - Accelerator" are described in the following section.

```
Report:

ACCELERATOR  IDENTIFIER                       ACCELERATOR       AVERAGE         TOTAL    ACCELERATOR         AVERAGE         TOTAL
-----------  -------------------------------  -----------  ------------  ------------    ------------  ------------  ------------
PRODUCT      AQT03010                         OCCURRENCES          1.00             1    ELAPSED TIME
SERVER       VMNPS14                          CONNECTS             1.00             1     SVCS TCP/IP   1:30.772268   1:30.772268
                                              REQUESTS         24877.00         24877     ACCUM ACCEL      0.000000      0.000000
                                               TIMED OUT           0.00             0    CPU TIME
                                               FAILED              0.00             0     SVCS TCP/IP      2.183868      2.183868
                                              SENT                                       ACCUM ACCEL      0.000000      0.000000
                                               BYTES         2439641.00       2439641    WAIT TIME
                                               MESSAGES        24886.00         24886     ACCUM ACCEL      0.000000      0.000000
                                               BLOCKS              0.00             0     HTAP DELAY       0.000000      0.000000
                                               ROWS                0.00             0
                                              RECEIVED
                                               BYTES       817064800.00     817064800
                                               MESSAGES        24886.00         24886
                                               BLOCKS          24875.00         24875
                                               ROWS                0.00             0
                                              SQL DML
                                               INSERT              0.00             0
                                                ROWS               0.00             0
                                               UPDATE              0.00             0
                                                ROWS               0.00             0
                                               DELETE              0.00             0
                                                ROWS               0.00             0
                                               OPEN                0.00             0
                                              SQL DDL
                                               CREATE              0.00             0
                                               DROP                0.00             0
                                              ROWS RETURN          0.00             0
                                              COMMIT               0.00             0
                                              ROLLBACK             0.00             0
                                              HTAP TIMEOUT         0.00             0

Trace:

ACCELERATOR  IDENTIFIER                       ACCELERATOR         TOTAL    ACCELERATOR          TOTAL
-----------  -------------------------------  -----------  ------------    ------------  ------------
PRODUCT      AQT03010                         OCCURRENCES              1    ELAPSED TIME
SERVER       VMNPS14                          CONNECTS                 1     SVCS TCP/IP     11.637221
                                              REQUESTS                 2     ACCUM ACCEL      0.000000
                                               TIMED OUT               0    CPU TIME
                                               FAILED                  0     SVCS TCP/IP      0.000598
                                              SENT                          ACCUM ACCEL      0.000000
                                               BYTES                1744    WAIT TIME
                                               MESSAGES               11     ACCUM ACCEL      0.000000
                                               BLOCKS                  0     HTAP DELAY       0.000000
                                               ROWS                    0    DB2 THREAD
                                              RECEIVED                      CLASS 1
                                               BYTES                 824      ELAPSED        11.647249
                                               MESSAGES               11      CP CPU          0.003386
                                               BLOCKS                  0      SE CPU          0.000000
                                               ROWS                    0     CLASS 2
                                              SQL DML                        ELAPSED              N/P
                                               INSERT                  0      CP CPU               N/P
                                                ROWS                   0      SE CPU          0.000000
                                               UPDATE                  0
                                                ROWS                   0
                                               DELETE                  0
                                                ROWS                   0
                                               OPEN                    0
                                              SQL DDL
                                               CREATE                  0
                                               DROP                    0
                                              ROWS RETURN              0
                                              COMMIT                   0
                                              ROLLBACK                 0
                                              HTAP TIMEOUT             0
```

PRODUCT

The accelerator product identifier.

Field Name: Q8ACPRID

SERVER

The accelerator server identifier.

Field Name: Q8ACNAME

OCCURRENCES

The number of sections processed for the accelerator. The name of this accelerator is shown in the report in block ACCELERATOR IDENTIFIER.

Field Name: AIOCCUR

CONNECTS

The number of accelerator connects.

Field Name: Q8ACCONN

REQUESTS

The number of accelerator requests.

Field Name: Q8ACREQ

TIMED OUT

The number of timed out requests.

Field Name: Q8ACTOUT

FAILED

The number of failed requests.

Field Name: Q8ACFAIL

SENT - BYTES

The number of bytes sent.

Field Name: Q8ACBYTS

SENT - MESSAGES

The number of messages sent.

Field Name: Q8ACMSGS

SENT - BLOCKS

The number of blocks sent.

Field Name: Q8ACBLKS

SENT - ROWS

The number of rows sent.

Field Name: Q8ACROWS

RECEIVED - BYTES

The number of bytes returned.

Field Name: Q8ACBYTR

RECEIVED - MESSAGES

The number of messages returned.

Field Name: Q8ACMSGR

RECEIVED - BLOCKS

The number of blocks returned.

Field Name: Q8ACBLKR

RECEIVED - ROWS

The number of rows returned.

Field Name: Q8ACROWR

SQL DML - INSERT

The accumulated number of INSERT statements sent to the accelerator from DB2.

Field Name: Q8ACINSC

SQL DML - INSERT ROWS

The accumulated number of rows inserted to the accelerator by DB2.

Field Name: Q8ACROWI

SQL DML - UPDATE

The accumulated number of UPDATE statements sent to the accelerator from DB2.

Field Name: Q8ACUPDC

SQL DML - UPDATE ROWS

The accumulated number of rows updated on the accelerator by DB2.

Field Name: Q8ACROWU

SQL DML - DELETE

The accumulated number of DELETE statements sent to the accelerator from DB2.

Field Name: Q8ACDELC

SQL DML - DELETE ROWS

The accumulated number of rows deleted on the accelerator by DB2.

Field Name: Q8ACROWD

SQL DML - OPEN

The accumulated number of OPEN statements sent to the accelerator from DB2.

Field Name: Q8ACOPNC

SQL DDL - CREATE

The accumulated number of CREATE statements sent to the accelerator from DB2.

Field Name: Q8ACCRTC

SQL DDL - DROP

The accumulated number of DROP statements sent to the accelerator from DB2.

Field Name: Q8ACDRPC

ROWS RETURN

The accumulated number of rows returned by the accelerator to DB2.

Note: For completed queries, this is the total number of rows returned to DB2. For in-process queries, this is the number of rows that have been sent so far (and more rows may still be coming).

Field Name: Q8ACROWC

COMMIT

The accumulated number of COMMIT statements sent to the accelerator from DB2.

Field Name: Q8ACCMTC

ROLLBACK

The accumulated number of ROLLBACK statements sent to the accelerator from DB2.

Field Name: Q8ACRBKC

HTAP TIMEOUT

The number of requests where the replication of data to the accelerator needed to execute the query did not complete before the delay protocol time limit expired (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: Q8ACNWDP

ELAPSED TIME - SVCS TCP/IP

The accelerator services TCP/IP elapsed time measured in DB2. It starts when sending the requests to the accelerator and ends when receiving the results from the accelerator.

Field Name: Q8ACTELA

ELAPSED TIME - ACCUM ACCEL

The elapsed time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8ACAELA

CPU TIME - SVCS TCP/IP

The accelerator services TCP/IP CPU time measured in DB2 for the amount of CPU consumed by the DDF service task to perform the SEND and RECEIVE to an accelerator service. It does not account for the TCP/IP address CPU to route the message on to the network and receive the reply into the DDF task.

Field Name: Q8ACTCPU

CPU TIME - ACCUM ACCEL

The CPU time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8ACACPU

WAIT TIME - ACCUM ACCEL

The wait time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8ACAWAT

WAIT TIME - HTAP DELAY

The amount of time spent waiting for completion of data replication to the accelerator using the delay protocol (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: Q8ACTWDP

DB2 THREAD - CLASS 1 - ELAPSED

Class 1 elapsed time of the thread. See ADRECETT.

Field Name: ADACCET1

DB2 THREAD - CLASS 1 - CP CPU

Class 1 CP CPU time of the thread. See ADCPUT.

Field Name: ADACCCP1

DB2 THREAD - CLASS 1 - SE CPU

Class 1 SE CPU time of the thread. See AWACC1Z.

Field Name: ADACCSE1

DB2 THREAD - CLASS 2 - ELAPSED

Class 2 elapsed time of the thread. See ADDB2ETT.

Field Name: ADACCET2

DB2 THREAD - CLASS 2 - CP CPU

Class 2 CP CPU time of the thread. See ADDBCPUT.

Field Name: ADACCCP2

DB2 THREAD - CLASS 2 - SE CPU

Class 2 SE CPU time of the thread. See AWACC2Z.

Field Name: ADACCSE2

Buffer pool report and trace

The bufferpool activity report and trace shows information about buffer pool activity including hit ratio, getpages, and prefetch requests.

Information is provided for each active buffer pool. When there is more than one active buffer pool, information is provided for each aggregation and shows the total buffer pool activity (all buffer pools, all 4 KB buffer pools, all 32 KB buffer pools).

```
Report:                                          Trace:

BP1    BPOOL ACTIVITY   AVERAGE     TOTAL       BP0    BPOOL ACTIVITY     TOTAL
---------------------  --------  --------       ---------------------  --------
BPOOL HIT RATIO (%)        4.74       N/A       BPOOL HIT RATIO (%)           5
GETPAGES                10485.8K  10485761       GETPAGES                10485761
BUFFER UPDATES             0.00         0       BUFFER UPDATES                0
SYNCHRONOUS WRITE          0.00         0       SYNCHRONOUS WRITE             0
SYNCHRONOUS READ         9989.1K   9989081       SYNCHRONOUS READ        9989081
SEQ. PREFETCH REQS         0.00         0       SEQ. PREFETCH REQS            0
LIST PREFETCH REQS         0.00         0       LIST PREFETCH REQS            0
DYN. PREFETCH REQS         0.00         0       DYN. PREFETCH REQS            0
PAGES READ ASYNCHR.        0.00         0       PAGES READ ASYNCHR.           0
ZHL SYNC. READS          9989.0K   9989026       ZHL SYNC. READS         9989026
ZHL READ CPU USED       3:47.166  3:47.166       ZHL READ CPU USED      3:47.166
```

Figure 1. Buffer pool report and trace

BPOOL HIT RATIO (%)

The percentage of getpage operations that were satisfied by a page already in the buffer pool. The value is the ratio of the number of successful getpage operations minus the number of pages read from DASD (both synchronously and using prefetch), to the number of successful getpage operations, expressed as a percentage.

The highest possible hit ratio (100%) indicates that every page that is requested is in the buffer pool. If a requested page is not in the buffer pool, the hit ratio is 0% or less. If the hit ratio is negative, then prefetch brought pages into the buffer pool that are not subsequently referenced, either because the query stops before it reaches the end of the table space, or because the prefetched pages are stolen by Db2 for reuse before the query can access them.

A low buffer pool hit ratio is not necessarily bad. The hit ratio is a relative value, based on the type of application. For example, an application that browses large data might have a buffer pool hit ratio of 0.

Watch for those cases where the hit ratio drops significantly for the same application. Here are some suggestions to increase the buffer hit ratio:

- Run the REORG utility for indexes or table spaces associated with the virtual buffer pool.
- Reserve more pages for random I/O by setting the SEQUENTIAL STEAL THRESHOLD (VPSEQT) to a lower value.
- Increase the buffer pool as long as the cost of paging does not outweigh the benefit of I/O avoidance.
- Establish more separate buffer pools, perhaps to isolate different applications.
- Place the objects that are only accessed sequentially in a separate buffer pool.

The hit ratio measurement becomes less meaningful if the buffer pool is used by additional processes, such as utilities or work files.

Field Name: ABUFFRAT

GETPAGES

The number of Getpage requests. This counter is incremented by successful Getpage requests for queries processed in parallel for each thread and for all successful and unsuccessful Getpage requests for queries that are not processed in parallel.

Background and Tuning Information

Reducing the number of Getpages can improve DB2 performance by reducing the number of synchronous page reads. With fewer Getpages, the requested page is more likely to be returned from the buffer pool. CPU usage is also reduced.

Check the ratio of Getpages to SQL DML statements, as a rule of thumb, try and keep this ratio below six for a typical online transaction SQL.

You might need to modify the database and query design, for example:

- Add indexes to tables to reduce the number of pages scanned.
- Reassess the number of tables used and denormalize them, if necessary.

  As an example, a large table with many columns can result in several pages being fetched to satisfy a simple query requesting just a few columns. Splitting such a table into several tables with fewer columns, tailored to queries, will result in fewer pages returned for each query.
- Use correlated rather than non-correlated queries to force the use of an index.

Field Name: QBACGET

This is an *exception* field.

BUFFER UPDATES

The number of times a buffer update occurs. This is incremented every time a page is updated and is ready to be written to DASD. If the same page is updated twice, for example, the number is incremented by 2.

This number is kept for all types of pages including data pages and work-file pages.

Background and Tuning Information

A nonzero value indicates any of the following activities:

- SQL INSERT, UPDATE, or DELETE
- Merge scan join
- Internal sort activity on the work files

Check the access path to determine whether sort activity can be minimized or avoided.

Field Name: QBACSWS

This is an *exception* field.

SYNCHRONOUS WRITE

The number of immediate (synchronous) write I/O operations.

Background and Tuning Information

Although an immediate write is rare, a small nonzero value is acceptable. A large value indicates that the system needs tuning.

Field Name: QBACIMW

This is an *exception* field.

SYNCHRONOUS READ

The number of synchronous read I/O operations. DB2 increments this counter for each media manager synchronous physical read. Asynchronous I/O requests are not counted.

Field Name: QBACRIO

This is an *exception* field.

SEQ. PREFETCH REQS

The number of SEQUENTIAL PREFETCH requests. This is incremented for each PREFETCH request. Each request can result in an I/O read. If it does, up to 64 pages can be read for SQL and up to 128 pages for utilities. For SQL, depending on the buffer pool size, a request does not result in an I/O if all the requested pages are already in the buffer pool.

DB2 can use sequential prefetch if the data is accessed in sequential order even though sequential prefetch was not requested at bind time. This is known as sequential detection and is not included in the sequential prefetch count. Sequential detection is included in dynamic prefetch requests field.

Background and Tuning Information

Table space scans and nonmatching index scans generally use sequential prefetch.

Field Name: QBACSEQ

This is an *exception* field.

LIST PREFETCH REQS

The number of LIST PREFETCH requests.

Special Considerations:

1. List prefetch allows DB2 to access data pages efficiently even if the needed data pages are not contiguous. It can be used with single index access and is always used with multiple index access.
2. List prefetch is always used to access data from the inner table during a hybrid join.
3. Data pages are read in quantities equal to the sequential prefetch quantity, which depends on the buffer pool size and is usually 64 pages.
4. During bind time DB2 does not use list prefetch if the estimated number of RIDs to be processed would take more than 50% of the RID pool. During execution time, list prefetch processing terminates if DB2 detects that more than 25% of the rows in the table need to be accessed. If list prefetch is terminated, it is indicated in IFCID 125.

Field Name: QBACLPF

This is an *exception* field.

DYN. PREFETCH REQS

The number of (dynamic) PREFETCH requests. This is triggered by sequential detection. This includes prefetches for segmented table spaces.

Background and Tuning Information

Dynamic prefetch is typically used for a SELECT or UPDATE that is run repeatedly, accessing the index for each access.

If sequential prefetch, list prefetch, and dynamic prefetch reads have large values, check whether the access path can be improved.

Field Name: QBACDPF

This is an *exception* field.

PAGES READ ASYNCHR.

The number of asynchronous pages read by prefetch that the agent triggered.

Background and Tuning Information

This is used to determine the buffer pool hit ratio: (Getpage requests - Synchronous reads - Asynchronous pages read) / Getpage requests.

Field Name: QBACSIO

This is an *exception* field.

ZHL SYNC READS

The number of sync reads with zHyperLink.

Field name: QBACSYI

ZHL READ CPU USED

The accumulated and consumed class 2 time used for successful zHyperLink I/O. A thread consumes CPU time for the entire duration of DASD I/O that is done using zHyperLink.

Format: *HH:MM:SS.mmmm*

Note: If the value is less then 1 min it will be printed in seconds (for example, 0.037187).

Field name: QBACSYIT

Data Capture

This topic shows detailed information about "Accounting - Data Capture".

This block shows data for Data Capture activities.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. In the following example both layouts are shown, the report on the left, and the trace layout on the right.

Accounting - Data Capture

The field labels shown in the following sample layout of "Accounting - Data Capture" are described in the following section.

```
Report:                          Trace:

DATA CAPTURE         AVERAGE     DATA CAPTURE     TOTAL
-----------------  --------      ------------  --------
IFI CALLS MADE           N/P     IFI CALLS           N/P
RECORDS CAPTURED         N/P     REC.CAPTURED        N/P
LOG RECORDS READ         N/P     LOG REC.READ        N/P
ROWS RETURNED            N/P     ROWS RETURN         N/P
RECORDS RETURNED         N/P     RECORDS RET.        N/P
DATA DESC. RETURN        N/P     DATA DES.RET        N/P
TABLES RETURNED          N/P     TABLES RET.         N/P
DESCRIBES                N/P     DESCRIBES           N/P
```

IFI CALLS MADE (IFI CALLS)

The total number of IFI calls. This field is only calculated if accounting class 5 is active.

Field Name: ADIFICAL

RECORDS CAPTURED (REC.CAPTURED)

The number of retrievable log records that were written for tables defined with DATA CAPTURE CHANGES. This number includes only those log records that can be retrieved by an IFI READS call for IFCID 185. Some records can be written but not retrieved, for example if monitor trace class 6 is not active.

Field Name: QIFAANRC

LOG RECORDS READ (LOG REC.READ)

The number of log reads performed for processing IFI READS requests for IFCID 185.

Field Name: QIFAANLR

ROWS RETURNED (ROWS RETURN)

The number of data rows returned in IFCID 185. Two rows are returned for each row altered by an SQL UPDATE statement.

Field Name: QIFAANDR

RECORDS RETURNED (RECORDS RET.)

The number of log records returned to the caller of the IFI READS call for IFCID 185.

Field Name: QIFAANRR

DATA DESC. RETURN (DATA DES.RET)

The number of data descriptions returned in IFCID 185. The data descriptions are mapped in IFCID 185.

Field Name: QIFAANDD

TABLES RETURNED (TABLES RET.)

The total number of tables returned to the caller of IFI READS call for IFCID 185.

Field Name: QIFAANTB

DESCRIBES

The number of data capture describes for processing READS requests for IFCID 185 data.

Field Name: QIFAANMB

Data Sharing Locking

This topic shows detailed information about "Accounting - Data Sharing Locking".

This block shows the locking activity within a data sharing group.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. In the following example both layouts are shown, the report on the left, and the trace layout on the right.

Accounting - Data Sharing Locking

The field labels shown in the following sample layout of "Accounting - Data Sharing Locking" are described in the following section.

```
Report:                                    Trace:

DATA SHARING          AVERAGE     TOTAL       DATA SHARING    TOTAL
-------------------  --------  --------      ------------ --------
GLOBAL CONT RATE(%)       N/C       N/A      GLOB CONT(%)    11.35
FALSE CONT RATE(%)        N/C       N/A      FALS CONT(%)     0.00
P/L-LOCKS XES(%)          N/C       N/A      P/L-LOCKS(%)       89
LOCK REQ   - PLOCKS      0.00         0      P-LOCK REQ        159
UNLOCK REQ - PLOCKS      0.00         0      P-UNLOCK REQ       45
CHANGE REQ - PLOCKS      0.00         0      P-CHANGE REQ       40
LOCK REQ   - XES         0.00         0      LOCK - XES        286
UNLOCK REQ - XES         0.00         0      UNLOCK-XES        103
CHANGE REQ - XES         0.00         0      CHANGE-XES         47
SUSPENDS   - IRLM        0.00         0      SUSP - IRLM        64
SUSPENDS   - XES         0.00         0      SUSP - XES          0
CONVERSIONS- XES         0.00         0      CONV - XES         64
FALSE CONTENTIONS        0.00         0      FALSE CONT          0
INCOMPATIBLE LOCKS       0.00         0      INCOMP.LOCK         0
NOTIFY MSGS SENT         0.00         0      NOTIFY SENT         3
```

GLOBAL CONT RATE(%) (GLOB CONT(%))

The total number of suspends because of contention divided by the total number of synchronous requests that went to XES, and the lock requests that were converted from synchronous to asynchronous locks, and the locks because of child lock propagation.

Field Name: AGLOBRAT

FALSE CONT RATE(%) (FALS CONT(%))

The total number of suspends because of false contention divided by the total number of synchronous requests that went to XES and the lock requests that were converted from synchronous to asynchronous locks.

A false contention is where two different locks on different resources hash to the same lock entry.

Field Name: AFLSERAT

P/L-LOCKS XES(%) (P/L-LOCKS (%))

Shows the percentage of P/L-lock requests that were propagated to XES synchronously.

Background and Tuning Information

This number reflects the effects of explicit hierarchical locking and other locking optimizations. In an environment where all the workload is data sharing, a value of 94% means that 6% of all transaction locks were not propagated to XES due to Data-Sharing locking optimizations.

DB2 has optimizations to reduce the need to go beyond the local IRLM whenever possible:

- Explicit hierarchical locking allows IRLM to grant child locks locally when there is no inter-DB2 R/W interest on the parent.
- If there is a single DB2 with update interest, and multiple DB2s with read-only interest, DB2 propagates fewer locks than when all DB2s have update interest in the page set.
- All locks that go beyond the local IRLM are owned by the subsystem, not the individual work unit. This allows for further optimization. Only the most restrictive lock mode for an object on a given subsystem must be propagated to XES and the coupling facility. A new lock that is equally, or less, restrictive than the currently held lock is not propagated.

Field Name: ALLOCRAT

LOCK REQ - PLOCKS (P-LOCK REQ)

The number of lock requests for P-locks.

Field Name: QTGALPLK

UNLOCK REQ - PLOCKS (P-UNLOCK REQ)

The number of unlock requests for P-locks.

Field Name: QTGAUPLK

CHANGE REQ - PLOCKS (P-CHANGE REQ)

The number of change requests for P-locks.

Field Name: QTGACPLK

LOCK REQ - XES (LOCK - XES)

The number of P/L-lock requests propagated to z/OS XES synchronously.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGALSLM

UNLOCK REQ - XES (UNLOCK-XES)

The number of unlock requests propagated to z/OS XES.

Field Name: QTGAUSLM

CHANGE REQ - XES (CHANGE-XES)

The number of change requests propagated to z/OS XES.

Field Name: QTGACSLM

SUSPENDS - IRLM (SUSP - IRLM)

The number of suspensions due to IRLM global resource contention (IRLM lock states were in conflict).

Field Name: QTGAIGLO

SUSPENDS - XES (SUSP - XES)

The number of suspensions due to z/OS XES global resource contention (z/OS XES lock states were in conflict whereas IRLM lock states were not).

Field Name: QTGASGLO

SUSPENDS - CONV (SUSP - CONV)

The total number of sync-to-async heuristic conversions for LOCK requests in XES. This conversion is done when XES determines that it is more efficient to drive the request asynchronously to the coupling facility (CF).

Field Name: QTGAFLSE

FALSE CONTENTIONS

The total number of false contentions for LOCK and UNLOCK requests. A false contention occurs when different resource names hash to the same entry in the coupling facility (CF) lock table. The CF detects contention within the hash entry, and XES uses intersystem messaging to determine that no actual resource contention exists.

Field Name: QTGAFCNT

INCOMPATIBLE LOCKS (INCOMP.LOCK)

The number of global lock or change requests denied or suspended due to an incompatible retained lock.

Field Name: QTGADRTA

NOTIFY MSGS SENT (NOTIFY SENT)

The number of notify messages sent.

Field Name: QTGANTFY

Distributed Activity - Requester

This topic shows detailed information about "Accounting - Distributed Activity - Requester".

This block shows the information provided for the requester of the distributed activity.

In the following example both layouts are shown, the report layout followed by the trace layout.

Accounting - Distributed Activity - Requester

The field labels shown in the following sample layout of "Accounting - Distributed Activity - Requester" are described in the following section.

```
Report:

---- DISTRIBUTED ACTIVITY ------------------------------------------------------------------------------------------
REQUESTER       : ::FFFF#1            #COMMIT(1) RECEIVED:       2    MESSAGES SENT    :     10.50    ROWS SENT    :    0.00
PRODUCT ID      : JDBC DRIVER         #ROLLBK(1) RECEIVED:       0    MESSAGES RECEIVED:     10.50    BLOCKS SENT  :    0.00
PRODUCT VERSION: V3 R65M0             SQL RECEIVED       :    5.50    BYTES SENT       :    576.50    #DDF ACCESSES:       2
METHOD          : DRDA PROTOCOL                                      BYTES RECEIVED   :   2287.50    #RLUP THREADS:       2
CONV.INITIATED :              1.00                                   #THREADS INDOUBT :          0

Trace:

---- DISTRIBUTED ACTIVITY ------------------------------------------------------------------------
REQUESTER           : ::FFFF#1            ROLLBCK(1) RECEIVED:         0    THREADS INDOUBT    :       0
PRODUCT ID          : JDBC DRIVER         SQL RECEIVED       :         4    ROWS SENT          :       0
PRODUCT VERSION     : V3 R65M0            MESSAGES SENT      :         9    BLOCKS SENT        :       0
METHOD              : DRDA PROTOCOL       MESSAGES RECEIVED  :         9    CONVERSAT.INITIATED:       1
COMMITS(1) RECEIVED:                  1   BYTES SENT         :       516    NBR RLUP THREADS   :       1
                                          BYTES RECEIVED     :      2122
```

Report - REQUESTER

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

Report - PRODUCT ID

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Report - PRODUCT VERSION

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID
It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Report - METHOD

The method of access: DB2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: ADPROTOC

Report - CONV.INITIATED

A count of conversations initiated by the requester.

This number is updated at the server location.

Field Name: QLACCNVR

Report - #COMMIT(1) RECEIVED

The number of commit requests received from the requester (single-phase commit protocol) and committed requests received from the coordinator (two-phase commit protocol).

Field Name: QLACCOMR

This is an *exception* field.

Report - #ROLLBK(1) RECEIVED

The number of abort requests received from the requester (single-phase commit protocol) and backout requests received from the coordinator (two-phase commit protocol).

Field Name: QLACABRR

This is an *exception* field.

Report - SQL RECEIVED

The number of SQL statements received from the requester location.

Field Name: QLACSQLR

This is an *exception* field.

Report - MESSAGES SENT

The number of messages sent to the location. It is maintained at the location where the messages originated.

Field Name: QLACMSGS

This is an *exception* field.

Report - MESSAGES RECEIVED

The number of messages received from the location. This value is maintained at the location where the messages were received.

More messages might be sent from the server location than are received by the requester because of the way in which distributed SQL statements are processed internally.

Field Name: QLACMSGR

This is an *exception* field.

Report - BYTES SENT

The number of bytes the server location sent to the requester location. This value is maintained at the server location.

More bytes of data might be sent from the server location than are received by the requester due to the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTS

This is an *exception* field.

Report - BYTES RECEIVED

The number of bytes the server location received from the requester location.

More bytes of data might be sent from the server location than are received by the requester, because of the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTR

This is an *exception* field.

Report - #THREADS INDOUBT

The number of threads that went indoubt with the remote location as coordinator (two-phase commit operations only). It is maintained at the participant and indicates that the communication with the coordinator was lost.

Field Name: QLACINDT

This is an *exception* field.

Report - ROWS SENT

The number of rows sent from the server location to the requester location. The value includes SQLDA and is maintained at the server location.

Field Name: QLACROWS

This is an *exception* field.

Report - BLOCKS SENT

The number of blocks transmitted using block fetch. This value is maintained at the server location.

Field Name: QLACBTBF

This is an *exception* field.

Report - #DDF ACCESSES

The number of occurrences of the remote location and method pair.

Field Name: ASDDF

This is an *exception* field.

Report - #RLUP THREADS

The number of threads to roll data into this QLAC data section. Non-rollup QLACs have a value of 1 and rollup QLACs have a value of 1 or more.

Field Name: QLACRLNU

Trace - REQUESTER

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

Trace - PRODUCT ID

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)

It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Trace - PRODUCT VERSION

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Trace - METHOD

The method of access: DB2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: ADPROTOC

Trace - COMMITS(1) RECEIVED

The number of commit requests received from the requester (single-phase commit protocol) and committed requests received from the coordinator (two-phase commit protocol).

Field Name: QLACCOMR

This is an *exception* field.

Trace - ROLLBCK(1) RECEIVED

The number of abort requests received from the requester (single-phase commit protocol) and backout requests received from the coordinator (two-phase commit protocol).

Field Name: QLACABRR

This is an *exception* field.

Trace - SQL RECEIVED

The number of SQL statements received from the requester location.

Field Name: QLACSQLR

This is an *exception* field.

Trace - MESSAGES SENT

The number of messages sent to the location. It is maintained at the location where the messages originated.

Field Name: QLACMSGS

This is an *exception* field.

Trace - MESSAGES RECEIVED

The number of messages received from the location. This value is maintained at the location where the messages were received.

More messages might be sent from the server location than are received by the requester because of the way in which distributed SQL statements are processed internally.

Field Name: QLACMSGR

This is an *exception* field.

Trace - BYTES SENT

The number of bytes the server location sent to the requester location. This value is maintained at the server location.

More bytes of data might be sent from the server location than are received by the requester due to the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTS

This is an *exception* field.

Trace - BYTES RECEIVED

The number of bytes the server location received from the requester location.

More bytes of data might be sent from the server location than are received by the requester, because of the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTR

This is an *exception* field.

Trace - THREADS INDOUBT

The number of threads that went indoubt with the remote location as coordinator (two-phase commit operations only). It is maintained at the participant and indicates that the communication with the coordinator was lost.

Field Name: QLACINDT

This is an *exception* field.

Trace - ROWS SENT

The number of rows sent from the server location to the requester location. The value includes SQLDA and is maintained at the server location.

Field Name: QLACROWS

This is an *exception* field.

Trace - BLOCKS SENT

The number of blocks transmitted using block fetch. This value is maintained at the server location.

Field Name: QLACBTBF

This is an *exception* field.

Trace - CONVERSAT.INITIATED

A count of conversations initiated by the requester.

This number is updated at the server location.

Field Name: QLACCNVR

This is an *exception* field.

Trace - NBR RLUP THREADS

The number of threads to roll data into this QLAC data section. Non-rollup QLACs have a value of 1 and rollup QLACs have a value of 1 or more.

Field Name: QLACRLNU

Distributed Activity - Server

This topic shows detailed information about "Accounting - Distributed Activity - Server".

This block shows the information provided for the server of the distributed activity.

In the following example both layouts are shown, the report layout followed by the trace layout. SH12-7070 IBM Db2 Analytics Accelerator for z/OS

Accounting - Distributed Activity - Server

The field labels shown in the following sample layout of "Accounting - Distributed Activity - Server" are described in the following section.

```
Report:

---- DISTRIBUTED ACTIVITY ------------------------------------------------------------------------------------------
SERVER            : *ROLSUM*            CONVERSATIONS INITIATED:    1.00    #COMMT(1)SENT:       0   MESSAGES SENT    :       3.00
PRODUCT ID        : DB2                 #CONVERSATIONS QUEUED  :       0    #ROLLB(1)SENT:       0   MESSAGES RECEIVED:       3.00
PRODUCT VERSION   :                     CONVERSATION TERMINATED:    0.00    SQL SENT     :    2.00   BYTES SENT       :    1314.00
METHOD            : DB2 PRIV            #RLUP THREADS          :      10    ROWS RECEIVED:   20.00   BYTES RECEIVED   :    2076.00
REQUESTER ELAP.TIME:        10.776739                                                                 BLOCKS RECEIVED  :
1.00
DBAT WAITING TIME  :         0.010000
#DDF ACCESSES      :                1


Trace:

---- DISTRIBUTED ACTIVITY ------------------------------------------------------------------------------------
SERVER                : PMODA11             CONVERSATION TERMINATED:     N/A    NBR RLUP THREADS :         1
PRODUCT ID            : DB2                 COMMT(1)SENT           :       1    MESSAGES SENT    :         5
PRODUCT VERSION       : V10R1 M5            ROLLB(1)SENT           :       0    MESSAGES RECEIVED:         5
METHOD                : N/P                 SQL SENT               :       2    BYTES SENT       :      1170
REQUESTER ELAP.TIME   :         0.154750    ROWS RECEIVED          :    1095    BYTES RECEIVED   :     21201
DBAT WAITING TIME     :              N/A                                         BLOCKS RECEIVED  :         1
CONVERSATIONS INITIATED:                1
CONVERSATIONS QUEUED  :                0
```

Report - SERVER

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

Report - PRODUCT ID

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID
It consists of 3 characters and can have the following values:

Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Report - PRODUCT VERSION

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID
It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Report - METHOD

The method of access: DB2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: ADPROTOC

Report - REQUESTER ELAP.TIME

The elapsed time at the requester. It includes the total of DB2 and network time.

Field Name: ADDSELRQ

Report - DBAT WAITING TIME

Total elapsed time spent waiting for an available database access agent slot.

Field Name: QLACMDWT

Report - #DDF ACCESSES

The number of occurrences of the remote location and method pair.

Field Name: ASDDF

Report - CONVERSATIONS INITIATED

The number of conversations (both successful and unsuccessful) initiated by the requester location to be executed at the server location. This number is maintained at the requester.

Field Name: QLACCNVS

Report - #CONVERSATIONS QUEUED

A number of conversation requests queued by DDF that are waiting for allocation. This value is maintained at the requester location.

If the value is a large number, you might want to increase the limit for the number of conversations.

Field Name: QLACCNVQ

This is an *exception* field.

Report - CONVERSATION TERMINATED

The number of terminated conversations in the server block (DB2 private protocol only). It is maintained at the requester location.

This number can be different from the number of successful conversation allocations, because some conversations might not have been terminated when the accounting record was written.

Field Name: QLACCNVT

This is an *exception* field.

Report - #RLUP THREADS

The number of threads to roll data into this QLAC data section. Non-rollup QLACs have a value of 1 and rollup QLACs have a value of 1 or more.

Field Name: QLACRLNU

Report - #COMMT(1)SENT

The number of commit requests sent to the server (single-phase commit protocol) and committed requests sent to the participant (two-phase commit protocol).

Field Name: QLACCOMS

This is an *exception* field.

Report - #ROLLB(1)SENT

The number of abort requests sent to the server (single-phase commit protocol) and backout requests sent to the participant (two-phase commit protocol).

Field Name: QLACABRS

This is an *exception* field.

Report - SQL SENT

The number of SQL statements sent to the server location. This value is maintained at the requesting location.

Field Name: QLACSQLS

This is an *exception* field.

Report - ROWS RECEIVED

The number of rows of data retrieved from the server location. This value is maintained at the requester location.

Special Considerations:

1. The number of rows received from the server location does not include either the SQLDA or SQLCA.
2. Block fetch can significantly affect the number of rows sent across the network. When used with non-UPDATE cursors, block fetch puts as many rows as possible into the message buffer, and transmits the buffer across the network without requiring a VTAM message. Consequently, more rows of data might be sent from the server location than are received by the reporting (requester) location. This is especially true when DB2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages sent by the requester.

Field Name: QLACROWR

This is an *exception* field.

Report - MESSAGES SENT

The number of messages sent to the location. It is maintained at the location where the messages originated.

Field Name: QLACMSGS

This is an *exception* field.

Report - MESSAGES RECEIVED

The number of messages received from the location. This value is maintained at the location where the messages were received.

More messages might be sent from the server location than are received by the requester because of the way in which distributed SQL statements are processed internally.

Field Name: QLACMSGR

This is an *exception* field.

Report - BYTES SENT

The number of bytes the server location sent to the requester location. This value is maintained at the server location.

More bytes of data might be sent from the server location than are received by the requester due to the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTS

This is an *exception* field.

Report - BYTES RECEIVED

The number of bytes the server location received from the requester location.

More bytes of data might be sent from the server location than are received by the requester, because of the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTR

This is an *exception* field.

Report - BLOCKS RECEIVED

The number of blocks received using block fetch. This value is maintained at the requester location.

Field Name: QLACBRBF

This is an *exception* field.

Trace - SERVER

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

Trace - PRODUCT ID

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID
It consists of 3 characters and can have the following values:

Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)
It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Trace - PRODUCT VERSION

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID
It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)

It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

Trace - METHOD

The method of access: DB2 private protocol, DRDA protocol, or both.

This field is invalid if unique or summary rollup data is present. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: ADPROTOC

Trace - REQUESTER ELAP.TIME

The elapsed time at the requester. It includes the total of DB2 and network time.

Field Name: ADDSELRQ

Trace - DBAT WAITING TIME

Total elapsed time spent waiting for an available database access agent slot.

Field Name: QLACMDWT

Trace - CONVERSATIONS INITIATED

The number of conversations (both successful and unsuccessful) initiated by the requester location to be executed at the server location. This number is maintained at the requester.

Field Name: QLACCNVS

Trace - CONVERSATIONS QUEUED

A number of conversation requests queued by DDF that are waiting for allocation. This value is maintained at the requester location.

If the value is a large number, you might want to increase the limit for the number of conversations.

Field Name: QLACCNVQ

This is an *exception* field.

Trace - CONVERSATION TERMINATED

The number of terminated conversations in the server block (DB2 private protocol only). It is maintained at the requester location.

This number can be different from the number of successful conversation allocations, because some conversations might not have been terminated when the accounting record was written.

Field Name: QLACCNVT

This is an *exception* field.

Trace - COMMT(1)SENT

The number of commit requests sent to the server (single-phase commit protocol) and committed requests sent to the participant (two-phase commit protocol).

Field Name: QLACCOMS

This is an *exception* field.

Trace - ROLLB(1)SENT

The number of abort requests sent to the server (single-phase commit protocol) and backout requests sent to the participant (two-phase commit protocol).

Field Name: QLACABRS

This is an *exception* field.

Trace - SQL SENT

The number of SQL statements sent to the server location. This value is maintained at the requesting location.

Field Name: QLACSQLS

This is an *exception* field.

Trace - ROWS RECEIVED

The number of rows of data retrieved from the server location. This value is maintained at the requester location.

Special Considerations:

1. The number of rows received from the server location does not include either the SQLDA or SQLCA.
2. Block fetch can significantly affect the number of rows sent across the network. When used with non-UPDATE cursors, block fetch puts as many rows as possible into the message buffer, and transmits the buffer across the network without requiring a VTAM message. Consequently, more rows of data might be sent from the server location than are received by the reporting (requester) location. This is especially true when DB2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages sent by the requester.

Field Name: QLACROWR

This is an *exception* field.

Trace - NBR RLUP THREADS

The number of threads to roll data into this QLAC data section. Non-rollup QLACs have a value of 1 and rollup QLACs have a value of 1 or more.

Field Name: QLACRLNU

Trace - MESSAGES SENT

The number of messages sent to the location. It is maintained at the location where the messages originated.

Field Name: QLACMSGS

Trace - MESSAGES RECEIVED

The number of messages received from the location. This value is maintained at the location where the messages were received.

More messages might be sent from the server location than are received by the requester because of the way in which distributed SQL statements are processed internally.

Field Name: QLACMSGR

Trace - BYTES SENT

The number of bytes the server location sent to the requester location. This value is maintained at the server location.

More bytes of data might be sent from the server location than are received by the requester due to the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTS

Trace - BYTES RECEIVED

The number of bytes the server location received from the requester location.

More bytes of data might be sent from the server location than are received by the requester, because of the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTR

Trace - BLOCKS RECEIVED

The number of blocks received using block fetch. This value is maintained at the requester location.

Field Name: QLACBRBF

Drain and Claim

This topic shows detailed information about "Accounting - Drain and Claim".

This block contains information about requesting a drain or a claim.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Drain and Claim

The field labels shown in the following sample layout of "Accounting - Drain and Claim" are described in the following section.

```
Report:                                Trace:

DRAIN/CLAIM      AVERAGE     TOTAL     DRAIN/CLAIM      TOTAL
--------------  --------  --------     ------------  --------
DRAIN REQUESTS      0.00         0     DRAIN REQST          0
DRAIN FAILED        0.00         0     DRAIN FAILED         0
CLAIM REQUESTS     15.00        15     CLAIM REQST         37
CLAIM FAILED        0.00         0     CLAIM FAILED         0
```

DRAIN REQUESTS (DRAIN REQST)

The number of drain requests.

Field Name: QTXADRNO

DRAIN FAILED

The number of unsuccessful drain requests.

Field Name: QTXADRUN

CLAIM REQUESTS (CLAIM REQST)

The number of claim requests.

Field Name: QTXACLNO

CLAIM FAILED

The number of unsuccessful claim requests.

Field Name: QTXACLUN

Dynamic SQL Statement

This topic shows detailed information about "Accounting - Dynamic SQL Statement".

This block provides information about the dynamic SQL statement.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Dynamic SQL Statement

The field labels shown in the following sample layout of "Accounting - Dynamic SQL Statement" are described in the following section.

```
Report:                                    Trace:

DYNAMIC SQL STMT       AVERAGE     TOTAL      DYNAMIC SQL STMT         TOTAL
------------------    --------  --------      --------------------  --------
REOPTIMIZATION            0.00         0      REOPTIMIZATION               0
NOT FOUND IN CACHE        0.00         0      NOT FOUND IN CACHE           0
FOUND IN CACHE            0.00         0      FOUND IN CACHE               0
IMPLICIT PREPARES         7.00         7      IMPLICIT PREPARES            0
PREPARES AVOIDED          0.00         0      PREPARES AVOIDED             0
CACHE_LIMIT_EXCEEDED      0.00         0      CACHE_LIMIT_EXCEEDED         0
PREP_STMT_PURGED          0.00         0      PREP_STMT_PURGED             0
STABILIZED PREPARE        0.00         0      STABILIZED PREPARE           0
CSWL - STMTS PARSED       0.00         0      CSWL - STMTS PARSED          0
CSWL - LITS REPLACED      0.00         0      CSWL - LITS REPLACED         0
CSWL - MATCHES FOUND      0.00         0      CSWL - MATCHES FOUND         0
CSWL - DUPLS CREATED      0.00         0      CSWL - DUPLS CREATED         0
```

REOPTIMIZATION

The total number of times reoptimization occurs because the value of the host variable or parameter marker changes.

Field Name: QXSTREOP

NOT FOUND IN CACHE

The number of times that DB2 searched the prepared statement cache but could not find a suitable prepared statement.

Field Name: QXSTNFND

FOUND IN CACHE

The number of times a PREPARE command was satisfied by copying a statement from the prepared statement cache.

Field Name: QXSTFND

IMPLICIT PREPARES

An implicit prepare occurs when the user copy of the prepared SQL statement no longer exists in the local dynamic SQL cache and the application plan or package is bound with KEEPDYNAMIC YES.

If the skeleton copy of the prepared SQL statement exists in the global dynamic SQL cache in the EDM pool, a short prepare is executed, otherwise a full prepare is executed.

Field Name: QXSTIPRP

PREPARES AVOIDED

This field indicates the number of times where no SQL PREPARE or EXECUTE IMMEDIATE was issued by the application and a copy of a prepared SQL statement was found in local dynamic SQL cache.

When an application plan or package is bound with KEEPDYNAMIC YES, a copy of each prepared SQL statement for the application thread is held in the local dynamic SQL cache and kept across a commit boundary.

An application thread can save the total cost of a prepare by using a copy of the prepared statement in the local dynamic SQL cache from an earlier prepare by the same thread. To do this, the application must be modified to avoid issuing repetitive SQL PREPAREs for the same SQL statement.

Field Name: QXSTNPRP

CACHE_LIMIT_EXCEED

The number of times statements are invalidated in the local dynamic SQL cache because the MAXKEEPD limit has been reached and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDEXP

PREP_STMT_PURGED

The number of times statements are invalidated in the local dynamic SQL cache because of SQL DDL or updated RUNSTATS information and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDINV

STABILIZED PREPARE

The number of loads from the catalog.

It shows the number of times a PREPARE request was satisfied by making a copy from the stabilized statement in the SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement was found in the prepared statement cache. This field should be identical to QISEDPSL, but it is reported from the QXST section (SQL Statement Execution).

Field Name: QXSTSFND

CSWL - STMTS PARSED

The number of times DB2 parsed dynamic statements because CONCENTRATE STATEMENTS WITH LITERALS behavior was used for the prepare of the statement for the dynamic statement cache.

Field Name: QXSTCWLP

CSWL - LITS REPLACED

The number of times DB2 replaced at least one literal in a dynamic statement because CONCENTRATE STATEMENTS WITH LITERALS was used for the prepare of the statement for dynamic statement cache.

Field Name: QXSTCWLR

CSWL - MATCHES FOUND

The number of times DB2 found a matching reusable copy of a dynamic statement in cache during prepare of a statement that had literals replaced because of CONCENTRATE STATEMENTS WITH LITERALS.

Field Name: QXSTCWLM

CSWL - DUPLS CREATED

The number of times DB2 created a duplicate STMT instance in the statement cache for a dynamic statement that had literals replaced by CONCENTRATE STATEMENTS WITH LITERALS behavior. The duplicate STMT instance was needed because a cache match failed because the literal reusability criteria was not met.

Field Name: QXSTCWLD

Global Contention L-Locks

This topic shows detailed information about "Accounting - Global Contention L-Locks".

This block provides global contention information for a logical lock (L-lock) at plan level. It shows conflicts on locking requests between different DB2 members of a data sharing group when those members are trying to serialize shared resources.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Global Contention L-Locks

The field labels shown in the following sample layout of "Accounting - Global Contention L-Locks" are described in the following section.

```
Report:                                                  Trace:

GLOBAL       CONTENTION       L-LOCKS  AVERAGE TIME  AV.EVENT    GLOBAL       CONTENTION       L-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------  ------------  --------    -----------------------------------  ------------  --------
L-LOCKS                                  0.003460      2.00    L-LOCKS                                  0.000000         0
 PARENT (DB,TS,TAB,PART)                 0.002406      1.00     PARENT (DB,TS,TAB,PART)                 0.000000         0
 CHILD  (PAGE,ROW)                       0.000000      0.00     CHILD  (PAGE,ROW)                       0.000000         0
 OTHER                                   0.001054      1.00     OTHER                                   0.000000         0
```

L-LOCKS - AVERAGE TIME/ELAPSED TIME

The accumulated global contention wait time for all L-locks.

Field Name: ADLKSUST

L-LOCKS - AV.EVENT/EVENTS

The number of global contention waits for all L-locks.

Field Name: ADLKSUSC

PARENT (DB,TS,TAB,PART) - AVERAGE TIME/ELAPSED TIME

The accumulated global contention wait time for parent L-locks.

A parent L-lock can be one of the following types:

- Database
- Tablespace
- Table
- Partition

Background and Tuning Information

Performance Expert might adjust this value if the thread was suspended when performance data was gathered.

Field Name: QWACAWTJ

PARENT (DB,TS,TAB,PART) - AV.EVENT/EVENTS

The number of global contention wait events for parent L-locks.

Field Name: ADLPSUSC

CHILD (PAGE,ROW) - AVERAGE TIME/ELAPSED TIME

The accumulated global contention wait time for child L-locks.

A child L-lock type can be:

- Page
- Row

Field Name: QWACAWTK

CHILD (PAGE,ROW) - AV.EVENT/EVENTS

The number of global contention wait events for child L-locks.

Field Name: ADLCSUSC

OTHER - AVERAGE TIME/ELAPSED TIME

The accumulated global contention wait time for other L-locks. Global extend lock is acquired in exclusive mode by Inserters before an extend service task switch.

Field Name: QWACAWTM

OTHER - AV.EVENT/EVENTS

The number of global contention wait events for other L-locks.

Field Name: ADLOSUSC

Global Contention P-Locks

This topic shows detailed information about "Accounting - Global Contention P-Locks".

This block provides global contention information for a physical lock (P-lock) at plan level. It shows conflicts on locking requests between different DB2 members of a data sharing group when those members are trying to serialize shared resources.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Global Contention P-Locks

The field labels shown in the following sample layout of "Accounting - Global Contention P-Locks" are described in the following section.

```
Report:                                                  Trace:

GLOBAL       CONTENTION       P-LOCKS  AVERAGE TIME  AV.EVENT     GLOBAL       CONTENTION       P-LOCKS  ELAPSED TIME    EVENTS
-----------------------------------------  ------------  --------  -----------------------------------------  ------------  --------
P-LOCKS                                     0.000000      0.00     P-LOCKS                                     0.000000         0
 PAGESET/PARTITION                          0.000000      0.00      PAGESET/PARTITION                          0.000000         0
 PAGE                                       0.000000      0.00      PAGE                                       0.000000         0
 OTHER                                      0.000000      0.00      OTHER                                      0.000000         0
```

P-LOCKS - AVERAGE TIME/ELAPSED TIME

The accumulated global contention wait time for all P-locks.

Field Name: ADPLSUST

P-LOCKS - AV.EVENT/EVENTS

The number of global contention waits for all P-locks.

Field Name: ADPLSUSC

PAGESET/PARTITION - AVERAGE TIME/ELAPSED TIME

The accumulated global contention time for pageset and partition P-locks.

Field Name: QWACAWTN

PAGESET/PARTITION - AV.EVENT/EVENTS

The number of global contention waits for pageset and partition P-locks.

Field Name: ADPSSUSC

PAGE - AVERAGE TIME/ELAPSED TIME

The accumulated global contention wait time for page P-locks.

Field Name: QWACAWTO

PAGE - AV.EVENT/EVENTS

The number of global contention waits for page P-locks.

Field Name: ADPPSUSC

OTHER - AVERAGE TIME/ELAPSED TIME

The accumulated global contention wait time for other P-locks. Includes suspension for Castout P-Locks and DBET locks. It could be because of Index Split processing which can be minimized if the Index key size is not large. If you can minimize the number of Index Keys in the Index, it will help to reduce the number of Index splits.

Field Name: QWACAWTQ

OTHER - AV.EVENT/EVENTS

The number of global contention waits for other P-locks.

Field Name: ADPOSUSC

Group Buffer Pool Activity

This topic shows detailed information about "Accounting - Group Buffer Pool Activity".

This block is printed for each active group buffer pool. When there is more than one active group buffer pool, a totals block is printed for each aggregation.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Group Buffer Pool Activity

The field labels shown in the following sample layout of "Accounting - Group Buffer Pool Activity" are described in the following section.

```
Report:                                 Trace:

GROUP BP1                AVERAGE        GROUP BP0                  TOTAL
----------------------  --------        --------------------  --------
GBP-DEPEND GETPAGES        0.00          GBP-DEPEND GETPAGES          0
READ(XI)-DATA RETUR        0.00          READ(XI)-DATA RETUR          0
READ(XI)-NO DATA RT        0.00          READ(XI)-NO DATA RT          0
READ(NF)-DATA RETUR        0.00          READ(NF)-DATA RETUR          0
READ(NF)-NO DATA RT        0.00          READ(NF)-NO DATA RT          0
PREFETCH PAGES READ        0.00          PREFETCH PAGES READ          0
CLEAN PAGES WRITTEN        0.00          CLEAN PAGES WRITTEN          0
UNREGISTER PAGE            0.00          UNREGISTER PAGE              0
ASYNCH GBP REQUESTS        0.00          ASYNCH GBP REQUESTS          0
EXPLICIT X-INVALID         0.00          EXPLICIT X-INVALID           0
ASYNCH SEC-GBP REQ         0.00          ASYNCH SEC-GBP REQ           0
PG P-LOCK LOCK REQ         0.00          PG P-LOCK LOCK REQ           0
 SPACE MAP PAGES           0.00           SPACE MAP PAGES             0
 DATA PAGES                0.00           DATA PAGES                  0
 INDEX LEAF PAGES          0.00           INDEX LEAF PAGES            0
PG P-LOCK UNLOCK REQ       0.00          PG P-LOCK UNLOCK REQ         0
PG P-LOCK LOCK SUSP        0.00          PG P-LOCK LOCK SUSP          0
 SPACE MAP PAGES           0.00           SPACE MAP PAGES             0
 DATA PAGES                0.00           DATA PAGES                  0
 INDEX LEAF PAGES          0.00           INDEX LEAF PAGES            0
WRITE AND REGISTER         0.00          WRITE AND REGISTER           0
WRITE & REGISTER MULT      0.00       WRITE & REGISTER MULT         0
CHANGED PAGES WRITTEN      0.00           CHANGED PAGES WRITTEN        0
COMPL CHECKS SUSPEND       0.00           COMPL CHECKS SUSPEND         0
```

GBP-DEPEND GETPAGES

The number of coupling facility READ requests required because the buffer was marked invalid. Data is returned from the group buffer pool.

Field Name: QBGAGG

READ(XI)-DATA RETUR

The number of coupling facility read requests required because the buffer was marked invalid. Data is returned from the group buffer pool.

Field Name: QBGAXD

READ(XI)-NO DATA RT

The number of synchronous coupling facility read requests necessary because the buffer was marked invalid. Data is not returned from the group buffer pool.

Field Name: ABGAXR

This is an *exception* field.

READ(NF)-DATA RETUR

The number of coupling facility read requests necessary because the requested page was not found in the buffer pool. Data is returned from the coupling facility.

Field Name: QBGAMD

This is an *exception* field.

READ(NF)-NO DATA RT

The number of synchronous coupling facility read requests necessary because the requested page was not found in the buffer pool. Data is not returned from the coupling facility.

Field Name: ABGAMR

This is an *exception* field.

PREFETCH PAGES READ

The number of pages read from the group buffer pool due to prefetch under the control of the agent.

Field Name: QBGAMN

This is an *exception* field.

CLEAN PAGES WRITTEN

The number of clean pages written to the group buffer pool.

Field Name: QBGAWC

This is an *exception* field.

UNREGISTER PAGE

The number of coupling facility requests to unregister a page.

Field Name: QBGADG

This is an *exception* field.

ASYNCH GBP REQUESTS

The number of asynchronous IXLCACHE invocations for the primary group buffer pool.

Field Name: QBGAHS

EXPLICIT X-INVALID

The number of times an explicit coupling facility cross-invalidation request was issued.

Field Name: QBGAEX

ASYNCH SEC-GBP REQ

The number of IXLCACHE invocations for the secondary group buffer pool.

Field Name: QBGA2H

PG P-LOCK LOCK REQ

The number of all page P-lock lock requests.

Field Name: ABGAPLR

SPACE MAP PAGES

The number of page P-lock lock requests for space map pages.

Field Name: QBGAP1

DATA PAGES

The number of page P-lock lock requests for data pages.

Field Name: QBGAP2

INDEX LEAF PAGES

The number of page P-lock lock requests for index-leaf pages.

Field Name: QBGAP3

PG P-LOCK UNLOCK REQ

The number of page P-lock unlock requests.

Field Name: QBGAU1

PG P-LOCK LOCK SUSP

The sum of all page P-lock lock suspensions.

Field Name: ABGAPLS

SPACE MAP PAGES

The number of page P-lock suspensions for space-map pages.

Field Name: QBGAS1

DATA PAGES

The number of page P-lock lock suspensions for data pages.

Field Name: QBGAS2

This is an *exception* field.

INDEX LEAF PAGES

The number of page P-lock lock suspensions for index-leaf pages.

Field Name: QBGAS3

WRITE AND REGISTER

The number of Write and Register (WAR) requests.

Field Name: QBGAWS

WRITE & REGISTER MULT

The number of write and register multiple (warm) requests.

Field Name: QBGAWM

CHANGED PAGES WRITTEN

The number of changed pages written to the group buffer pool as a result of write and register (WAR), or write and register multiple (WARM) requests.

Field Name: QBGASW

This is an *exception* field.

WRITE TO SEC-GBP

The number of requests to write changed pages to the secondary GBP for duplexing.

Field Name: QBGA2W

COMPL CHECKS SUSPEND

The number of completion checks for writes to the secondary GBP that were suspended because the write had not yet been completed.

Field Name: QBGA2S

Highlights

This topic shows the report and trace blocks for highlights. They present values such as the total number of threads and commitments for the entire group.

Accounting highlights report

The accounting highlights report shows general accounting information.

```
HIGHLIGHTS
--------------------------
#OCCURRENCES    :       13
#ALLIEDS        :       13
#ALLIEDS DISTRIB:        0
#DBATS          :        0
#DBATS DISTRIB. :        0
#NO PROGRAM DATA:       13
#NORMAL TERMINAT:       13
 #ROLLUP TRAN   :       13
#DDFRRSAF ROLLUP:        0
#ABNORMAL TERMIN:        0
#CP/X PARALLEL. :        0
#UTIL PARALLEL. :        0
#IO PARALLELISM :        0
#PCA RUP COUNT  :        0
#RUP AUTONOM. PR:        0
#AUTONOMOUS PR  :        0
#INCREMENT. BIND:        0
#COMMITS        :      215
#ROLLBACKS      :        0
#SVPT REQUESTS  :        0
#SVPT RELEASE   :        0
#SVPT ROLLBACK  :        0
MAX SQL CASC LVL:        0
UPDATE/COMMIT   :     0.00
SYNCH I/O AVG.  : 0.002932
MAX WFILE BLKS  :        0
#ZHL READ I/O   :   325.00
```

Figure 2. Accounting highlights report

#OCCURRENCES

The number of logical accounting records. A logical accounting record can contain more than one physical record.

This is the case, for example, in query CP and sysplex query parallelism, where several accounting records (IFCID 003 and, optionally, 239) are generated, namely one for the entire thread and one for each parallel task within the thread.

In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in a record.

This number is used for calculating averages (as a divisor) for class 1, 2, 3, and 5 times and events.

Field Name: ASOCCURS

#ALLIEDS

The number of allied threads. In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in this record for the corresponding end user.

Field Name: ASALLIED

#ALLIEDS DISTRIB

The number of allied-distributed threads. In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in this record for the corresponding end user.

Field Name: ASALLDST

#DBATS

The number of database access threads. In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in this record for the corresponding end user.

Field Name: ASDBATS

#DBATS DISTRIB.

The number of DBAT-distributed threads. In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in this record for the corresponding end user.

Field Name: ASDBATD

#NO PROGRAM DATA

The number of Accounting records without package data. In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it cannot be determined. In this case it is 0.

Field Name: ADNOPACK

#NORMAL TERMINAT

The number of normal terminations. Here is a list of reasons for termination and the corresponding field names:

Reason
Field Name

New user
ASNTNEWU

Deallocation
ASNTDEAL

Application program end
ASNTAPEN

Resignon
ASNTRESI

DBAT inactive
ASNTDBAT

RRS commit
ASRRSCOM

Note: Termination reasons in case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads are not counted when the accounting record is a roll-up accounting record.

Field Name: ASNORMTM

This is an *exception* field.

#ABNORMAL TERMIN

The number of abnormal terminations. Here is a list of reasons for termination and the corresponding field names:

Reason
Field Name

Application program abend
ASATAPAB

End of memory
ASATENDM

Resolve indoubt
ASATRIND

Cancel force
ASATCANF

Rollup termination
ASROLL

Field Name: ASABNOTM

This is an *exception* field.

#DDFRRSAF ROLLUP

The number of DDF/RRSAF rollup records with accumulated counter data for an end user.

A rollup record is written when the number of occurrences of the end user on the thread reaches the ZPARM value for ACCUMACC and due to one of the following reasons:

- The number of times the threshold was reached for the number of end-user occurrences when data was accumulated by end user for DDF or RRSAF.
- The number of times the DB2 storage threshold for Accounting blocks was reached for data accumulated by end user for DDF or RRSAF.
- The number of times the threshold for the staleness was exceeded when data was accumulated by end user for DDF or RRSAF.

Note: End user is defined as the concatenation of the following values:

- End-user user ID (QWHEUID, 16 bytes)
- End-user transaction name (QWHCEUTX, 32 bytes)
- End-user workstation name (QWHCEUWN, 18 bytes)

Field Name: ASCUTS

#ROLLUP TRAN

The number of rollup records.

It is calculated as:

```
SUM(QWACPCNT)
```

where

```
QWACRINV IN ('END USER ', 'BLOCK STOR', 'STALENESS ')
```

Example: If

- `ACCUMACC=10`
- all records have `QWACRINV='END USER'`

and

- there are 20 accounting records

then

#ROLLUP TRAN will be 200 (10 * 20)

If one of the records has

QWACRINV='BLOCK STOR',

and

QWACPCNT=7,

then

#ROLLUP TRAN will be 197 (10*19 + 1*7)

Field Name: ASROLL

#CP/X PARALLEL.

The number of originating accounting records where query CP and sysplex query parallelism was used for at least one SQL statement. I/O parallelism might have been used by other SQL statements.

Field Name: ASPARCPU

#UTIL PARALLEL.

The number of Accounting records that indicated that UTILITY parallelism was used by at least one SQL statement and query CP and sysplex query parallelism was not used by any SQL statement.

Field Name: ASPARUT

#IO PARALLELISM

The number of accounting records that indicated that I/O parallelism was used by at least one SQL statement and query CP and sysplex query parallelism was not used by any SQL statement.

Field Name: ASPARIO

#PCA RUP COUNT

The number of parallel child agents rolled into this record. The value depends on the record type:

1. For all non-rollup records, this value is 0.
2. For a parallel query rollup record, this value is the number of parallel child agents rolled into this record.
3. For a DDF/RRSAF rollup record, this value is the number of parallel query child agents rolled into this record. These agents are NOT counted in QWACPCNT.
4. For an autonomous procedure rollup record, this value is 0.

Field Name: APTCOUNT

#RUP AUTONOM. PR

The number of accounting records that indicated a roll-up autonomous thread.

Field Name: ADRUPATX

#AUTONOMOUS PR

The number of autonomous procedures that were executed:

1. For non-rollup records, this value is the number of autonomous procedures that were executed.
2. For a parallel query rollup record, this value is 0.
3. For a DDF or RRSAF rollup record, this value is the number of autonomous procedures that were executed. These procedures are NOT counted in QWACPCNT.
4. For autonomous procedures rollup records, this value is 0.

Field Name: AATCOUNT

#INCREMENT. BIND

The number of incremental binds (excluding prepare). It is incremented by:

- SQL statements with BIND VALIDATE(RUN) that fail at bind time and are bound again at execution time
- Static DDL statements (such as CREATE TABLE, DROP TABLE, LOCK TABLE) that use DB2 private protocol

Background and Tuning Information

If a plan is bound with VALIDATE(RUN), DB2 performs validity checks at bind time and rechecks any failures at run time. This can result in catalog contention and degraded application performance, depending on the number of statements flagged and how many times they are executed. Avoid VALIDATE(RUN) if possible. Ensure that all objects are created and all privileges are granted before bind, and select the VALIDATE(BIND) option.

Field Name: QXINCRB

This is an *exception* field.

#COMMITS

The number of successful two-phase (units of recovery) or single-phase (syncs) commit requests. It indicates the number of units of recovery that are completed successfully, and for which the associated commit duration locks were released. It represents the total number of commit requests processed by the DB2 subsystem, whether the request was an explicit or implicit external request from an IMS or a CICS connection, or an implicit internal request within DB2 when DB2 was the commit coordinator or conducted read-only commit processing as a commit participant on phase-1 calls from an IMS or CICS connection.

For parallel queries, only the commits from the initiating (parent) thread are recorded by this counter.

Field Name: QWACCOMM

This is an *exception* field.

#ROLLBACKS

The number of rollback requests. This is the number of units that were backed out, including rollbacks from attaches.

Special Considerations: This field contains the number of:

- Application program abends
- Application rollback requests
- Application deadlocks on database records
- Applications canceled by operator
- Thread abends due to resource shortage

Field Name: QWACABRT

This is an *exception* field.

#SVPT REQUESTS

The number of named SAVEPOINTs set within a transaction.

Field Name: QWACSVPT

#SVPT RELEASE

The number of RELEASE SAVEPOINT statements executed.

Background and Tuning Information

Release savepoints as soon as possible. Outstanding savepoints block SQL operations that resolve remote locations. DB2 always releases outstanding savepoints when a transaction ends.

Field Name: QWACRLSV

This is an *exception* field.

#SVPT ROLLBACK

The number of ROLLBACK TO SAVEPOINT statements executed.

Field Name: QWACRBSV

MAX SQL CASC LVL

The maximum level of indirect SQL cascading. This includes cascading because of triggers, UDFs, or stored procedures.

Field Name: QXCASCDP

This is an *exception* field.

UPDATE/COMMIT

The sum of SQL INSERT, SQL UPDATE, and SQL DELETE statements executed.

Field Name: ASIUD

This is an *exception* field.

SYNCH I/O AVG.

The synchronous I/O suspension time per event.

Field Name: AAIOTMCN

This is an *exception* field.

MAX WFILE BLKS

The maximum number of work-file blocks that are used by this agent at any given point in time (traditional work-file blocks, declared global temporary tables (DGTT) and DGTT indexes) (DB2 field QWAC_WORKFILE_MAX).

Field Name: AWWFMAX

#ZHL READ I/O

The number of successful read I/Os done with zHyperLink.

Field Name: QBACSYI

Accounting highlights trace

The accounting highlights trace shows general accounting information.

```
HIGHLIGHTS
--------------------------
THREAD TYPE   : ALLIED
TERM.CONDITION: NORMAL
INVOKE REASON : PROGRM END
PARALLELISM   : CP
PCA RUP COUNT :          0
RUP AUTONOM.PR:          0
AUTONOMOUS PR :          0
QUANTITY      :        304
COMMITS       :         23
ROLLBACK      :          0
SVPT REQUESTS :          0
SVPT RELEASE  :          0
SVPT ROLLBACK :          0
INCREM.BINDS  :          0
UPDATE/COMMIT :       5.91
SYNCH I/O AVG.:   0.000375
PROGRAMS      :          1
MAX CASCADE   :          0
MAX WFILE BLKS:      30720
ZHL READ I/O  :        325
```

Figure 3. Accounting highlights trace

THREAD TYPE

The type of thread. This field can contain one of the following values:

ALLIED
The thread is not involved in any distributed activity.

ALLDDIST
The thread is initiated by a DB2 attach and requests data from one or more server locations.

DBAT
The thread is initiated, created, and performing work on behalf of a remote (requester) location. The value DBAT also includes DBAT DISTRIBUTED threads that are initiated by a requester location and executed by the server location that in turn requests data from another server location.

Background and Tuning Information

If the thread is involved in distributed activity, some monitored values can produce different results. For example, the class 1 elapsed time for a distributed thread is higher because the network time is also included.

Field Name: ADTHRTYP

TERM.CONDITION

Termination condition. Signon in a CICS environment is controlled by an additional RCT option, TXIDSO. If YES, resignon occurs if the only identifier changed is the transaction ID. If NO, resignon does not occur.

Field Name: ADTERMCO

INVOKE REASON

The status of the thread. The values are:

Status
Description

CAN FORCE
CANCEL FORCE. The Stop Force command terminated, abnormal program termination.

DBAT INACT
DDF thread is becoming inactive.

DEALLOC
Deallocation, normal program termination.

TYP2 INACT
DDF TYPE 2 thread is becoming inactive.

MEMORY END
End of memory, abnormal termination.

MON READS
IFI reads request for IFCID 147.

NEW USER
New user, the authorization Id changed.

PROG ABEND
End of task. Application program abended.

PROGRM END
End of task. Application program terminated normally.

RESIGNON
Same user resign-on with on with same authorization ID.

RES INDBT
Resolve indoubt, abnormal program termination.

RRS COMMIT
Termination due to a commit of an application attached to the Recoverable Resource Manager Services Facility (RRSAF).

STALENESS
Accumulating data by end user for DDF or RRSAF and accumulated data has exceeded the staleness threshold.

BLOCK STOR
Accumulating data by end user for DDF or RRSAF and internal DB2 storage threshold has been reached.

TASK END
End of task - application program terminated normally.

END USER
Accumulating data by end user for DDF or RRSAF and threshold reached for number end user occurrences.

Field Name: ADINVRSN

PARALLELISM

An indicator to show which type of parallel processing is used when SQL statements are executed:

SQL statement
Parallel processing

I/O
For threads exploiting query I/O parallelism but no query CP or sysplex query parallelism

CP
For threads exploiting query CP parallelism

SYSPLEX
For threads exploiting sysplex query parallelism

UTILITY
For utility threads with subtasks

NO
For threads without subtasks

Field Name: ADPARLEV

PCA RUP COUNT

The number of parallel child agents rolled into this record. The value depends on the record type:

1. For all non-rollup records, this value is 0.
2. For a parallel query rollup record, this value is the number of parallel child agents rolled into this record.
3. For a DDF/RRSAF rollup record, this value is the number of parallel query child agents rolled into this record. These agents are NOT counted in QWACPCNT.
4. For an autonomous procedure rollup record, this value is 0.

Field Name: APTCOUNT

RUP AUTONOM.PR

The number of accounting records that indicated a roll-up autonomous thread.

Field Name: ADRUPATX

AUTONOMOUS PR

The number of autonomous procedures that were executed:

1. For non-rollup records, this value is the number of autonomous procedures that were executed.
2. For a parallel query rollup record, this value is 0.
3. For a DDF or RRSAF rollup record, this value is the number of autonomous procedures that were executed. These procedures are NOT counted in QWACPCNT.
4. For autonomous procedures rollup records, this value is 0.

Field Name: AATCOUNT

QUANTITY

The number of parallel child agents, or Accounting intervals rolled up, or autonomous procedures rolled up. The value depends on the record type:

- For a non-rollup parent record, this value is the number of parallel child agents that were created.
- For a non-rollup child agent record, this value is 0.
- For a parallel query rollup record, this value is the number of parallel child agents rolled into the record.
- For a DDF/RRSAF rollup record, this value is the number of Accounting intervals that were rolled into the record for the corresponding end user.
- For an autonomous procedure rollup record, this value is the number of autonomous procedures rolled into the record.

Field Name: QWACPCNT

COMMITS

The number of successful two-phase (units of recovery) or single-phase (syncs) commit requests. It indicates the number of units of recovery that are completed successfully, and for which the associated commit duration locks were released. It represents the total number of commit requests processed by the DB2 subsystem, whether the request was an explicit or implicit external request from an IMS or a CICS connection, or an implicit internal request within DB2 when DB2 was the commit coordinator or conducted read-only commit processing as a commit participant on phase-1 calls from an IMS or CICS connection.

For parallel queries, only the commits from the initiating (parent) thread are recorded by this counter.

Field Name: QWACCOMM

This is an *exception* field.

ROLLBACK

The number of rollback requests. This is the number of units that were backed out, including rollbacks from attaches.

Special Considerations: This field contains the number of:

- Application program abends
- Application rollback requests
- Application deadlocks on database records
- Applications canceled by operator
- Thread abends due to resource shortage

Field Name: QWACABRT

This is an *exception* field.

SVPT REQUESTS

The number of named SAVEPOINTs set within a transaction.

Field Name: QWACSVPT

SVPT RELEASE

The number of RELEASE SAVEPOINT statements executed.

Background and Tuning Information

Release savepoints as soon as possible. Outstanding savepoints block SQL operations that resolve remote locations. DB2 always releases outstanding savepoints when a transaction ends.

Field Name: QWACRLSV

This is an *exception* field.

SVPT ROLLBACK

The number of ROLLBACK TO SAVEPOINT statements executed.

Field Name: QWACRBSV

INCREM.BINDS

The number of incremental binds (excluding prepare). It is incremented by:

- SQL statements with BIND VALIDATE(RUN) that fail at bind time and are bound again at execution time
- Static DDL statements (such as CREATE TABLE, DROP TABLE, LOCK TABLE) that use DB2 private protocol

Background and Tuning Information

If a plan is bound with VALIDATE(RUN), DB2 performs validity checks at bind time and rechecks any failures at run time. This can result in catalog contention and degraded application performance, depending on the number of statements flagged and how many times they are executed. Avoid VALIDATE(RUN) if possible. Ensure that all objects are created and all privileges are granted before bind, and select the VALIDATE(BIND) option.

Field Name: QXINCRB

This is an *exception* field.

UPDATE/COMMIT

The sum of SQL INSERT, SQL UPDATE, and SQL DELETE statements executed.

Field Name: ASIUD

This is an *exception* field.

SYNCH I/O AVG.

The synchronous I/O suspension time per event.

Field Name: AAIOTMCN

This is an *exception* field.

PROGRAMS

The number of packages or DBRMs for which accounting data was collected.

Field Name: QWACPKGN

This is an *exception* field.

MAX CASCADE

The maximum level of indirect SQL cascading. This includes cascading because of triggers, UDFs, or stored procedures.

Field Name: QXCASCDP

This is an *exception* field.

MAX WFILE BLKS

The maximum number of work-file blocks that are used by this agent at any given point in time (traditional work-file blocks, declared global temporary tables (DGTT) and DGTT indexes) (DB2 field QWAC_WORKFILE_MAX).

Field Name: AWWFMAX

ZHL READ I/O

The number of successful read I/Os done with zHyperLink.

Field Name: QBACSYI

Identification

This topic shows detailed information about "Accounting - Identification".

This block is shown for the accounting trace. It displays OMEGAMON XE for DB2 PE identifiers present in an accounting trace. These identifiers can be used on the ORDER option for an accounting report.

Accounting - Identification

The field labels shown in the following sample layout of "Accounting - Identification" are described in the following section.

```
--- IDENTIFICATION -------------------------------------------------------------------------------------------------
ACCT TSTAMP: 02/14/13 10:20:09.30    PLANNAME: IS-255-0       WLM SCL: STCCMD          CICS NET: N/A
BEGIN TIME : 02/14/13 10:20:01.14    PROD TYP: JDBC DRIVER                             CICS LUN: N/A
END TIME   : N/P                     PROD VER: V3 R66M0       LUW NET: G99A83BD        CICS INS: N/A
REQUESTER  : ::FFFF:9.154.1.1#1      CORRNAME: db2jcc_a       LUW LUN: GAC7
MAINPACK   : IS-255-0                CORRNMBR: ppli           LUW INS: CAEBCE3316A8    ENDUSER : IS-128--012345#1
PRIMAUTH   : MTS                     CONNTYPE: DRDA           LUW SEQ:            2    TRANSACT: IS-255-012345678901234567890123456789012#1
ORIGAUTH   : MTS                     CONNECT : SERVER                                  WSNAME  : IS-255-012345678#1
```

ACCT TSTAMP

The store clock value of the time when the accounting record was generated.

Field Name: QWHSSTCK

PLANNAME

The plan name. It is blank for a DB2 command thread; otherwise:

DSNESPRR
For SPUFI with repeatable read.

DSNESPCS
For SPUFI with cursor stability.

DSNUTIL
For utilities.

DSNTEP2
For DSNTEP2.

DSNBIND
For binding.

The application plan name
For IMS.

The application plan name
For CICS.

A blank plan name
For IMS and CICS commands.

DSQPLAN
For QMF.

The first 8 bytes of the application name from field QMDAAPPL
For DRDA connections to the common servers. Full application name from field QMDAAPPL reported with label CLIENT APPLNAME in section INITIAL DB2 COMMON SERVER OR UNIVERSAL JDBC DRIVER CORRELATION.

Field Name: QWHCPLAN

This is an *exception* field.

WLM SCL

The MVS™ workload manager service class name. This field is used for database access threads on MVS 5.2 or later.

Field Name: QWACWLME

CICS NET

The network ID of the accounting correlation token used to correlate DB2 IFC records to CICS records for the CICS transaction.

Field Name: ADCICSNI

BEGIN TIME

The beginning store clock value for the period covered by the accounting record. You can determine the elapsed time of the application by subtracting this field from the ending store clock value (QWACESC). Threads that do not terminate (such as CICS primed threads and IMS wait-for-input message regions) can have an ending clock value that includes the time during which the thread was inactive and waiting for work.

If a roll-up trace record is written with accumulated counter data, QWACBSC represents the earliest begin store clock value for a thread that has rolled data into the record. In this case, QWACESC shows the accumulated elapsed time.

Field Name: QWACBSC

PROD TYP

Shows the product identifier (ID) of the requester. It can have the following values:

DB2
For DB2 UDB for z/OS

SQL/DS
For DB2 UDB for VSE and VM

JDBC DRIVER
For Universal JDBC driver

COMMON SERV
For DB2 UDB for Linux®, UNIX, Windows

DB2/400
For DB2 UDB for iSeries

Otherwise, it shows the first 3 characters of the product ID, or N/P if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup. For parallel query rollup records, the value will be derived from the parent record.

Field Name: QWHDPRID

CICS LUN

The LU name of the accounting correlation token used to correlate DB2 IFC records to CICS records for the CICS transaction.

Field Name: ADCICSLU

END TIME

The ending store clock value. You can use this field with the beginning store clock value (QWACBSC) to determine the elapsed time of an application.

If a roll-up record is written with accumulated accounting data, QWACESC contains the accumulated elapsed time. In Accounting Trace reports, the elapsed time is shown under CLASS 1: NONNESTED ELAPSED TIME and the END TIME is reported as N/P, because QWACESC does not contain a timestamp. In the Accounting FILE GENERAL table, the accumulated elapsed time QWACESC is stored in column CLASS1_ELAPSED and column CLASS1_TIME_END contains a timestamp 1900-01-01-00.00.00.000000.

Field Name: QWACESC

PROD VER

The version, release, and modification level of the product, which generated the accounting information. It has the following format:

Vv
Version level

Rr
Release level

Mm
Modification level

N/P is shown if the Product Type is not present or the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup. For parallel query rollup records, the value will be derived from the parent record.

Field Name: QWHDPRID

LUW NET

The network ID.

Field Name: QWHSNID

CICS INS

The instance number of the accounting correlation token.

Background and Tuning Information

The accounting correlation token is made up from the CICS Token Network ID, Token LU name, and instance number.

CICS generates an LU 6.2 unit of work ID for every CICS task, whether terminal or non-terminal driven.

If TOKENE=YES in the RCT entry, then the CICS logical unit of work ID (LUWID) less the commit count (2 bytes) is passed into this field. The first eight bytes are the network name. For CICS, this is a variable-length field, so the first eight bytes are right padded with blanks. The second eight bytes give the LU name. This is also a variable-length field in CICS and is, therefore, also right padded with blanks, as necessary. The final six bytes are the uniqueness value.

Field Name: ADCICSIN

REQUESTER

The location name of the requester. If the thread is an allied thread (no distributed requests) or the thread is an allied-distributed thread (this location is the requester), OMEGAMON XE for DB2 PE sets this field equal to the local location. If the thread is a database access thread (this location is a server).

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup. For parallel query rollup records, the value will be derived from the parent record.

Field Name: QWHDRQNM

CORRNAME

This field shows the correlation name. It is obtained by translating the correlation ID into correlation name and number. The default translation depends on the connection type of the thread:

Batch
Job name

TSO or CAF
Original authorization ID

CICS
Transaction ID

IMS
Application PST

RRSAF
Characters 1 to 8 of the parameter correlation ID specified for SIGNON.

You can define your own correlation ID translation, which overrides the default translation.

Field Name: ADCORNME

LUW LUN

The name of the logical unit.

Field Name: QWHSLUNM

MAINPACK

The MAINPACK value, which is derived from a package name. If this is not possible (for example, if there are no QPAC sections), the MAINPACK value is initialized to the plan name.

Field Name: ADMAINPK

This is an *exception* field.

CORRNMBR

This field shows the correlation number. It is obtained by translating the correlation ID into correlation name and number. The default translation depends on the connection type of the thread:

Batch
Blank

TSO or CAF
Blank

CICS
Pool thread

IMS
Application PSBNAME

RRSAF
Characters 9 - 12 of the parameter correlation ID specified for SIGNON.

You can define your own correlation ID translation which overrides the default translation.

Field Name: ADCORNMB

LUW INS

The instance number. When concatenated with the fully qualified network name, it uniquely identifies a distributed thread.

Field Name: QWHSLUUV

ENDUSER

The user ID of the workstation end user. This user ID can be different from the authorization ID used to connect to DB2. This field contains blanks if the client does not supply this information.

Field Name: QWHCEUID

PRIMAUTH

The primary authorization ID from a connection or sign on. The connection authorization exit and the sign on authorization exit can change the primary authorization ID so that it differs from the original primary authorization ID (ORIGAUTH). Distributed authorization ID translation can also change the primary authorization ID.

Field Name: QWHCAID

CONNTYPE

The connecting system type code (in hexadecimal). This field can have a null value. Utilities, for example, do not have a connecting system type.

Field Name: QWHCATYP

LUW SEQ

The LUW sequence number, which identifies the last commit scope that the logical unit participated in. This number is incremented whenever a thread is committed or rolled back.

Field Name: QWHSLUCC

TRANSACT

The transaction or application name that is run.

Field Name: QWHCEUTX

ORIGAUTH

The original authorization ID. Possible values are:

- For TSO: the logon ID
- For batch: the user ID on the job statement
- For IMS (message-driven regions): the sign on ID, LTERM, ASXBUSR, or PSB name
- For IMS (control regions): the user ID on the job statement, or the RACF® started procedure entry if RACF is used
- For CICS: the user ID, TERM ID, TRAN ID, or as specified in the resource control table

- For MVS operator commands and DB2 system internal agents: SYSOPR
- For a distributed application server (AS):
  - If the application requester (AR) is a DB2 system, then this is the same value that was assigned at the AR.
  - If the application requester is not a DB2 system, then this is the user ID used to make the initial connection with the application server.

Field Name: QWHCOPID

CONNECT

The connection name. Possible values are:

- For batch: BATCH
- For TSO: TSO
- For QMF: DB2CALL
- For utilities: UTILITY
- For DB2 private protocol this is the DB2 subsystem ID
- For IMS: the IMS ID
- For CICS, this is the CICS ID
- For DRDA connections from non-DB2 requesters: SERVER

Field Name: QWHCCN

This is an *exception* field.

WSNAME

The end user's workstation name.

Field Name: QWHCEUWN

Initial DB2 Common Server Traces

This topic shows the trace blocks for the initial DB2 common server.

Initial DB2 Common Server Correlation

This topic shows detailed information about "Accounting - Initial DB2 Common Server Correlation".

This block shows the Accounting trace for the initial DB2 common server correlation.

Accounting - Initial DB2 Common Server Correlation

The field labels shown in the following sample layout of "Accounting - Initial DB2 Common Server Correlation" are described in the following section.

```
---- INITIAL DB2 COMMON SERVER CORRELATION -------------------------------------------------------------------------------
PRODUCT ID     : COMMON SERV
PRODUCT VERSION: V9 R1 M1
CLIENT PLATFORM: AIX 64BIT
CLIENT APPLNAME: PRCCHNG
CLIENT AUTHID  : USRT001
DDCS ACC.SUFFIX: "BLANK"
```

PRODUCT ID

The product identifier of the requester:

DB2
DB2 UDB for z/OS

SQL/DS
DB2 UDB for VSE and VM

COMMON SERV
DB2 UDB for Linux, UNIX, and Windows

DB2/400
DB2 UDB for iSeries

N/P
If the record was written at the application requester location

Otherwise, it shows the first 3 characters of the product ID.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRIDP

PRODUCT VERSION

The version, release, and modification level of the product, which generated the accounting information. It has the following format: *vv rr m*, where:

vv
Version level

rr
Release level

m
Modification level

N/P is shown if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRIDV

CLIENT PLATFORM

The client platform, such as AIX®. This is a 1 to 18 character field padded with blanks.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPLAT

CLIENT APPLNAME

The name of the client application. This is a 1 to 20 character field padded with blanks. An example is "PAYROLL".

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAAPPL

CLIENT AUTHID

The client authorization ID of an application process. This is a 1 to 8 character field padded with blanks. An example is "SMITH".

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAATID

DDCS ACC.SUFFIX

The account suffix. The maximum length of this field is 200 bytes. This field is the user-supplied portion (suffix) of the accounting string. An example is "DEFAULT_DRDA". A value of zero in QMDASFLN Indicates there is no account suffix.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDASUFX

Initial DB2 Common Server or Universal JDBC Driver Correlation

This topic shows detailed information about "Accounting - Initial DB2 Common Server or Universal JDBC Driver Correlation".

This block shows the accounting trace for the initial DB2 common server or universal JDBC driver correlation.

Accounting - Initial DB2 Common Server or Universal JDBC Driver Correlation

The field labels shown in the following sample layout of "Accounting - Initial DB2 Common Server or Universal JDBC Driver Correlation" are described in the following section.

```
---- INITIAL DB2 COMMON SERVER OR UNIVERSAL JDBC DRIVER CORRELATION ------------------------------------------------------------------
 PRODUCT ID     : JDBC DRIVER
 PRODUCT VERSION: V3 R66M0
 CLIENT PLATFORM: IS-255-01234567890
 CLIENT APPLNAME: IS-255-0123456789012
 CLIENT AUTHID  : IS-128--
 DDCS ACC.SUFFIX: IS-255-012345678901234567890l2#1
```

PRODUCT TYP

Shows the product identifier (ID) of the requester. It can have the following values:

DB2
For DB2 UDB for z/OS

SQL/DS
For DB2 UDB for VSE and VM

JDBC DRIVER
For Universal JDBC driver

COMMON SERV
For DB2 UDB for Linux, UNIX, Windows

DB2/400
For DB2 UDB for iSeries

Otherwise, it shows the first 3 characters of the product ID, or N/P if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRID

PRODUCT VERSION

The version, release, and modification level of the product, which generated the accounting information. It has the following format: *vv rr m*, where:

vv
Version level

rr
Release level

m
Modification level

N/P is shown if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRIDV

CLIENT PLATFORM

The client platform, such as AIX. This is a 1 to 18 character field padded with blanks.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPLAT

CLIENT APPLNAME

The name of the client application. This is a 1 to 20 character field padded with blanks. An example is "PAYROLL".

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAAPPL

CLIENT AUTHID

The client authorization ID of an application process. This is a 1 to 8 character field padded with blanks. An example is "SMITH".

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAATID

DDCS ACC.SUFFIX

The account suffix. The maximum length of this field is 200 bytes. This field is the user-supplied portion (suffix) of the accounting string. An example is "DEFAULT_DRDA". A value of zero in QMDASFLN Indicates there is no account suffix.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDASUFX

Initial DB2 Requester Correlation

This topic shows detailed information about "Accounting - Initial DB2 Requester Correlation".

This block shows the accounting trace for the initial DB2 requester correlation.

Accounting - Initial DB2 Requester Correlation

The field labels shown in the following sample layout of "Accounting - Initial DB2 Requester Correlation" are described in the following section.

```
---- INITIAL DB2 REQUESTER CORRELATION ------------------------------------------------------------------------------------------
PRODUCT ID     : DB2
PRODUCT VERSION: CCCCCCCC
LOCATION NAME  : CCCCCCCCCCCCCCCC
NET ID         : CCCCCCCC
LU NAME        : CCCCCCCC
AUTHID         : CCCCCCCC
CONNTYPE       : CCCCCCCC
CORRNAME       : CCCCCCCC
CORRNMBR       : CCCCCCCC
```

PRODUCT ID

Shows the product identifier (ID) of the requester. It can have the following values:

DB2
For DB2 UDB for z/OS

SQL/DS
For DB2 UDB for VSE and VM

JDBC DRIVER
For Universal JDBC driver

COMMON SERV
For DB2 UDB for Linux, UNIX, Windows

DB2/400
For DB2 UDB for iSeries

Otherwise, it shows the first 3 characters of the product ID, or N/P if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRID

PRODUCT VERSION

The version, release, and modification level of the product, which generated the accounting information. It has the following format: *vv rr m*, where:

vv
Version level

rr
Release level

m
Modification level

N/P is shown if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDB2PRDV

LOCATION NAME

The location name for the DB2 subsystem that created the QMDAINFO values.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Field Name: QMDALOCN

NET ID

The NETID of the DB2 subsystem that created the QMDAINFO values.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDANETN

LU NAME

The SNA LU name of the DB2 subsystem that created the QMDAINFO values.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDALUNM

AUTHID

The DB2 authorization ID that the SQL application used before name translation and before driving the connection exit at the DB2 site where the SQL application is running.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAAUTH

CONNTYPE

The type of subsystem connection at the DB2 system where the SQL application is running. Possible values and their descriptions are:

BATCH
TSO or call attach

SASS
CICS

MASS
IMS

DIST
Distributed

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDACTYP

CORRNAME

The translated correlation name derived from the correlation ID. The translation depends on the connection ID.

Field Name: ADRQCRNM

CORRNMBR

The translated correlation number derived from the correlation ID. The translation depends on the connection ID.

Field Name: ADRQCRNB

Initial Other Requester Correlation

This topic shows detailed information about "Accounting - Initial Other Requester Correlation".

This block shows the accounting trace for the initial other requester correlation.

Accounting - Initial Other Requester Correlation

The field labels shown in the following sample layout of "Accounting - Initial Other Requester Correlation" are described in the following section.

```
---- INITIAL OTHER REQUESTER CORRELATION ------------------------------------------------------------------------------
PRODUCT ID     : SQL/DS
PRODUCT VERSION: CCCCCCCC
STRING         : CCCCCCCC
```

PRODUCT ID

The product identifier of the requester:

DB2
DB2 UDB for z/OS

SQL/DS
DB2 UDB for VSE and VM

COMMON SERV
DB2 UDB for Linux, UNIX, and Windows

DB2/400
DB2 UDB for iSeries

N/P
If the record was written at the application requester location

Otherwise, it shows the first 3 characters of the product ID.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRIDP

PRODUCT VERSION

The version, release, and modification level of the product, which generated the accounting information. It has the following format: *vv rr m*, where:

vv
Version level

rr
Release level

m
Modification level

N/P is shown if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRIDV

STRING

The accounting string:

- For local DB2 threads, the format of the accounting string is shown in QMDAINFO.
- For database access threads, the accounting string contains the accounting string sent by the requester.
- The QMDAPRID value identifies which product generated the accounting string.
  - If the requester is DB2, the accounting string is defined in QMDAINFO.
  - If QMDAPTYP is DSN, QMDAINFO defines the format.
  - If QMDAPTYP is SQL or JCC, QMDASQLI defines the format.
  - Otherwise, the format is undefined.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAASTR

Locking

This topic shows detailed information about "Accounting - Locking".

This block provides locking information. Locking ensures the integrity of data.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Locking

The field labels shown in the following sample layout of "Accounting - Locking" are described in the following section.

```
Report:                                    Trace:

LOCKING                AVERAGE    TOTAL    LOCKING                TOTAL
---------------------- -------- --------   ------------------- --------
TIMEOUTS                  0.00        0    TIMEOUTS                   0
DEADLOCKS                 0.00        0    DEADLOCKS                  0
ESCAL.(SHARED)            0.00        0    ESCAL.(SHAR)               0
ESCAL.(EXCLUS)            0.00        0    ESCAL.(EXCL)               0
MAX PG/ROW LOCKS HELD     0.00        0    MAX PG/ROW LCK HELD        7
LOCK REQUEST              0.00        0    LOCK REQUEST              48
UNLOCK REQUEST            0.00        0    UNLOCK REQST              34
QUERY REQUEST             0.00        0    QUERY REQST                0
CHANGE REQUEST            0.00        0    CHANGE REQST              32
OTHER REQUEST             0.00        0    OTHER REQST                0
TOTAL SUSPENSIONS         0.00        0    TOTAL SUSPENSIONS          0
 LOCK SUSPENSIONS         0.00        0     LOCK SUSPENS              0
 IRLM LATCH SUSPENS.      0.00        0     IRLM LATCH SUSPENS        0
 OTHER SUSPENS.           0.00        0     OTHER SUSPENS             0
```

TIMEOUTS

The number of times a unit of work was suspended for a time exceeding the timeout value. This number should be low, ideally 0.

Field Name: QTXATIM

DEADLOCKS

The number of times deadlocks were detected. This number should be low, ideally 0.

Background and Tuning Information

Deadlocks occur when two or more application processes each hold locks on resources that the others need, without which they cannot proceed. Ensure that all applications accessing the same tables access them in the same order.

To improve concurrency:

- Use row level locking instead of page level locking to minimize deadlocks.
- For small tables use page level locking with MAXROWS 1.

To minimize deadlocks:

- Delay updates to just before commit.
- Use SELECT with the FOR UPDATE clause to use U lock.
- Adjust the deadlock detection cycle parameter DEADLOK in the IRLM procedure.

This field is incremented once for each deadlock encountered. There is no correlation between this field and the deadlock events reported in the Locking report set or the number of IFCID 172 records written. This field reports all deadlocks, regardless of how they were resolved. The locking report and record trace IFCID 172 show only those deadlocks that were resolved by DB2.

Field Name: QTXADEA

This is an *exception* field.

ESCAL.(SHARED)/ESCAL.(SHAR)

The number of times the maximum page locks per table space are exceeded, and the table space lock escalates from a page lock (IS) to a table space lock (S) for this thread. You can specify the number of locks allowed per table space with the LOCKS PER TABLE(SPACE) parameter on the DB2 install panel DSNTIPJ.

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than normal.

Field Name: QTXALES

This is an *exception* field.

ESCAL.(EXCLUS)/ESCAL.(EXCL)

The number of times the maximum page locks per table space are exceeded and the table space lock escalates from a page lock (IX) to a table space lock (X).

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than it normally does.

A useful rule of thumb is to compare the number of escalations (shared and exclusive) to the successful escalations (those that did not cause deadlocks and timeouts). If this value, or the number Lock escalations - shared and if the number of timeouts or deadlocks is also not 0, the timeout or deadlock is probably caused by the escalation.

If many escalations cause deadlocks and timeouts, the recommendation is to change the escalation threshold value. Use of ANY is extremely useful to prevent unnecessary and expensive page locks, for example locking all pages in a tablespace.

Lock escalations, shared or exclusive, should not be expected in a transaction environment.

Field Name: QTXALEX

This is an *exception* field.

MAX PG/ROW LOCKS HELD/MAX PG/ROW LCK HELD

The maximum number of page or row locks concurrently held against all table spaces by a single application during its execution. This count is a high-water mark. It cannot exceed the LOCKS PER USER parameter on panel DSNTIPJ.

Field Name: QTXANPL

This is an *exception* field.

LOCK REQUEST

The number of requests to lock a resource.

Field Name: QTXALOCK

This is an *exception* field.

UNLOCK REQUEST

The number of requests to unlock a resource.

This value can be less than the number of lock requests because DB2 can release several locks with a single unlock request.

Field Name: QTXAUNLK

QUERY REQUEST

The number of query requests.

Field Name: QTXAQRY

CHANGE REQUEST

The number of change requests.

Field Name: QTXACHG

OTHER REQUEST

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

Field Name: QTXAIRLM

TOTAL SUSPENSIONS

The number of all types of lock suspensions.

Field Name: ALRSUSP

LOCK SUSPENSIONS/LOCK SUSPENS

The number of times a lock could not be obtained and the unit of work was suspended.

Background and Tuning Information

This number should be low, ideally 0.

The number of lock suspensions is a function of the lock requests. Lock suspensions (or conflicts) can happen on either LOCK REQUEST or CHANGE REQUEST.

Suspensions are highly dependent on the application and table space locking protocols.

Field Name: QTXASLOC

This is an *exception* field.

IRLM LATCH SUSPENS.

The number of latch suspensions.

Field Name: QTXASLAT

This is an *exception* field.

OTHER SUSPENS.

The number of suspensions caused by something other than lock or latch.

Field Name: QTXASOTH

This is an *exception* field.

Logging Activity

This topic shows detailed information about "Accounting - Logging Activity".

This block provides information about the logging activity.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Logging Activity

The field labels shown in the following sample layout of "Accounting - Logging Activity" are described in the following section.

```
Report:                                    Trace:

LOGGING               AVERAGE     TOTAL    LOGGING               TOTAL
-------------------  --------  --------    -----------------  --------
LOG RECORDS WRITTEN      2.00         0    LOG RECS WRITTEN          0
TOT BYTES WRITTEN     6000.00         0    TOT BYTES WRITTEN         0
LOG RECORD SIZE       3000.00       N/A
```

LOG RECORDS WRITTEN (LOG RECS WRITTEN)

The number of log records written.

Field Name: QWACLRN

TOT BYTES WRITTEN (TOT BYTES WRITTEN)

The total number of log record bytes written.

Field Name: QWACLRAB

LOG RECORD SIZE

The average number of bytes written per log record.

Field Name: ALRAVGB

Measured/Elig Times

This topic shows detailed information about "Accounting - Measured/Elig Times".

Accounting - Measured/Elig Times

The field labels shown in the following sample layout of "Accounting - Measured/Elig Times" are described in the following section.

```
MEASURED/ELIG TIMES  APPL (CL1)   DB2 (CL2)
-------------------  ----------  ----------
ELAPSED TIME          18.459616   18.025282
 ELIGIBLE FOR ACCEL         N/A    0.000000

CP CPU TIME          1:31.19251  1:30.81587
 ELIGIBLE FOR SECP   1:09.97827         N/A
 ELIGIBLE FOR ACCEL         N/A    0.000000

SE CPU TIME            0.000000    0.000000
 ELIGIBLE FOR ACCEL         N/A    0.000000
```

APPL (CL1) - ELAPSED TIME

The class 1 elapsed time of the allied agent.

Special Considerations:

- If the begin time equals zero, or if the end time minus begin time equals zero or is negative, N/C is shown.
- Threads that can be reused, such as CICS protected threads or IMS/VS wait-for-input message regions, can include time during which the thread was inactive and waiting for work.
- Elapsed time to process distributed requests is included for allied-distributed threads.
- This time includes the time for processing SQL statements issued by stored procedures, user-defined functions, or triggers.
- In query CP, sysplex query, or utility parallelism, this is the time shown in the originating record, which overlaps the elapsed times shown in the parallel records.

Field Name: ADRECETT

This is an *exception* field.

APPL (CL1) - CP CPU TIME

The class 1 CPU time in an application. It indicates:

- The class 1 CPU time of the allied agent, which may include the accumulated class 1 TCB time for processing stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- In sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks that is related to the originating task.

  In sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the SYSPLEX group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

Field Name: ADCPUT

This is an *exception* field.

APPL (CL1) - CP CPU TIME - ELIGIBLE FOR SECP

The accumulated CPU time that is consumed on a standard CP for work eligible on an IBM specialty engine.

For records for the parent tasks in parallel queries, this value reflects zIIP-eligible time for the parent and the child tasks. Child task records have a value of 0.

Field Name: AWACZEL

APPL (CL1) - SE CPU TIME

The sum of several accumulated CPU times consumed while running on an IBM specialty engine in all environments. These times are consumed when:

- Running stored procedure requests and triggers on the main application execution unit.
- Satisfying stored procedure requests processed in a DB2 stored procedure or WLM address space. SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- Satisfying UDF requests processed in a DB2 stored procedure or WLM address space.
- Running triggers on a nested task.
- Running parallel tasks in an application which contains the accumulated CPU time used to satisfy UDF requests.

Note: All CPU times of an IBM specialty engine (SE) that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: AWACC1Z

DB2 (CL2) - ELAPSED TIME

The class 2 elapsed time of the allied agent accumulated in DB2.

Field Name: ADDB2ETT

This is an *exception* field.

DB2 (CL2) - ELAPSED TIME - ELIGIBLE FOR ACCEL

The accumulated elapsed time spent processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: AWACEEL2

DB2 (CL2) - CP CPU TIME

The class 2 CPU time (in DB2). It indicates:

- The class 2 CPU time for the allied agent. This includes the accumulated class 2 TCB time for processing any stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- For batch reporting, in sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks, related to the originating task.

  For online monitoring, in sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

Field Name: ADDBCPUT

This is an *exception* field.

DB2 (CL2) - CP CPU TIME - ELIGIBLE FOR ACCEL

The accumulated CPU time spent processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: AWACECP2

DB2 (CL2) - SE CPU TIME

The accumulated and consumed class 2 time on an IBM specialty engine (SE) that consists of times for non-nested, stored procedures, user-defined functions, triggers, and parallel tasks.

Note: All CPU times of an IBM specialty engine that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: AWACC2Z

DB2 (CL2) - SE CPU TIME - ELIGIBLE FOR ACCEL

The accumulated CPU time consumed on an IBM specialty engine while processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: AWACESE2

Miscellaneous LOB data report and trace

The miscellaneous LOB data report shows general information about large objects.

```
Report:                                    Trace:

MISCELLANEOUS          AVERAGE     TOTAL     MISCELLANEOUS            TOTAL
--------------------  --------  --------     --------------------  --------
MAX STO LOB VAL (KB)      0.00         0     MAX STO LOB VAL (KB)         0
MAX STO XML VAL (KB)      0.00         0     MAX STO XML VAL (KB)         0
ARRAY EXPANSIONS          0.00         0     ARRAY EXPANSIONS             0
SPARSE IX DISABLED        0.00         0     SPARSE IX DISABLED           0
SPARSE IX BUILT WF        0.00         0     SPARSE IX BUILT WF           0
NO DM CALL RIDL/LPF       0.30         3     NO DM CALL RIDL/LPF          5
FETCH 1 BLOCK ONLY        0.10         1     FETCH 1 BLOCK ONLY           2
```

Figure 4. Miscellaneous LOB data report and trace

MAX STO LOB VAL (KB)

Maximum storage used for LOB values.

Field Name: QXSTLOBV

MAX STO XML VAL (KB)

Maximum storage used for XML values.

Field Name: QXSTXMLV

ARRAY EXPANSIONS

The number of times a variable array has been expanded beyond 32 KB (DB2 field: QXSTARRAY_EXPANSIONS).

Field Name: AXSTAEXP

SPARSE IX DISABLED

The number of times that sparse index was disabled because of insufficient storage.

Field Name: QXSISTOR

SPARSE IX BUILT WF

The number of times that sparse-index built a physical work file for probing.

Field Name: QXSIWF

NO DM CALL RIDL/LPF

The number of times that RDS did not call data manager for RID list retrieval for multiple index access or list prefetch because runtime adaptive index processing was able to determine the outcome.

Field Name: QXRSDMAD

FETCH 1 BLOCK ONLY

The number of times that RDS fetched one block and made no subsequent requests for additional blocks.

Field Name: QXR1BOAD

MVS Accounting

This topic shows detailed information about "Accounting - MVS Accounting".

This block provides information about an MVS accounting trace.

Accounting - MVS Accounting

The field labels shown in the following sample layout of "Accounting - MVS Accounting" are described in the following section.

```
MVS ACCOUNTING DATA   : IS-255-012345678901234567890l2#2
ACCOUNTING TOKEN(CHAR): N/A
ACCOUNTING TOKEN(HEX) : N/A
```

MVS ACCOUNTING DATA

The MVS accounting string associated with the MVS address space of the SQL application. It is filled if PROD_TYP=D; otherwise X'00' is used.

This information comes from the ACCT= parameter on the job statement. If the ACCT= parameter is blank, the information on the EXEC statement is used. TSO logon Accounting information is used only if there is a value in the account field on the TSO Logon panel. Do not confuse this field with the Accounting correlation token.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAACCT

ACCOUNTING TOKEN(CHAR)

The accounting token. For RRSAF, this is the RRSAF accounting token defined during signon. For DDF, this is the DDF correlation token.

This value is displayed in character format.

Field Name: AWHCTOKC

ACCOUNTING TOKEN(HEX)

The accounting token. For RRSAF, this is the RRSAF accounting token defined during signon. For DDF, this is the DDF correlation token.

This value is displayed in hexadecimal format.

Field Name: AWHCTOKH

Package buffer pool activity - Class 10

Package buffer pool activity - Class 10 report block shows buffer pool information at package level. It is repeated for each package present in the requested report. The block is headed by the package name.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Package Buffer Pool Activity - Class 10

```
Report:                                    Trace:

DSNESM68               AVERAGE     TOTAL      DSNESM68                  TOTAL
-------------------    -------   --------     -------------------    --------
BPOOL HIT RATIO (%)      87.78       N/A      BPOOL HIT RATIO (%)          27
GETPAGES               20306.43    426435     GETPAGES                   1704
BUFFER UPDATES         27044.33    567931     BUFFER UPDATES              189
SYNCHRONOUS WRITE         17.38       365     SYNCHRONOUS WRITE             2
SYNCHRONOUS READ        1653.90     34732     SYNCHRONOUS READ           1239
SEQ. PREFETCH REQS       156.10      3278     SEQ. PREFETCH REQS           33
LIST PREFETCH REQS         0.24         5     LIST PREFETCH REQS            4
DYN. PREFETCH REQS         0.33         7     DYN. PREFETCH REQS            7
PAGES READ ASYNCHR.      827.86     17385     PAGES READ ASYNCHR.           0
ZHL SYNC. READ          1581.10     33203     ZHL SYNC. READ                2
ZHL READ CPU USED     0.037187   0.780934     ZHL READ CPU USED      0.000096
```

BPOOL HIT RATIO (%)

The percentage of Getpage operations that were satisfied by a page already in the buffer pool.

The value is calculated as the ratio of number of successful Getpage operations minus the number of pages read from DASD (both synchronously and using prefetch), to the number of successful Getpage operations, expressed as a percentage.

Background and Tuning Information

The highest possible hit ratio is 100%, that is, when every page requested is always in the buffer pool. If the requested page is not in the buffer pool, the hit ratio is 0% or less. If the hit ratio is negative, this means that prefetch brought pages into the buffer pool that are not subsequently referenced, either because the query stops before it reaches the end of the table space, or because the prefetched pages are stolen by Db2 for reuse before the query can access them. A low buffer pool hit ratio is not necessarily bad. The hit ratio is a relative value, based on the type of application. For example, an application that browses large data might have a buffer pool hit ratio of 0. Watch for those cases where the hit ratio drops significantly for the same application. Here are some suggestions to increase the buffer hit ratio:

- Run the REORG utility for indexes or table spaces associated with the virtual buffer pool.
- Reserve more pages for random I/O by setting the SEQUENTIAL STEAL THRESHOLD (VPSEQT) to a lower value.
- Increase the buffer pool as long as the cost of paging does not outweigh the benefit of I/O avoidance.
- Establish more separate buffer pools, perhaps to isolate different applications.
- Place the objects that are only accessed sequentially in a separate buffer pool.

The hit ratio measurement becomes less meaningful if the buffer pool is used by additional processes, such as utilities or work files.

Field Name: ABUFFRAP

GETPAGES

The number of Getpage requests. This counter is incremented by successful Getpage requests for queries processed in parallel for each thread and for all successful and unsuccessful Getpage requests for queries that are not processed in parallel.

Background and Tuning Information

Reducing the number of Getpages can improve Db2 performance by reducing the number of synchronous page reads. With fewer Getpages, the requested page is more likely to be returned from the buffer pool. CPU usage is also reduced.

Check the ratio of Getpages to SQL DML statements, as a rule of thumb, try and keep this ratio below six for a typical online transaction SQL.

You might need to modify the database and query design, for example:

- Add indexes to tables to reduce the number of pages scanned.
- Reassess the number of tables used and denormalize them, if necessary.

  As an example, a large table with many columns can result in several pages being fetched to satisfy a simple query requesting just a few columns. Splitting such a table into several tables with fewer columns, tailored to queries, will result in fewer pages returned for each query.
- Use correlated rather than non-correlated queries to force the use of an index.

Field Name: QBACGETP

BUFFER UPDATES

The number of times a buffer update occurs. This is incremented every time a page is updated and is ready to be written to DASD. If the same page is updated twice, for example, the number is incremented by 2.

This number is kept for all types of pages including data pages and work-file pages.

Background and Tuning Information

A nonzero value indicates any of the following activities:

- SQL INSERT, UPDATE, or DELETE
- Merge scan join
- Internal sort activity on the work files

Check the access path to determine whether sort activity can be minimized or avoided.

Field Name: QBACSWSP

SYNCHRONOUS WRITE

The number of immediate (synchronous) write I/O operations.

Background and Tuning Information

Although an immediate write is rare, a small nonzero value is acceptable. A large value indicates that the system needs tuning.

Field Name: QBACIMWP

SYNCHRONOUS READ

The number of synchronous read I/O operations. Db2 increments this counter for each media manager synchronous physical read. Asynchronous I/O requests are not counted.

Field Name: QBACRIOP

SEQ. PREFETCH REQS

The number of SEQUENTIAL PREFETCH requests. This is incremented for each PREFETCH request. Each request can result in an I/O read. If it does, up to 64 pages can be read for SQL and up to 128 pages for utilities. For SQL, depending on the buffer pool size, a request does not result in an I/O if all the requested pages are already in the buffer pool.

Db2 can use sequential prefetch if the data is accessed in sequential order even though sequential prefetch was not requested at bind time. This is known as sequential detection and is not included in the sequential prefetch count. Sequential detection is included in dynamic prefetch requests field.

Background and Tuning Information

Table space scans and nonmatching index scans generally use sequential prefetch.

Field Name: QBACSEQP

LIST PREFETCH REQS

The number of LIST PREFETCH requests.

Special Considerations:

1. List prefetch allows Db2 to access data pages efficiently even if the needed data pages are not contiguous. It can be used with single index access and is always used with multiple index access.
2. List prefetch is always used to access data from the inner table during a hybrid join.
3. Data pages are read in quantities equal to the sequential prefetch quantity, which depends on the buffer pool size and is usually 64 pages.
4. During bind time Db2 does not use list prefetch if the estimated number of RIDs to be processed would take more than 50% of the RID pool. During execution time, list prefetch processing terminates if Db2 detects that more than 25% of the rows in the table need to be accessed. If list prefetch is terminated, it is indicated in IFCID 125.

Field Name: QBACLPFP

DYN. PREFETCH REQS

The number of (dynamic) PREFETCH requests. This is triggered by sequential detection. This includes prefetches for segmented table spaces.

Background and Tuning Information

Dynamic prefetch is typically used for a SELECT or UPDATE that is run repeatedly, accessing the index for each access.

If sequential prefetch, list prefetch, and dynamic prefetch reads have large values, check whether the access path can be improved.

Field Name: QBACDPFP

PAGES READ ASYNCHR.

The number of asynchronous pages read by prefetch that the agent triggered.

Background and Tuning Information

This is used to determine the buffer pool hit ratio: (Getpage requests - Synchronous reads - Asynchronous pages read) / Getpage requests.

Field Name: QBACSIOP

ZHL SYNC. READ

The number of DASD reads done using zHyperLink.

Field Name: QBACSYIP

ZHL CPU TIME READ

The amount of CPU time used for successful zHyperLink reads. zHyperLink I/O is synchronous with respect to the CPU, thus CPU time accumulates from the beginning of the I/O until it completes.

Format: *HH:MM:SS.mmmm*

Note: If the value is less then 1 min it will be printed in seconds (for example, 0.037187).

Field Name: ABACSYIP

Package Global Contention L-Locks - Class 8

This topic shows detailed information about "Accounting - Package Global Contention L-Locks - Class 8".

This block provides global contention information for a logical lock (L-lock) at package level. It shows conflicts on locking requests between different DB2 members of a data sharing group when those members are trying to serialize shared resources.

Note: The current package name is shown in the header line of the block instead of this block title.

Accounting - Package Global Contention L-Locks - Class 8

The field labels shown in the following sample layout of "Accounting - Package Global Contention L-Locks - Class 8" are described in the following section.

```
Report:                                          Trace:

AYRSD020                  AVERAGE TIME  AV.EVENT     DSNTEP2                   ELAPSED TIME    EVENTS
------------------------  ------------  --------     ------------------------  ------------  --------
GLOBAL CONTENTION L-LOCKS      0.000000      0.00     GLOBAL CONTENTION L-LOCKS      0.000000         0
 PARENT (DB,TS,TAB,PART)       0.000000      0.00      PARENT (DB,TS,TAB,PART)       0.000000         0
 CHILD  (PAGE,ROW)             0.000000      0.00      CHILD  (PAGE,ROW)             0.000000         0
 OTHER                         0.000000      0.00      OTHER                         0.000000         0
```

GLOBAL CONTENTION L-LOCKS - AVERAGE TIME/ELAPSED TIME

The accumulated wait times due to global contention for all L-Locks.

Field Name: APLKSUST

GLOBAL CONTENTION L-LOCKS - AV.EVENT/EVENTS

The accumulated wait trace events processed for waits for global contention of all L-Locks.

Field Name: APLKSUSC

PARENT (DB,TS,TAB,PART) - AVERAGE TIME/ELAPSED TIME

The accumulated wait time due to global contention for parent L-Locks. Parent L-Locks are any of the following L-Lock types: database, tablespace, table, or partition.

Field Name: QPACAWTJ

PARENT (DB,TS,TAB,PART) - AV.EVENT/EVENTS

The number of wait trace events processed for waits for global contention for parent L-Locks.

Field Name: APLPSUSC

CHILD (PAGE,ROW) - AVERAGE TIME/ELAPSED TIME

The accumulated wait time due to global contention for child L-Locks. Child L-locks are any of the following L-Lock types: page or row.

Field Name: QPACAWTK

CHILD (PAGE,ROW) - AV.EVENT/EVENTS

The number of wait trace events processed for waits for global contention for child L-Locks.

Field Name: APLCSUSC

OTHER - AVERAGE TIME/ELAPSED TIME

The accumulated wait time due to global contention for other L-Locks.

Field Name: QPACAWTM

OTHER - AV.EVENT/EVENTS

The number of wait trace events processed for waits for global contention for other L-Locks.

Field Name: APLOSUSC

Package Global Contention P-Locks - Class 8

This topic shows detailed information about "Accounting - Package Global Contention P-Locks - Class 8".

This block provides global contention information for a physical lock (P-lock) at package level. It shows conflicts on locking requests between different DB2 members of a data sharing group when those members are trying to serialize shared resources.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Note: The current package name is shown in the header line of the block instead of this block title.

Accounting - Package Global Contention P-Locks - Class 8

The field labels shown in the following sample layout of "Accounting - Package Global Contention P-Locks - Class 8" are described in the following section.

```
Report:                                          Trace:

AYRSD020                  AVERAGE TIME  AV.EVENT     DSNTEP2                   ELAPSED TIME    EVENTS
------------------------  ------------  --------     ------------------------  ------------  --------
GLOBAL CONTENTION P-LOCKS      0.000000      0.00     GLOBAL CONTENTION P-LOCKS      0.000000         0
 PAGESET/PARTITION             0.000000      0.00      PAGESET/PARTITION             0.000000         0
 PAGE                          0.000000      0.00      PAGE                          0.000000         0
 OTHER                         0.000000      0.00      OTHER                         0.000000         0
```

GLOBAL CONTENTION P-LOCKS - AVERAGE TIME/ELAPSED TIME

The accumulated wait times due to global contention for all P-Locks.

Field Name: APPLSUST

GLOBAL CONTENTION P-LOCKS - AV.EVENT/EVENTS

The accumulated wait trace events processed for waits for global contention of all P-Locks.

Field Name: APPLSUSC

PAGESET/PARTITION - AVERAGE TIME/ELAPSED TIME

The accumulated wait time due to global contention for pageset/partition P-Locks.

Field Name: QPACAWTN

PAGESET/PARTITION - AV.EVENT/EVENTS

The number of wait trace events processed for waits for global contention for pageset/partition P-Locks.

Field Name: APPSSUSC

PAGE - AVERAGE TIME/ELAPSED TIME

The accumulated wait time due to global contention for page P-Locks.

Field Name: QPACAWTO

PAGE - AV.EVENT/EVENTS

The number of wait trace events processed for waits for global contention for page P-Locks.

Field Name: APPPSUSC

OTHER - AVERAGE TIME/ELAPSED TIME

The accumulated wait time due to global contention for other P-Locks.

Field Name: QPACAWTQ

OTHER - AV.EVENT/EVENTS

The number of wait trace events processed for waits for global contention for other P-Locks.

Field Name: APPOSUSC

Package Identification

This topic shows the report and trace blocks for package identification. They present information for the identification of packages. A package is an object containing a set of SQL statements that have been statically bound and that is available for processing.

For more information on calculating package average data refer to “How Averages Are Calculated” on page 19.

Package Identification - Report

This topic shows detailed information about "Accounting - Package Identification - Report".

Accounting - Package Identification - Report

The field labels shown in the following sample layout of "Accounting - Package Identification - Report" are described in the following section.

```
ACTNAME: STORED PROC.CREATETABLE

CREATETA            VALUE
------------------  ------------------
TYPE                PACKAGE

LOCATION            DSNDA1B
COLLECTION ID       USRT001
PROGRAM NAME        NSQLDLV

ACTIVITY TYPE       NATIVE SQL PROC
ACTIVITY NAME       NSQLDLV
SCHEMA NAME         USRT001
INCOMPATIBILITY     NO
SUCC AUTH CHECK                    0
OCCURRENCES                   478960
NBR OF ALLOCATIONS             28986
SQL STMT - AVERAGE               N/P
SQL STMT - TOTAL                 N/P
NBR RLUP THREADS               28985
```

PCKNAME

This label is replaced by the package name, or, if ORDER (ACTNAME) was in effect, the package activity name. An activity name is truncated if it is longer than 8 characters.

Field Name: PCKNAME

TYPE

An indicator of whether the block describes a package or a DBRM. Possible values are PACKAGE, DBRM, and BOTH. BOTH can be shown in reports if there are packages and DBRMs with the same program name.

Field Name: ADPCKTYP

LOCATION

The location name.

If this field is blank in trace or report, the package or DBRM was executed locally. If it is not blank, all times represent the time spent locally to execute the remote package for this APPL_DIR requester.

This field is invalid (N/P) if summary rollup data is present.

Field Name: QPACLOCN

This is an *exception* field.

COLLECTION ID

The package collection ID. This field does not apply to DBRMs. If the program name cannot be identified, this field is not present in report or trace.

This field is invalid if summary rollup data is present. It can have the following value in:

- Accounting trace and report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: QPACCOLN

This is an *exception* field.

PROGRAM NAME

The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by DB2), the following value is shown *ROLSUM*.

Field Name: QPACPKID

This is an *exception* field.

PROGRAM NAME

This field is identical to QPACPKID except of when ORDER (ACTNAME) was in effect. can belong to the same activity name. In a data block that reports totals it is set to ALL PROG.

Field Name: APACPKID

ACTIVITY TYPE

The type of activity. The following values indicate how the package was loaded:

ALL TYPES
In a data block that reports totals it is set to ALL TYPES.

STORED PROC
When running an external procedure

TRIGGER
When running a trigger

UDF
When running a user-defined function

NATIVE SQL PROC
When running a native SQL procedure

NATIVE UDF
When running a native UDF procedure (a non-inline user-defined function)

NONNESTED
Indicates that none of the above values is true

MULTIPLE
Indicates that packages with the same key but with different activity types were running

N/P
Invalidated in case of rollup summary

The nested activity values that are shown in column NEST_ACTIVITY_TYPE of the table DB2PMFACCT_PROGRAM are:

S
For Stored Procedure

T
For Trigger

U
For UDF

Q
For native SQL procedure

D
For Native UDF

N
For nonnested (other)

blank
For invalidated in case of rollup summary

This field is invalid if unique or summary rollup data is present.

Field Name: ADPATYP

ACTIVITY NAME

The name of the nested activity.

This field contains the name of the nested activity if the package is defined for a:

- Trigger
- Stored procedure
- User-defined function (UDF)
- Native SQL procedure
- Non-inline UDF

In a data block that reports totals it is set to ALL NAMES.

This field is invalid if summary rollup data is present.

It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM tables: blank

Field Name: ADPAANM

SCHEMA NAME

Schema name of the nested activity.

If the package is defined for a trigger, stored procedure, or user-defined function, then this field contains the name of the schema to which the nested activity belongs. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM tables: blank

This field is invalid if summary rollup data is present.

Field Name: ADPASCH

INCOMPATIBILITY

The package has an incompatible function. IFCID 0366 and 0376 have information about the incompatible function.

Field Name: QPACINCOMPAT

SUCC AUTH CHECK

For Accounting reports, this field shows a value of 0. This field is valid for non-rollup data.

Field Name: ADPCKANR

OCCURRENCES

This value can be one of the following:

- In general, the total number of accounting trace sections for a package or DBRM regardless of enabled or disabled DB2 trace classes 7 and 8 at the time of writing the trace record. In case of Distributed Data Facility (DDF) or Recoverable Resource Manager Services Attach Facility (RRSAF) threads, it is the number of accounting intervals rolled up in a record.
- If REPORT ORDER (ACTNAME) is specified, the total number of package sections of a special activity type depends on the following:
  - If IFCID 233 or 380 is available, stored procedures (SP) are counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.

- If IFCID 233 or 381 is available, user-defined functions (UDF) are counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
- If neither IFCID 233, 380, nor 381 is collected, all packages of an activity type are counted. The sum also includes the number of subprograms.

Field Name: ADTOTPOC

NBR OF ALLOCATIONS

This value can be one of the following:

- In general, the number of times a package was invoked by a different package. For the first package run by an application, the initial call counts as a package switch. If this package called a nested package (such as a trigger, UDF, or stored procedure), a switch will **not** be counted upon return from such a package.
- If REPORT ORDER (ACTNAME) is specified, the number of times a package of a special activity type is invoked from a different package depends on the following:
  - If IFCID 233 or 380 is available, the invocations of stored procedures (SP) are counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, the invocation of user-defined functions (UDF) are counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381 is collected, all invocations of an activity type are counted. The sum also includes the number of subprograms.

Field Name: APACSWIT

SQL STMT - AVERAGE

The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

Field Name: QPACSQLC

This is an *exception* field.

SQL STMT - TOTAL

The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

Field Name: QPACSQLC

This is an *exception* field.

NBR RLUP THREADS

This value can be one of the following:

- In general, the number of threads to roll data into this QPAC data section. Non-rollup QPACs have a value of 1 and rollup QPACs have a value of 1 or more. This number is used as a divisor for calculating averages for package class 7, 8, or 10 times and events.
- If REPORT ORDER (ACTNAME) is specified, the number of threads to roll data into this QPAC data section of a special activity type depends on the following:
  - If IFCID 233 or 380 is available, the number of threads to roll data into this QPAC data section for stored procedures (SP) is counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, the number of threads to roll data into this QPAC data section for user-defined functions (UDF) is counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381, is collected, the total number of threads to roll data into this QPAC data section is counted. The sum also includes the number of subprograms.

Field Name: QPACRLNU

Package Identification - Trace

This topic shows detailed information about "Accounting - Package Identification - Trace".

Accounting - Package Identification - Trace

The field labels shown in the following sample layout of "Accounting - Package Identification - Trace" are described in the following section.

```
PCKNAME             VALUE
------------------  ------------------
TYPE                PACKAGE
LOCATION            DSNDA1B
COLLECTION ID       NULLID
PROGRAM NAME        SYSSN201
CONSISTENCY TOKEN   5359534C564C3032
ACTIVITY TYPE       nnlast_act_type
ACTIVITY NAME       nnlast_act_name
SCHEMA NAME         nnlast_schema
INCOMPATIBILITY     NO
SUCC AUTH CHECK     NO
NBR OF ALLOCATIONS                  1
SQL STMT - AVERAGE              30.00
SQL STMT - TOTAL                   30
NBR RLUP THREADS             nnnnnnnn
```

PCKNAME

This label is replaced by the package name, or, if ORDER (ACTNAME) was in effect, the package activity name. An activity name is truncated if it is longer than 8 characters.

Field Name: PCKNAME

TYPE

An indicator of whether the block describes a package or a DBRM. Possible values are PACKAGE, DBRM, and BOTH. BOTH can be shown in reports if there are packages and DBRMs with the same program name.

Field Name: ADPCKTYP

LOCATION

The location name.

If this field is blank in trace or report, the package or DBRM was executed locally. If it is not blank, all times represent the time spent locally to execute the remote package for this APPL_DIR requester.

This field is invalid (N/P) if summary rollup data is present.

Field Name: QPACLOCN

This is an *exception* field.

COLLECTION ID

The package collection ID. This field does not apply to DBRMs. If the program name cannot be identified, this field is not present in report or trace.

This field is invalid if summary rollup data is present. It can have the following value in:

- Accounting trace and report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: QPACCOLN

This is an *exception* field.

PROGRAM NAME

The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by DB2), the following value is shown *ROLSUM*.

Field Name: QPACPKID

This is an *exception* field.

CONSISTENCY TOKEN

The program (package or DBRM) consistency token.

This field is invalid (0) if summary rollup data is present.

Field Name: QPACCONT

ACTIVITY TYPE

The type of activity. The following values indicate how the package was loaded:

ALL TYPES
In a data block that reports totals it is set to ALL TYPES.

STORED PROC
When running an external procedure

TRIGGER
When running a trigger

UDF
When running a user-defined function

NATIVE SQL PROC
When running a native SQL procedure

NATIVE UDF
When running a native UDF procedure (a non-inline user-defined function)

NONNESTED
Indicates that none of the above values is true

MULTIPLE
Indicates that packages with the same key but with different activity types were running

N/P
Invalidated in case of rollup summary

The nested activity values that are shown in column NEST_ACTIVITY_TYPE of the table DB2PMFACCT_PROGRAM are:

S
For Stored Procedure

T
For Trigger

U
For UDF

Q
For native SQL procedure

D
For Native UDF

N
For nonnested (other)

blank
For invalidated in case of rollup summary

This field is invalid if unique or summary rollup data is present.

Field Name: ADPATYP

ACTIVITY NAME

The name of the nested activity.

This field contains the name of the nested activity if the package is defined for a:

- Trigger
- Stored procedure
- User-defined function (UDF)
- Native SQL procedure
- Non-inline UDF

In a data block that reports totals it is set to ALL NAMES.

This field is invalid if summary rollup data is present.

It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM tables: blank

Field Name: ADPAANM

SCHEMA NAME

Schema name of the nested activity.

If the package is defined for a trigger, stored procedure, or user-defined function, then this field contains the name of the schema to which the nested activity belongs. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM tables: blank

This field is invalid if summary rollup data is present.

Field Name: ADPASCH

INCOMPATIBILITY

The package has an incompatible function. IFCID 0366 and 0376 have information about the incompatible function.

Field Name: QPACINCOMPAT

SUCC AUTH CHECK

For Accounting traces, this field indicates whether authorization information was found for this package without accessing the DB2 catalog. This field is valid for non-rollup data. Possible values are:

- YES
- NO
- N/A if DB2 or later is used
- N/P, this field is invalid for Accounting trace
- blank, this field is invalid in the Accounting FILE PROGRAM table

Note: This field is invalid if unique or summary rollup data is present.

Field Name: ADPCKAUT

NBR OF ALLOCATIONS

This value can be one of the following:

- In general, the number of times a package was invoked by a different package. For the first package run by an application, the initial call counts as a package switch. If this package called a nested package (such as a trigger, UDF, or stored procedure), a switch will **not** be counted upon return from such a package.
- If REPORT ORDER (ACTNAME) is specified, the number of times a package of a special activity type is invoked from a different package depends on the following:
  - If IFCID 233 or 380 is available, the invocations of stored procedures (SP) are counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, the invocation of user-defined functions (UDF) are counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381 is collected, all invocations of an activity type are counted. The sum also includes the number of subprograms.

Field Name: APACSWIT

SQL STMT - AVG

The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

Field Name: QPACSQLC

This is an *exception* field.

SQL STMT - TOTAL

The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

Field Name: QPACSQLC

This is an *exception* field.

NBR RLUP THREADS

This value can be one of the following:

- In general, the number of threads to roll data into this QPAC data section. Non-rollup QPACs have a value of 1 and rollup QPACs have a value of 1 or more. This number is used as a divisor for calculating averages for package class 7, 8, or 10 times and events.
- If REPORT ORDER (ACTNAME) is specified, the number of threads to roll data into this QPAC data section of a special activity type depends on the following:
  - If IFCID 233 or 380 is available, the number of threads to roll data into this QPAC data section for stored procedures (SP) is counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, the number of threads to roll data into this QPAC data section for user-defined functions (UDF) is counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381, is collected, the total number of threads to roll data into this QPAC data section is counted. The sum also includes the number of subprograms.

Field Name: QPACRLNU

Package Locking Activity - Class 10

This topic shows detailed information about "Accounting - Package Locking Activity - Class 10".

This block shows locking information at package level. It is repeated for each package present in the requested report. The block is headed by the package name.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Package Locking Activity - Class 10

The field labels shown in the following sample layout of "Accounting - Package Locking Activity - Class 10" are described in the following section.

```
Report:                                    Trace:

NSQLDLV                 AVERAGE     TOTAL     package                   TOTAL
---------------------  --------  --------     ---------------------  --------
TIMEOUTS                   0.00         0     TIMEOUTS                330301
DEADLOCKS                  0.00         0     DEADLOCKS                    0
ESCAL.(SHARED)             0.00         0     ESCAL.(SHARED)               0
ESCAL.(EXCLUS)             0.00         0     ESCAL.(EXCLUS)               0
MAX PG/ROW LOCKS HELD      0.00         0     MAX PG/ROW LOCKS HELD        0
LOCK REQUEST               0.00         0     LOCK REQUEST                 0
UNLOCK REQUEST             0.00         0     UNLOCK REQUEST               0
QUERY REQUEST              0.00         0     QUERY REQUEST                0
CHANGE REQUEST             0.00         0     CHANGE REQUEST               0
OTHER REQUEST              0.00         0     OTHER REQUEST                0
TOTAL SUSPENSIONS          0.00         0     TOTAL SUSPENSIONS            0
 LOCK SUSPENSIONS          0.00         0      LOCK SUSPENS                0
 IRLM LATCH SUSPENS.       0.00         0      IRLM LATCH SUSPENS.         0
 OTHER SUSPENS.            0.00         0      OTHER SUSPENS.              0
```

TIMEOUTS

The number of times a unit of work was suspended for a time exceeding the timeout value. This number should be low, ideally 0.

Field Name: QTXATIM

DEADLOCKS

The number of times deadlocks were detected. This number should be low, ideally 0.

Background and Tuning Information

Deadlocks occur when two or more application processes each hold locks on resources that the others need, without which they cannot proceed. Ensure that all applications accessing the same tables access them in the same order.

To improve concurrency:

- Use row level locking instead of page level locking to minimize deadlocks.
- For small tables use page level locking with MAXROWS 1.

To minimize deadlocks:

- Delay updates to just before commit.
- Use SELECT with the FOR UPDATE clause to use U lock.
- Adjust the deadlock detection cycle parameter DEADLOK in the IRLM procedure.

This field is incremented once for each deadlock encountered. There is no correlation between this field and the deadlock events reported in the Locking report set or the number of IFCID 172 records written. This field reports all deadlocks, regardless of how they were resolved. The locking report and record trace IFCID 172 show only those deadlocks that were resolved by DB2.

Field Name: QTXADEA

This is an *exception* field.

ESCAL.(SHARED)

The number of times the maximum page locks per table space are exceeded, and the table space lock escalates from a page lock (IS) to a table space lock (S) for this thread. You can specify the number of locks allowed per table space with the LOCKS PER TABLE(SPACE) parameter on the DB2 install panel DSNTIPJ.

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than normal.

Field Name: QTXALES

This is an *exception* field.

ESCAL.(EXCLUS)

The number of times the maximum page locks per table space are exceeded and the table space lock escalates from a page lock (IX) to a table space lock (X).

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than it normally does.

A useful rule of thumb is to compare the number of escalations (shared and exclusive) to the successful escalations (those that did not cause deadlocks and timeouts). If this value, or the number Lock escalations - shared and if the number of timeouts or deadlocks is also not 0, the timeout or deadlock is probably caused by the escalation.

If many escalations cause deadlocks and timeouts, the recommendation is to change the escalation threshold value. Use of ANY is extremely useful to prevent unnecessary and expensive page locks, for example locking all pages in a tablespace.

Lock escalations, shared or exclusive, should not be expected in a transaction environment.

Field Name: QTXALEX

This is an *exception* field.

MAX PG/ROW LOCKS HELD

The maximum number of page or row locks concurrently held against all table spaces by a single application during its execution. This count is a high-water mark. It cannot exceed the LOCKS PER USER parameter on panel DSNTIPJ.

Field Name: QTXANPL

This is an *exception* field.

LOCK REQUEST

The number of requests to lock a resource.

Field Name: QTXALOCK

This is an *exception* field.

UNLOCK REQUEST

The number of requests to unlock a resource.

This value can be less than the number of lock requests because DB2 can release several locks with a single unlock request.

Field Name: QTXAUNLK

QUERY REQUEST

The number of query requests.

Field Name: QTXAQRY

CHANGE REQUEST

The number of change requests.

Field Name: QTXACHG

OTHER REQUEST

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

Field Name: QTXAIRLM

LOCK SUSPENSIONS

The number of times a lock could not be obtained and the unit of work was suspended.

Background and Tuning Information

This number should be low, ideally 0.

The number of lock suspensions is a function of the lock requests. Lock suspensions (or conflicts) can happen on either LOCK REQUEST or CHANGE REQUEST.

Suspensions are highly dependent on the application and table space locking protocols.

Field Name: QTXASLOC

This is an *exception* field.

IRLM LOCK SUSPENS.

The number of latch suspensions.

Field Name: QTXASLAT

This is an *exception* field.

OTHER SUSPENS.

The number of suspensions caused by something other than lock or latch.

Field Name: QTXASOTH

This is an *exception* field.

Package SQL Activity - Class 10

This topic shows detailed information about "Accounting - Package SQL Activity - Class 10".

This block shows SQL information at package level. It is repeated for each package present in the requested report. The block is headed by the package name.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Package SQL Activity - Class 10

The field labels shown in the following sample layout of "Accounting - Package SQL Activity - Class 10" are described in the following section.

```
Report:                                 Trace:

package             AVERAGE    TOTAL    package                   TOTAL
------------------ ------- --------    ------------------     --------
SELECT                 0.00         0  SELECT                         0
INSERT                 0.00         0  INSERT                         0
UPDATE                 0.00         0  UPDATE                         0
DELETE                 0.00         0  DELETE                         0

DESCRIBE               0.00         0  DESCRIBE                       0
PREPARE                0.00         0  PREPARE                        0
OPEN                   0.00         0  OPEN                           0
FETCH                  0.00         0  FETCH                          0
CLOSE                  0.00         0  CLOSE                          0

LOCK TABLE             0.00         0  LOCK TABLE                     0
CALL                   0.00         0  CALL                           0
```

SELECT

The number of SQL SELECT statements executed.

Field Name: QPSELECT

This is an *exception* field.

INSERT

The number of INSERT statements executed.

Field Name: QPINSRT

This is an *exception* field.

UPDATE

The number of UPDATE statements executed.

Field Name: QPUPDTE

This is an *exception* field.

DELETE

The number of DELETE statements executed.

Field Name: QPDELET

This is an *exception* field.

DESCRIBE

The number of data capture describes.

Field Name: QPDESC

PREPARE

The number of full prepare requests.

Field Name: QPPREP

OPEN

The number of full open requests.

Field Name: QPOPEN

FETCH

The number of fetch requests.

Field Name: QPFETCH

CLOSE

The number of close requests.

Field Name: QPCLOSE

LOCK TABLE

The number of lock tables.

Field Name: QPLOCK

CALL

The number of SQL calls.

Field Name: QPCALL

Package Times - Class 8 - Suspensions

This topic shows detailed information about "Accounting - Package Times - Class 8 - Suspensions".

This block provides suspension information for class 8.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Package Times - Class 8 - Suspensions

The field labels shown in the following sample layout of "Accounting - Package Times - Class 8 - Suspensions" are described in the following section.

```
Report:                                                 Trace:

PACKAGE             AVERAGE TIME  AVG.EV    TIME/EVENT      PACKAGE                    TIME  EVENTS    TIME/EVENT
------------------  ------------  ------  ------------      ------------------  ------------  ------  ------------
LOCK/LATCH             0.000000    0.00           N/C      LOCK/LATCH             0.000000       0           N/C
 IRLM LOCK+LATCH       0.000000    0.00           N/C       IRLM LOCK+LATCH       0.000000       0           N/C
 DB2 LATCH             0.000000    0.00           N/C       DB2 LATCH             0.000000       0           N/C
SYNCHRONOUS I/O        0.000000    0.00           N/C      SYNCHRONOUS I/O        0.000000       0           N/C
OTHER READ I/O         0.000000    0.00           N/C      OTHER READ I/O         0.000000       0           N/C
OTHER WRITE I/O        0.000000    0.00           N/C      OTHER WRITE I/O        0.000000       0           N/C
SERV.TASK SWITCH       0.000000    0.00           N/C      SERV.TASK SWITCH       0.000000       0           N/C
ARCH.LOG(QUIESCE)      0.000000    0.00           N/C      ARCH.LOG(QUIESCE)      0.000000       0           N/C
ARCHIVE LOG READ       0.000000    0.00           N/C      ARCHIVE LOG READ       0.000000       0           N/C
DRAIN LOCK             0.000000    0.00           N/C      DRAIN LOCK             0.000000       0           N/C
CLAIM RELEASE          0.000000    0.00           N/C      CLAIM RELEASE          0.000000       0           N/C
PAGE LATCH             0.000000    0.00           N/C      PAGE LATCH             0.000000       0           N/C
NOTIFY MESSAGES        0.000000    0.00           N/C      NOTIFY MESSAGES        0.000000       0           N/C
GLOBAL CONTENTION      0.000000    0.00           N/C      GLOBAL CONTENTION      0.000000       0           N/C
TCP/IP LOB XML         0.000000    0.00           N/C      TCP/IP LOB XML         0.000000       0           N/C
ACCELERATOR            0.000000    0.00           N/C      ACCELERATOR            0.000000       0           N/C
PQ SYNCHRONIZATION     0.000000    0.00           N/C      PQ SYNCHRONIZATION     0.000000       0           N/C
FAST INSERT PIPE       0.000000    0.00           N/C      FAST INSERT PIPE       0.000111       1           N/C
TOTAL CL8 SUSPENS.     0.000000    0.00           N/C      TOTAL CL8 SUSPENS.     0.000000       0           N/C
```

PACKAGE

This label is replaced by the package name, or, if ORDER (ACTNAME) was in effect, the package activity name. An activity name is truncated if it is longer than 8 characters.

Field Name: PACKAGE

AVERAGE TIME - LOCK/LATCH

The sum of the number of wait trace events processed for waits for lock and the number of wait trace events processed for page latch contention while executing this package.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: AWTPLOLA

AVERAGE TIME - IRLM LOCK+LATCH

The accumulated lock elapsed wait time that occurred while executing this package.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when performance data was gathered.

If the suspension time is high, investigate locking activity.

Field Name: QPACAWTL

This is an *exception* field.

AVERAGE TIME - DB2 LATCH

The accumulated latch elapsed wait time for latch suspensions that occurred while executing this package.

Field Name: QPACAWLH

AVERAGE TIME - SYNCHRONOUS I/O

The accumulated elapsed wait time for I/O suspensions under this thread during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Field Name: QPACAWTI

This is an *exception* field.

AVERAGE TIME - OTHER READ I/O

The accumulated waiting time for a read I/O performed under a thread other than this one during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when performance data was gathered.

This field includes waits caused by sequential prefetch, list prefetch, dynamic prefetch, and synchronous read I/O performed by other threads.

If the value in this field is high, the problem could be an I/O bound query using prefetch or an I/O contention. The application is accessing data from a busy data set, volume, or control unit and is continually being suspended. Consult the DBA and MVS systems programmer.

Field Name: QPACAWTR

This is an *exception* field.

AVERAGE TIME - OTHER WRITE I/O

The accumulated waiting time due to a write I/O performed for another thread during the execution of a package or DBRM.

Background and Tuning Information

If the value in this field is high, the problem could be I/O contention. The application is accessing data from a busy data set, volume, or control unit and is continually being suspended. Consult the DBA and MVS systems programmer to resolve possible data set placement problems.

Field Name: QPACAWTW

This is an *exception* field.

AVERAGE TIME - SERV.TASK SWITCH

The accumulated waiting time due to a synchronous execution unit switch to DB2 services from this thread during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

This value includes the waits because of an OPEN/CLOSE data set, SYSLGRNG update, DATASPACE MANAGER services, DEFINE, EXTEND, and DELETE data set, AUTONOMOUS PROCEDURE, and DDF Requester waiting for Server reply and VSAM Catalog update.

Field Name: QPACAWTE

This is an *exception* field.

AVERAGE TIME - ARCH.LOG(QUIESCE)

The accumulated waiting time caused by processing ARCHIVE LOG(QUIESCE) commands during the execution of the package or DBRM. This number represents the amount of time that an individual thread was suspended because of the command, not the time it took for the entire command to complete.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Avoid issuing the -ARCHIVE LOG QUIESCE command during peak periods.

Field Name: QPACALOG

AVERAGE TIME - DRAIN LOCK

The accumulated waiting time due to a drain lock.

Field Name: QPACAWDR

AVERAGE TIME - CLAIM RELEASE

The accumulated waiting time for a drain waiting for claims to be released during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Field Name: QPACAWCL

AVERAGE TIME - PAGE LATCH

The accumulated waiting time caused by a page latch contention.

Field Name: QPACAWTP

AVERAGE TIME - NOTIFY MESSAGES

The accumulated elapsed waiting time due to suspensions caused by sending notify messages to other members in the data sharing group. Messages are sent, for example, when database descriptors are changed due to DDL.

This value is only calculated if accounting class 8 is active and DB2 is a member of a DB2 data sharing group.

Field Name: QPACAWTG

AVERAGE TIME - GLOBAL CONTENTION

The accumulated waiting time caused by the suspension of IRLM lock requests due to global lock contentions in a data sharing environment that require intersystem communication to resolve.

Field Name: APGCSUST

AVERAGE TIME - TCP/IP LOB XML

The accumulated wait time for TCP/IP LOB and XML materialization while running this package or DBRM.

Field Name: QPACALBW

AVERAGE TIME - ACCELERATOR

The accumulated wait time for requests to an accelerator while executing this package.

Field Name: QPACAACW

AVERAGE TIME - PQ SYNCHRONIZATION

The accumulated time waiting for parallel query processing to synchronize between parent and child tasks.

Field Name: APPQSST

AVERAGE TIME - FAST INSERT PIPE

The accumulated wait time for a pipe while this package was executed (DB2 field QPAC_PIPE_WAIT).

Field Name: APPISUST

AVERAGE TIME - TOTAL CL8 SUSPENS.

The waiting time for the package or DBRM due to class 8 suspensions.

Field Name: ADTSUSTP

This is an *exception* field.

AVG.EV - LOCK/LATCH

The sum of the number of wait trace events processed for waits for local contention for locks and the number of wait trace events processed for waits for latch contention while executing this package.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: ADLLPSSC

This is an *exception* field.

AVG.EV - IRLM LOCK+LATCH

The number of wait trace events processed for waits for lock while executing this package.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: ADLBPSSC

AVG.EV - DB2 LATCH

The number of wait trace events processed for page latch contention while executing this package.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: ADLAPSSC

AVG.EV - SYNCHRONOUS I/O

The total number of synchronous I/O suspensions under this thread during the execution of the package or DBRM.

Field Name: ADIOPSSC

AVG.EV - OTHER READ I/O

The total number of suspensions due to a read I/O performed under a thread other than the one being reported.

Field Name: ADARPSSC

AVG.EV - OTHER WRITE I/O

The total number of suspensions due to a write I/O performed under a thread other than this one during the execution of a package or DBRM.

Field Name: ADAWPSSC

AVG.EV - SERV.TASK SWITCH

The total number of suspensions due to a synchronous execution unit switch to DB2 services during the execution of the package or DBRM.

Field Name: ADSTPSSC

AVG.EV - ARCH.LOG(QUIESCE)

The total number of suspensions caused by processing ARCHIVE LOG(QUIESCE) commands during the execution of the package or DBRM.

Field Name: ADALPSSC

AVG.EV - ARCHIVE LOG READ

The number of wait trace events processed for archive reads, active reads, and active log prefetch reads while running this package or DBRM.

Field Name: ADLRPSSC

AVG.EV - DRAIN LOCK

The total number of suspensions due to drain lock processing during the execution of the package or DBRM.

Field Name: ADDRPSSC

AVG.EV - CLAIM RELEASE

The total number of suspensions until the claims are released during the execution of the package or DBRM.

Field Name: ADCMPSSC

AVG.EV - PAGE LATCH

The total number of suspensions due to page latch contentions during the execution of the package or DBRM.

Field Name: ADPGPSSC

AVG.EV - NOTIFY MESSAGES

The number of suspensions due to messages being sent to other members in the data sharing group. This value is calculated only if accounting class 8 is active and DB2 is a member of a data sharing group.

Field Name: ADNOPSSC

AVG.EV - GLOBAL CONTENTION

The total number of suspensions during global lock contention. This value is calculated only if accounting class 8 is active and DB2 is a member of a data sharing group.

Field Name: ADGCPSSC

AVG.EV - TCP/IP LOB XML

The number of wait trace events processed for waits for TCP/IP LOB and XML materialization while running this package or DBRM.

Field Name: ADLMPSSC

AVG.EV - ACCELERATOR

The total number of suspensions due to a request to an accelerator during the execution of the package.

Field Name: ADAAPSSC

AVG.EV - PQ SYNCHRONIZATION

The number of times the parallel query processing suspended because it was waiting for the synchronization of the parent/child.

Field Name: APPQSSC

AVG.EV - FAST INSERT PIPE

The number of wait trace events that were processed for waits for a pipe while this package was executed (DB2 field QPAC_PIPEWAIT_COUNT / 2).

Field Name: APPISUSC

AVG.EV - TOTAL CL8 SUSPENS.

The number of all types of class 8 suspensions.

Field Name: ADTSUSCP

This is an *exception* field.

TIME/EVENT - LOCK/LATCH

The sum of the number of wait trace events processed for waits for local contention for locks and the number of wait trace events processed for waits for latch contention while executing this package.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: AALLPTMC

TIME/EVENT - IRLM LOCK+LATCH

The number of wait trace events processed for waits for lock while executing this package.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: AALOPTMC

TIME/EVENT - DB2 LATCH

The number of wait trace events processed for page latch contention while executing this package.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: AALAPTMC

TIME/EVENT - SYNCHRONOUS I/O

The synchronous I/O suspension time per event.

Field Name: AAIOPTMC

TIME/EVENT - OTHER READ I/O

Any other read time per event.

Field Name: AAARPTMC

TIME/EVENT - OTHER WRITE I/O

Any other write time per event.

Field Name: AAAWPTMC

TIME/EVENT - SERV.TASK SWITCH

The synchronous execution service time per event.

Field Name: AASTPTMC

TIME/EVENT - ARCH.LOG(QUIESCE)

The archive log time per event.

Field Name: AAALPTMC

TIME/EVENT - ARCHIVE LOG READ

The archive read suspension time per event.

Field Name: AALRPTMC

TIME/EVENT - DRAIN LOCK

The drain lock time per event.

Field Name: AADRPTMC

TIME/EVENT - CLAIM RELEASE

The claim release time per event.

Field Name: AACMPTMC

TIME/EVENT - PAGE LATCH

The page latch time per event.

Field Name: AAPGPTMC

TIME/EVENT - NOTIFY MESSAGES

The notify messages time per event.

Field Name: AANOPTMC

TIME/EVENT - GLOBAL CONTENTION

The global contention time per event.

Field Name: AAGCPTMC

TIME/EVENT - TCP/IP LOB XML

The accumulated wait time for TCP/IP LOB and XML materialization while running this package or DBRM.

Field Name: QPACALBW

TIME/EVENT - ACCELERATOR

The accelerator waiting time per event during the execution of the package

Field Name: AAAAPTMC

TIME/EVENT - PQ SYNCHRONIZATION

The average wait time for a package for parallel query processing to synchronize between parent and child tasks.

Field Name: APPQSTMC

TIME/EVENT - FAST INSERT PIPE

The average wait time for a pipe.

Field Name: APPITMCN

TIME/EVENT - TOTAL CL8 SUSPENS.

The class 8 time per event.

Field Name: AATOTSTP

Package Times - Class 7

This topic shows detailed information about "Accounting - Package Times - Class 7".

This block shows the class 7 application times at package level.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Package Times - Class 7

The field labels shown in the following sample layout of "Accounting - Package Times - Class 7" are described in the following section.

```
Report:                              Trace:

PACKAGE                    TIMES     DSNTEP2                    TIMES
-----------------  ------------     ------------------  ------------
ELAP-CL7 TIME-AVG       0.019590    ELAPSED TIME - CL7   3:16.215480
CP CPU TIME             0.002826    CP CPU TIME             0.015513
  AGENT                 0.002826      AGENT                 0.015513
  PAR.TASKS             0.000000      PAR.TASKS             0.000000
SE CPU TIME             0.000000    SE CPU TIME             0.000000
SUSPENSION-CL8          0.016115    SUSPENSION-CL8          0.000191
  AGENT                 0.016115      AGENT                 0.000191
  PAR.TASKS             0.000000      PAR.TASKS             0.000000
NOT ACCOUNTED           0.000649    NOT ACCOUNTED        3:16.199777
AVG.DB2 ENTRY/EXIT           N/P
DB2 ENTRY/EXIT               N/P

CP CPU SU                 121.11    CP CPU SU                   208
  AGENT                   121.11      AGENT                     208
  PAR.TASKS                 0.00      PAR.TASKS                   0
SE CPU SU                   0.00    SE CPU SU                     0
```

ELAP-CL7 TIME-AVG

The total elapsed time for executing the package or DBRM.

Field Name: QPACSCT

CP CPU TIME

The class 7 CPU time spent by the package or DBRM. It indicates:

- The TCB time
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.

In sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included.

This time does not include the CPU time consumed on an IBM specialty engine.

Field Name: ADCPUTP

This is an *exception* field.

AGENT

The class 7 CPU time for all executions of the package or DBRM. This time does not include the:

- Class 7 time for parallel tasks
- CPU time that is consumed on an IBM specialty engine

Field Name: QPACTJST

This is an *exception* field.

AGENT - PAR.TASKS

The accumulated time for the package or DBRM to process parallel tasks. These tasks can be query CP, sysplex query, utility parallel tasks, or rollup autonomous tasks.

In sysplex query parallelism, the accumulated time reflects only parallel tasks running on the same DB2 subsystem as the originating task.

In case of rolled-up data, it is the sum of all CPU times, of originating and parallel tasks.

This time does not include CPU time consumed on an IBM specialty engine.

Field Name: ADCPCL7T

SE CPU TIME

The total CPU time for all executions of this package or DBRM that was consumed on an IBM specialty engine (SE).

Note: All CPU times of an IBM specialty engine that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: APACC7Z

SUSPENSION-CL8

The waiting time for the package or DBRM due to class 8 suspensions.

Field Name: ADTSUSTP

This is an *exception* field.

SUSPENSION-CL8 - AGENT

The class 8 suspension time for executing the package or DBRM. In query or utility parallelism, this does not include the class 8 time for parallel tasks.

Field Name: ADTCBCL8

SUSPENSION-CL8 - PAR.TASKS

The sum of the suspension times of the parallel tasks for the package or DBRM. The tasks can be query CP or sysplex query parallel tasks, tasks generated by utilities, or roll-up autonomous tasks.

In case of rolled-up data, it is the sum of all suspension times, of originating and parallel tasks.

Field Name: ADCPCL8T

NOT ACCOUNTED

The total unaccounted time in DB2 due to the execution of the package or DBRM. In query CP and sysplex query parallelism, it is the unaccounted time of the originating task only.

In case of rolled-up data, it is the unaccounted time of all tasks, of originating and parallel tasks.

Field Name: ADNACL7T

This is an *exception* field.

AVG.DB2 ENTRY/EXIT

The number of DB2 entries or exits processed during the execution of the package or DBRM.

In Accounting reports this is shown twice; as a total and as an average.

Field Name: QPACARNA

CP CPU SU

The CPU service units for a package or DBRM. It indicates:

- The service units for the TCB time.
- The accumulated service units for processing parallel tasks if query CP or sysplex query parallelism is exploited.

These CPU service units do not include the service units that were consumed on an IBM specialty engine.

Field Name: ADSUCPU7

CP CPU SU - AGENT

The CPU service units for a package or DBRM. These CPU service units do not include the service units that were consumed on an IBM specialty engine.

Field Name: ADSUTCB7

CP CPU SU - PAR.TASKS

The CPU service units accumulated for a package or DBRM for processing parallel tasks. These tasks can be query CP or sysplex query parallel tasks, or roll-up autonomous tasks.

These service units do not include service units consumed on an IBM specialty engine.

Field Name: ADSUCPP7

SE CPU SU

The total CPU service units for all executions of this package or DBRM that were consumed on an IBM specialty engine.

Field Name: ADSUC7Z

Query Parallelism

This topic shows detailed information about "Accounting - Query Parallelism".

If a query exploits query CP (central processor) parallelism or sysplex query parallelism, several tasks (called parallel tasks) perform the work. For each of these tasks an accounting record is generated, which contains counters and timers pertinent to the work performed by the particular task. In addition, an accounting record is created that contains the details on nonparallel work within the thread as well as data related to parallel work.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Query Parallelism

The field labels shown in the following sample layout of "Accounting - Query Parallelism" are described in the following section.

```
Report:                                      Trace:

QUERY PARALLELISM           AVERAGE     TOTAL     QUERY PARALLELISM             TOTAL
--------------------------  --------  --------    --------------------------  --------
MAXIMUM DEGREE-ESTIMATED       0.00         0     MAXIMUM DEGREE-ESTIMATED         N/A
MAXIMUM DEGREE-PLANNED         0.00         0     MAXIMUM DEGREE-PLANNED           N/A
MAXIMUM DEGREE-EXECUTED         N/A         0     MAXIMUM DEGREE-EXECUTED            0
MAXIMUM MEMBERS USED            N/A         0     MAXIMUM MEMBERS USED             N/P
PARALLEL GROUPS EXECUTED       0.00         0     PARALLEL GROUPS EXECUTED           0
 RAN AS PLANNED                0.00         0      RAN AS PLANNED                    0
 RAN REDUCED-STORAGE           0.00         0      RAN REDUCED-STORAGE               0
 RAN REDUCED-NEGOTIATION       0.00         0      RAN REDUCED-NEGOTIATION         N/A
 SEQ-CURSOR                    0.00         0      SEQ-CURSOR                        0
 SEQ-NO ESA SORT               0.00         0      SEQ-NO ESA SORT                   0
 SEQ-NO BUFFER                 0.00         0      SEQ-NO BUFFER                     0
 SEQ-AUTONOMOUS PROC           0.00         0      SEQ-AUTONOMOUS PROC             N/A
 SEQ-NEGOTIATION               0.00         0      SEQ-NEGOTIATION                 N/A
 ONE DB2-COORDINATOR = NO      0.00         0      ONE DB2-COORDINATOR = NO        N/A
 ONE DB2-ISOLATION LEVEL       0.00         0      ONE DB2-ISOLATION LEVEL           0
 ONE DB2-DCL TTABLE            0.00         0      ONE DB2-DCL TTABLE                0
MEMBER SKIPPED (%)              N/C       N/A     MEMB SKIPPED(%)                   0
DISABLED BY RLF                0.00         0     DISABLED BY RLF                   0
REFORM PARAL-CONFIG            0.00         0     REFORM PARAL-CONFIG        NO
REFORM PARAL-NO BUF            0.00         0     REFORM PARAL-NO BUF               0
```

MAXIMUM DEGREE-ESTIMATED

The maximum parallel-group estimated degree (DB2 field: QXMAXESTIDG). It is the bind time estimated degree based on the cost formula. If the parallel group contains a host variable or parameter marker, bind time will estimate the parallel-group degree based on a valid assumption value.

Field Name: AXMESTDG

MAXIMUM DEGREE-PLANNED

The maximum parallel-group planned degree (DB2 field: QXMAXPLANDG). It is the ideal parallel-group degree obtained at execution time after the host variable or parameter marker value is "plug-in" and before the buffer pool negotiation and the system negotiation are performed.

Field Name: AXMPLNDG

MAXIMUM DEGREE-EXECUTED

The maximum degree of parallelism executed among all parallel groups to indicate the extent to which queries were processed in parallel.

Field Name: QXMAXDEG

MAXIMUM MEMBERS USED

The maximum number of DB2 members that participated in the processing of a query.

Field Name: AMAXMEMB

PARALLEL GROUPS EXECUTED

The total number of parallel groups executed.

Field Name: QXTOTGRP

RAN AS PLANNED

The total number of parallel groups that executed in the planned parallel degree. This field is incremented by one for each parallel group that executed in the planned degree of parallelism (as determined by DB2).

Field Name: QXNORGRP

RAN REDUCED-STORAGE

The total number of parallel groups that did not reach the planned parallel degree because of a lack of storage space or contention on the buffer pool.

The exception field name is QXREDGRP.

Background and Tuning Information

If this field is not 0, increase the size of the current buffer pool using the ALTER BUFFERPOOL command or use the ALTER TABLESPACE command to assign table spaces accessed by this query to a different buffer pool.

Field Name: QXREDGRP

This is an *exception* field.

RAN REDUCED-NEGOTIATION

The number of parallel-group degrees that is reduced because of the system negotiation result of the system stress level (DB2 field: QXSTOREDGRP).

Field Name: AXREDPGD

SEQ-CURSOR

The total number of parallel groups that fell back to sequential mode due to a cursor that can be used by UPDATE or DELETE.

Field Name: QXDEGCUR

SEQ-NO ESA SORT

The total number of parallel groups that fell back to sequential mode due to a lack of ESA sort support.

Field Name: QXDEGESA

SEQ-NO BUFFER

The total number of parallel groups that fell back to sequential mode due to a storage shortage or contention on the buffer pool.

The exception field name is QXDEGBUF.

Field Name: QXDEGBUF

SEQ-AUTONOMOUS PROC

The total number of parallel groups that fell back to sequential mode under an autonomous procedure.

Field Name: QXDEGAT

SEQ-NEGOTIATION

The number of parallel groups is degenerated to sequential because of the system negotiation result of system stress level (DB2 field: QXSTODGNGRP).

Field Name: AXDEGPGD

ONE DB2-COORDINATOR = NO

The total number of parallel groups executed on a single DB2 subsystem due to the COORDINATOR subsystem value being set to NO. When the statement was bound, the COORDINATOR subsystem value was set to YES. This situation can also occur when a package or plan is bound on a DB2 subsystem with COORDINATOR=YES, but is run on a DB2 subsystem with COORDINATOR=NO.

Field Name: QXCOORNO

ONE DB2-ISOLATION LEVEL

The total number of parallel groups executed on a single DB2 subsystem due to repeatable-read or read-stability isolation.

Field Name: QXISORR

ONE DB2-DCL TTABLE

The number of parallel groups in a query block that were downgraded to CPU parallelism because they referenced a UDF and a declared temporary table was detected at execution time.

DB2 enforces execution on a single DB2 (CPU parallelism), in this instance, because it cannot determine at incremental bind time for the statement whether the UDF will reference the declared temporary table. Other parallel groups in the same statement are not necessarily downgraded.

Field Name: QXDEGDTT

MEMBER SKIPPED (%)

The percentage of parallel groups that were not distributed over the data sharing group, as originally planned at bind time, because one or more DB2 members did not have enough buffer pool storage. This only applies to parallel groups that were intended to run in sysplex query parallelism.

This percentage is to indicate a lack of buffers at a member. It is only increased when the buffer pool is defined to allow for parallelism. For example, if VPXPSEQT=0 on an assistant, DB2 does not send parallel work there, and the percentage is not increased.

Field Name: AXXCRAT

DISABLED BY RLF (Report)

The number of threads where at least one dynamic SQL statement was disabled by the Resource Limit Facility (RLF).

Field Name: ADPARDNR

DISABLED BY RLF (Trace)

Indicates whether Query Parallelism is disabled by the Resource Limit Facility (RLF) for at least one dynamic SELECT statement in this thread.

Field Name: ADPARDIS

REFORM PARAL-CONFIG

The total number of parallel groups where DB2 reformulated the parallel portion of the access path because of a change in the number of active members, or because of a change of processor models on which they run, from bind time to run time. This counter is incremented only on the parallelism coordinator at run time.

Field Name: QXREPOP1

REFORM PARAL-NO BUF

The total number of parallel groups in which DB2 reformulated the parallel portion of the access path because there were insufficient buffer-pool resources. This counter is incremented only at the parallelism coordinator at run time.

Field Name: QXREPOP2

Resource Limit Facility

This topic shows detailed information about "Accounting - Resource Limit Facility".

This block shows information about the Resource Limit Facility (RLF), which prevents dynamic manipulative SQL statements from exceeding specified time limits.

The following example shows both layouts, the report layout followed by the trace layout.

Accounting - Resource Limit Facility

The field labels shown in the following sample layout of "Accounting - Resource Limit Facility" are described in the following section.

```
Report:

RESOURCE LIMIT TYPE              #OCCUR    AVERAGE CPU SECONDS    HIGHEST CPU SECONDS
------------------------------   ------    -------------------    -------------------
INFINITE LIMIT                        1              5.000000               5.000000


Trace:

---- RESOURCE LIMIT FACILITY ------------------------------------------------------------------------------------------
TYPE: N/P                             TABLE ID: N/P    SERV.UNITS:      N/P    CPU SECONDS: 0.000000    MAX CPU SEC:      N/P
```

RESOURCE LIMIT TYPE (TYPE)

The resource limit type. This is taken from QTXAPREC and can be:

New in DB2 V11:

- 16 - SPECIFIC OR ANY CLIENT

For DB2 V12:

- 1 - AUTHID/COLLECTION/PKG/LOCATION
- 2 - AUTH/COLLECT/PKG LOC LOCATION
- 3 - AUTH/COLLECT/PKG ANY LOCATION
- 4 - AUTH/COLLECT/LOCATION ANY PKG
- 5 - AUTH/COLLECT/LOC LOCAT ANY PKG
- 6 - AUTH/COLLECT ANY PKG/LOCATION
- 7 - AUTH/PKG/LOCATION ANY COLLECT
- 8 - AUTH/PKG ANY COLLECT LOC LOCAT
- 9 - AUTH/PKG ANY COLLECT/LOCATION
- 10 - AUTH/LOCATION ANY COLLECT/PKG
- 11 - AUTH ANY COLLECT/PKG LOC LOCAT
- 12 - AUTH ANY COLLECT/PKG/LOCATION
- 13 - COLLECT/PKG/LOCATION ANY AUTH
- 14 - COLLECT/PKG ANY AUTH LOC LOCAT
- 15 - COLLECT/PKG ANY AUTH/LOCATION
- 16 - COLLECT/LOCATION ANY AUTH/PKG
- 17 - COLLECT/LOCALLOC ANY AUTH/PKG
- 18 - COLLECT ANY AUTH/PKG/LOCATION
- 19 - PKG/LOCATION ANY AUTH/COLLECT
- 20 - PKG/LOCALLOC ANY AUTH/COLLECT
- 21 - PKG ANY AUTH/COLLECT/LOCATION
- 22 - LOCATION ANY AUTH/COLLECT/PKG
- 23 - LOCALLOC ANY AUTH/COLLECT/PKG
- 24 - ANY AUTH/COLLECT/PKG/LOCATION
- 25 - CLIENT APPL/ID/WKS/IP
- 26 - CLIENT APPL/ID/WKS ANY IP
- 27 - CLIENT APPL/ID/IP ANY WKS
- 28 - CLIENT APPL/ID ANY WKS/IP
- 29 - CLIENT APPL/WKS/IP ANY ID
- 30 - CLIENT APPL/WKS ANY ID/IP
- 31 - CLIENT APPL/IP ANY ID/WKS
- 32 - CLIENT APPL ANY ID/WKS/IP

- 33 - CLIENT ID/WKS/IP ANY APPL
- 34 - CLIENT ID/WKS ANY APPL/IP
- 35 - CLIENT ID/IP ANY APPL/WRS
- 36 - CLIENT ID ANY APPL/WKS/IP
- 37 - CLIENT WKS/IP ANY APPL/ID
- 38 - CLIENT WKS ANY APPL/ID/IP
- 39 - CLIENT IP ANY APPL/ID/WKS
- 40 - CLIENT ANY APPL/ID/WKS/IP
- 41 - INSTALL ZPARM FOR LIMIT
- 42 - NO LIMIT - SYSADM/SYSOPR

The following values can be reported for all DB2 versions:

- 99 - INFINITE LIMIT

Reported when QTXAPREC has any value except NO LIMIT - SYSADM/SYSOPR and QTXAILMT is on.

- 100 - NO RUN OR ZERO LIMIT.

Reported when QTXANRUN is on.

Field Name: ADRLFTYP

#OCCUR

The number of RLF occurrences.

Field Name: ASRLFOCC

AVERAGE CPU SECONDS

The number of CPU seconds used.

Field Name: ADRLFCPU

HIGHEST CPU SECONDS

The highest CPU seconds used in a successful DB2 internal call rather than in a single SQL call. Because there are usually many DB2 calls for each SQL call, this value could be quite small compared to the total CPU time used in the SQL call.

Only times for successful DB2 calls are used to determine the value of this field.

Field Name: ADRLFMAX

TABLE ID

The identifier of the resource limit specification table.

Field Name: QTXARLID

SERV.UNITS

The maximum number of CPU service units to be used. Normally, the value is not 0 if the RES LIMIT TYPE is LIMIT. A value of 0 indicates no limit.

Field Name: QTXASLMT

RID List

This topic shows detailed information about "Accounting - RID List".

This block shows information about the Record identifier (RID) list.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - RID List

The field labels shown in the following sample layout of "Accounting - RID List" are described in the following section.

```
Report:                                  Trace:

RID LIST                 AVERAGE     TOTAL    RID LIST                  TOTAL
-----------------------  --------  --------    ---------------        --------
USED                        0.00         0    USED                          0

FAIL-NO STORAGE             0.00         0    FAIL-NO STORAGE               0
FAIL-LIMIT EXCEEDED         0.00         0    FAIL-LIMIT EXC.               0
FAIL-NOT CONSTRUCTED        0.02         1    FAIL-NOT CONSTRUCTED          1

INTERRUPTED-NO STORAGE      0.00         0    INTERRUPTED-NO STORAGE        0
INTERRUPTED-LIMIT EXC.      0.00         0    INTERRUPTED-LIMIT EXC.        0

OVERFLOWED-NO STORAGE       0.00         0    OVERFLOWED-NO STORAGE         0
OVERFLOWED-LIMIT EXC.       0.00         0    OVERFLOWED-LIMIT EXC.         0

SKIPPED-INDEX KNOWN         0.00         0    SKIPPED-INDEX KNOWN           0
```

USED

The number of times RID list (also called RID pool) processing is used.

During RID (RECORD ID) list processing, DB2 uses an index to produce a list of candidate RIDs, which is called a RID list. The RID list can be sorted and intersected (ANDed) or unioned (ORed) with other RID lists before actually accessing the data pages. RID list processing is used for a single index (index access with list prefetch) or for multiple indexes (multiple index access), which is when the RID lists are ANDed and ORed.

This field is incremented once for a given table access when RID list processing is used for index access with list prefetch, for multiple index access, or for both. For multiple index access, if a final RID list is obtained through ANDing and ORing of RID lists, the counter is incremented once, even if not all indexes were used by the RIDs in the multiple index access.

Background and Tuning Information

A nonzero value in this field indicates that DB2 has used list prefetch. If this is the case, check the access path selection.

Field Name: QXMIAP

This is an *exception* field.

FAIL-NO STORAGE

The number of times DB2 detected that no storage was available to hold a list of RIDs during a given RID list process involving one index (single index access with list prefetch) or multiple indexes (multiple index access).

This field can be incremented during retrieval, sorting, ANDing, and ORing of RID lists for index access with list prefetch (single index). For single index access, this field can only be incremented once per access. For multiple index access, it can be incremented for every index involved in the ANDing and ORing of RID lists.

Field Name: QXNSMIAP

This is an *exception* field.

FAIL-LIMIT EXCEEDED (FAIL-LIMIT EXC.)

The number of times DB2 detected that a RID list exceeded one or more internal limits during a given RID list (or RID pool) process involving one index (single index access with list prefetch) or multiple indexes (multiple index access). The internal limits include the physical limitation of the number of RIDs a RID list can hold and threshold values for the retrieval, ORing, and ANDing of RIDs.

For index access with list prefetch (single index), this field can only be incremented during RID list retrieval. For multiple index access, this field can be incremented during RID list retrieval, ANDing, and ORing. This counter reflects the number of times internal limits or threshold values were exceeded for the RID lists obtained directly from an index as well as for RID lists derived during the ANDing and ORing process.

Background and Tuning Information

Before you increase the RID list storage size, investigate the cause of the failure using the statistics record or the performance trace. You can specify the size for the RID list on the DB2 installation panel DSNTIPC.

Field Name: QXMRMIAP

This is an *exception* field.

FAIL-NOT CONSTRUCTED

The number of times RID list processing was not used. This field is incremented once when RID list processing could not be used for a given table access for Index Access with list prefetch and/or for Multiple Index Access.

For example, RID list processing is used with multiple index access when performing ANDing. If the retrieved RID list of one leg exceeds a certain threshold and Db2 decides to not use this RID list, field QXMRMIAP is incremented by 1. But a final RID list can still be obtained based on the other legs of the ANDing. So, RID list processing is still used successfully.

This may cause some confusion. So, this counter QXRFMIAP show exactly how many times a final RID list could not be constructed and "RID list processing was not used".

Field Name: QXRFMIAP

INTERRUPTED-NO STORAGE

The number of times a RID list append for a hybrid join was interrupted because no RID pool storage was available to hold the list of RIDs.

Field Name: QXHJINCS

INTERRUPTED-LIMIT EXC.

The number of times a RID list append for a hybrid join was interrupted because the number of RIDs exceeded one or more internal limits.

Field Name: QXHJINCT

OVERFLOWED-NO STORAGE

The number of times a RID list was overflowed to a work file because no RID pool storage was available to hold the list of RIDs.

Field Name: QXWFRIDS

OVERFLOWED-LIMIT EXC.

The number of times a RID list was overflowed to a work file because the number of RIDs exceeded one or more internal limits.

Field Name: QXWFRIDT

SKIPPED-INDEX KNOWN

The number of times a RID list retrieval for multiple index access was skipped because it was not necessary due to DB2 being able to predetermine the outcome of index ANDing or ORing.

Field Name: QXRSMIAP

ROWID

This topic shows detailed information about "Accounting - ROWID".

This block shows information about the row identifier (ROWID).

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - ROWID

The field labels shown in the following sample layout of "Accounting - ROWID" are described in the following section.

```
Report:                              Trace:

ROWID           AVERAGE     TOTAL    ROWID          TOTAL
-------------  --------  --------    ----------  --------
DIRECT ACCESS      0.00         0    DIR ACCESS         0
INDEX USED         0.00         0    INDEX USED         0
TS SCAN USED       0.00         0    TS SCAN            0
```

DIRECT ACCESS (DIR ACCESS)

The number of times that direct row access was successful.

Field Name: QXROIMAT

INDEX USED

The number of times that direct row access failed and an index was used to find a record.

Background and Tuning Information

This can happen, for example, when a REORG is performed between the read of the ROWID column and the use of the host variable in the WHERE clause of the SQL statement. This causes the RID value in the host variable to be incorrect.

Field Name: QXROIIDX

TS SCAN USED (TS SCAN)

The number of times that an attempt to use direct row access reverted to using a table-space scan because DB2 was unable to use a matching index scan.

Background and Tuning Information

Ideally, this value should be 0.

Table-space scans can happen, for example, when a REORG is performed between the read of the ROWID column and the use of the host variable in the WHERE clause of the SQL statement. This causes the RID value in the host variable to be incorrect. DB2 first tries a matching-index scan before using a table-space scan.

To avoid table space scans, you can force the access path of an unsuccessful direct row access to use a matching index scan on the primary-index key by adding PKCOL to the WHERE clause in the SQL statement. `.... WHERE ROWIDCOL=:HVROWID AND PKCOL=:HVPK .....`

Field Name: QXROITS

Service Units

This topic shows detailed information about "Accounting - Service Units".

This block shows class 1 and class 2 CPU times as service units.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Service Units

The field labels shown in the following sample layout of "Accounting - Service Units" are described in the following section.

```
Report:                                     Trace:

AVERAGE SU           CLASS 1        CLASS 2  TOTAL SU             CLASS 1        CLASS 2
------------  --------------  -------------  -------------  --------------  -------------
CP CPU                15.50           8.00  CP CPU               7599131         7599098
 AGENT                15.50           8.00   AGENT                   240             207
  NONNESTED           15.50           8.00    NONNESTED              240             207
   STORED PRC          0.00           0.00    STORED PRC               0               0
   UDF                 0.00           0.00    UDF                      0               0
   TRIGGER             0.00           0.00    TRIGGER                  0               0
 PAR.TASKS             0.00           0.00   PAR.TASKS            7598890         7598890

 ELIG SECP             0.00            N/A   ELIG SECP                  0             N/A
 ELIG ACCEL             N/A           0.00   ELIG ACCEL               N/A            0.00

SE CPU                15.50           8.00  SE CPU               7599131         7599098
  NONNESTED           15.50           8.00    NONNESTED              240             207
   STORED PROC         0.00           0.00    STORED PROC              0               0
   UDF                 0.00           0.00    UDF                      0               0
   TRIGGER             0.00           0.00    TRIGGER                  0               0
 PAR.TASKS             0.00           0.00   PAR.TASKS            7598890         7598890

 ELIG ACCEL             N/A           0.00   ELIG ACCEL               N/A            0.00
```

CLASS 1: CP CPU

The class 1 CPU service units (in an application). It indicates:

- The TCB service units.
- The accumulated TCB service units for processing stored procedures if stored procedures are present.
- The accumulated CPU service units for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.

These CPU service units do not include the service units that were consumed on an IBM specialty engine.

Field Name: ADSUCPU1

CLASS 1: CP CPU - AGENT

The class 1 TCB service units (in an application). This field is derived from the TCB time and the conversion factor of the originating task.

Field Name: ADSUAGT1

CLASS 1: CP CPU - AGENT - NONNESTED

The TCB service units accumulated in nonnested activity.

Field Name: ADSUNN1

CLASS 1: CP CPU - AGENT - STORED PRC

The TCB service units accumulated in an application for stored procedures. This field is derived from the TCB time and the conversion factor of the originating task.

Field Name: ADSUTCS1

CLASS 1: CP CPU - AGENT - UDF

The TCB service units accumulated in an application for UDF.

Field Name: ADSUTCU1

CLASS 1: CP CPU - AGENT - TRIGGER

The number of TCB service units accumulated in DB2 used while executing under control of a trigger.

Field Name: ADSUTCT2

CLASS 1: CP CPU - PAR.TASKS

The sum of the CPU service units of the parallel tasks running in an application. These tasks can be query CP or sysplex query parallel tasks, parallel tasks produced by utilities, or roll-up autonomous tasks.

Field Name: ADSUCPP1

CLASS 1: CP CPU - ELIG SECP

The accumulated CPU service units that ran on a standard CP for work eligible on an IBM specialty engine.

Field Name: ADSUZEL

CLASS 1: SE CPU

The sum of several accumulated CPU service units consumed while running on an IBM specialty engine in all environments. This field is derived from the TCB time and the conversion factor of the originating task. These service units are consumed when:

- Running stored procedure requests and triggers on the main application execution unit.
- Satisfying stored procedure requests processed in a DB2 stored procedure or WLM address space. SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- Satisfying UDF requests processed in a DB2 stored procedure or WLM address space.
- Running triggers on a nested task.
- Running parallel tasks in an application which contains the accumulated CPU time used to satisfy UDF requests.

Note: All CPU service units of an IBM specialty engine (SE) that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: ADSUC1Z

CLASS 1: SE CPU - NONNESTED

The class 1 CPU service units for nonnested activity on the main application task consumed while running on an IBM specialty engine. These service units ignore the CPU time consumed when running stored procedure requests, or triggers on the main application execution unit on an IBM specialty engine.

Field Name: ADSUSEN1

CLASS 1: SE CPU - STORED PROC

The accumulated and consumed service units for stored procedures on an IBM specialty engine that consist of following parts:

- Service units processed in a DB2 stored procedure or WLM address space. SQL procedure service units are included if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- Service units when running on the main application execution unit. As these stored procedures run entirely within DB2, this part of the service units counts for class 1 and class 2 time.

Field Name: ADSUSES1

CLASS 1: SE CPU - UDF

The accumulated CPU service units used to satisfy UDF requests processed in a DB2 stored procedure or WLM address space while running on an IBM specialty engine.

Field Name: ADSUSEU1

CLASS 1: SE CPU - TRIGGER

The accumulated CPU service units consumed on an IBM specialty engine while running triggers on a nested task or on the main application execution unit.

Field Name: ADSUSETR

CLASS 1: SE CPU - PAR.TASKS

The sum of the CPU service units of the parallel tasks running in an application on an IBM specialty engine. These service units contain the nonnested and consumed service units for stored procedures, UDFs, and triggers.

Field Name: ADSUSEP1

CLASS 2: CP CPU

The class 2 service units (in DB2). It indicates:

- The TCB service units.
- The accumulated TCB service units for processing stored procedures if stored procedures are present.
- The accumulated CPU service units for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks produced by utilities.

These CPU service units do not include the service units that were consumed on an IBM specialty engine.

Field Name: ADSUCPU2

CLASS 2: CP CPU - AGENT

The class 2 TCB service units (in DB2). This field is derived from the TCB time and the conversion factor of the originating task.

Field Name: ADSUAGT2

CLASS 2: CP CPU - AGENT - NONNESTED

The number of class 2 service units accumulated in nonnested activity.

Field Name: ADSUNN2

CLASS 2: CP CPU - AGENT - STORED PRC

The TCB service units accumulated in DB2 for stored procedures. This field is derived from the TCB time and the conversion factor of the originating task.

Field Name: ADSUTCS2

CLASS 2: CP CPU - AGENT - UDF

The TCB service units accumulated in DB2 for UDF.

Field Name: ADSUTCU2

CLASS 2: CP CPU - AGENT - TRIGGER

The number of TCB service units accumulated in DB2 used while executing under control of a trigger.

Field Name: ADSUTCT2

CLASS 2: CP CPU - PAR.TASKS

The sum of the CPU service units of the parallel tasks running in DB2. These tasks can be query CP or sysplex query parallel tasks, parallel tasks produced by utilities, or roll-up autonomous tasks.

These service units do not include service units consumed on an IBM specialty engine.

Field Name: ADSUCPP2

CLASS 2: CP CPU - ELIG ACCEL

The accumulated service units spent processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: ADSUAEC2

CLASS 2: SE CPU

The sum of the accumulated CPU service units consumed while running in DB2 on an IBM specialty engine due to CPU time spent:

- Nonnested on main application execution unit.
- On triggers on main application execution unit and nested tasks.
- Processing SQL statements issued by UDFs processed in a DB2 stored procedure or WLM address space.
- On stored procedures on main application execution unit and nested tasks processed in a DB2 stored procedure or WLM address space. SQL procedure times are included if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.

Field Name: ADSUC2Z

CLASS 2: SE CPU - NONNESTED

The class 2 CPU service units for nonnested activity on the main application task consumed while running on an IBM specialty engine.

Field Name: ADSUSEN2

CLASS 2: SE CPU - STORED PROC

The accumulated and consumed service units for stored procedures on an IBM specialty engine that consist of following parts:

- Service units consumed in DB2, in a DB2 stored procedure, or WLM address space. SQL procedure service units are included if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- Service units when running on the main application execution unit. As these stored procedures run entirely within DB2, this part of service units counts for class 1 and class 2 time.

Field Name: ADSUSES2

CLASS 2: SE CPU - UDF

The accumulated and consumed service units for stored procedures on an IBM specialty engine that consist of following parts:

- Service units consumed in DB2, in a DB2 stored procedure, or WLM address space. SQL procedure service units are included if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- Service units when running on the main application execution unit. As these stored procedures run entirely within DB2, this part of service units counts for class 1 and class 2 time.

This time is a subset of QWACSP_CLS1SE.

Field Name: ADSUSEU2

CLASS 2: SE CPU - TRIGGER

The accumulated CPU service units consumed on an IBM specialty engine while running triggers on a nested task or on the main application execution unit.

Field Name: ADSUSETR

CLASS 2: SE CPU - PAR.TASKS

The sum of the CPU service units of the parallel tasks running in DB2. These service units contain the nonnested and consumed service units for stored procedures, UDFs, and triggers.

Field Name: ADSUSEP2

CLASS 2: SE CPU - ELIG ACCEL

The accumulated service units consumed on an IBM specialty engine while processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: ADSUAES2

Stored Procedures

This topic shows detailed information about "Accounting - Stored Procedures".

This block shows information about stored procedure.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Stored Procedures

The field labels shown in the following sample layout of "Accounting - Stored Procedures" are described in the following section.

```
Report:                                 Trace:

STORED PROCEDURES   AVERAGE     TOTAL    STORED PROC.     TOTAL
-----------------  --------  --------    ------------  --------
CALL STATEMENTS        0.00         0    CALL STMTS            0
ABENDED                0.00         0    ABENDED               0
TIMED OUT              0.00         0    TIMED OUT             0
REJECTED               0.00         0    REJECTED              0
```

CALL STATEMENTS (CALL STMTS)

The number of SQL CALL statements executed.

Field Name: QXCALL

ABENDED

The number of times a stored procedure terminated abnormally.

Field Name: QXCALLAB

TIMED OUT

The number of times an SQL call timed out waiting to be scheduled.

Field Name: QXCALLTO

REJECTED

The number of times an SQL CALL statement was rejected due to the procedure being in the STOP ACTION(REJECT) state.

Field Name: QXCALLRJ

SQL DCL

This topic shows detailed information about "Accounting - SQL DCL".

This block shows information about SQL DCL (Data Control Language) declarations.

The following example applies to both, the report layout and the trace layout.

Accounting - SQL DCL

The field labels shown in the following sample layout of "Accounting - SQL DCL" are described in the following section.

```
SQL DCL            TOTAL
-------------  --------
LOCK TABLE              0
GRANT                   0
REVOKE                  0
SET CURR.SQLID          0
SET HOST VAR.           0
SET CUR.DEGREE          0
SET RULES               0
SET CURR.PATH           0
SET CURR.PREC           0
CONNECT TYPE 1          0
CONNECT TYPE 2          0
SET CONNECTION          0
RELEASE                 0
CALL                    0
ASSOC LOCATORS          0
ALLOC CURSOR            0
HOLD LOCATOR            0
FREE LOCATOR            0
DCL-ALL                 0
```

LOCK TABLE

The number of LOCK TABLE statements executed.

Field Name: QXLOCK

GRANT

The number of GRANT statements executed.

Field Name: QXGRANT

REVOKE

The number of REVOKE statements executed.

Field Name: QXREVOK

SET CURR.SQLID

The number of SET CURRENT SQLID statements executed.

Field Name: QXSETSQL

SET HOST VAR.

The number of SET HOST VARIABLE statements executed. The special register that was retrieved is not tracked.

Field Name: QXSETHV

SET CUR.DEGREE

The number of SET CURRENT DEGREE statements executed.

Field Name: QXSETCDG

SET RULES

The number of SET CURRENT RULES statements executed.

Field Name: QXSETCRL

SET CURR.PATH

The number of SET CURRENT PATH statements executed.

Field Name: QXSETPTH

SET CURR.PREC

The number of SET CURRENT PRECISION statements executed.

Field Name: QXSETCPR

CONNECT TYPE 1

The number of CONNECT type 1 statements executed.

Field Name: QXCON1

CONNECT TYPE 2

The number of CONNECT type 2 statements executed.

Field Name: QXCON2

SET CONNECTION

The number of SET CONNECTION statements executed.

Field Name: QXSETCON

RELEASE

The number of RELEASE statements executed.

Field Name: QXREL

CALL

The number of SQL CALL statements executed.

Field Name: QXCALL

ASSOC LOCATORS

The number of SQL ASSOCIATE LOCATORS statements executed.

Field Name: QXALOCL

ALLOC CURSOR

The number of SQL ALLOCATE CURSOR statements executed.

Field Name: QXALOCC

HOLD LOCATOR

The number of HOLD LOCATOR statements executed.

Field Name: QXHLDLOC

FREE LOCATOR

The number of times a FREE LOCATOR statement was issued.

Field Name: QXFRELOC

DCL-ALL

The total number of DCL statements executed.

Field Name: ASCDCL

SQL DDL

This topic shows detailed information about "Accounting - SQL DDL".

This block shows information about SQL DDL (Data Definition Language) statements.

The following example applies to both, the report layout and the trace layout.

Accounting - SQL DDL

The field labels shown in the following sample layout of "Accounting - SQL DDL" are described in the following section.

```
SQL DDL    CREATE   DROP  ALTER
---------- ------ ------ ------
TABLE           0      0      0
CRT TTABLE      0    N/A    N/A
DCL TTABLE      0    N/A    N/A
AUX TABLE       0    N/A    N/A
INDEX           0      0      0
TABLESPACE      0      0      0
DATABASE        0      0      0
STOGROUP        0      0      0
SYNONYM         0      0    N/A
VIEW            0      0    513
ALIAS           0      0    N/A
PACKAGE       N/A      0    N/A
PROCEDURE       0      0      0
FUNCTION        0      0      0
TRIGGER         0      0    N/A
DIST TYPE       0      0    N/A
SEQUENCE        0      0      0
TRUST. CTX    521    522    523
ROLE          531    532    N/A
JAR           N/A    N/A    543
MASK/PERM       0      0      0
VARIABLE        0      0    N/A

TOTAL        1052   1054   1579
TRUNC TBL       0
RENAME TBL      0
RENAME IX     551
COMMENT ON      0
LABEL ON        0
```

CREATE TABLE

The number of CREATE TABLE statements executed.

Field Name: QXCRTAB

CREATE CRT TTABLE

The number of CREATE GLOBAL TEMPORARY TABLE statements executed.

Field Name: QXCRGTT

CREATE DCL TTABLE

The number of DECLARE GLOBAL TEMPORARY TABLE statements executed.

Field Name: QXDCLGTT

CREATE AUX TTABLE

The number of CREATE AUXILIARY TABLE statements executed.

Field Name: QXCRATB

CREATE INDEX

The number of CREATE INDEX statements executed.

Field Name: QXCRINX

CREATE TABLESPACE

The number of CREATE TABLESPACE statements executed.

Field Name: QXCTABS

CREATE DATABASE

The number of CREATE DATABASE statements executed.

Field Name: QXCRDAB

CREATE STOGROUP

The number of CREATE STOGROUP statements executed.

Field Name: QXCRSTG

CREATE SYNONYM

The number of CREATE SYNONYM statements executed.

Field Name: QXCRSYN

CREATE VIEW

The number of CREATE VIEW statements executed.

Field Name: QXDEFVU

CREATE ALIAS

The number of CREATE ALIAS statements executed.

Field Name: QXCRALS

CREATE PROCEDURE

The number of CREATE PROCEDURE statements issued.

Field Name: QXCRPRO

CREATE FUNCTION

The number of CREATE FUNCTION statements executed.

Field Name: QXCRUDF

CREATE TRIGGER

The number of CREATE TRIGGER statements executed.

Field Name: QXCTRIG

CREATE DIST TYPE

The number of CREATE DISTINCT TYPE statements executed.

Field Name: QXCDIST

CREATE SEQUENCE

The number of CREATE SEQUENCE statements.

Field Name: QXCRESEQ

CREATE TRUST. CTX

The number of CREATE TRUSTED CONTEXT statements issued.

Field Name: QXCRCTX

CREATE ROLE

The number of CREATE ROLE statements executed.

Field Name: QXCRROL

CREATE MASK/PERM

The number of CREATE MASK and CREATE PERMISSION statements executed.

Field Name: QXCREMP

CREATE VARIABLE

The number of CREATE VARIABLE statements.

Field Name: QXCRTSV

TOTAL CREATE

The number of SQL CREATE statements executed.

Field Name: ASTOTCRT

This is an *exception* field.

DROP TABLE

The number of DROP TABLE statements executed.

Field Name: QXDRPTA

This is an *exception* field.

DROP INDEX

The number of DROP INDEX statements executed.

Field Name: QXDRPIX

This is an *exception* field.

DROP TABLESPACE

The number of DROP TABLESPACE statements executed.

Field Name: QXDRPTS

This is an *exception* field.

DROP DATABASE

The number of DROP DATABASE statements executed.

Field Name: QXDRPDB

This is an *exception* field.

DROP STOGROUP

The number of DROP STOGROUP statements executed.

Field Name: QXDRPST

This is an *exception* field.

DROP SYNONYM

The number of DROP SYNONYM statements executed.

Field Name: QXDRPSY

This is an *exception* field.

DROP VIEW

The number of DROP VIEW statements executed.

Field Name: QXDRPVU

This is an *exception* field.

DROP ALIAS

The number of SQL DROP ALIAS statements executed.

Field Name: QXDRPAL

This is an *exception* field.

DROP PACKAGE

The number of SQL DROP PACKAGE statements executed.

Field Name: QXDRPPKG

This is an *exception* field.

DROP PROCEDURE

The number of DROP PROCEDURE statements executed.

Field Name: QXDRPPR

DROP FUNCTION

The number of DROP FUNCTION statements executed.

Field Name: QXDRPFN

DROP TRIGGER

The number of DROP TRIGGER statements executed.

Field Name: QXDRPTR

DROP DIST TYPE

The number of DROP DISTINCT TYPE statements executed.

Field Name: QXDDIST

DROP SEQUENCE

The number of DROP SEQUENCE statements.

Field Name: QXDROSEQ

DROP TRUST. CTX

The number of DROP TRUSTED CONTEXT statements issued.

Field Name: QXDRPCTX

DROP ROLE

The number of DROP ROLE statements issued.

Field Name: QXDRPROL

DROP MASK/PERM

The number of DROP MASK and DROP PERMISSION statements executed.

Field Name: QXDRPMP

DROP VARIABLE

The number of DROP VARIABLE statements.

Field Name: QXDRPSV

TOTAL DROP

The number of SQL DROP statements executed.

Field Name: ASTOTDRP

This is an *exception* field.

ALTER TABLE

The number of ALTER TABLE statements executed.

Field Name: QXALTTA

This is an *exception* field.

ALTER INDEX

The number of ALTER INDEX statements executed.

Field Name: QXALTIX

This is an *exception* field.

ALTER TABLESPACE

The number of ALTER TABLESPACE statements executed.

Field Name: QXALTTS

This is an *exception* field.

ALTER DATABASE

The number of ALTER DATABASE statements executed.

Field Name: QXALDAB

This is an *exception* field.

ALTER STOGROUP

The number of ALTER STOGROUP statements executed.

Field Name: QXALTST

This is an *exception* field.

ALTER VIEW

The number of ALTER VIEW statements issued.

Field Name: QXALTVW

ALTER PROCEDURE

The number of ALTER PROCEDURE statements executed.

Field Name: QXALPRO

ALTER FUNCTION

The number of ALTER FUNCTION statements executed.

Field Name: QXALUDF

ALTER SEQUENCE

The number of ALTER SEQUENCE statements.

Field Name: QXALTSEQ

ALTER TRUST. CTX

The number of ALTER TRUSTED CONTEXT statements issued.

Field Name: QXALTCTX

ALTER ROLE

The number of ALTER JAR statements issued.

Field Name: QXALTJR

ALTER MASK/PERM

The number of ALTER MASK and ALTER PERMISSION statements executed.

Field Name: QXALTMP

TOTAL ALTER

The number of SQL ALTER statements executed.

Field Name: ASTOTALT

This is an *exception* field.

TRUNC TBL

The number of TRUNCATE TABLE statements issued.

Field Name: QXTRTBL

RENAME TBL

The number of RENAME TABLE statements executed.

Field Name: QXRNTAB

RENAME IX

The number of RENAME INDEX statements issued.

Field Name: QXRNIX

COMMENT ON

The number of COMMENT ON statements executed.

Field Name: QXCMTON

LABEL ON

The number of LABEL ON statements executed.

Field Name: QXLABON

SQL DML

This topic shows detailed information about "Accounting - SQL DML".

This block shows information about SQL DML (Data Manipulation Language) statements.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - SQL DML

The field labels shown in the following sample layout of "Accounting - SQL DML" are described in the following section.

```
Report:                        Trace:

SQL DML   AVERAGE    TOTAL     SQL DML      TOTAL
-------- -------- --------    --------- --------
SELECT       3.27      964    SELECT          488
INSERT       3.21      947    INSERT           37
 ROWS        3.21      947     ROWS            36
UPDATE       3.83     1131    UPDATE           45
 IAG1        3.21      947     IAG1            36
 IAG2        0.00        0     IAG2             0
 ROWS        5.03     1483     ROWS            36
MERGE        0.00        0    MERGE             0
UPDATE       3.83     1131    UPDATE           45
 ROWS        5.03     1483     ROWS            36
DELETE       0.14       40    DELETE           1
 ROWS        0.14       40     ROWS            0
MERGE        0.00        0    MERGE            0
DELETE       0.14       40    DELETE           1

 ROWS        0.14       40     ROWS            0
DESCRIBE     2.79      824    DESCRIBE         0

DESC.TBL     0.00        0    DESC.TBL         0
PREPARE      3.01      888    PREPARE          0
DESCRIBE     2.79      824    DESCRIBE         0
DESC.TBL     0.00        0    DESC.TBL         0
OPEN         5.20     1533    OPEN           125
FETCH        3.36      991    FETCH         1331
PREPARE      3.01      888    PREPARE          0
OPEN         5.20     1533    OPEN           125
 ROWS       10.37     3060     ROWS         1000
CLOSE        3.36      990    CLOSE          109
FETCH        3.36      991    FETCH         1331

 ROWS       10.37     3060     ROWS         1000
CLOSE        3.36      990    CLOSE          109
DML-ALL     28.16     8308    DML-ALL       2136

DML-ALL     28.16     8308    DML-ALL       2136
```

SELECT

The number of SQL SELECT statements executed.

Field Name: QXSELECT

INSERT

The number of INSERT statements executed.

Field Name: QXINSRT

IAG1

Inserts performed via algorithm type 1.

Field Name: QXRWIAG1

IAG2

Inserts performed via algorithm type 2.

Field Name: QXRWIAG2

INSERT - ROWS

The number of rows inserted (DB2 field: QXRWSINSRTD).

Field Name: ARWINSRT

UPDATE

The number of UPDATE statements executed.

Field Name: QXUPDTE

UPDATE - ROWS

The number of rows updated (DB2 field: QXRWSUPDTD).

Field Name: ARWUPDAT

MERGE

The number of times a MERGE statement was executed.

Field Name: QXMERGE

DELETE

The number of DELETE statements executed.

Field Name: QXDELET

DELETE - ROWS

The number of rows deleted (DB2 field: QXRWSDELETD).

Field Name: ARWDELET

DESCRIBE

The number of DESCRIBE, DESCRIBE CURSOR, DESCRIBE INPUT, and DESCRIBE PROCEDURE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXDESC

DESC.TBL

The number of DESCRIBE TABLE statements executed.

Field Name: QXDSCRTB

PREPARE

The number of SQL PREPARE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXPREP

OPEN

The number of OPEN statements executed.

Field Name: QXOPEN

FETCH

The number of FETCH statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXFETCH

FETCH - ROWS

The number of rows fetched (DB2 field: QXRWSFETCHD).

Field Name: ARWFETCH

CLOSE

The number of CLOSE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXCLOSE

DML-ALL

The total number of SQL DML statements executed.

Field Name: ASCDML

Termination - Abnormal

This topic shows detailed information about "Accounting - Termination - Abnormal".

This block shows a report for abnormal termination.

Accounting - Termination - Abnormal

The field labels shown in the following sample layout of "Accounting - Termination - Abnormal" are described in the following section.

```
ABNORMAL TERM.        TOTAL
----------------  --------
APPL.PROGR. ABEND         0
END OF MEMORY             0
RESOL.IN DOUBT            0
CANCEL FORCE              0
```

APPL.PROGR. ABEND

The number of abnormal terminations due to an application program abend.

Field Name: ASATAPAB

END OF MEMORY

The number of abnormal terminations due to an end of memory. For example, accounting was invoked for an agent that was executing in an address space that experienced an abnormal end of memory.

Field Name: ASATENDM

RESOL.IN DOUBT

The number of abnormal terminations due to a resolve indoubt. For example, the recovery manager issued recover indoubt for a dependent thread that had not yet gone through end-of-task processing.

Field Name: ASATRIND

CANCEL FORCE

The number of abnormal terminations due to a stop force. For example, accounting was invoked for an agent that was executing when a -STOP DB2 MODE(FORCE) command was issued.

Field Name: ASATCANF

Termination - In Doubt

This topic shows detailed information about "Accounting - Termination - In Doubt".

This block shows a report for in-doubt termination.

Accounting - Termination - In Doubt

The field labels shown in the following sample layout of "Accounting - Termination - In Doubt" are described in the following section.

```
IN DOUBT           TOTAL
--------------  --------
APPL.PGM ABEND          0
END OF MEMORY           0
END OF TASK             0
CANCEL FORCE            0
```

APPL.PGM ABEND

The number of work units indoubt due to an application program abend. The agent was indoubt when it abended.

Field Name: ASIDAPAB

END OF MEMORY

The number of work units indoubt due to an end of memory. For example, accounting was invoked for an agent that was indoubt when the address space in which it was executing experienced an abnormal end of memory.

Field Name: ASIDENDM

END OF TASK

The number of work units indoubt due to an end of task.

Field Name: ASIDENDT

CANCEL FORCE

The number of work units indoubt due to a stop force. For example, accounting was invoked for an agent that was indoubt when a -STOP DB2 MODE(FORCE) command was issued.

Field Name: ASIDCANF

Termination - Normal

This topic shows detailed information about "Accounting - Termination - Normal".

This block shows a report for normal termination.

Accounting - Termination - Normal

The field labels shown in the following sample layout of "Accounting - Termination - Normal" are described in the following section.

```
NORMAL TERM.       AVERAGE     TOTAL
---------------  --------  --------
NEW USER              0.00         0
DEALLOCATION          1.00         1
APPL.PROGR. END       0.00         0
RESIGNON              0.00         0
DBAT INACTIVE         0.00         0
TYPE2 INACTIVE        0.00         0
RRS COMMIT            0.00         0

END USER THRESH       0.00         0
BLOCK STOR THR        0.00         0
STALENESS THR         0.00         0
```

NEW USER

The number of normal terminations due to a new user: either the authorization ID changed or there was a signon with the same authorization ID (normal).

Field Name: ASNTNEWU

DEALLOCATION

The number of normal terminations due to deallocation, which is a normal program termination.

Field Name: ASNTDEAL

APPL.PROGR. END

The number of normal terminations due to an application program end: the application program terminated without using DB2 protocols to end its connection to DB2. The agent did not abend so it is considered a normal termination.

Field Name: ASNTAPEN

RESIGNON

The number of normal terminations due to a resignon.

Field Name: ASNTRESI

DBAT INACTIVE

The number of normal terminations due to a DBAT becoming inactive.

Field Name: ASNTDBAT

TYPE2 INACTIVE

The number of times a DDF type 2 thread became inactive.

Field Name: ASNTDBA2

RRS COMMIT

The number of times a DB2 application using the RRS attach facility with accounting interval specified as COMMIT successfully committed a logical unit of work.

Field Name: ASRRSCOM

END USER THRESH

The number of times the threshold was reached for number of end user occurrences when data was accumulated by end user for DDF or RRSAF.

Field Name: ASNTTHEU

BLOCK STOR THR

The number of times the DB2 storage threshold for Accounting blocks was reached for data accumulated by end user for DDF or RRSAF.

Field Name: ASNTTHST

STALENESS THR

The number of times the threshold for the staleness was exceeded when data was accumulated by end user for DDF or RRSAF.

Field Name: ASNTTHSL

Times - Class 1 - Application Time

This topic shows detailed information about "Accounting - Times - Class 1 - Application Time".

This block shows information for the Application Time class 1.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Times - Class 1 - Application Time

The field labels shown in the following sample layout of "Accounting - Times - Class 1 - Application Time" are described in the following section.

```
Report:                    Trace:

AVERAGE       APPL(CL.1)     TIMES/EVENTS  APPL(CL.1)
------------  ----------     ------------  ----------
ELAPSED TIME   21.452714     ELAPSED TIME  6:37.60226
 NONNESTED     21.452714      NONNESTED    6:37.60226
 STORED PROC    0.000000      STORED PROC    0.000000
 UDF            0.000000      UDF            0.000000
 TRIGGER        0.000000      TRIGGER        0.000000

CP CPU TIME     7.217101     CP CPU TIME   2:41.61476
 AGENT          7.172907      AGENT        2:41.37611
  NONNESTED     7.172907       NONNESTED   2:41.37611
  STORED PRC    0.000000       STORED PRC    0.000000
  UDF           0.000000       UDF           0.000000
  TRIGGER       0.000000       TRIGGER       0.000000
 PAR.TASKS      0.044194      PAR.TASKS      0.238651

SE CPU TIME     4.034602     SE CPU TIME    19.274049
 NONNESTED      4.034602      NONNESTED     19.274049
 STORED PROC    0.000000      STORED PROC    0.000000
 UDF            0.000000      UDF            0.000000
 TRIGGER        0.000000      TRIGGER        0.000000

 PAR.TASKS      0.000000      PAR.TASKS      0.000000

SUSPEND TIME    0.000000     SUSPEND TIME    0.000000
 AGENT               N/A      AGENT               N/A
 PAR.TASKS           N/A      PAR.TASKS           N/A
 STORED PROC    0.000000      STORED PROC    0.000000
 UDF            0.000000      UDF            0.000000
```

ELAPSED TIME

The class 1 elapsed time of the allied agent.

Special Considerations:

- If the begin time equals zero, or if the end time minus begin time equals zero or is negative, N/C is shown.
- Threads that can be reused, such as CICS protected threads or IMS/VS wait-for-input message regions, can include time during which the thread was inactive and waiting for work.
- Elapsed time to process distributed requests is included for allied-distributed threads.
- This time includes the time for processing SQL statements issued by stored procedures, user-defined functions, or triggers.
- In query CP, sysplex query, or utility parallelism, this is the time shown in the originating record, which overlaps the elapsed times shown in the parallel records.

Field Name: ADRECETT

This is an *exception* field.

ELAPSED TIME - NONNESTED

The class 1 elapsed time of the allied agent.

Special Considerations:

1. If the begin time equals zero, or if the end time minus begin time equals zero or is negative, *N/C* is shown.
2. Threads that can be reused, such as CICS protected threads or IMS/VS wait-for-input message regions, can include time during which the thread was inactive and waiting for work.
3. Elapsed time to process distributed requests is included for allied-distributed threads.
4. This time includes the time for processing SQL statements issued by stored procedures, user-defined functions, or triggers.
5. In query CP, sysplex query, or utility parallelism, this is the time shown in the originating record, which overlaps the elapsed times shown in the parallel records.

Field Name: ADNNNET1

ELAPSED TIME - STORED PROC

An accumulated and consumed time for stored procedures. It consists of the following parts:

- The total elapsed time spent by the allied agent in stored procedures. A stored procedure may initiate a trigger or invoke a user-defined function. The time spent for initiation or invocation is not included in this counter.
- Accumulated elapsed time consumed when running stored procedure requests on the main application execution unit. As these stored procedures run entirely within DB2, this time represents class 1 and class 2 time.

Field Name: ADELTSP1

ELAPSED TIME - UDF

The total elapsed time spent in user-defined function (UDF) requests processed in a DB2 stored procedure or WLM address space. Non-inline UDF times are included in this time if the native UDF was called on a nested task and was not invoked by the main application execution unit.

This time includes times executing SQL and times consumed executing user-defined functions on the main application execution unit.

A user-defined function may initiate a trigger or invoke a stored procedure. The time spent is not included in this counter.

Field Name: AWAELUD1

ELAPSED TIME - TRIGGER

The total elapsed time spent by the allied agent in triggers.

A trigger may invoke a stored procedure or a user-defined function. The time spent there is not included in this counter.

For triggers there is no distinction between class 1 and class 2 CPU time: all processing controlled by a trigger is within DB2.

Note: This field is not normally shown in the short layouts but can be included with UTR.

Field Name: ADTRET

CP CPU TIME

The class 1 CPU time in an application. It indicates:

- The class 1 CPU time of the allied agent, which may include the accumulated class 1 TCB time for processing stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- In sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks that is related to the originating task.

  In sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the SYSPLEX group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

Field Name: ADCPUT

This is an *exception* field.

CP CPU TIME - AGENT

It comprises the class 1 CPU time of the allied agent, which may include the accumulated class 1 CPU time for processing stored procedures, user-defined functions, and triggers if present.

CPU time for processing parallel tasks is not charged to this counter.

This CPU time does not include the CPU time that is consumed on an IBM specialty engine.

Field Name: ADAGENT1

This is an *exception* field.

CP CPU TIME - AGENT - NONNESTED

The class 1 CPU time of the nonnested activity of the allied agent.

Field Name: ADNNEST1

CP CPU TIME - AGENT - STORED PRC

An accumulated and consumed time for stored procedures that consists of following parts:

- The CPU time accumulated in DB2 for processing SQL CALL statements in the stored procedures or WLM address space. This time is only calculated if accounting class 1 is active.
- The accumulated CPU time consumed when running stored procedure requests on the main application execution unit. This time does not include CPU time consumed on an IBM specialty engine. As these stored procedures run entirely within DB2, this time represents class 1 and class 2 time.

Field Name: ADCPUSP1

CP CPU TIME - AGENT - UDF

The accumulated CPU time consumed executing user-defined functions. This time does not include CPU consumed on an IBM specialty engine. It consists of following parts:

- The accumulated CPU time used to satisfy UDF requests processed in a DB2 stored procedure or WLM address space. This time is only calculated if accounting class 1 is active.
- The accumulated CPU time consumed executing user-defined functions on the main application execution unit. This time represents class 1 and class 2 time, because these UDFs run entirely within DB2.

Field Name: AWACPUD1

CP CPU TIME - AGENT - TRIGGER

The accumulated CPU time consumed while executing under the control of triggers.

For triggers there is no distinction between class 1 and class 2 CPU time. All processing controlled by a trigger is within DB2.

Field Name: ADTRCP

CP CPU TIME - PAR.TASKS

The sum of the CPU times of the parallel tasks running in an application. It can also include the accumulated class 1 CPU time for processing stored procedures, user-defined functions, and triggers if present.

These parallel tasks can be query CP, sysplex query parallel tasks, or parallel tasks produced by utilities. In sysplex query parallelism, the accumulated time reflects only parallel tasks running on the same DB2 subsystem as the originating task.

This time does not include CPU time consumed on an IBM specialty engine.

CPU time for agent tasks is not charged to this counter.

Field Name: ADCPUPLL

SE CPU TIME

The sum of several accumulated CPU times consumed while running on an IBM specialty engine in all environments. These times are consumed when:

- Running stored procedure requests and triggers on the main application execution unit.

- Satisfying stored procedure requests processed in a DB2 stored procedure or WLM address space. SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- Satisfying UDF requests processed in a DB2 stored procedure or WLM address space.
- Running triggers on a nested task.
- Running parallel tasks in an application which contains the accumulated CPU time used to satisfy UDF requests.

Note: All CPU times of an IBM specialty engine (SE) that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: AWACC1Z

SE CPU TIME - NONNESTED

The class 1 CPU time for nonnested activity on the main application task consumed while running on an IBM specialty engine. This time ignores the CPU time that is consumed when running stored procedure requests, UDF requests, or any triggers on the main application execution unit on an IBM specialty engine.

Field Name: ADSENNC1

SE CPU TIME - STORED PROC

An accumulated and consumed time for stored procedures on an IBM specialty engine that consists of following parts:

- The time processed in a DB2 stored procedure or WLM address space. SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- The time when running on the main application execution unit. This part of time counts for class 1 and class 2 time, because these stored procedures run entirely within DB2.

Field Name: ADSESP1

SE CPU TIME - UDF

An accumulated and consumed time for user-defined functions on an IBM specialty engine that consists of following parts:

- The accumulated CPU time used to satisfy UDF requests processed in a DB2 stored procedure or WLM address space.
- The accumulated CPU time consumed when running user-defined functions on the main application execution unit. This time represents class 1 and class 2 time, because these UDFs run entirely within DB2.

Field Name: AWACSEU1

SE CPU TIME - TRIGGER

The accumulated CPU time consumed on an IBM specialty engine while running triggers on a nested task or on the main application execution unit.

Field Name: AWACTRZ

SE CPU TIME - PAR.TASKS

The sum of the CPU times of the parallel tasks, or roll-up autonomous tasks that are running in an application on an IBM specialty engine.

It contains the accumulated CPU time that is used to satisfy UDF requests, which are processed in a DB2 stored procedure or WLM address space while running on an IBM specialty engine.

Field Name: ADSEPLL1

SUSPEND TIME

The amount of application suspension time spent outside DB2.

Field Name: ASUSTCL1

SUSPEND TIME - STORED PROC

The total elapsed waiting time for an available TCB before the stored procedure could be scheduled.

Field Name: QWACCAST

SUSPEND TIME - UDF

The total elapsed time spent waiting for an available TCB before the user-defined function could be scheduled.

Field Name: QWACUDST

Times - Class 1 - Elapsed Time Distribution

This topic shows detailed information about "Accounting - Times - Class 1 - Elapsed Time Distribution".

The elapsed time distribution block shows the distribution of the task. For threads exploiting parallelism, only the nonparallel part is taken into account.

The following example applies to both, the report layout and the trace layout.

Accounting - Times - Class 1 - Elapsed Time Distribution

The field labels shown in the following sample layout of "Accounting - Times - Class 1 - Elapsed Time Distribution" are described in the following section.

```
ELAPSED TIME DISTRIBUTION
-------------------------------------------------------------
APPL   |==============================================> 92%
DB2    |==> 3%
SUSP   |====> 5%
```

APPL

The ratio of the elapsed application time, expressed as a percentage of the total elapsed time.

Field Name: ARATAPL

DB2

The ratio of the elapsed DB2 time, expressed as a percentage of the total elapsed time.

Field Name: ARATDB2

SUSP

The ratio of the DB2 suspension time, expressed as a percentage of the total elapsed time.

Field Name: ARATSUS

Times - Class 2 - DB2 Time

This topic shows detailed information about "Accounting - Times - Class 2 - DB2 Time".

This block shows information for DB2 class 2.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Times - Class 2 - DB2 Time

The field labels shown in the following sample layout of "Accounting - Times - Class 2 - DB2 Time" are described in the following section.

```
Report:                                        Trace:

AVERAGE       APPL (CLASS 1)   DB2 (CL.2)      TIMES/EVENTS  APPL(CL.1)  DB2 (CL.2)
------------  --------------   ----------      ------------  ----------  ----------
ELAPSED TIME     ............    21.196309     ELAPSED TIME  ..........  6:23.48603
 NONNESTED       ............    21.196309      NONNESTED    ..........  6:23.48603
 STORED PROC     ............     0.000000      STORED PROC  ..........    0.000000
 UDF             ............     0.000000      UDF          ..........    0.000000
 TRIGGER         ............     0.000000      TRIGGER      ..........    0.000000

CP CPU TIME      ............     7.134566     CP CPU TIME   ..........  2:27.81217
 AGENT           ............     7.134299      AGENT        ..........  2:27.81191
  NONNESTED      ............     7.134299       NONNESTED   ..........  2:27.81191
  STORED PRC     ............     0.000000       STORED PRC  ..........    0.000000
  UDF            ............     0.000000       UDF         ..........    0.000000
  TRIGGER        ............     0.000000       TRIGGER     ..........    0.000000
 PAR.TASKS       ............     0.000267      PAR.TASKS    ..........    0.000259

 SECP CPU        ............          N/A       SECP CPU     ..........         N/A

SE CPU TIME      ............     4.034602     SE CPU TIME   ..........   19.274049
 NONNESTED       ............     4.034602      NONNESTED    ..........   19.274049
 STORED PROC     ............     0.000000      STORED PROC  ..........    0.000000
 UDF             ............     0.000000      UDF          ..........    0.000000
 TRIGGER         ............     0.000000      TRIGGER      ..........    0.000000

 PAR.TASKS       ............     0.000000      PAR.TASKS    ..........    0.000000

SUSPEND TIME     ............     8.900694     SUSPEND TIME  ..........  3:34.39482
 AGENT           ............     8.900694      AGENT        ..........  3:34.39482
 PAR.TASKS       ............     0.000000      PAR.TASKS    ..........    0.000000
 STORED PROC     ............          N/A      STORED PROC  ..........         N/A
 UDF             ............          N/A      UDF          ..........         N/A

NOT ACCOUNT.     ............     1.126713     NOT ACCOUNT.  ..........    2.005250
DB2 ENT/EXIT     ............       112.00     DB2 ENT/EXIT  ..........       19768
EN/EX-STPROC     ............         0.00     EN/EX-STPROC  ..........           0
EN/EX-UDF        ............         0.00     EN/EX-UDF     ..........           0
```

ELAPSED TIME

The class 2 elapsed time of the allied agent accumulated in DB2.

Field Name: ADDB2ETT

This is an *exception* field.

ELAPSED TIME - NONNESTED

The class 2 elapsed time for nonnested activity accumulated in DB2 for the allied agent. This time does not include the time spent in DB2 processing SQL statements issued by stored procedures, user-defined functions, or triggers.

Special Considerations

- The time for most thread allocation and certain abend conditions is not reflected in this time.
- The elapsed time for distributed processing is included in the elapsed time of allied-distributed threads.
- In query CP, sysplex query, or utility parallelism, this is the time shown in the originating record, which overlaps the elapsed times shown in the parallel records.

Note: This field is not normally shown in the short layouts but can be included with UTR.

Field Name: QWACASC

ELAPSED TIME - STORED PROC

An accumulated and consumed time for stored procedures that consists of following parts:

- The total elapsed time that the allied agent spent when running SQL in the stored procedures or WLM address space. A stored procedure may initiate a trigger or invoke a user-defined function. This time is not included in this counter.
- Accumulated elapsed time consumed when running stored procedure requests on the main application execution unit. As these stored procedures run entirely within DB2, this time represents class 1 and class 2 time.

Field Name: ADELTSP2

ELAPSED TIME - UDF

The total elapsed time that is spent executing SQL using user-defined function (UDF) requests that are processed in a DB2 stored procedure or WLM address space. This time includes time required to connect and disconnect the UDF task. Non-inline UDF times are included in this time if the native UDF was called on a nested task and was not invoked by the main application execution unit.

This time includes the elapsed time that is consumed when executing user-defined functions on the main application execution unit.

A user-defined function may initiate a trigger or invoke a stored procedure. Any time spent there is not included in this counter.

Field Name: AWAELUD2

ELAPSED TIME - TRIGGER

The total elapsed time spent by the allied agent in triggers.

A trigger may invoke a stored procedure or a user-defined function. The time spent there is not included in this counter.

For triggers there is no distinction between class 1 and class 2 CPU time: all processing controlled by a trigger is within DB2.

Note: This field is not normally shown in the short layouts but can be included with UTR.

Field Name: ADTRET

CP CPU TIME

The class 2 CPU time (in DB2). It indicates:

- The class 2 CPU time for the allied agent. This includes the accumulated class 2 TCB time for processing any stored procedures, user-defined functions, and triggers.
- The accumulated CPU time for processing parallel tasks. This is valid for query CP parallelism, sysplex query parallelism, and parallel tasks generated by utilities.
- For batch reporting, in sysplex query parallelism, the individual CPU times are normalized by the conversion factor of the parallel tasks, related to the originating task.

  For online monitoring, in sysplex query parallelism, only CPU times of parallel tasks, running on the same member of the sysplex group as the originating task, are included.

This CPU time does not include time that is consumed on an IBM specialty engine.

Field Name: ADDBCPUT

This is an *exception* field.

CP CPU TIME - AGENT

It comprises the class 2 CPU time of the allied agent. This time includes the accumulated class 2 CPU time for processing stored procedures, user-defined functions, and triggers, if present. CPU time for processing parallel tasks is not charged to this counter.

This CPU time does not include the CPU time that is consumed on an IBM specialty engine.

Field Name: ADAGENT2

CP CPU TIME - AGENT - NONNESTED

The class 2 CPU time of the nonnested activity of the allied agent.

This value indicates the CPU time the allied agent spent in DB2 for nonnested activity. This time does not include the time for processing SQL statements issued by stored procedures, user-defined functions, or triggers.

Special Considerations:

1. For allied-distributed threads, this does not include the time used to process distributed SQL. For DBAT-distributed threads, this includes only processing at this location.
2. Most thread allocation and certain abend conditions are not included.
3. This time does not include the time for processing parallel tasks generated by utilities or in query CP or sysplex query parallelism.

Field Name: ADNNEST2

CP CPU TIME - AGENT - STORED PRC

An accumulated and consumed time for stored procedures that consists of the following information:

- The CPU time accumulated in DB2 for processing SQL statements issued by stored procedures processed in a DB2 stored procedure or WLM address space. This time is only calculated if accounting class 2 is active.
- In DB2 time needed to connect and disconnect the SP task for non-SQL stored procedures.
- SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- CPU time that is consumed when running stored procedure requests on the main application execution unit.

This time does not include the CPU time consumed on an IBM specialty engine.

Field Name: ADCPUSP2

CP CPU TIME - AGENT - UDF

The accumulated CPU time consumed executing user-defined functions. This time does not include CPU time consumed on an IBM specialty engine. It consists of following parts:

- The accumulated CPU time consumed in DB2 when processing SQL statements that were issued by UDFs in a DB2 stored procedure or WLM address space. This time also includes the DB2 time required to connect ot disconnect the UDF task. It is only calculated if accounting class 2 is active.
- The accumulated CPU time consumed executing user-defined functions on the main application execution unit. This time represents class 1 and class 2 time, because these UDFs run entirely within DB2.

Field Name: AWACPUD2

CP CPU TIME - AGENT - TRIGGER

The accumulated CPU time consumed while executing under the control of triggers.

For triggers there is no distinction between class 1 and class 2 CPU time. All processing controlled by a trigger is within DB2.

Field Name: ADTRCP

CP CPU TIME - PAR.TASKS

The sum of the CPU times of the parallel tasks running in DB2. These tasks can be query CP, sysplex query parallel tasks, parallel tasks produced by utilities, or rollup autonomous tasks.

In sysplex query parallelism, the accumulated time reflects only parallel tasks running on the same DB2 subsystem as the originating task.

This time does not include the CPU time consumed on an IBM specialty engine.

Field Name: ADDBCPC2

SE CPU TIME

The accumulated and consumed class 2 time on an IBM specialty engine (SE) that consists of times for non-nested, stored procedures, user-defined functions, triggers, and parallel tasks.

Note: All CPU times of an IBM specialty engine that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: AWACC2Z

SE CPU TIME - NONNESTED

The class 2 CPU time for nonnested activity on the main application task consumed while running on an IBM specialty engine.

Field Name: ADSENNC2

SE CPU TIME - STORED PROC

An accumulated and consumed time for stored procedures on an IBM specialty engine that consists of following parts:

- The time consumed in DB2 in a DB2 stored procedure or WLM address space. SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit.
- The time when running on the main application execution unit. This part of time counts for class 1 and class 2 time, because these stored procedures run entirely within DB2.

This time is a subset of QWACSP_CLS1SE.

Field Name: ADSESP2

SE CPU TIME - UDF

The accumulated and consumed time for user-defined functions on an IBM specialty engine that consists of following parts:

- The accumulated CPU time consumed in DB2 processing SQL statements issued by UDFs processed in a DB2 stored procedure or WLM address space. This time is a subset of QWACUDF_CLS1SE.
- The accumulated CPU time that is consumed when running user-defined functions on the main application execution unit. This time represents class 1 and class 2 time, because these UDFs run entirely within DB2.

Field Name: AWACSEU2

SE CPU TIME - TRIGGER

The accumulated CPU time consumed on an IBM specialty engine while running triggers on a nested task or on the main application execution unit.

Field Name: AWACTRZ

SE CPU TIME - PAR.TASKS

The sum of the CPU times of the parallel tasks, or roll-up autonomous task that are running in DB2 on an IBM specialty engine.

It contains the accumulated CPU time that is consumed in DB2 when processing SQL statements that are issued by UDFs processed in a DB2 stored procedure or WLM address space while running on an IBM specialty engine.

Field Name: ADSEPLL2

SUSPEND TIME

The waiting time for all types of class 3 suspensions by the originating task and parallel tasks, if parallelism is employed.

Field Name: ADTSUST

This is an *exception* field.

SUSPEND TIME - AGENT

The waiting time of the allied agent for all types of class 3 suspension

This counts class 3 suspension time within nested activity.

Suspension time of parallel tasks in query or utility parallelism is not included.

Field Name: ADTCBCL3

This is an *exception* field.

SUSPEND TIME - PAR.TASKS

The sum of the suspension times spent for parallel tasks. These tasks can be query CP or sysplex query parallel tasks, parallel tasks produced by utilities, or roll-up autonomous tasks.

Field Name: ADCPCL3T

NOT ACCOUNT.

The time not accounted in DB2. This time determines whether there is a large percentage of time that has not been captured within the DB2 accounting record and whether system monitoring tools (such as RMF) should be examined to determine the cause of a performance problem.

In query or utility parallelism, it is the unaccounted time of the originating task only.

Check the DB2 accounting class 2 elapsed time that is not recorded as class 2 CPU time or class 3 suspensions. The following list shows why DB2 Class 2 Not Accounted time can be significant:

- Too much detailed online tracing, or problems with vendor performance monitors. This situation is usually the primary cause of high not-accounted-for time on systems that are not CPU-constrained.
- Running in a very high CPU utilization environment and waiting for CPU cycles if DB2 work WLM service class goals are not set properly.
- Running in a high MVS paging environment and waiting for storage allocation.
- The IBM specialty engines are highly utilized and the SYS1.PARMLIB(IEAOPTxx) member has the following settings: IIPHONORPRIORITY=NO and IFAHONORPRIORITY=NO.
- Frequent gathering of data set statistics (SMF 46 Type 2 records) DD consolidation overhead (z/OS parm DDCONS=YES DETAIL).
- CF Lock Structure system managed DUPLEXing since DB2 is not informed about related suspensions waits.
- In very I/O intensive environments, the Media Manager might be running out of request blocks.
- Time spent waiting for parallel tasks to complete (when query parallelism is used for the query).
- HSM (Hierarchical Storage Management) data set recall is an asynchronous process.
- Waiting for requests to be returned from SNA DB2 Server.
- Data set open contention related to PCLOSET being too small.
- DB2 internal suspend and resume looping when several threads are waiting for the same resource.

Field Name: ADNOTACC

DB2 ENT/EXIT

The total number of DB2 entry and exit events processed by the allied address space to calculate the elapsed time in DB2 and the processor time.

This counter does not include the SQL entry and exit events processed by stored procedures.

Field Name: QWACARNA

This is an *exception* field.

EN/EX-STPROC

The number of SQL entry or exit events performed by stored procedures. This number is only calculated if accounting class 2 is active.

Field Name: QWACSPNE

EN/EX-UDF

The number of SQL entry/exit events performed by user-defined functions.

This is only calculated if accounting class 2 is active.

Field Name: QWACUDNE

Times - Class 2 - Time Distribution

This topic shows detailed information about "Accounting - Times - Class 2 - Time Distribution".

The class 2 time distribution block shows the distribution of the active-in-DB2 time, the not-accounted time, and the suspension time, of the originating task. For threads exploiting query parallelism, only the nonparallel part is taken is taken into account.

The following example applies to both, the report layout and the trace layout.

Accounting - Times - Class 2 - Time Distribution

The field labels shown in the following sample layout of "Accounting - Times - Class 2 - Time Distribution" are described in the following section.

```
CLASS 2 TIME DISTRIBUTION
-------------------------------------------------
CPU    |==================> 37%
SECPU  |===> 7%
NOTACC |
SUSP   |============================> 56%
```

CPU

The ratio of the agent DB2 CPU time, expressed as a percentage of the DB2 elapsed time.

Field Name: ARATCPU

SECPU

The ratio of the agent DB2 SE (IBM specialty engine) CPU time, expressed as a percentage of the DB2 elapsed time.

Field Name: ARATCSE

NOTACC

The ratio of the DB2 not accounted time, expressed as a percentage of the DB2 elapsed time.

Field Name: ARATNAC

SUSP

The ratio of the agent DB2 suspension time, expressed as a percentage of the DB2 elapsed time.

Field Name: ARATSUP

Accounting times - Class 3 - Suspensions

The accounting times report and trace shows information about class 3 suspensions.

Report:

CLASS 3 SUSPENSIONS	AVERAGE TIME	AV.EVENT	TIME/EVENT
LOCK/LATCH(DB2+IRLM)	0.000000	0.00	N/C
IRLM LOCK+LATCH	0.000000	0.00	N/C
DB2 LATCH	0.000000	0.00	N/C
SYNCHRON. I/O	0.000254	0.83	0.000305
DATABASE I/O	0.000254	0.83	0.000305
READ CACHE HIT	0.049282	108	0.000456
LOG WRITE I/O	0.000000	0.00	N/C
OTHER READ I/O	0.000446	0.33	0.001338
OTHER WRTE I/O	0.000000	0.00	N/C
SER.TASK SWTCH	0.000000	0.00	N/C
UPDATE COMMIT	0.000000	0.00	N/C
OPEN/CLOSE	0.000000	0.00	N/C
SYSLGRNG REC	0.000000	0.00	N/C
EXT/DEL/DEF	0.000000	0.00	N/C
OTHER SERVICE	0.000000	0.00	N/C
ARC.LOG(QUIES)	0.000000	0.00	N/C
LOG READ	0.000000	0.00	N/C
DRAIN LOCK	0.000000	0.00	N/C
CLAIM RELEASE	0.000000	0.00	N/C
PAGE LATCH	0.000000	0.00	N/C
NOTIFY MSGS	0.000000	0.00	N/C
GLOBAL CONTENTION	0.000000	0.00	N/C
COMMIT PH1 WRITE I/O	0.000000	0.00	N/C
ASYNCH CF REQUESTS	0.000000	0.00	N/C
TCP/IP LOB XML	0.000000	0.00	N/C
ACCELERATOR	0.000000	0.00	N/C
HTAP DELAY	0.451234	N/A	N/C
AUTONOMOUS PROCEDURE	N/A	N/A	N/A
PQ SYNCHRONIZATION	N/A	N/A	N/A
LOB COMPRESSION	0.000000	0.00	N/C
FAST INSERT PIPE	0.000000	0.00	N/C
TOTAL CLASS 3	0.000700	1.17	0.000600

Trace:

CLASS 3 SUSPENSIONS	ELAPSED TIME	EVENTS	TIME/EVENT
LOCK/LATCH(DB2+IRLM)	0.000000	0	N/C
IRLM LOCK+LATCH	0.000000	0	N/C
DB2 LATCH	0.000000	0	N/C
SYNCHRON. I/O	0.001523	5	0.000305
DATABASE I/O	0.001523	5	0.000305
READ CACHE HIT	0.049282	108	0.000456
LOG WRITE I/O	0.000000	0	N/C
OTHER READ I/O	0.002676	2	0.001338
OTHER WRTE I/O	0.000000	0	N/C
SER.TASK SWTCH	0.000000	0	N/C
UPDATE COMMIT	0.000000	0	N/C
OPEN/CLOSE	0.000000	0	N/C
SYSLGRNG REC	0.000000	0	N/C
EXT/DEL/DEF	0.000000	0	N/C
OTHER SERVICE	0.000000	0	N/C
ARC.LOG(QUIES)	0.000000	0	N/C
LOG READ	0.000000	0	N/C
DRAIN LOCK	0.000000	0	N/C
CLAIM RELEASE	0.000000	0	N/C
PAGE LATCH	0.000000	0	N/C
NOTIFY MSGS	0.000000	0	N/C
GLOBAL CONTENTION	0.000000	0	N/C
COMMIT PH1 WRITE I/O	0.000000	0	N/C
ASYNCH CF REQUESTS	0.000000	0	N/C
TCP/IP LOB XML	0.000000	0	N/C
ACCELERATOR	0.000000	0	N/C
HTAP DELAY	0.451234	N/A	N/C
AUTONOMOUS PROCEDURE	N/A	N/A	N/A
PQ SYNCHRONIZATION	N/A	N/A	N/A
LOB COMPRESSION	0.000000	0	N/C
FAST INSERT PIPE	0.000111	1	N/C
TOTAL CLASS 3	0.004199	7	0.000600

Figure 5. Accounting times - Class 3 - Suspensions

LOCK/LATCH(DB2+IRLM) - AVERAGE TIME/ELAPSED TIME

The sum of the accumulated wait time due to local contention for locks and the accumulated wait time due to latch contention.

Field Name: AWTLOLA

LOCK/LATCH(DB2+IRLM) - AV.EVENT/EVENTS

The sum of the number of wait trace events processed for waits for local contention for locks and the number of wait trace events processed for waits for latch contention.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: ADLLSUSC

This is an *exception* field.

IRLM LOCK+LATCH - AVERAGE TIME/ELAPSED TIME

The accumulated wait time because of local contention for locks. The term *local contention* is used to differentiate from *global contention* (which is reported in QWACAWTJ). Local contention does not require intersystem communication. The contention is detected and resolved entirely within this subsystem.

Field Name: QWACAWTL

This is an *exception* field.

IRLM LOCK+LATCH - AV.EVENT/EVENTS

The number of wait trace events processed for waits for local contention for locks.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: ADLBSUSC

DB2 LATCH - AVERAGE TIME/ELAPSED TIME

The accumulated wait time because of latch contention.

Field Name: QWACAWLH

DB2 LATCH - AV.EVENT/EVENTS

The number of wait trace events processed for waits for latch contention.

Note: The internally defined field adjusts the original DB2 value. DB2 counts each event twice, one for the entry and one for the exit.

Field Name: ADLASUSC

SYNCHRON. I/O - AVERAGE TIME/ELAPSED TIME

The I/O elapsed time accumulated due to synchronous I/O suspensions. DB2 calculates this value by subtracting the store clock time when an agent begins waiting for a synchronous I/O from the time the agent is resumed.

Field Name: ADIOSUST

SYNCHRON. I/O - AV.EVENT/EVENTS

The total number of synchronous I/O suspensions.

Field Name: ADIOSUSC

DATABASE I/O - AVERAGE TIME/ELAPSED TIME

The accumulated I/O elapsed wait time for database I/O done under this thread. This field is for synchronous I/O only. It includes synchronous read and write I/O. This value is an average.

Field Name: QWACAWTI

DATABASE I/O - AV.EVENT/EVENTS

The number of wait trace events processed for waits for database I/O under this thread.

Field Name: ADIOARNE

READ CACHE HIT – AVERAGE TIME / ELAPSED TIME

The accumulated read I/O elapsed time where the requested data was found in the DASD subsystem cache.

Field Name: QWACAWTD

READ CACHE HIT – AV.EVENT / EVENTS

The number of read I/O suspensions where the requested data was found in the DASD subsystem cache.

Field Name: QWACAWCD

LOG WRITE I/O - AVERAGE TIME/ELAPSED TIME

The accumulated wait time for log write I/O.

This value is an average.

Field Name: QWACAWLG

LOG WRITE I/O - AV.EVENT/EVENTS

The number of wait trace events processed for waits for log write I/O. This value is an average.

Field Name: ADLWSUSC

OTHER READ I/O - AVERAGE TIME/ELAPSED TIME

The accumulated waiting time due to a read I/O that performed under a thread other than the one being reported. The time does not represent the total duration of the subject read I/O. It includes:

- Sequential prefetch
- List prefetch
- Dynamic Prefetch
- Synchronous read I/O performed by a thread other than the one being reported

Field Name: QWACAWTR

This is an *exception* field.

OTHER READ I/O - AV.EVENT/EVENTS

The total number of suspensions due to a read I/O performed under a thread other than the one being reported.

Field Name: ADARSUSC

This is an *exception* field.

OTHER WRTE I/O - AVERAGE TIME/ELAPSED TIME

The accumulated waiting time due to a write I/O that performed under a thread other than the one being reported. This time does not represent the total duration of the subject write I/O. It includes:

- An asynchronous write I/O
- A synchronous write I/O performed by a thread other than the one being reported
- Frequent system checkpoints and low settings for deferred write thresholds
- When updating a page that is being written, the first thread wait is captured under Other Write I/O
- Other concurrent threads on the same DB2 subsystem will encounter Page latch suspension.

Field Name: QWACAWTW

This is an *exception* field.

OTHER WRTE I/O - AV.EVENT/EVENTS

The total number of suspensions due to a write I/O performed under a thread other than the one being reported. It includes:

- An asynchronous write I/O
- A synchronous write I/O performed by a thread other than the one being reported.

Field Name: ADAWSUSC

This is an *exception* field.

SER.TASK SWTCH - AVERAGE TIME/ELAPSED TIME

The accumulated waiting time due to a synchronous execution unit switching to DB2 services from the thread being reported. It includes:

- Open/close data set
- SYSLGRNG or SYSLGRNX update
- Commit phase 2
- Dataspace manager services
- Define data set
- Extend data set
- Delete data set
- Log I/Os for commit and abort processing

Special Considerations:

1. There are no service waits associated with commit phase 2 under read-only threads originating from CICS or IMS. There is a service wait for any thread doing commit phase 2 after an update.
2. There is no overlap between the elapsed time reported in this field and the other class 3 elapsed times.

Field Name: ADSTSUST

This is an *exception* field.

SER.TASK SWTCH - AV.EVENT/EVENTS

The total number of suspensions due to a synchronous execution unit switching to DB2 services from the thread being reported.

Field Name: ADSTSUSC

This is an *exception* field.

UPDATE COMMIT - AVERAGE TIME/ELAPSED TIME

The accumulated wait time because of synchronous execution unit switch for DB2 Phase 2 commit, abort, or deallocation. This includes wait time for Phase 2 commit Log writes and database writes for LOB with LOG NO. For data sharing environment Page P-locks unlocks for updated pages and GBP writes.

Field Name: QWACAWTE

UPDATE COMMIT - AV.EVENT/EVENTS

The number of wait trace events processed for waits for synchronous execution unit switching for commit or abort.

This value is an average.

Field Name: ADSTARNS

OPEN/CLOSE - AVERAGE TIME/ELAPSED TIME

Accumulated waiting time for a synchronous execution unit switch to the DB2 OPEN/CLOSE data set service for the HSM recall service.

This value is an average.

Field Name: QWAXOCSE

OPEN/CLOSE - AV.EVENT/EVENTS

The number of wait trace events processed for waits for synchronous execution unit switching to the open/close service.

This value is an average.

Field Name: ADOCSUSC

SYSLGRNG REC - AVERAGE TIME/ELAPSED TIME

Accumulated wait time for a synchronous execution unit switch to the DB2 SYSLGRNG recording service. This service is sometimes used for Level ID checking for downlevel detection.

This value is an average.

Field Name: QWAXSLSE

SYSLGRNG REC - AV.EVENT/EVENTS

The number of wait trace events processed for waits for synchronous execution unit switching to the SYSLGRNG recording service.

This value is an average.

Field Name: ADSLSUSC

EXT/DEL/DEF - AVERAGE TIME/ELAPSED TIME

Accumulated wait time for a synchronous execution unit switch to the DB2 data space manager services. This includes DEFINE DATA SET, EXTEND DATA SET, DELETE DATA SET, RESET DATA SET, and VSAM CATALOG ACCESS.

This value is an average.

Field Name: QWAXDSSE

EXT/DEL/DEF - AV.EVENT/EVENTS

The number of wait trace events processed for waits for synchronous execution unit switching to the data space manager service tasks.

This value is an average.

Field Name: ADDSSUSC

OTHER SERVICE - AVERAGE TIME/ELAPSED TIME

Could be due to a VSAM catalog update. In the distributed environment, it includes the waiting time for the response from the server system. Performance trace for IFCID 46 to 50, 170, and 171 provide more detailed information for analysis.

Field Name: QWAXOTSE

OTHER SERVICE - AV.EVENT/EVENTS

The number of wait trace events processed for waits for synchronous execution unit switching to other service tasks.

This value is an average.

Field Name: ADOTSUSC

ARC.LOG(QUIES) - AVERAGE TIME/ELAPSED TIME

The accumulated waiting time due to the processing of ARCHIVE LOG MODE(QUIESCE) commands.

This time does not represent the time required to perform the entire command.

Field Name: QWAXALOG

This is an *exception* field.

ARC.LOG(QUIES) - AV.EVENT/EVENTS

The total number of suspensions due to the processing of ARCHIVE LOG MODE(QUIESCE) commands.

This counter belongs to class 1 (not to class 3 like the rest of the fields in this section) but it is shown here to be adjacent to the archive log quiesce suspension time, which is in class 3.

Field Name: ADALSUSC

This is an *exception* field.

LOG READ - AVERAGE TIME/ELAPSED TIME

The accumulated wait time for:

- Archive Log reads
- Active Log reads
- Active Log prefetch reads
- Fast Log apply log reads

Field Name: QWAXAWAR

LOG READ - AV.EVENT/EVENTS

The number of wait trace events processed for archive reads, active reads, and active log prefetch reads.

Field Name: ADLRSUSC

This is an *exception* field.

DRAIN LOCK - AVERAGE TIME/ELAPSED TIME

The accumulated waiting time for a drain lock. This is the time the requester is suspended while waiting to acquire the drain lock.

Field Name: QWAXAWDR

This is an *exception* field.

DRAIN LOCK - AV.EVENT/EVENTS

The total number of suspensions due to drain lock processing.

Field Name: ADDRSUSC

This is an *exception* field.

CLAIM RELEASE - AVERAGE TIME/ELAPSED TIME

The accumulated waiting time for a drain waiting for claims to be released. After the drain lock is acquired, the drainer must wait for claim holders to release the object.

Field Name: QWAXAWCL

This is an *exception* field.

CLAIM RELEASE - AV.EVENT/EVENTS

The total number of suspensions until the claims are released.

Field Name: ADCMSUSC

This is an *exception* field.

PAGE LATCH - AVERAGE TIME/ELAPSED TIME

Page latch suspension could be due to concurrent threads that try to update a hot page that is frequently written because of a low deferred write threshold.

In the data sharing environment, within the same member, the first thread gets a P-lock (such as: Index leaf page P-Lock or P-Lock for Space map page or data page P-lock for Row level locking) during high INSERT activity. Performance trace for IFCID 226 and 227 provide more information for detailed analysis.

With a high number of concurrent threads, for subsequent threads in the same member for the same resource, contention is reported as encountering a page latch contention. Randomizing the Index key helps minimizing page latch contentions for the Index leaf page.

If the page latch is for a space map page and an incremental image copy is not used, use the DDL TRACKMOD NO option to avoid frequent updates to the space map page. The Member Cluster option reduces page latch contention for a space map page.

Field Name: QWACAWTP

PAGE LATCH - AV.EVENT/EVENTS

The total number of suspensions due to page latch contentions.

Field Name: ADPGSUSC

NOTIFY MSGS - AVERAGE TIME/ELAPSED TIME

The accumulated elapsed waiting time due to suspensions caused by sending notify messages to other members in the data sharing group. Messages are sent, for example, when the database descriptors are changed due to DDL.

Field Name: QWACAWTG

NOTIFY MSGS - AV.EVENT/EVENTS

The number of suspensions caused by sending messages to other members in the data sharing group. This value is only calculated if accounting class 3 is active and DB2 is a member of a data sharing group.

Field Name: ADNOSUSC

GLOBAL CONTENTION - AVERAGE TIME/ELAPSED TIME

The total accumulated waiting time caused by the suspension of IRLM lock requests due to global lock contention in a data sharing environment that require intersystem communication to resolve.

Look at the Accounting section that shows Parent/Child/Other break down for the L-Lock and P-Lock Global contentions. Also look at the GBP Buffer Pool statistics Page P-Lock suspensions and negotiations category (Space map page / Data page / Index leaf page) in the Statistics report for the same time interval:

- If the majority of the negotiations are for the space map pages or data pages, the Member Cluster option can help.
- If the majority of the negotiations are for data pages, consider to change small tables with row level locking to page level locking with MAXROWS 1.
- If the majority of the negotiations are for Index leaf pages, consider adding more free space (PCTFREE / FREEPAGE) and/or minimizing the index key size for a unique or semi-unique multi-column index.

Field Name: ADGCSUST

GLOBAL CONTENTION - AV.EVENT/EVENTS

The number of suspensions caused by global lock contention. This value is only calculated if accounting class 3 is active and DB2 is a member of a data sharing group.

Field Name: ADGCSUSC

COMMIT PH1 WRITE I/O - AVERAGE TIME/ELAPSED TIME

The accumulated time waiting for phase 1 commit write I/O. An example for this suspension is LOB Table Space with LOG NO Phase 1 commit database synchronous write I/O processing.

Field Name: QWAXAWFC

COMMIT PH1 WRITE I/O - AV.EVENT/EVENTS

The total number of wait trace events for commit phase 1 I/O.

Field Name: ADFCSUSC

ASYNCH CF REQUESTS - AVERAGE TIME/ELAPSED TIME

The accumulated wait time for IXLCACHE and IXLFCOMP requests.

Field Name: QWAXIXLT

ASYNCH CF REQUESTS - AV.EVENT/EVENTS

The number of IXLCACHE and IXLFCOMP asynchronous requests.

Field Name: ADIXSUSC

TCP/IP LOB XML - AVERAGE TIME/ELAPSED TIME

The accumulated wait time for TCP/IP LOB and XML (storing large object and XML) materialization.

Field Name: QWACALBW

TCP/IP LOB XML - AV.EVENT/EVENTS

The number of wait trace events processed for waits for TCP/IP LOB and XML materialization.

Field Name: ADLMSUSC

ACCELERATOR - AVERAGE TIME/ELAPSED TIME

The accumulated wait time for requests to an accelerator.

Field Name: QWACAACW

ACCELERATOR - AV.EVENT/EVENTS

The total number of suspensions due to a request to an accelerator.

Field Name: ADAASUSC

HTAP DELAY - AVERAGE TIME/ELAPSED TIME

The amount of time spent waiting for data replication using the accelerator delay protocol (HTAP).

Field Name: Q8ACTWDP

AUTONOMOUS PROCEDURE - AVERAGE TIME/ELAPSED TIME

The accumulated time waiting for autonomous procedures to complete.

Field Name: AATXSUST

AUTONOMOUS PROCEDURE - AV.EVENT/EVENTS

The number of autonomous procedures that were executed:

1. For non-rollup records, this value is the number of autonomous procedures that were executed.
2. For a parallel query rollup record, this value is 0.
3. For a DDF or RRSAF rollup record, this value is the number of autonomous procedures that were executed. These procedures are NOT counted in QWACPCNT.
4. For autonomous procedures rollup records, this value is 0.

Field Name: AATCOUNT

PQ SYNCHRONIZATION - AVERAGE TIME/ELAPSED TIME

The accumulated time waiting for parallel queries to synchronize between parent and child tasks.

Field Name: AWPQSST

PQ SYNCHRONIZATION - AV.EVENT/EVENTS

The number of times the parallel query processing had to suspend because it was waiting for the synchronization of parent or child.

Field Name: AWPQSSC

LOB COMPRESSION - AVERAGE TIME/ELAPSED TIME

The accumulated time waiting for a compression of DB2 large objects (LOB) (DB2 field QWAX_LOBCOMP_WAIT).

Field Name: AWLCSUST

LOB COMPRESSION - AV.EVENT/EVENTS

The number of wait trace events processed for DB2 large object (LOB) compressions (DB2 field QWAX_LOBCOMP_COUNT).

Field Name: AWLCSUSC

FAST INSERT PIPE - AVERAGE TIME/ELAPSED TIME

The accumulated wait time for pipe wait (DB2 field QWAX_PIPE_WAIT).

Field Name: AWPISUST

FAST INSERT PIPE - AV.EVENT/EVENTS

The number of wait trace events that were processed for pipe wait (DB2 field QWAX_PIPEWAIT_COUNT / 2).

Field Name: AWPISUSC

TOTAL CLASS 3 - AVERAGE TIME/ELAPSED TIME

The waiting time for all types of class 3 suspensions by the originating task and parallel tasks, if parallelism is employed.

Field Name: ADTSUST

This is an *exception* field.

TOTAL CLASS 3 - AV.EVENT/EVENTS

The total number of class 3 suspensions.

Field Name: ADTSUSC

This is an *exception* field.

Times - Class 5 - IFI Time

This topic shows detailed information about "Accounting - Times - Class 5 - IFI Time".

This block shows information for the Instrumentation Facility Interface (IFI) class 5.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Times - Class 5 - IFI Time

The field labels shown in the following sample layout of "Accounting - Times - Class 5 - IFI Time" are described in the following section.

```
Report:                              Trace:

AVERAGE TIMES CL. 5  IFI (CL.5)      TIMES CLASS 5  IFI (CL.5)
-------------------  ----------      -------------  ----------
ELAPSED TIME                N/P      ELAPSED TIME           N/P
CP CPU TIME                 N/P      CP CPU TIME            N/P
DCAPT.DESCR.                N/P      DCAPT.DESCR.           N/P
LOG EXTRACT.                N/P      LOG EXTRACT.           N/P
HTAP TIMEOUT                N/A
```

ELAPSED TIME

The accumulated elapsed time for processing IFI calls. This field is only calculated if accounting class 5 is active.

Field Name: QIFAAIET

CP CPU TIME

The accumulated CPU time spent processing IFI calls. This is the same as the TCB time (class 5).

This field is only calculated if accounting class 5 is active.

Field Name: QIFAAITT

This is an *exception* field.

DCAPT.DESCR.

The accumulated elapsed time for processing data capture describes. Data capture describes occur only during IFI read requests for IFCID 185. This time is a subset of the log extraction time.

Field Name: QIFAAMBT

This is an *exception* field.

LOG EXTRACT.

The accumulated elapsed time for extracting log records for tables defined with DATA CAPTURE CHANGES. This time is a subset of the class 5 elapsed time.

Field Name: QIFAAMLT

This is an *exception* field.

HTAP TIMEOUT

The number of times that the wait interval expired when using the accelerator delay protocol (HTAP). This means that the data needed for the query was not replicated to the accelerator in time.

Field Name: Q8ACNWDP

Times - Class 7 - CP CPU Distribution

This topic shows detailed information about "Accounting - Times - Class 7 - CP CPU Distribution".

This block shows the distribution of the class 7 CP CPU time among all packages.

The following example shows both layouts, first the report layout, followed by the trace layout.

Accounting - Times - Class 7 - CP CPU Distribution

The field labels shown in the following sample layout of "Accounting - Times - Class 7 - CP CPU Distribution" are described in the following section.

```
Report:

------------------------------------------------------------------------------
PROGRAM NAME                     CLASS 7 CP CPU TIME CONSUMERS                |
CCRCZ043            |                                                         |
CCRCZ063            |                                                         |
CECEZ011            |                                                         |
CECEZ012            |                                                         |
CECEZ072            |                                                         |
CECEZ074            |                                                         |
CFS041N             |================================================> 96%   |
CPDCZG17            |                                                         |
CPDCZG18            |                                                         |
CPDCZG19            |                                                         |
CPDCZ0A5            |                                                         |
CPDCZ0BE            |==> 4%                                                   |
------------------------------------------------------------------------------

Trace:

PROGRAM NAME                     CLASS 7 CP CPU TIME CONSUMERS
DSNTEP2             |=> 3%
*ROLLUP*            |================================================> 97%
```

PROGRAM NAME

The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by DB2), the following value is shown *ROLSUM*.

Field Name: QPACPKID

This is an *exception* field.

CLASS 7 CP CPU TIME CONSUMERS

The ratio of the class 7 CP CPU time, expressed as a percentage of the total class 7 CP CPU time of all programs.

Field Name: ARATCL7C

Times - Class 7 - Elapsed Time Distribution

This topic shows detailed information about "Accounting - Times - Class 7 - Elapsed Time Distribution".

This block shows the distribution of the class 7 elapsed time among all programs.

The following example shows both layouts, first the report layout, followed by the trace layout.

Accounting - Times - Class 7 - Elapsed Time Distribution

The field labels shown in the following sample layout of "Accounting - Times - Class 7 - Elapsed Time Distribution" are described in the following section.

```
Report:

------------------------------------------------------------------------------
PROGRAM NAME                    CLASS 7 ELAPSED TIME CONSUMERS               |
CCRCZ043            |                                                        |
CCRCZ063            |                                                        |
CECEZ011            |                                                        |
CECEZ012            |                                                        |
CECEZ072            |                                                        |
CECEZ074            |                                                        |
CFS041N             |=======================================> 79%            |
CPDCZG17            |                                                        |
CPDCZG18            |                                                        |
CPDCZG19            |                                                        |
CPDCZ0A5            |                                                        |
CPDCZ0BE            |==========> 21%                                         |
------------------------------------------------------------------------------


Trace:

PROGRAM NAME                    CLASS 7 ELAPSED TIME CONSUMERS
DSNTEP2             |=> 3%
*ROLLUP*            |================================================> 97%
```

PROGRAM NAME

The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by DB2), the following value is shown *ROLSUM*.

Field Name: QPACPKID

This is an *exception* field.

CLASS 7 ELAPSED TIME CONSUMERS

The ratio of the class 7 elapsed time, expressed as a percentage of the total class 7 elapsed time of all programs.

Field Name: ARATCL7

Triggers

This topic shows detailed information about "Accounting - Triggers".

This block provides information about triggers.

For formatting reasons, OMEGAMON XE for DB2 PE shows different labels for report and trace. The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - Triggers

The field labels shown in the following sample layout of "Accounting - Triggers" are described in the following section.

```
Report:                                 Trace:

TRIGGERS            AVERAGE     TOTAL     TRIGGERS         TOTAL
-----------------  --------  --------     ------------  --------
STATEMENT TRIGGER     15.00        60     STMT TRIGGER          0
ROW TRIGGER            8.00        24     ROW TRIGGER           0
SQL ERROR OCCUR        0.00         0     SQL ERROR             0
```

STATEMENT TRIGGER (STMT TRIGGER)

The number of times a statement trigger was activated.

Field Name: QXSTTRG

ROW TRIGGER

The number of times a row trigger was activated.

Field Name: QXROWTRG

SQL ERROR OCCUR (SQL ERROR)

The number of times an SQL error occurred during the execution of a triggered action. This includes errors that occur in user-defined functions or stored procedures that are called from triggers and that pass back a negative SQLCODE.

Field Name: QXTRGERR

Truncated Values

This topic shows detailed information about "Accounting - Truncated Values".

OMEGAMON XE for DB2 PE can report values that are too long to fit in the space available in the report layout. When this happens, the value reported in the block is truncated. Truncated values are then listed at the end of each logical report unit, together with the full values.

The list of Truncated Values shows pairs of a truncated values (unique name) and its original full value (long name). This list can show pairs caused by long names of client end-user transaction names and workstation names. It shows the complete long name on several lines if required. A truncated value can consist of up to 32 characters, which is the length of the short name of an end-user transaction name.

The mapping between truncated and full values remains the same for multiple reports from the same input data. This mapping for multiple reports from different input data cannot be guaranteed.

The following example applies to both, the report layout and the trace layout.

Accounting - Truncated Values

The field labels shown in the following sample layout of "Accounting - Truncated Values" are described in the following section.

```
*****************************************************************************************************************************
*                                                   LIST OF TRUNCATED VALUES                                                *
* TRUNCATED VALUE                FULL VALUE                                                                                 *
* ------------------------------ ------------------------------------------------------------------------------------------- *
* LOCATIONABCDEF#1               LOCATIONABCDEFANDSOON                                                                       *
* PRIMAU#1                       PRIMAUTHANDSOON                                                                             *
* AUTHCH#1                       AUTHCHECKED                                                                                 *
* ORIGAU#1                       ORIGAUTHANDSOON                                                                             *
* SOURCEOBJECTABCD#1             SOURCEOBJECTABCDANDSOON                                                                     *
* SOURCE#1                       SOURCEOWNERNAME                                                                             *
* TARGETOBJECTABCD#1             TARGETOBJECTABCDANDSOON                                                                     *
* TARGET#1                       TARGETOWNERNAME                                                                             *
* ORIGAU#1                       ORIGAUTHANDSOON                                                                             *
* ORIGAU#1                       ORIGAUTHANDSOON                                                                             *
* ::FFFF:9.152.1#1               ::FFFF:9.152.122.74                                                                         *
* It_is_the_enduse#1             It_is_the_enduser_name                                                                      *
* A_long_workstati#1             A_long_workstation_name                                                                     *
* This_is_a_very_long_transact#1 This_is_a_very_long_transaction_name                                                        *
*****************************************************************************************************************************
```

User-Defined Functions

This topic shows detailed information about "Accounting - User-Defined Functions".

This block shows information about user-defined functions.

The following example shows both layouts, the report on the left, and the trace layout on the right.

Accounting - User-Defined Functions

The field labels shown in the following sample layout of "Accounting - User-Defined Functions" are described in the following section.

```
Report:                          Trace:

UDF                 AVERAGE      UDF                 TOTAL
-----------------   --------     -----------------   --------
EXECUTED                0.00     EXECUTED                   0
ABENDED                 0.00     ABENDED                    0
TIMED OUT               0.00     TIMED OUT                  0
REJECTED                0.00     REJECTED                   0
```

EXECUTED

The number of user-defined functions executed.

Field Name: QXCAUD

ABENDED

The number of times a user-defined function abended.

Field Name: QXCAUDAB

TIMED OUT

The number of times a user-defined function timed out while waiting to be scheduled.

Field Name: QXCAUDTO

REJECTED

The number of times a user-defined function was rejected.

Field Name: QXCAUDRJ

The Accounting File Data Set and Output Record

The FILE subcommand formats DB2 Accounting records and writes them to sequential data sets suitable for use by the DB2 load utility. You can store unreduced Accounting data into the OMEGAMON for Db2 PE performance database. The performance database produces tailored reports using a reporting facility such as Query Management Facility (QMF).

You can also use the File data sets to generate CSV (comma-separated value) input-data. This CSV data can then be transferred to workstations and imported into spreadsheets to improve DB2 performance analysis using graphical representations or pivot tables. For more information refer to *Reporting User's Guide*.

FILE can also be used to produce data sets containing only exception records. The following record format types are available. Descriptions of the Accounting File data sets and the fields contained can be found in the RKO2SAMP library under the following names:

DGOADFGE
General Accounting records

DGOADFBU
Buffer pool records

DGOADFDF
DDF records

DGOADFGP
Group buffer pool records

DGOADFPK
Package records

DGOADFXC
Accelerator records

The output is a sequential data set containing information from the DB2 IFCID 003 and IFCID 239 records. The parallel records are contained in the originating record. The number of records in the output are as follows:

- One record for General Accounting data
- Separate records for each buffer pool used
- Separate records for each remote location participating in the distributed activity
- Separate records for each group buffer pool used
- Separate records for each package and DBRM executed
- Separate records for each accelerator used

Chapter 4. Audit Report Set

These topics provide information about the Audit reports.

Note: A report can be ordered by identifiers in contrast to a trace. For an introduction to the Audit report set and general audit information refer to the *Reporting User's Guide*.

The Audit Summary Reports

The Audit summary reports present aggregated DB2 data. Data is accumulated and grouped by the specified OMEGAMON for Db2 PE identifiers.

The LEVEL subcommand option creates a basic summary report, which shows totals for the different audit types. Use the LEVEL and TYPE options to produce summary reports for the audit report types.

Summary Report - Basic and Field Descriptions

To produce a basic summary report, use the AUDIT REPORT LEVEL(SUMMARY) command without any TYPE constraints.

You can generate a summary report as follows:

```
AUDIT
REPORT
LEVEL (SUMMARY)
```

Note: For bind events, specify the program name for PLANNAME in ORDER, INCLUDE and EXCLUDE. For utility events, specify the utility name of the PLANNAME in ORDER, INCLUDE, and EXCLUDE. The header of this summary report will, however, still show PLANNAME.

In group-scope reports, MEMBER and SUBSYSTEM are not shown.

Levels of accumulation (Audit summary report)

The Audit summary report gives the following levels of accumulation:

GROUP TOTAL
The group total is printed on group-scope reports when the member value changes.

SUBTOTAL
If you request ordering by three identifiers, a subtotal block of two lines is printed on the change of the second-level identifier when there is more than one third-level identifier reported under it.

The first line shows the string *SUBTOTAL* in the first column.

The second line shows the name of the second identifier in the first column and the calculated data in all other columns.

TOTAL
If you request ordering by two or three identifiers, a total block of two lines with all applicable data is printed on the change of the first-level identifier when there is more than one second-level identifier reported under it.

The first line shows the string *TOTAL* in the first column.

The second line shows the name of the first identifier in the first column, and the calculated data in all other columns.

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GRAND TOTAL
A grand total block of two lines with all applicable data is printed for a location when there is more than one first-level identifier reported.

The first line shows the string *GRAND TOTAL* in the first column.

The second line shows the name of the member (in a member-scope report) or the group (in a group-scope report) in the first column, and the calculated data in all other columns.

Layout of a Member-Scope Audit Summary Report

Here is a sample layout of a Member-Scope Audit Summary report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1

      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_2                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                              ORDER: PRIMAUTH-PLANNAME                          ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                     SCOPE: MEMBER                                       TO: 01/30/15 07:19:20.25


PRIMAUTH                                 AUTH       GRANT/      DDL      DML READ  DML WRITE     DML       AUTHID    UTILITY
   PLANNAME                    TOTAL     FAILURE     REVOKE     ACCESS     ACCESS     ACCESS    AT BIND     CHANGE     ACCESS

--------------------------   ----------  ---------  ---------  ---------  ---------  ---------  ---------  ---------  ---------
AUTH_20
  DSNESM68                          4          0          0          0          0          0          4          0          0
  LOAD                              4          0          0          0          0          0          0          0          4
  PLAN_20                          18          2          2          4          2          2          0          6          0
  PLAN_30                          18          2          2          4          2          2          0          6          0


  *TOTAL*                          44          4          4          8          4          4          4         12          4

AUTH_30
  DSNESM68                          4          0          0          0          0          0          4          0          0
  LOAD                              4          0          0          0          0          0          0          0          4
  PLAN_20                          18          2          2          4          2          2          0          6          0
  PLAN_30                          16          2          2          2          2          2          0          6          0


  *TOTAL*                          42          4          4          6          4          4          4         12          4


*GRAND TOTAL*                      86          8          8         14          8          8          8         24          8
```

Field description

The basic Audit summary report contains the following fields:

OMEGAMON for Db2 PE identifiers
The report can be sorted by up to five combinations of any three identifiers. These are printed in the first three columns from the left and indented in the sequence specified by ORDER.

The default is PRIMAUTH-PLANNAME.

For group-scope reports, MEMBER is automatically added as the last identifier.

The values printed in the following columns represent totals for each combination of the selected OMEGAMON for Db2 PE identifiers.

TOTAL
A total number of Audit events.

AUTH FAILURE
The total number of authorization failures (IFCID 140 records).

GRANT/REVOKE
The total number of authorization GRANTs or REVOKEs (IFCID 141).

DDL ACCESS
The total number of DDL operations against auditable DB2 tables (IFCID 142 records).

DML READ ACCESS
The total number of first READ attempts within a logical unit of work against auditable DB2 tables (IFCID 144 records).

DML WRITE ACCESS
The total number of first WRITE attempts against audited DB2 tables (IFCID 143 records).

DML AT BIND
The total number of statements referenced during a static or dynamic bind (IFCID 145) against auditable DB2 tables.

AUTHID CHANGE
The total number of initial AUTHID establishments, AUTHID changes, or attempted AUTHID changes (IFCID 055, 083, 087, and 169 records).

UTILITY ACCESS
The total number of times a utility was used to access a DB2 object (IFCID 024 records).

Authorization Change Summary Report and Fields (AUTHCHG)

This report presents all authorization change events according to the combination of OMEGAMON for Db2 PE identifiers specified.

Use the following command to generate an authorization change summary report.

```
AUDIT
     REPORT
        LEVEL (SUMMARY)
        TYPE  (AUTHCHG)
```

Layout of a Member-Scope Audit Authorization Change Summary Report

Here is an example of a member-scope Audit Authorization Change Summary report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1

     GROUP: GROUP_1                              AUDIT REPORT - SUMMARY                       REQUESTED FROM: NOT SPECIFIED
    MEMBER: MEMBER_2                               AUTHORIZATION CHANGE                                 TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                               ORDER: PRIMAUTH-PLANNAME-OBJECT                    ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                       SCOPE: MEMBER                                       TO: 01/30/15 07:19:20.25

                   ORIGINAL     SET CURRENT  END OF   END OF  DISTRIBUTED
PRIMAUTH PLANNAME  AUTHID          SQLID    IDENTIFY  SIGNON  TRANSLATION  TOTAL
-------- -------- --------      ---------- -------- -------- ----------- --------
AUTH_20  PLAN_20  ORAUTH30               2        0        0           2        4
                  XXASP33                0        2        0           0        2
                  *SUBTOTAL*             2        2        0           2        6

         PLAN_30  ORAUTH30               2        0        0           2        4
                  XXASP33                0        2        0           0        2
                  *SUBTOTAL*             2        2        0           2        6

         *TOTAL*                         4        4        0           4       12

AUTH_30  PLAN_20  ORAUTH30               2        0        0           2        4
                  XXASP33                0        2        0           0        2
                  *SUBTOTAL*             2        2        0           2        6

         PLAN_30  ORAUTH30               2        0        0           2        4
                  XXASP33                0        2        0           0        2
                  *SUBTOTAL*             2        2        0           2        6


         *TOTAL*                         4        4        0           4       12
```

Field description

The authorization change summary report contains the following fields:

OMEGAMON for Db2 PE Identifiers
The identifiers define the order of the Audit data reported. Up to three OMEGAMON for Db2 PE identifiers are printed:

The default ORDER for this report is PRIMAUTH-PLANNAME-OBJECT, where OBJECT is the original authorization ID.

For group-scope reports, MEMBER is automatically added as the last.

ORIGINAL AUTHID
The original value of the authorization ID as passed to the IDENTIFY or SIGNON authorization exit.

When the input record is IFCID 055 or 169, the value is the ORIGINAL AUTHID from the DB2 correlation header.

SET CURRENT SQLID
The authorization changes due to a SET CURRENT SQLID request. The total number of IFCID 055 records for this set of identifiers.

END OF IDENTIFY
The authorization changes due to an identify request. The total number of IFCID 083 records for this set of identifiers.

END OF SIGNON
The authorization changes due to a signon. The total number of IFCID 087 records for this set of identifiers.

DISTRIBUTED TRANSLATION
The authorization changes due to distributed translation. The total number of IFCID 169 records for this set of identifiers.

TOTAL
All authorization changes. The total number of IFCIDs 55, 83, 87, and 169 for this set of identifiers.

Authorization Control Summary Report and Fields (AUTHCNTL)

This report presents all authorization control events according to the combination of OMEGAMON for Db2 PE identifiers specified.

Use the following command to generate an authorization control summary report.

```
AUDIT
     REPORT
     LEVEL (SUMMARY)
     TYPE  (AUTHCNTL)
```

Layout of a Member-Scope Audit Authorization Control Summary Report

The layout of this report varies slightly depending if it is a member or group-scope report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-2
      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                 REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_2                             AUTHORIZATION CONTROL                             TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                           ORDER: PRIMAUTH-PLANNAME-OBJECT                 ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                 SCOPE: MEMBER                                      TO: 01/30/15 07:19:20.25

                    OBJECT
PRIMAUTH PLANNAME   TYPE         GRANTS  REVOKES   TOTAL
-------- -------- --------      -------- -------- --------
AUTH_20  PLAN_20  TSPACE               0        2        2
         PLAN_30  TSPACE               0        2        2
         *TOTAL*                       0        4        4

AUTH_30  PLAN_20  TSPACE               0        2        2
         PLAN_30  TSPACE               0        2        2
         *TOTAL*                       0        4        4

*GRAND TOTAL*                          0        8        8
```

For group-scope reports:

- MEMBER and SUBSYSTEM are not shown on the page header
- MEMBER is not added to the identifiers specified.
- A GROUP TOTAL is shown when a member value changes.

Layout of a Group-Scope Audit Authorization Control Summary Report

Here is a sample layout of a Group-Scope Audit Authorization Control Summary report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-2
      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                 REQUESTED FROM: NOT SPECIFIED
                                                  AUTHORIZATION CONTROL                             TO: NOT SPECIFIED
                                                      ORDER: OBJECT                       ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                      SCOPE: GROUP                               TO: 01/30/15 07:21:20.25

OBJECT
 TYPE    MEMBER        GRANTS  REVOKES   TOTAL
-------- --------      -------- -------- --------
TSPACE   MEMBER_2            0        8        8
         MEMBER_3            0        8        8

*GRAND TOTAL*                0       16       16
```

Field description

The authorization control summary report contains the following fields:

OMEGAMON for Db2 PE Identifiers
The identifiers define the order of the Audit data reported. Up to three identifiers are printed.

The defaults are:

- For member-scope reports, PRIMAUTH-PLANNAME-OBJECT
- For group-scope reports, OBJECT

For group-scope reports, MEMBER is automatically added as the last identifier.

OBJECT TYPE
The DB2 object type of the GRANT or REVOKE. Possible values are:

- TSPACE
- LOBTS
- TAB/VIEW

GRANTS
All grant operations.

REVOKES
All revoke operations.

TOTAL
All grant/revoke operations. The total number of IFCID 141 records for this set of identifiers.

Authorization Failure Summary Report and Fields (AUTHFAIL)

This report presents all authorization failure events according to the combination of OMEGAMON for Db2 PE identifiers you specified.

Use the following command to generate an authorization failure summary report.

```
AUDIT
     REPORT
        LEVEL (SUMMARY)
        TYPE  (AUTHFAIL)
```

Layout of a Member-Scope Audit Authorization Failure Summary Report

The layout of the default member-scope authorization failure summary report, ordered by object type, source object, source owner, target object, and target owner within plan name within primary authorization ID, is shown in the following example.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-3
      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_2                             AUTHORIZATION FAILURE                                 TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                              ORDER: PRIMAUTH-PLANNAME-OBJECT                     ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                    SCOPE: MEMBER                                         TO: 01/30/15 07:19:20.25

                                 OBJECT  --------- SOURCE ---------- ---------- TARGET ---------
PRIMAUTH PLANNAME    PRIVILEGE     TYPE    OWNER          NAME         OWNER          NAME             TOTAL
-------- -------- --------------- -------- -------- ------------------ -------- ------------------      --------
AUTH_20  PLAN_20  SELECT          TABLE    SYSIBM   SYSDATABASE        SYSIBM   SYSDATABASE                 2
         PLAN_30                  TABLE    SYSIBM   SYSDATABASE        SYSIBM   SYSDATABASE                 2
         *TOTAL*                                                                                          4

AUTH_30  PLAN_20  INSERT          TABLE    SYSIBM   SYSDATABASE        SYSIBM   SYSDATABASE                 2
         PLAN_30                  TABLE    SYSIBM   SYSDATABASE        SYSIBM   SYSDATABASE                 2
         *TOTAL*                                                                                          4

*GRAND TOTAL*                                                                                             8
```

Layout of a Group-Scope Audit Authorization Failure Summary Report

Here is a sample layout of a Group-Scope Audit Authorization Failure Summary report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-3

      GROUP: GROUP_1                              AUDIT REPORT - SUMMARY                        REQUESTED FROM: NOT SPECIFIED
                                                   AUTHORIZATION FAILURE                                  TO: NOT SPECIFIED
                                                      ORDER: OBJECT                                 ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                      SCOPE: GROUP                                          TO: 01/30/15 07:21:20.25

              OBJECT  --------- SOURCE ---------- ---------- TARGET ---------
  PRIVILEGE    TYPE    OWNER         NAME         OWNER          NAME         MEMBER        TOTAL
--------------- -------- -------- ------------------ -------- ------------------ --------      -------
SELECT          TABLE    SYSIBM   SYSDATABASE        SYSIBM   SYSDATABASE        MEMBER_2            8

*GRAND TOTAL*                                                                                       16
```

Field description

The authorization failure summary report contains the following fields:

OMEGAMON for Db2 PE identifiers
The identifiers define the order of the Audit data reported. Up to three identifiers are printed.

The defaults are:

- For member-scope reports, PRIMAUTH-PLANNAME-OBJECT
- For group-scope reports, OBJECT

For group-scope reports, MEMBER is automatically added as the last identifier.

PRIVILEGE

The privilege that was checked. Possible values are provided in the DB2 macro DSNDQW02.

OBJECT TYPE
The DB2 object type. Possible values are:

BUFFER
Buffer Pool

COLLECT
Collection

DATABASE
Database

DISTTYPE
Distinct Type

FUNCTION
Function

PACKAGE
Package

SCHEMA
Schema

PROCEDUR
Procedure

APPLPLAN
Application Plan

LOBTS
Large Object Table Space

STOGROUP
Storage Group

TAB/VIEW
Table or View

USERAUTH
System privileges, such as SYSADM or SYSOPR

SEQUENCE
Sequence

SOURCE OBJECT OWNER
If the object type is USERAUTH and the privilege is CREATE ALIAS, this is the qualifier of the alias being created. N/A is printed when the privilege is any other value.

If the object type is not USERAUTH, this is the qualifier of the object against which the authorization was checked.

SOURCE OBJECT NAME
If the object type is USERAUTH and the privilege is CREATEALIAS, CREATEDBA, CREATEDBC, or CREATESG this is the name of the alias, or object being created. N/A is printed when the privilege has any other value.

If the object type is not USERAUTH, this is the name of the object against which the authorization was checked.

TARGET OBJECT OWNER
This is the qualifier of the object being created. It is valid when the Privilege is CREATE TABLE or CREATE INDEX. It is also valid for an authorization check against the following privileges:

- CREATE VIEW
- SELECT
- INSERT
- DELETE
- UPDATE

Otherwise N/A is printed.

TARGET OBJECT NAME
This is the qualifier of the object being created. It is valid when the Privilege is CREATE TABLE or CREATE INDEX. It is also valid for an authorization check against the following privileges:

- CREATE VIEW
- SELECT
- INSERT
- DELETE
- UPDATE

Otherwise N/A is printed.

TOTAL
All authorization failures. The total number of IFCID 140 records for this set of identifiers.

DML at Bind Access Summary Report and Fields (BIND)

This report presents all DML at bind access events according to the combination of OMEGAMON for Db2 PE identifiers specified.

Use the following command to generate a DML at bind access summary report.

```
AUDIT
  REPORT
   LEVEL (SUMMARY)
    TYPE  (BIND)
```

Layout of a Member-Scope Audit DML at Bind Access Summary Report

For ORDER, INCLUDE, and EXCLUDE, the program name is used for PLANNAME.

```
   LOCATION: LOCATI_2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-4
      GROUP: GROUP_1                           AUDIT REPORT - SUMMARY                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_2                            DML AT BIND ACCESS                            TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                          ORDER: PRIMAUTH-PLANNAME-OBJECT               ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                 SCOPE: MEMBER                                    TO: 01/30/15 07:19:20.25

PRIMAUTH PROGRAM  DATABASE TABLEID        TOTAL
-------- -------- -------- --------      --------
AUTH_20  DSNESM68 DBASE1   7                    4
AUTH_30  DSNESM68 DBASE1   7                    4

*GRAND TOTAL*                                   8
```

Layout of a Group-Scope Audit DML at Bind Access Summary Report

Here is a sample layout of a Group-Scope Audit DML at Bind Access Summary report.

```
   LOCATION: LOCATI_2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-1
      GROUP: GROUP_1                           AUDIT REPORT - SUMMARY                  REQUESTED FROM: NOT SPECIFIED
                                                DML AT BIND ACCESS                            TO: NOT SPECIFIED
                                                  ORDER: OBJECT                       ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                   SCOPE: GROUP                             TO: 01/30/15 07:21:20.25

DATABASE TABLEID   MEMBER       1ST READ 1ST WRITE  TOTAL
-------- -------- --------      -------- --------- --------
DBASE1          7 MEMBER_2             8         8       16
                  MEMBER_3             8         8       16

*GRAND TOTAL*                         16        16       32
```

Field description

The DML at bind access summary report contains the following fields:

OMEGAMON for Db2 PE identifiers
The identifiers define the order of the Audit data reported. Up to three identifiers are printed.

The defaults are:

- For member-scope reports, PRIMAUTH-PLANNAME-OBJECT
- For group-scope reports, OBJECT

For group-scope reports, MEMBER is considered the last ORDER identifier and is automatically added as the second, third, or fourth identifier.

DATABASE
Either the name of the database that contains the auditable DB2 table, or the internal DB2 identification (DBID) of the database that contains the auditable DB2 table.

Note: DATABASE is a repeating field and can have more than one entry on the report.

TABLEID
The object identifier (OBID) of the auditable DB2 table.

Note: TABLEID is a repeating field and can have more than one entry on the report.

TOTAL
All DML at bind events. The total number of IFCID 145 records for this set of identifiers.

DDL Access Summary Report and Fields (DDL)

This report presents all DDL access events according to the combination of OMEGAMON for Db2 PE identifiers specified.

Use the following command to generate a DDL access summary report.

```
AUDIT
    REPORT
    LEVEL (SUMMARY)
    TYPE  (DDL)
```

Layout of a Member-Scope Audit DDL Access Summary Report

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-5
      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_2                                 DDL ACCESS                                TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                           ORDER: PRIMAUTH-PLANNAME-OBJECT                 ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                     SCOPE: MEMBER                                 TO: 01/30/15 07:19:20.25


                  ---------- OBJECT ----------
PRIMAUTH PLANNAME  OWNER          NAME              CREATE    DROP    ALTER    TOTAL
-------- -------- -------- -------------------      -------- -------- -------- --------
JUB      DSNREXX           COLUMN MASK                    1        0        0        1
                           ROW PERMISSION                 1        0        0        1
                  JUB      AUDTB1                         0        0        1        1
                  JUB      AUDTB2                         0        0        1        1
                  *SUBTOTAL*                              2        0        2        4

         DSNREXY           COLUMN MASK                    1        0        0        1
                           ROW PERMISSION                 1        0        0        1
                  JUB      AUDTB1                         0        0        1        1
                  JUB      AUDTB2                         0        0        1        1
                  *SUBTOTAL*                              2        0        2        4

         *TOTAL*                                          4        0        4        8

KUC      DSNREXX           COLUMN MASK                    1        0        0        1
                           ROW PERMISSION                 1        0        0        1
                  KUC      AUDTB1                         0        0        1        1
                  KUC      AUDTB2                         0        0        1        1
                  *SUBTOTAL*                              2        0        2        4

         DSNREXY           COLUMN MASK                    1        0        0        1
                           ROW PERMISSION                 1        0        0        1
                  KUC      AUDTB1                         0        0        1        1
                  KUC      AUDTB2                         0        0        1        1
                  *SUBTOTAL*                              2        0        2        4

         *TOTAL*                                          4        0        4        8
```

Layout of a Group-Scope Audit DDL Access Summary Report

Here is a sample layout of a Group-Scope Audit DDL Access Summary report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-5
      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                  REQUESTED FROM: NOT SPECIFIED
                                                      DDL ACCESS                                TO: NOT SPECIFIED
                                                ORDER: OBJECT                           ACTUAL FROM: 07/17/15 04:21:44.17
DB2 VERSION: V10                                     SCOPE: GROUP                                  TO: 07/17/15 07:21:20.25
         ---------- OBJECT ----------
OWNER           NAME          MEMBER        CREATE    DROP    ALTER    TOTAL
-------- ------------------- --------       -------- -------- -------- --------
         COLUMN MASK         MEMBER_2             1        0        0        1
                             MEMBER_3             1        0        0        1
                             *TOTAL*              2        0        0        2

         COLUMN MASK         MEMBER_2             1        0        0        1
                             MEMBER_3             1        0        0        1
                             *TOTAL*              2        0        0        2

XXASP09  NHDEPT              MEMBER_2             0        7        0        7
                             MEMBER_3             0        7        0        7
                             *TOTAL*              0       14        0       14

XXASP09  NHEMP               MEMBER_2             0        7        0        7
                             MEMBER_3             0        7        0        7
                             *TOTAL*              0       14        0       14

*GRAND TOTAL*                                     0       28        0       28
```

Field description

The DDL access summary report contains the following fields:

OMEGAMON for Db2 PE identifiers
The identifiers define the order of the Audit data reported. Up to three identifiers are printed.

The defaults are:

- For member-scope reports, PRIMAUTH-PLANNAME-OBJECT
- For group-scope reports, OBJECT

For group-scope reports, MEMBER is considered the last ORDER identifier and is automatically added as the second, third, or fourth identifier.

OBJECT OWNER
The user identification of the owner of the audited object table accessed. It is blank for IFCID 271.

OBJECT NAME
The name of the accessed audited DB2 table, the ROW PERMISSION, or the COLUMN MASK objects that have been created, dropped, or altered.

CREATE
All create object operations.

ALTER
All create object operations.

DROP
All drop object operations.

TOTAL
All DDL access operations. The total number of IFCID 142 or IFCID 271 records for this set of identifiers.

DML Access Summary Report and Fields (DML)

This report presents all DML access events according to the combination of OMEGAMON for Db2 PE identifiers specified.

Use the following command to generate a DML access summary report.

```
AUDIT
  REPORT
  LEVEL (SUMMARY)
  TYPE  (DML)
```

Layout of a Member-Scope Audit DML Access Summary Report

Here is a sample layout of a Member-Scope Audit DML Access Summary report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-6
      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_2                                DML ACCESS                                 TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                           ORDER: PRIMAUTH-PLANNAME-OBJECT                 ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                    SCOPE: MEMBER                                 TO: 01/30/15 07:19:20.25

PRIMAUTH PLANNAME DATABASE PAGESET  TABLEID       1ST READ 1ST WRITE  TOTAL
-------- -------- -------- -------- --------      -------- --------- --------
AUTH_20  PLAN_20  DBASE1   PSET1           7             2         2        4
         PLAN_30  DBASE1   PSET1           7             2         2        4
         *TOTAL*                                         4         4        8

AUTH_30  PLAN_20  DBASE1   PSET1           7             2         2        4
         PLAN_30  DBASE1   PSET1           7             2         2        4
         *TOTAL*                                         4         4        8

*GRAND TOTAL*                                            8         8       16
```

Layout of a Group-Scope Audit DML Access Summary Report

Here is a sample layout of a Group-Scope Audit DML Access Summary report.

```
   LOCATION: LOCATI_2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-6
      GROUP: GROUP_1                             AUDIT REPORT - SUMMARY                  REQUESTED FROM: NOT SPECIFIED
                                                    DML ACCESS                                 TO: NOT SPECIFIED
                                                ORDER: OBJECT                               ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                    SCOPE: GROUP                                  TO: 01/30/15 07:21:20.25

DATABASE PAGESET  TABLEID   MEMBER       1ST READ 1ST WRITE  TOTAL
-------- -------- -------- --------      -------- --------- --------
DBASE1   PSET1           7 MEMBER_2            8         8       16
                         7 MEMBER_3            8         8       16

*GRAND TOTAL*                                 16        16       32
```

Field description

The DML access summary report contains the following fields:

OMEGAMON for Db2 PE Identifiers
The identifiers define the order of the Audit data reported. Up to three identifiers are printed.

The defaults are:

- For member-scope reports, PRIMAUTH-PLANNAME-OBJECT
- For group-scope reports, OBJECT

For group-scope reports, MEMBER is considered the last ORDER identifier and is automatically added as the second, third, or fourth identifier.

DATABASE
The name of the database that contains the auditable DB2 table. If the database name is unavailable, the decimal DBID is printed.

PAGESET
The name of the page set that contains the auditable DB2 table. If the page set name is unavailable, the decimal PSID is printed. If neither of these values is present, N/P is printed.

TABLEID
The object identifier (OBID) of the table, if applicable, associated with the access.

1ST READ
The total number of first read attempts within a logical unit of work against auditable DB2 tables.

1ST WRITE
The total number of first write attempts against audited DB2 tables.

TOTAL
All DML access operations. The total number of IFCID 143 and 144 records for this set of identifiers.

Utility Access Summary Report and Fields (UTILITY)

This presents all utility access events according to the combination of OMEGAMON for Db2 PE identifiers specified.

Use the following command to generate a utility access summary report.

```
AUDIT
    REPORT
       LEVEL (SUMMARY)
       TYPE  (UTILITY)
```

Note: For ORDER, INCLUDE and EXCLUDE, the utility name is used for PLANNAME.

Layout of a Member-Scope Audit Utility Access Summary Report

Here is a sample layout of a Member-Scope Audit Utility Access Summary report.

```
   LOCATION: LOCATI_2                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-7
      GROUP: GROUP_1                           AUDIT REPORT - SUMMARY                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_2                             UTILITY ACCESS                              TO: NOT SPECIFIED
  SUBSYSTEM: SYS2                           ORDER: PRIMAUTH-PLANNAME-OBJECT                 ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                 SCOPE: MEMBER                                    TO: 01/30/15 07:19:20.25

PRIMAUTH UTILNAME DATABASE PAGESET        TOTAL
-------- -------- -------- --------      --------
AUTH_20  LOAD     DBASE1   PSET1               4
AUTH_30  LOAD     DBASE1   PSET1               4

*GRAND TOTAL*                                  8
```

Layout of a Group-Scope Audit Utility Access Summary Report

The layout of the default group-scope utility access summary report, ordered by member within database and page set, is shown in “Layout of a Group-Scope Audit Utility Access Summary Report” on page 257.

```
   LOCATION: LOCATI_2                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-7
      GROUP: GROUP_1                           AUDIT REPORT - SUMMARY                    REQUESTED FROM: NOT SPECIFIED
                                                   UTILITY ACCESS                              TO: NOT SPECIFIED
                                                    ORDER: OBJECT                          ACTUAL FROM: 01/30/15 04:21:44.17
DB2 VERSION: V10                                    SCOPE: GROUP                                    TO: 01/30/15 07:21:20.25

DATABASE PAGESET   MEMBER        TOTAL
-------- -------- --------      --------
DBASE1   PSET1    MEMBER_2             8
                  MEMBER_3             8

*GRAND TOTAL*                         16
```

Field description

The utility access summary report contains the following fields:

OMEGAMON for Db2 PE Identifiers
The identifiers define the order of the Audit data reported. Up to three identifiers are printed.

The defaults are:

- For member-scope reports, PRIMAUTH-PLANNAME-OBJECT
- For group-scope reports, OBJECT

For group-scope reports, MEMBER is considered the last ORDER identifier and is automatically added as the second, third, or fourth identifier.

DATABASE
The name of the database that contains the auditable DB2 object or the decimal DBID of that database.

PAGESET
The name or the decimal PSID of the page set that contains the DB2 object.

TOTAL
All utility access operations. Total number of IFCID 024 records for this set of identifiers.

The Audit Detail Report and the Audit Trace

Both the audit detail report and the audit trace show a detailed listing of all occurrences of the different audit types. The layout of the Audit report and trace is similar. The audit trace is sorted by timestamp, the audit detail report is sorted first by identifier, then by timestamp. Any combination of event types can be specified.

Use the following command to generate an audit detail report.

```
⋮
AUDIT
  REPORT
  LEVEL (DETAIL)
⋮
```

Use the following command to generate an audit trace.

```
⋮
AUDIT
  TRACE
⋮
```

Short, Unique, or Long Names or Strings

The following types of names or strings are used in this information:

Short name or string
A short name or short string is either the value of an original DB2 field if it less than or equal to the defined length of the field, or it is the abbreviation of a longer value which is populated in a field of varying length.

Unique name or string
A unique name or unique string is a generated string based on the short string and its length, with a right-adjusted #-sign and a sequence number. This sequence number depends on the amount of long fields found during processing, which have the same string prefix and length as the short string. For example:

```
WSNAME: IS-255-012345678#1
```

Long name or string
A long name or long string is the complete string populated in a field of varying length. This depends on the context where it is used.

Example of a Member-Scope Audit Detail Report and Trace (Type AUTHCNTL)

This section shows examples of a Member-Scope Audit Detail report and trace (Type AUTHCNTL).

Example of a Member-Scope Audit Detail Report (Type AUTHCNTL)

```
   LOCATION: OMPDB61                          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                   AUDIT REPORT - DETAIL                      REQUESTED FROM: 03/23/15 12:03:12.80
     MEMBER: N/P                                   AUTHORIZATION CONTROL                                 TO: 03/23/15 12:03:16.48
  SUBSYSTEM: DB61                                ORDER: PRIMAUTH-PLANNAME                        ACTUAL FROM: 03/23/15 12:03:12.80
DB2 VERSION: V12                                      SCOPE: MEMBER                                      TO: 03/23/15 12:03:16.47
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT                TIMESTAMP   TYPE                                  DETAIL
-------- -------- ------------ ----------- -------- ----------------------------------------------------------------------------------------
EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          USER
EDVA     ppli     CEB03BC01A53 12:03:12.80          PRIV CHECKED:        DROP                              OBJECT TYPE:       TAB/VIEW
DISTSERV SERVER                                    AUTHID:              EDVA
REQLOC  :::FFFF:9.157.1#1                          SOURCE OBJECT
ENDUSER :EDVA_End_User_#1                           QUALIFIER:          EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
WSNAME  :EDVA_Work_Statio#1                                             123456789G123456789H123456789I123456789J123456789A123456789B
TRANSACT:EDVA_Application_Information#1                                 12345END
TCONTEXT:EDVA_T#1                                   NAME:               EDVATABLE_AU_US4741_12345678901234567890123456789012345678901
ROLE    :EDVA_R#1                                                       2345678901234567890123456789012345678901234567890123456789012
                                                                        34567A
                                                   TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                DROP TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                        0123456789012345678901234567890123456789012345678901234567890
                                                                        0123456789012345678901234567890123456789012345678901234567A

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:        CREATE TABLE                      OBJECT TYPE:       DATABASE
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
TCONTEXT:EDVA_T#1                                                       123456789G123456789H123456789I123456789J123456789A123456789B
ROLE    :EDVA_R#1                                                       12345END
                                                    NAME:               EDVADB
                                                   TARGET OBJECT
                                                    QUALIFIER:          EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
                                                                        123456789G123456789H123456789I123456789J123456789A123456789B
                                                                        12345END
                                                    NAME:               EDVATABLE_AU_US4741_12345678901234567890123456789012345678901
                                                                        2345678901234567890123456789012345678901234567890123456789012
                                                                        34567A
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456
                                                                        8901234567890123456789012345678901234567890123456789012345678
                                                                        9012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:        USE                               OBJECT TYPE:       LOBTS
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          EDVADB
TCONTEXT:EDVA_T#1                                   NAME:               EDVATS
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456
                                                                        8901234567890123456789012345678901234567890123456789012345678
                                                                        9012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL
```

```
   LOCATION: OMPDB61                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-2
      GROUP: N/P                                 AUDIT REPORT - DETAIL                       REQUESTED FROM: 03/23/15 12:03:12.80
     MEMBER: N/P                                 AUTHORIZATION CONTROL                                 TO: 03/23/15 12:03:16.48
  SUBSYSTEM: DB61                              ORDER: PRIMAUTH-PLANNAME                       ACTUAL FROM: 03/23/15 12:03:12.80
DB2 VERSION: V12                                    SCOPE: MEMBER                                       TO: 03/23/15 12:03:16.47
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT               TIMESTAMP   TYPE                                DETAIL
-------- -------- ------------ ----------- -------- ------------------------------------------------------------------------------------
EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       CREATE TABSPACE                OBJECT TYPE:       DATABASE
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          EDVA
TCONTEXT:EDVA_T#1                                   NAME:               EDVADB
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_123456789012345678901234567
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          USER
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       USE                            OBJECT TYPE:       BUFFER
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          SYSIBM
TCONTEXT:EDVA_T#1                                   NAME:               BP16K0
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_123456789012345678901234567
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       USE                            OBJECT TYPE:       STOGROUP
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          SYSIBM
TCONTEXT:EDVA_T#1                                   NAME:               EDVASTGR
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_123456789012345678901234567
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL
```

```
   LOCATION: OMPDB61                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-3
      GROUP: N/P                                 AUDIT REPORT - DETAIL                       REQUESTED FROM: 03/23/15 12:03:12.80
     MEMBER: N/P                                 AUTHORIZATION CONTROL                                 TO: 03/23/15 12:03:16.48
  SUBSYSTEM: DB61                              ORDER: PRIMAUTH-PLANNAME                       ACTUAL FROM: 03/23/15 12:03:12.80
DB2 VERSION: V12                                    SCOPE: MEMBER                                       TO: 03/23/15 12:03:16.47
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT               TIMESTAMP   TYPE                                DETAIL
-------- -------- ------------ ----------- -------- ------------------------------------------------------------------------------------
EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          USER
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       USE                            OBJECT TYPE:       BUFFER
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          SYSIBM
TCONTEXT:EDVA_T#1                                   NAME:               BP1
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_123456789012345678901234567
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL

*************************************************************************************************************************************
*                                                LIST OF TRUNCATED VALUES                                                           *
* TRUNCATED VALUE                FULL VALUE                                                                                         *
* ------------------------------ ---------------------------------------------------------------------------------------------------- *
* EDVA_Application_Information#1 EDVA_Application_Information_128_456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789K123456789L12345678                                                                    *
* EDVA_End_User_#1               EDVA_End_User_128_9B123456789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789K123456789L12345678                                                                    *
* EDVA_R#1                       EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789A123456789B12345END                                                                    *
* EDVA_T#1                       EDVA_TRUSTED_CONTEXT_128_6789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789A123456789B12345END                                                                    *
* EDVA_Work_Statio#1             EDVA_Work_Station_255_3456789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789K123456789L123456789M123456789N123456789O123456789P123456789Q123456789R123456789S1234 *
*                                56789T123456789U123456789V123456789W123456789X123456789Y12345                                      *
*************************************************************************************************************************************
AUDIT REPORT COMPLETE
```

Example of a Member-Scope Audit Trace (Type AUTHCNTL)

```
   LOCATION: OMPDB61                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                     AUDIT TRACE                                REQUESTED FROM: 03/23/15 12:03:12.80
     MEMBER: N/P                                                                                        TO: 03/23/15 12:03:16.48
  SUBSYSTEM: DB61                                                                                 ACTUAL FROM: 03/23/15 12:03:12.80
DB2 VERSION: V12                                    SCOPE: MEMBER                                   PAGE DATE: 03/23/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT               TIMESTAMP   TYPE                                DETAIL
-------- -------- ------------ ----------- -------- ----------------------------------------------------------------------------------------

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC01A53 12:03:12.80          PRIV CHECKED:       DROP                              OBJECT TYPE:       TAB/VIEW
DISTSERV SERVER                                    AUTHID:             EDVA
REQLOC  :::FFFF:9.157.1#1                          SOURCE OBJECT
ENDUSER :EDVA_End_User_#1                           QUALIFIER:         EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
WSNAME  :EDVA_Work_Statio#1                                            123456789G123456789H123456789I123456789J123456789A123456789B
TRANSACT:EDVA_Application_Information#1                                12345END
TCONTEXT:EDVA_T#1                                   NAME:              EDVATABLE_AU_US4741_12345678901234567890123456789012345678901
ROLE    :EDVA_R#1                                                      234567890123456789012345678901234567890123456789012345678901
                                                                       2345678901234567890123456789012345678901234567890
                                                                       1234567A
                                                   TARGET OBJECT
                                                    QUALIFIER:         N/P
                                                    NAME:              N/P
                                                   OTHER  OBJECT
                                                    NAME:              N/P
                                                   TEXT:               DROP TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                       012345678901234567890123456789012345678901234567890123456789
                                                                       012345678901234567A

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       CREATE TABLE                      OBJECT TYPE:       DATABASE
DISTSERV SERVER                                    ROLE:               EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                              123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                              12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:         EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
TCONTEXT:EDVA_T#1                                                      123456789G123456789H123456789I123456789J123456789A123456789B
ROLE    :EDVA_R#1                                                      12345END
                                                    NAME:              EDVADB
                                                   TARGET OBJECT
                                                    QUALIFIER:         EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
                                                                       123456789G123456789H123456789I123456789J123456789A123456789B
                                                                       12345END
                                                    NAME:              EDVATABLE_AU_US4741_12345678901234567890123456789012345678901
                                                                       234567890123456789012345678901234567890123456789012345678901
                                                                       2345678901234567890123456789012345678901234567890
                                                                       1234567A
                                                   OTHER  OBJECT
                                                    NAME:              N/P
                                                   TEXT:               CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                       012345678901234567890123456789012345678901234567890123456789
                                                                       012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                       L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                       T ALL

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       USE                               OBJECT TYPE:       LOBTS
DISTSERV SERVER                                    ROLE:               EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                              123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                              12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:         EDVADB
TCONTEXT:EDVA_T#1                                   NAME:              EDVATS
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:         N/P
                                                    NAME:              N/P
                                                   OTHER  OBJECT
                                                    NAME:              N/P
                                                   TEXT:               CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                       012345678901234567890123456789012345678901234567890123456789
                                                                       012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                       L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                       T ALL
```

```
    LOCATION: OMPDB61                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-2
      GROUP: N/P                                      AUDIT TRACE                                REQUESTED FROM: 03/23/15 12:03:12.80
     MEMBER: N/P                                                                                            TO: 03/23/15 12:03:16.48
  SUBSYSTEM: DB61                                                                                  ACTUAL FROM: 03/23/15 12:03:12.80
DB2 VERSION: V12                                    SCOPE: MEMBER                                    PAGE DATE: 03/23/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT               TIMESTAMP   TYPE                                DETAIL
-------- -------- ------------ ----------- -------- ------------------------------------------------------------------------------------------
EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       CREATE TABSPACE                 OBJECT TYPE:       DATABASE
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          EDVA
TCONTEXT:EDVA_T#1                                   NAME:               EDVADB
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          USER
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       USE                             OBJECT TYPE:       BUFFER
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          SYSIBM
TCONTEXT:EDVA_T#1                                   NAME:               BP16K0
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL

EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          SYSADM
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       USE                             OBJECT TYPE:       STOGROUP
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          SYSIBM
TCONTEXT:EDVA_T#1                                   NAME:               EDVASTGR
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL
```

```
    LOCATION: OMPDB61                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-3
      GROUP: N/P                                      AUDIT TRACE                                REQUESTED FROM: 03/23/15 12:03:12.80
     MEMBER: N/P                                                                                            TO: 03/23/15 12:03:16.48
  SUBSYSTEM: DB61                                                                                  ACTUAL FROM: 03/23/15 12:03:12.80
DB2 VERSION: V12                                    SCOPE: MEMBER                                    PAGE DATE: 03/23/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT               TIMESTAMP   TYPE                                DETAIL
-------- -------- ------------ ----------- -------- ------------------------------------------------------------------------------------------
EDVA     db2jcc_a DRDA         03/23/15    AUTHCNTL AUTH TYPE:          USER
EDVA     ppli     CEB03BC412C3 12:03:16.47          PRIV CHECKED:       USE                             OBJECT TYPE:       BUFFER
DISTSERV SERVER                                    ROLE:                EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F
REQLOC  :::FFFF:9.157.1#1                                               123456789G123456789H123456789I123456789J123456789A123456789B
ENDUSER :EDVA_End_User_#1                                               12345END
WSNAME  :EDVA_Work_Statio#1                        SOURCE OBJECT
TRANSACT:EDVA_Application_Information#1             QUALIFIER:          SYSIBM
TCONTEXT:EDVA_T#1                                   NAME:               BP1
ROLE    :EDVA_R#1                                  TARGET OBJECT
                                                    QUALIFIER:          N/P
                                                    NAME:               N/P
                                                   OTHER  OBJECT
                                                    NAME:               N/P
                                                   TEXT:                CREATE TABLE EDVATABLE_AU_US4741_12345678901234567890123456789
                                                                        890123456789012345678901234567890123456789012345678901234567
                                                                        89012345678901234567A(COL_0_789A123456789B123456789C XML, CO
                                                                        L_1_789A123456789B123456789C CHAR(10)) IN EDVADB.EDVATS AUDI
                                                                        T ALL

*************************************************************************************************************************************
*                                                LIST OF TRUNCATED VALUES                                                           *
* TRUNCATED VALUE                FULL VALUE                                                                                         *
* ------------------------------ ---------------------------------------------------------------------------------------------------- *
* EDVA_Application_Information#1 EDVA_Application_Information_128_456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789K123456789L12345678                                                                    *
* EDVA_End_User_#1               EDVA_End_User_128_9B123456789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789K123456789L12345678                                                                    *
* EDVA_R#1                       EDVA_ROLE_NAME_______128_6789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789A123456789B12345END                                                                    *
* EDVA_T#1                       EDVA_TRUSTED_CONTEXT_128_6789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789A123456789B12345END                                                                    *
* EDVA_Work_Statio#1             EDVA_Work_Station_255_3456789C123456789D123456789E123456789F123456789G123456789H123456789I1234567 *
*                                89J123456789K123456789L123456789M123456789N123456789O123456789P123456789Q123456789R123456789S1234 *
*                                56789T123456789U123456789V123456789W123456789X123456789Y12345                                      *
*************************************************************************************************************************************
AUDIT TRACE COMPLETE
```

Field Descriptions (Audit Detail Report and Audit Trace)

This topic contains the description of the columns of the audit detail report and audit trace.

OMEGAMON for Db2 PE identifiers
The identifiers define the order of the Audit data reported. If the requester location differs from the local location, the report or trace shows REQLOC together with the appropriate name under the first column of identifiers.

The member name (MEMBER) is printed if you requested a group-scope report or trace.

TIMESTAMP
The timestamp of the event in the format: *MM/DD/YY HH:MM:SS:uu*

TYPE
The type of event being reported. You can control which of the events is reported using TYPE with INCLUDE or EXCLUDE. Possible values are:

Type
Description

AUTHCHG
Authorization change.

AUTHCNTL
Authorization control.

AUTHFAIL
Authorization failure.

BIND
Audited DML at bind access.

DDL
Audited DDL access.

DML
Audited DML access.

UTILITY
Audited utility access.

DETAIL
Each event has its own specific detail.

Your selection for the TYPE option determines which of the fields described on the following pages is printed.

Authorization Change Detail (Type AUTHCHG)

The following sections list the various types of authorization changes that can be printed. They describe the fields if you select AUTHCHG. The types are sorted by IFCID.

Set Current SQLID (IFCID 055)

This topic provides a sample and the field description of the Authorization Change type of Set Current SQLID (IFCID 055).

Set Current SQLID (IFCID 055) - Authorization Change

This sample shows the layout for an authorization change type of Set Current SQLID (IFCID 055):

```
TYPE:              SET CURRENT SQLID               STATUS:           SUCCESS
PREVIOUS SQLID:    THIS IS AN EXAMPLE OF A VERY LONG PREVIOUS SQLID THAT
                   EXCEEDS THE LINE
NEW SQLID:         THIS IS AN EXAMPLE OF A VERY LONG NEW SQLID THAT EXCEEDS
                   THE LINE
```

Field description

The fields are described in the following:

TYPE
The kind of authorization change or establishment: SET CURRENT SQLID.

STATUS
The success or failure of the attempted authorization change. Possible values are:

- SUCCESS for a successful authorization change
- FAILURE for a failed attempt

Note: The SQL statement is always successful if the user has SYSADM authority.

Derivation : DB2 field QW0055ST

PREVIOUS SQLID
The initial value of the SQLID before execution of the request.

Derivation : DB2 field QW0055OI.

NEW SQLID
If the command completed successfully, the new value of the SQLID is shown. If the command did not complete successfully, the value of the attempted SQLID change is shown.

Derivation : DB2 field QW0055NI.

End of Identify (IFCID 083)

This topic provides a sample and the field description of the Authorization Change type of End of Identify (IFCID 083).

End of Identify (IFCID 083) - Authorization Change

This sample shows the layout for an authorization change type of End of Identify (IFCID 083):

```
TYPE:              END OF IDENTIFY               STATUS:           SUCCESS
PREVIOUS AUTHID:   KARN                          CURRENT SQLID:    KARN
SECONDARY AUTHID:  DE#03704
```

Field description

The fields are described in the following:

TYPE
The kind of authorization change or establishment: END OF IDENTIFY.

STATUS
The success or failure of the attempted authorization change. Possible values are:

SUCCESS
The access is permitted.

EXITFAIL
The access is denied by the authorization exit.

FAILURE
The access is denied by the security authorization facility or security system.

Derivation: DB2 field QW0083AD

PREVIOUS AUTHID
The original value of the authorization ID, as passed to the IDENTIFY or SIGNON authorization exit.

Derivation: DB2 field QW0083OP

CURRENT SQLID
The value of the authorization ID as set by the IDENTIFY or SIGNON authorization exit.

Derivation: DB2 field QW0083QD

SECONDARY AUTHID
Lists the secondary authorization IDs set by the IDENTIFY or SIGNON authorization exit. If no secondary authorization IDs exist, this line is not printed. Secondary authorization IDs are printed in rows of five, up to a maximum of 49 rows (245 AUTHIDs).

Derivation: DB2 field QW0083SA

End of Signon (IFCID 087)

This topic provides a sample and the field description of the Authorization Change type of End of Signon (IFCID 087).

End of Signon (IFCID 087) - Authorization Change

This sample shows the layout for an authorization change type of End of Signon (IFCID 087):

```
TYPE:             END OF SIGNON                  STATUS:          SUCCESS
PREV AUTHID:      XXASP07                        NEW AUTHID:      XXASP09
SECONDARY AUTHID: XXXASP09    XXASP11     XXASP26
```

Field description

The fields are described in the following:

TYPE
The kind of authorization change or establishment: END OF SIGNON.

STATUS
The success or failure of the attempted access. Possible values are:

SUCCESS
The access is permitted.

EXITFAIL
The access was denied by the signon authorization exit.

Derivation: DB2 field QW0087AD

PREV AUTHID
The original value of the authorization ID, as passed to the IDENTIFY or SIGNON authorization exit.

Derivation: DB2 field QW0087OP

NEW AUTHID
The value of the authorization ID as set by the IDENTIFY or SIGNON authorization exit.

Derivation: DB2 field QW0087QD

SECONDARY AUTHID
Lists the secondary authorization IDs set by the IDENTIFY or SIGNON authorization exits. If no secondary authorization IDs exist, this line is not printed. Secondary authorization IDs are printed in rows of five, up to a maximum of 49 rows (245 AUTHIDs).

Derivation: DB2 field QW0087SA

Outbound DDF Translation (IFCID 169)

This topic provides a sample and the field description of the Authorization Change type of Outbound DDF Translation (IFCID 169).

Outbound DDF Translation (IFCID 169) - Authorization Change

This sample shows the layout for an authorization change type of Outbound DDF Translation (IFCID 169):

```
TYPE:               OUTBOUND DDF TRANSLATION         REMOTE LU NAME:    'BLANK'
PREVIOUS AUTHID:    PSYSAUTH
NEW AUTHID:         NSYSAUTH
RESPOND LOCATION:   RESPONDING LOCNM

TYPE:               OUTBOUND DDF TRANSLATION         REMOTE LU NAME:    'BLANK'
RESPOND LOCATION:   RESPONDING LOCNM
DATABASE ALIAS:     THIS IS AN EXAMPLE OF A VERY LONG ALIAS NAME THAT EXCEEDS
                    THE OUTPUT LINE

TYPE:               OUTBOUND DDF TRANSLATION         REMOTE LU NAME:    'BLANK'
PREV. SYSAUTHID:    PSYSAUTH
NEW SYSAUTHID:      NSYSAUTH
RESPOND LOCATION:   RESPONDING LOCNM
```

Field description

The fields are described in the following:

TYPE
The kind of authorization change or establishment: OUTBOUND DDF TRANSLATION.

REMOTE LU NAME
The logical unit name of the DB2 subsystem.

Derivation: DB2 field QW0169LU

PREVIOUS AUTHID
The authorization ID before translation.

Derivation: DB2 field QW0169AU

NEW AUTHID
The new value of the authorization ID.

Derivation: DB2 field QW0169NE

RESPOND LOCATION
The location name of the serving DB2 subsystem. For outbound translation and for inbound translation with AUTHIDs this field shows the responding location name.

Derivation: DB2 field QW0169LO

DATABASE ALIAS
The database alias name sent to the server.

Derivation: DB2 field QW0169AL

PREV. SYSAUTHID
The system authorization ID before translation.

Derivation: DB2 field QW0169AU

Inbound DDF Translation (IFCID 169)

This topic provides a sample and the field description of the Authorization Change type of Inbound DDF Translation (IFCID 169).

Inbound DDF Translation (IFCID 169) - Authorization Change

This sample shows the layout for an authorization change type of Inbound DDF Translation (IFCID 169):

```
TYPE:               INBOUND DDF TRANSLATION          REMOTE LU NAME:    'BLANK'
PREVIOUS AUTHID:    PSYSAUTH
NEW AUTHID:         NSYSAUTH
RESPOND LOCATION:   RESPONDING

TYPE:               INBOUND DDF TRANSLATION          REMOTE LU NAME:    'BLANK'
LOCAL LOCATION:     RESPONDING LOCNM
LOCATION ALIAS:     THIS IS AN EXAMPLE OF A VERY LONG LOCATION ALIAS NAME THAT
                    EXCEEDS THE OUTPUT LINE
```

Field description

The fields are described in the following:

TYPE
The kind of authorization change or establishment: INBOUND DDF TRANSLATION.

REMOTE LU NAME
The logical unit name of the DB2 subsystem.

Derivation: DB2 field QW0169LU

PREVIOUS AUTHID
The authorization ID before translation.

Derivation: DB2 field QW0169AU

NEW AUTHID
The new value of the authorization ID.

Derivation: DB2 field QW0169NE

RESPOND LOCATION
The location name of the serving DB2 subsystem. For outbound translation and for inbound translation with AUTHIDs this field shows the responding location name.

Derivation: DB2 field QW0169LO

LOCAL LOCATION

The location name of the serving DB2 subsystem. For inbound translation with location alias name this field shows the local location name.

Derivation: DB2 field QW0169LO

LOCATION ALIAS
For translation type inbound this field shows the location alias name received from the requester.

Derivation: DB2 field QW0169AL

Establish Trusted Context or Reuse Trusted Context (IFCID 269)

This topic provides a sample and the field description of the Authorization Change type of Establish Trusted Context or Reuse Trusted Context (IFCID 269).

Establish Trusted Context or Reuse Trusted Context (IFCID 269) - Authorization Change

This sample shows the layout for an authorization change type of Establish Trusted Context or Reuse Trusted Context (IFCID 269):

```
TYPE:              ESTABLISH TRUSTED CONTEXT       STATUS:           SUCCESS
OBJECT OWNER:      ROLE                            SQLCODE:              100
SECURITY LABEL:    SECLABEL
CONTEXT NAME:      THIS IS AN EXAMPLE OF A VERY LONG XXXXXXXXXXXXXXXXX NAME
                   THAT EXCEEDS THE OUTPUT LINE
CONTEXT ROLE:      THIS IS AN EXAMPLE OF A VERY LONG CONTEXT ROLE THAT
                   EXCEEDS THE OUTPUT LINE
USER ROLE:         THIS IS AN EXAMPLE OF A VERY LONG USER ROLE THAT EXCEEDS
                   THE OUTPUT LINE
PREV. SYSAUTHID:   THIS IS AN EXAMPLE OF A VERY LONG SYSTEM AUTHENTICATION ID
                   THAT EXCEEDS THE OUTPUT LINE
REUSE AUTHID:      THIS IS AN EXAMPLE OF A VERY LONG REUSE AUTHENTICATION ID
                   THAT EXCEEDS THE OUTPUT LINE
SERVAUTH NAME:     THIS IS AN EXAMPLE OF A VERY LONG SERVER AUTHENTICATION
                   NAME THAT EXCEEDS THE OUTPUT LINE
JOB NAME:          THIS IS AN EXAMPLE OF A VERY LONG LOCAL JOB NAME THAT
                   EXCEEDS THE OUTPUT LINE
ENCRYPTION:        THIS IS AN EXAMPLE OF A VERY LONG ENCRYPTION VALUE THAT
                   EXCEEDS THE OUTPUT LINE
TCP/IP USED:       THIS IS AN EXAMPLE OF A VERY LONG USED TCP/IP ADDRESS THAT
                   EXCEEDS THE OUTPUT LINE
```

Field description

The fields are described in the following:

TYPE
The kind of authorization change or establishment: ESTABLISH TRUSTED CONTEXT.

STATUS

The status of the trusted connection:

SUCCESS
If a trusted connection was established or reused successfully.

FAILED or FAILURE
If a trusted connection failed, when it was tried to be established or reused.

If the status is neither SUCCESS nor FAILURE, the value itself is shown.

Derivation: DB2 field QW0269ST

OBJECT OWNER
The owner of objects created in the trusted context.

SQLCODE
The SQLCODE returned after executing the SQL statement.

Derivation: DB2 field QW0269SQ

SECURITY LABEL
The security label.

Derivation: DB2 field QW0269SL

CONTEXT NAME
The trusted context name.

Derivation: DB2 field QW0269TC

CONTEXT ROLE

The default role associated with the context.

Derivation: DB2 field QW0269RC

USER ROLE
The user role.

Derivation: DB2 field QW0269RU

PREV. SYSAUTHID
The system authorization ID that is used to establish the trusted connection.

Derivation: DB2 field QW0269SA

REUSE AUTHID
The authorization ID under which a trusted connection is reused.

Derivation: DB2 field QW0269RA

SERVAUTH NAME
The SERVAUTH name of the TCP/IP security zone.

Derivation: DB2 field QW0269SR

JOB NAME
The job name for a local application.

Derivation: DB2 field QW0269JN

ENCRYPTION
The encryption value.

Derivation: DB2 field QW0269EC

TCP/IP USED
The actual communication TCP/IP address used for connection.

Derivation: DB2 field QW0269AD

KERBEROS or ENCRYPTED (IFCID 319)

This topic provides a sample and the field description of the Authorization Change type of KERBEROS or ENCRYPTED (IFCID 319).

KERBEROS or ENCRYPTED (IFCID 319) - Authorization Change

This sample shows the layout for an authorization change type of KERBEROS or ENCRYPTED (IFCID 319):

```
TYPE:               KERBEROS                        COMMS ADDR TYPE:   TCP/IP
IP ADDR:            000102030405060718191A1B1C1D1E1F PORT:             1234
DERIVED LOCAL UID:  DERLOCID                        CLIENT PRODUCT ID: CLPRODID
PRINCIPAL NAME:     THIS IS AN EXAMPLE OF A VERY LONG REQUESTING KERBEROS NAME
                    THAT EXCEEDS THE OUTPUT LINE

TYPE:               KERBEROS                        COMMS ADDR TYPE:   SNA
LU NAME:            LUN>=V9
DERIVED LOCAL UID:  DERLOCID                        CLIENT PRODUCT ID: CLPRODID
PRINCIPAL NAME:     THIS IS AN EXAMPLE OF A VERY LONG REQUESTING KERBEROS NAME
                    THAT EXCEEDS THE OUTPUT LINE

TYPE:               ENCRYPTED                       COMMS ADDR TYPE:   TCP/IP
IP ADDR:            000102030405060718191A1B1C1D1E1F PORT:             1234
DERIVED LOCAL UID:  DERLOCID                        CLIENT PRODUCT ID: CLPRODID
SECURITY MECHANISM: UID Encrypt PW.


TYPE:               ENCRYPTED                       COMMS ADDR TYPE:   SNA
LU NAME:            LUN>=V9
DERIVED LOCAL UID:  DERLOCID                        CLIENT PRODUCT ID: CLPRODID
SECURITY MECHANISM: UID Encrypt PW.
```

Field description

The fields are described in the following:

TYPE
The type of security identity: KERBEROS or ENCRYPTED.

Derivation: DB2 field QW0319TY

COMMS ADDR TYPE
Type of communication address: SNA or TCP/IP.

Derivation: DB2 field QW0319CT

IP ADDR
If the type of the communication address is TCP/IP, it is the 16 byte hexadecimal (*HLHLHLHLHLHLHLHLHLHLHLHLHLHL*) IP address of the internal 128 bit format, where:

- *H* represents the high order half byte value
- *L* represents the low order half byte value

Derivation: DB2 field QW0319IPA

PORT
The internal port format in case of communication address type TCP/IP.

Derivation: DB2 field QW0319PRT

DERIVED LOCAL UID
Local user ID mapped by DB2.

Derivation: DB2 field QW0319US

CLIENT PRODUCT ID
The identification of the client product.

Derivation: DB2 field QW0319CP

PRINCIPAL NAME
The requesting principal name. This can be up to 256 characters and can contain lowercase characters.

Derivation: DB2 field QW0319D1

LU NAME
If the type of the communication address is SNA, it is the 8 byte logical unit name.

Derivation: DB2 field QW0319LUN

SECURITY MECHANISM
The security mechanism. Possible values are:

- UID Encrypt PW
- Encrypt UID PW
- Encrypt UID PW NewPW
- Encrypt UID Data
- Encrypt UID PW Data
- Encrypt UID PW NewPW
- Data Encrypt UID only

Derivation: DB2 field QW0319SM

Authorization Control Detail (Type AUTHCNTL)

This topic shows detailed information about "Authorization Control Detail (Type AUTHCNTL)".

When you select AUTHCNTL, the data is retrieved from IFCID 141 or 361, and the following fields are printed:

For the GRANTOR (IFCID 141)

```
GRANTOR: JUB        OWNER TYPE: ROLE
                    REASON: N/P                  SQLCODE:     0
OBJECT TYPE: TAB/VIEW
TEXT: GRANT INSERT ON TABLE JUB.AUDTB1 TO PUBLIC
```

GRANTOR or REVOKER
The authorization ID of the user who issued the GRANT or REVOKE.

This field is blank if the BY clause is used in a REVOKE statement.

OWNER TYPE
The authorization type of the owner. Possible values are:

ROLE
A role is used.

PRIM/SECOND AUTHID
The user ID of the primary or the secondary authorization ID is used.

N/P
Not present. A blank is shown in the performance database.

REASON

The reason why access was granted.

In the Audit report set this field is only valid for GRANTs. It indicates the authorization level of the grantor. For REVOKEs and unsuccessful GRANTs, N/A is printed.

Possible values are:

- PACKADMA (abbreviation for PACKADM ON ALL COLLECTIONS)
- DBCTRL
- DBADM
- SECADM
- ACCCTRL (abbreviation for ACCESSCTRL)
- SYSCTRL
- DBMAINT
- SYSOPR

- PACKADMS (abbreviation for PACKADM ON A SPECIFIC COLLECTION-ID)
- SYSADM

SQLCODE
The SQL return code from the GRANT or REVOKE operation.

OBJECT TYPE
The DB2 object type. Possible values are:

BUFFER
Buffer Pool

COLLECT
Collection

DATABASE
Database

DISTTYPE
Distinct Type

FUNCTION
Function

PACKAGE
Package

SCHEMA
Schema

PROCEDUR
Procedure

APPLPLAN
Application Plan

LOBTS
Large objects table space

STOGROUP
Storage Group

TAB/VIEW
Table or View

USERAUTH
System privileges, such as SYSADM or SYSOPR

SEQUENCE
Sequence

ACEE
Access control environment element

ROW
Row

TEXT
The SQL statement text associated with the GRANT or REVOKE. Long SQL text can be truncated.

For the authorization ID (AUTHID) (IFCID 361)

```
AUTHCNTL AUTH TYPE:          SYSADM
         PRIV CHECKED:       EXECUTE               OBJECT TYPE:       PACKAGE
         AUTHID:             SYSADM
         SOURCE OBJECT
          QUALIFIER:         DSNTEP3
          NAME:              DSNTEP3
         TARGET OBJECT
          QUALIFIER:         N/P
          NAME:              N/P
         OTHER OBJECT
          NAME:              N/P
         TEXT:               N/P
```

Or ROLE instead of AUTHID:

```
AUTH TYPE:     xxxxxxxxxxxxxxx
PRIV CHECKED:  xxxxxxxxxxxxxxx                        OBJECT TYPE:       xxxxxxxx
ROLE:          xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
               xxxxxxxxxxxxxx
SOURCE OBJECT
 QUALIFIER:    xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
               xxxxxxxxxxxxxx
 NAME:         xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
               xxxxxxxxxxxxxx
TARGET OBJECT
 QUALIFIER:    xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
               xxxxxxxxxxxxxx
 NAME:         xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
               xxxxxxxxxxxxxx
OTHER OBJECT
 NAME:         xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
               xxxxxxxxxxxxxx
TEXT:          xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
               xxxxxxxxxxxxxx
```

AUTH TYPE

The authority type.

Possible values are:

- SYSDBADM (System DBADM)
- DBCTRL
- DBADM
- SECADM
- ACCSCTRL (ACCESSCTRL)
- SYSADMI (Installation SYSADM)
- SQLADM
- SYSCTRL
- DBMAINT
- SYSOPR
- PACKADM
- SYSOPRI (Installation SYSOPR)
- SYSADM
- DATAACCS (DATAACCESS)
- USER

PRIV CHECKED

The privilege that was checked. Possible values are provided in the DB2 macro DSNDQW05.

OBJECT TYPE

The DB2 object type.

Possible values are:

- ACEE
- BUFFER (Bufferpool)
- COLLECT (Collection)
- DATABASE
- DISTTYPE (Distinct Type)
- FUNCTION
- SESSIONV (Session Variable)
- JAR
- PACKAGE
- ROLE
- SCHEMA
- TRUSTCTX (Trusted Context)

- PROCEDUR (Procedure)
- APPLPLAN (Application Plan)
- LOBTS (LOB Tablespace)
- STOGROUP (Storage Group)
- TAB/VIEW (Table or View)
- USERAUTH (User Auth)
- SEQUENCE
- ROW

AUTHID or ROLE

The authorization ID or the role that has the authority.

SOURCE OBJECT - QUALIFIER

The source object qualifier or owner.

SOURCE OBJECT - NAME

The source object name.

TARGET OBJECT - QUALIFIER

The target object qualifier or owner.

TARGET OBJECT - NAME

The target object name.

OTHER OBJECT - NAME

The other object name or subsystem parameter.

TEXT

The SQL statement (truncated at 4000 bytes).

Authorization Failure Detail (Type AUTHFAIL)

This topic shows detailed information about "Authorization Failure Detail (Type AUTHFAIL)".

When you select AUTHFAIL, the data is retrieved from IFCID 140, and the following fields are printed:

```
AUTHID CHECKED: DE#08541             PRIVILEGE: VALID. SECLABEL
OBJECT TYPE   : ACEE                 REASON:       0 RC:    0
SOURCE OBJECT : AUDDB1               SOURCE OWNER:   DE#08541
TARGET OBJECT : AUDTB4               TARGET OWNER:   DE#08541
MLS    RID    : XXXXX                SECLABEL:       XXXXXXXX
TEXT: CREATE TABLE AUDTB4 (IDCOLUMN ROWID GENERATED ALWAYS NOT
      NULL, BELIEBIG CHAR(50)) IN AUDDB1.AUDTS1
```

Field description

Here is a description of the field labels shown in the previous example:

AUTHID CHECKED

The authorization ID causing the failure.

PRIVILEGE

The privilege that was checked. Possible values are provided in the DB2 macro DSNDQW02.

OBJECT TYPE

The DB2 object type. Possible values are:

ACEE
Access control environment element (ACEE)

APPLPLAN
Application Plan

BUFFER
Buffer Pool

COLLECT
Collection

DATABASE
Database

DISTTYPE
Distinct Type

FUNCTION
Function

LOBTS
Table Space

PACKAGE
Package

PROCEDUR
Procedure

ROW
Row

SCHEMA
Schema

SEQUENCE
Sequence

STOGROUP
Storage Group

TAB/VIEW
Table or View

USERAUTH
System privileges, such as SYSADM or SYSOPR

REASON
The user-defined reason code from the access control authorization exit routine.

RC
The return code from the access control authorization exit routine. A value of 0 means "not applicable".

SOURCE OBJECT
If the *OBJECT TYPE* field is not blank, this field displays the name of the object against which the authorization was checked.

If the object type is blank, then this field displays the name of the object being created. It is valid only when the privilege is CREATE ALIAS, CREATE DBA, CREATE DBC, or CREATE STOGROUP.

Otherwise, `N/A` is printed.

SOURCE OWNER
If the *OBJECT TYPE* field is not blank, this field displays the qualifier of the object against which the authorization was checked. It is valid only for qualifiable objects.

If the object type is blank, this field displays the qualifier of the alias being created. It is valid only when the privilege is CREATE ALIAS.

Otherwise, `N/A` is printed.

TARGET OBJECT
The name of the object being defined. It is valid only when the target owner field is valid. Otherwise, N/A is printed.

TARGET OWNER
The qualifier of the object being defined. It is valid when the privilege is CREATE INDEX or CREATE TABLE. It is also valid for a CREATE VIEW authorization check against the set of CREATE VIEW, SELECT, INSERT, DELETE, and UPDATE privileges. Otherwise, N/A is printed.

MLS RID
The record identifier (RID) of the Multilevel Security (MLS) table that is updated or deleted.

SECLABEL
The security label of a row in the Multilevel Security (MLS) table.

TEXT
The SQL statement text associated with the failure. Long SQL statement text can be truncated, depending on the amount of space available.

DML at Bind Access Detail (Type BIND)

This topic shows detailed information about "DML at Bind Access Detail (Type BIND)".

When you select the BIND type, the data is retrieved from IFCID 145, and the following fields are printed:

```
TYPE                              DETAIL
-------- -------------------------------------------------------------------------------
BIND     PACKAGE: PMO1D811.DSNREXX.DSNREXX.X'174B9CF31C56B7C2'
         TYPE: INSERT                    STMT#     0  ISOLATION(CS)  KEEP UPD LOCKS:  NO
         TEXT: INSERT INTO PRL.AUDTB1 OVERRIDING USER VALUE VALUES(NULL,
               'HEIDI', 'AXEL', 1)
         DATABASE: 264              TABLE OBID:      3     STMT ID:                   0
         ACCESS CTRL SCHEMA: N/P
         ACCESS CTRL OBJECT: N/P
```

Field description

PACKAGE/DBRM NAME
The name of the database request module (DBRM) or package containing the DML statement being bound.

A package name is made up of the following parts:

Location
The location name is applicable only to packages, otherwise 'BLANK' is printed.

Collection ID
The package collection ID is applicable only to packages, otherwise 'BLANK' is printed.

Package ID
The program name for DBRMs or the package ID for packages.

Consistency token
A hexadecimal dump of the DB2 timestamp of the program during precompilation. This field contains the value in the TIMESTAMP column of SYSIBM.SYSDBRM. The value represents the time of the precompilation in internal format, that is, modified store clock (STCK) format.

TYPE
The type of statement being bound.

STMT#
The statement number in the program or DBRM involved in the bind.

ISOLATION
The isolation of the bind. Possible values are:

CS
Cursor stability

RR
Repeatable read

RS
Read stability

UR
Uncommitted read

KEEP UPD LOCKS
Indicates if an update lock is kept. YES is only valid if the value in the TYPE field is SQL OPEN CURSOR and the value in the ISOLATION field is RR or RS.

TEXT
The SQL statement text associated with the BIND. If SQL text is not present, N/P is printed. Long SQL text can be truncated.

DATABASE
Either the name or the decimal DBID of the database that contains the auditable DB2 table. The name is printed if known, otherwise OMEGAMON for Db2 PE reports a decimal DBID.

TABLE OBID
The object identifier (OBID) of the DB2 table.

Note: DATABASE and TABLE OBID are repeating fields and can have more than one entry in the report or trace. Two or more occurrences result from a DML statement that refers to two or more DB2 tables.

STMT ID
The SQL unique statement ID.

ACCESS CTRL SCHEMA
The name of the access control schema.

ACCESS CTRL OBJECT
The name of the access control object.

DDL Access Detail (Type DDL)

This topic shows the various types of DDL Access detail that can be printed. It describes the corresponding fields if you select DDL. The types are sorted by IFCID.

Create Trusted Context or Alter Trusted Context (IFCID 270)

This topic shows a sample and the field description of a DDL change type of Create Trusted Context or Alter Trusted Context (IFCID 270).

The following sample shows the layout for an DDL change type of Create Trusted Context or Alter Trusted Context (IFCID 270):

```
TYPE: CREATE TRUSTED CONTEXT          SQLCODE:               100
TEXT: THIS IS THE VARIABLE LENGTH SQL STATEMENT WHEN A TRUSTED
      CONTEXT IS CREATED OR ALTERED. MAXIMUM LENGTH IS 4000.
```

Field description

The fields are described in the following:

TYPE
The type of trusted context. Possible values are:

CREATE TRUSTED CONTEXT or CREATE
If a trusted context is created.

ALTER TRUSTED CONTEXT or ALTER
If a trusted context is altered.

Derivation: DB2 field QW0270TY

SQLCODE
The SQL return code from the CREATE or ALTER TRUSTED CONTEXT statement.

Derivation: DB2 field QW0270SQ

TEXT
The SQL statement (truncated at 4000 bytes).

Derivation: DB2 field QW0270SS

DDL data retrieved from IFCID 142 or 271

This topic shows a sample and the field description of DDL data retrieved from IFCID 142 or 271.

If the data is retrieved from IFCID 142 , ...

If you select DDL and the data is retrieved from IFCID 142 and the following fields are printed:

```
TABLE NAME: AUDTB1              OWNER     : JUB       CREATOR: JUB
DATABASE  : 274                 TABLE OBID:     3     TYPE   : CREATE
OWNER TYPE: PRIM/SECOND AUTHID  SECLABEL  : XXXXXXXX  MLS    : XXXX
R/C ACCESS CTRL: COLUMN
TEXT: CREATE TABLE JUB.AUDTB1 (IDCOLUMN INTEGER GENERATED ALWAYS
      AS IDENTITY, NNAME VARCHAR(50) NOT NULL, VNAME CHAR(10) NOT
      NULL, ANZAHL INTEGER NOT NULL) AUDIT ALL IN AUDDB1.AUDTS1
```

TABLE NAME
The name of the audited DB2 table.

OWNER
The authorization ID of the owner of the audited DB2 table.

CREATOR
The authorization ID of the creator of the DB2 table.

DATABASE
Either the name or the decimal DBID of the database that contains the auditable DB2 table. The name is printed if known, otherwise OMEGAMON for Db2 PE reports a decimal DBID.

TABLE OBID
The object identifier (OBID) of the auditable table associated with the access.

TYPE
The statement type. Possible values are:

- CREATE
- DROP
- ALTER

OWNER TYPE
The type of the table owner. Possible values are:

ROLE
A role is used.

PRIM/SECOND AUTHID
The user ID of the primary or the secondary authorization ID is used.

N/P
A blank is shown in the performance database.

N/A
A blank is shown in the performance database.

SECLABEL
The security label of the user.

MLS
The Multilevel Security (MLS) table can contain the following values:

Y
For a Create or Drop operation of a table that has multilevel security, or for an Alter operation of a table to add a security label column.

N
For an Alter operation of a table that has multilevel security.

NONE
The table does not have multilevel security.

N/P
Not present. A blank is shown in the performance database.

N/A
A blank is shown in the performance database.

R/C ACCESS CTRL
The access control field contains data about ROW-LEVEL and COLUMN-LEVEL (R/C) ACCESS CONTROL in DDL. It can have the following values:

'R' (ROW)
Activates row-level access control.

'C' (COLUMN)
Activates column-level access control.

'B' (BOTH)
Activates row-level and column-level access control.

' ' (NO)
Activates no access control.

TEXT
The SQL statement text associated with the table access. Long SQL text can be truncated.

If the data is retrieved from IFCID 271, ...

If you select DDL and the data is retrieved from IFCID 271, the following fields are printed:

```
TYPE                            DETAIL
------- ------------------------------------------------------------
DDL     CHANGE TYPE: CREATE   OBJECT: ROW PERMISSION SQLCODE:   XXXX
        TEXT: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
              xxxxxxxxxxxxxxxxxxx
```

CHANGE TYPE
Identifies the SQL statement type:

CREATE or C
Creates row permission or column mask.

DROP or D
Drops row permission or column mask.

ALTER or A
Alters row permission or column mask.

Otherwise, a hexadecimal value is shown.

OBJECT
Identifies the object type:

- Row permission (R)
- Column mask (M)

Otherwise, a hexadecimal value is shown.

SQLCODE
The SQL code from the execution of the CREATE, DROP, or ALTER statement.

TEXT
The SQL statement text associated with the table access. The maximum length is 4000 bytes. Long SQL text can be truncated.

DML Access Detail (Type DML)

This topic shows a sample and the field description of "DML Access Detail (Type DML)".

When you select DML, the data is retrieved from IFCID 143 and 144, and the following fields are printed:

```
TYPE                                DETAIL
-------- ------------------------------------------------------------------------
DML      TYPE    : 1ST WRITE          STMT ID   :                  0
         DATABASE: 318                TABLE OBID:     42
         PAGESET : 41                 LOG RBA   : X'0042ECF1B144'
```

Field description

TYPE
The type of access. It is determined by the IFCID (143 is a WRITE and 144 is a READ).

STMT ID
The statement ID.

DATABASE
Either the name or the decimal DBID of the database that contains the auditable DB2 table. The name is printed if known, otherwise OMEGAMON for Db2 PE reports a decimal DBID.

TABLE OBID
The object identifier (OBID) of the auditable DB2 table associated with the access.

PAGESET
Either the name or the decimal PSID of the page set that contains the auditable DB2 table. The name is printed if known, otherwise OMEGAMON for Db2 PE reports a decimal PSID. If neither field is available, N/A is printed in this field.

LOG RBA
The log relative byte address of the current unit of recovery. It is printed in hexadecimal, when present.

Utility Access Detail (Type UTILITY)

This topic shows a sample and the field description of the "Utility Access Detail (Type UTILITY)".

When you select UTILITY, the data is retrieved from IFCID 024, and the following fields are printed:

```
NAME    : LOAD                      ID   : DSNTEX
DATABASE: DBASE1                    PHASE: RELOAD
PAGESET : PSET1                     TYPE : RECORD
```

Field description

Here is a description of the field labels shown in the previous example:

NAME
The name of the utility.

ID
The DB2 user's identification of the utility.

DATABASE
Either the name or the decimal DBID of the database that contains the auditable DB2 object.

For the report entry describing the start of a utility (IFCID 023), N/P is printed. To determine the real value, find the corresponding entry describing the utility object or phase change (IFCID 024), or the entry describing the utility end information.

PHASE
The utility phase identification.

PAGESET
Either the name or the decimal PSID of the page set that contains the auditable DB2 object. If neither field is present, N/A is printed.

TYPE
The type of utility access. For the utility phase UTILINIT and UTILTERM, N/A is printed.

The Audit File Data Set and Output Record

The FILE subcommand formats DB2 Audit records and writes them to sequential data sets that can be loaded into DB2 tables.

The audit FILE subcommand produces up to seven sequential variable-blocked data sets. You can use FILE to separate the various audit types by specifying one audit type per FILE subcommand.

The content of the output data set is determined by the options you specify for the FILE subcommand and by the input DB2 audit trace data processed.

Each output record is divided into several parts:

- The *Standard Header* section contains header data common to all records. This section is at the beginning of each record. It contains DB2 identifier information known as the correlation header. It also contains the DB2 distributed network header information associated with the record.
- The *Data* section lists data unique to the audit category of the record. Each audit type maps the areas of the record differently. Records which share the same header information have a repeating subtype.

File data is written to a File data set. The following types of records are created:

- Bind
- Auth Change
- Auth Control
- DDL
- Auth Failure
- SQL
- Utility

Descriptions of the layouts of these records can be found in the RKO2SAMP library under the following names:

DGOXDBND
Bind

DGOXDCHG
Auth Change

DGOXDCNT
Auth Control

DGOXDDDL
DDL

DGOXDDML
DML

DGOXDFAI
Auth Failure

DGOXDSQL
SQL

DGOXDUTI
Utility

Chapter 5. Explain Report

These topics provide information about the Explain report.

The Explain report of OMEGAMON for Db2 PE is divided into sections. The sections that are shown in the Explain report depend on:

- Which object is to be explained.

  Most sections are applicable to all explain functions, but there are a few which are applicable to selected functions only.
- The requested level of detail.

At normal completion of Explain, the last pages of the output show a summary of the OMEGAMON for Db2 PE explain execution. This is called the *Summary Report*.

Note: For an introduction to the Explain report set and general explain information refer to the *Reporting User's Guide*. For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

The Page Header

The explain page header is printed on every page of the Explain report.

For details on how to specify EXPLAIN PACKAGE commands refer to the *Report Command Reference*.

Explain - General Page Header

This sample shows the header of an Explain report, in its general form:

```
ACTUAL AT: 02/18/16 15:05:08  OMEGAMON XE DB2 PE (V5.4)   PAGE       : 1-1
                                    EXPLAIN PACKAGE        DB2 VERSION: V10
LOCATION : PMODA11                      DGO@TPG3           USER AUTHID: XRK
SUBSYSTEM: DA11                          DETAIL            CURR.SQLID : XRK
```

Field description

The header contains the following information, described in the order left block, middle block, right block:

ACTUAL AT
The date and time at which the DB2 subsystem (specified in SUBSYSTEM) containing explain functions, is accessed to collect the requested data.

LOCATION
The location name of the DB2 subsystem specified in SUBSYSTEM.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data.

OMEGAMON for Db2 PE (Vn)
The product name and version.

EXPLAIN
The object to be explained as specified in the EXPLAIN command (for example, QMFQUERY, PACKAGE, or PLAN).

<object type>
The name of the object to be explained as specified in the EXPLAIN command. It can have one of the following values:

SQL STATEMENT
None

QUERYNO
Query number

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PLAN
Plan name, such as LARGEPLAN.

PACKAGE
Package ID

QMFQUERY
Unqualified QMF query name

<level>
The level of the report specified in the LEVEL subcommand option. Values are:

- SUMMARY
- SQL
- BASIC
- INDEX
- DETAIL
- NO RAW EXPLAIN DATA
- KEY DISTRIBUTION

PAGE
The page number in the format *lll-nnnn*, where *lll* denotes the report number and *nnnn* the page number within the report.

DB2 VERSION
The version and release of the DB2 subsystem specified in SUBSYSTEM.

USER AUTHID
The user authorization ID.

CURR.SQLID
The current SQLID as specified in the SQLID option, or the default.

Object Identification

Use the page header to quickly identify the object that is explained. A complete identification is contained in the object identification section of the report.

Plan Identification

This section shows examples of identification plan with DBRMs and with packages.

If a plan is explained by the EXPLAIN PLAN command, the object identification section of the report shows the following for each SQL statement:

- Plan name
- DBRM or package name
- Statement number
- Statement text
- Statement-related information

Examples are shown in “Explain Identification - Plan with DBRMs” on page 282 and “Explain Identification - Plan with Packages” on page 283.

Explain Identification - Plan with DBRMs

Here is an example of an Identification - Plan with DBRMs.

```
PLAN LOCATION     :DSNAPC1
PLAN NAME         :FVTXPLAN
DBRM NAME         :CHOLD
DBRM VERSION ID   :
STATEMENT NUMBER  :     182

SQL STATEMENT READ FROM SYSIBM.SYSSTMT:

 DECLARE C2 CURSOR FOR
 SELECT NAME, BINDDATE, BINDTIME, ISOLATION
 FROM SYSIBM.SYSPLAN
 WHERE CREATOR = USER AND NAME IN ('EEE2', 'EEE3', 'EEE4')
 ORDER BY NAME
 STATUS   : COMPILED-BOUND USING DEFAULTS FOR INPUT VARIABLES
 ISOLATION: CURSOR STABILITY
```

Explain Identification - Plan with Packages

Here is an example of an Identification - Plan with packages.

```
PLAN LOCATION     :DSNAPC1
PLAN NAME         :FVTXPLAN
PACKAGE LOCATION  :DSNAPC1
PACKAGE COLLECTION:MIXCOL
PACKAGE ID        :MIX
PACKAGE VERSION ID:VER3
STATEMENT NUMBER  :      87

SQL STATEMENT READ FROM SYSIBM.SYSPACKSTMT:

 DECLARE CURSOR_1 CURSOR FOR
 SELECT EMPNO, LASTNAME, WORKDEPT, BIRTHDATE
 FROM DSNB610.EMP
 WHERE (EMPNO BETWEEN '000170' AND '000240' AND WORKDEPT IN ('D01', 'E21',
 'X23')) OR (EMPNO = '000100' AND (WORKDEPT = (SELECT MIN (DEPTNO)
 FROM DSNB610.DEPT
 WHERE MGRNO = '000050') OR WORKDEPT = (SELECT MAX (DEPTNO)
 FROM DSNB610.DEPT
 WHERE ADMRDEPT = 'A00')))
 ORDER BY EMPNO
 STATUS   : COMPILED-BOUND USING DEFAULTS FOR INPUT VARIABLES
 ISOLATION: CURSOR STABILITY
```

Package Identification

This section shows examples of package identification.

If a package is explained by the EXPLAIN PACKAGE command, the object identification section of the report shows the following for each SQL statement:

- Full package name
- Statement number
- Statement text
- Statement-related information

For details on how to specify EXPLAIN PACKAGE commands refer to the *Report Command Reference*.

Explain Identification - Package

Here is an example of a package identification.

```
PACKAGE LOCATION  :PMODA11
PACKAGE COLLECTION:KO2EX520
PACKAGE ID        :DGO@TPG3
PACKAGE VERSION ID:OMPE_FINAL
STATEMENT NUMBER  : 1011071
SQL STATEMENT READ FROM SYSIBM.SYSPACKSTMT:

 DECLARE C_DGOYTPG_71 CURSOR WITH HOLD FOR
 SELECT LOCATION, COLLID, NAME, CONTOKEN, OWNER, CREATOR, TIMESTAMP, BINDTIME,
 QUALIFIER, PKSIZE, AVGSIZE, SYSENTRIES, VALID, OPERATIVE, VALIDATE,
 ISOLATION, RELEASE, EXPLAIN, QUOTE, COMMA, HOSTLANG, CHARSET, MIXED, DEC31,
 DEFERPREP, SQLERROR, REMOTE, PCTIMESTAMP, IBMREQD, VERSION, PDSNAME, DEGREE,
 GROUP_MEMBER, DYNAMICRULES, REOPTVAR, DEFERPREPARE, KEEPDYNAMIC, PATHSCHEMAS,
 TYPE, DBPROTOCOL, FUNCTIONTS, OPTHINT, ENCODING_CCSID, IMMEDWRITE, RELBOUND,
 CATENCODE, REMARKS
 FROM DGO_SYSPACKAGE
 WHERE LOCATION LIKE :HV_LOC71_LOCATION AND COLLID LIKE :HV_LOC71_COLLID AND
 NAME LIKE :HV_LOC71_NAME AND VERSION LIKE :HV_LOC71_VERSION
 ORDER BY LOCATION, COLLID, NAME, PCTIMESTAMP DESC QUERYNO 001011071

STATUS   : COMPILED-BOUND USING DEFAULTS FOR INPUT VARIABLES
ISOLATION: UNCOMMITTED READ / FROM SYSPACKAGE
```

QMF Query Identification

This section shows examples of QMF Query identification.

If a QMF query is explained by the EXPLAIN QMFQUERY command, the object identification section of the report shows the following for each SQL statement:

- Full QMF query name
- Statement text

For details on how to specify EXPLAIN QMFQUERY commands refer to the *Report Command Reference*.

Explain Identification - QMF Query

Here is an example of the QMF query identification.

```
QMFQUERY: USR1.MY_QUERY

--
--SELECT * FROM A CATALOG TABLE
--

  SELECT  NAME, CREATOR
    FROM SYSIBM.SYSTABLES
   WHERE CREATOR NOT LIKE 'SYSIBM%'
     AND CREATOR LIKE 'XXASP%'
  ORDER BY CREATOR, NAME

--
```

SQL Text Identification

If an SQL statement identified by its text is explained by the EXPLAIN SQLSTMT command, the object identification section shows the statement text.

For details on how to specify EXPLAIN SQLSTMT commands refer to the *Report Command Reference*.

Explain Identification - SQL Text

Here is an example of the SQL Text Identification.

```
SQL STATEMENT TEXT :

           SELECT * FROM SYSIBM.SYSPACKAGE
             WHERE NAME   = 'DGO@TPG3'
             AND   COLLID = 'KO2EX520'
```

SQL Query Number Identification

If an SQL statement identified by a query number is explained by the EXPLAIN QUERYNO command, there is no object identification section.

For details on how to specify EXPLAIN QUERYNO commands refer to the *Report Command Reference*.

Table PLAN_TABLE Data

This section of the Explain report lists the raw EXPLAIN data as found in the DB2 table PLAN_TABLE.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - PLAN_TABLE Report Block

This is an example of the PLAN_TABLE report block.

```
EXPLAIN TABLE: PMDEV52.PLAN_TABLE ------------------------------------------------
EXPLAIN_TIME      : 2016-02-15-18.50.11.670393
TIMESTAMP         : 2016-02-15-18:50:11.71

PROGNAME (Package): DGO@TPG3          , COLLID            : KO2EX520
VERSION           : THIS_IS_A_LONG_NA*, APPLNAME (Plan)   : N/P
QUERYNO           : 1011071           , SECTNOI           : 4
QBLOCKNO          : 1                 , PARENT_QBLOCKNO   : 0
PLANNO            : 1                 , PARENT_PLANNO     : 0
MIXOPSEQ          : 0                 , QBLOCK_TYPE       : SELECT

TNAME (Table)     : SYSPACKAGE        , CREATOR (Table)   : SYSIBM
TABNO (Table)     : 1                 , CORRELATION_NAME  : N/P
TABLE_TYPE        : T - Table         , CTEREF            : 0
TABLE_ENCODE      : U - Unicode       , TABLE_MCCSID      : 1208
TABLE_SCCSID      : 367               , TABLE_DCCSID      : 1200
TSLOCKMODE        : N - No lock *     , GROUP_MEMBER      : N/P

ACCESSTYPE        : I - Index scan    , PRIMARY_ACCESSTYPE: BLANK
ACCESSNAME (Index): DSNKKX01          , ACCESSCREATOR     : SYSIBM
MATCHCOLS         : 1                 , INDEXONLY         : NO
METHOD (Join)     : 0 - First table   , JOIN_DEGREE       : 0
JOIN_TYPE         : b - INNER or NO   , MERGN             : NO
MERGE_JOIN_COLS   : 0                 , MERGC             : NO
PREFETCH          : D - Dynamic       , PAGE_RANGE        : NO
WHEN_OPTIMIZE     : b - At bind time  , ACCESS_DEGREE     : 0
COLUMN_FN_EVAL    : BLANK             , ROUTINE_ID        : 0
HINT_USED         : N/P               , OPTHINT           : N/P
SCAN_DIRECTION    : N/A

SORTN_PGROUP_ID   : 0                 , SORTN_UNIQ   : NO , SORTC_UNIQ   : NO
SORTC_PGROUP_ID   : 0                 , SORTN_JOIN   : NO , SORTC_JOIN   : NO
ACCESS_PGROUP_ID  : 0                 , SORTN_ORDERBY: NO , SORTC_ORDERBY: NO
JOIN_PGROUP_ID    : 0                 , SORTN_GROUPBY: NO , SORTC_GROUPBY: NO

REMARKS           : N/P               , STMTTOKEN         : N/P
PARALLELISM_MODE  : BLANK             , BIND_EXPLAIN_ONLY : NO
EXPANSION_REASON  : N/A

VERSION           : THIS_IS_A_LONG_NAME_VERSION_IDENTIFIER
TSLOCKMODE        : N - No lock (UR isolation)
```

The report field labels are the full PLAN_TABLE column names. For a detailed description of the PLAN_TABLE columns, refer to the *Db2 SQL Reference*. If the report field value is a long name or a long value, it is marked with an asterisk (*) at the end of the report field value, and it is reported at the end of the block in its full length.

The plan table is searched by using the bind time of the package. There might be multiple occurrences of the package with different bind times. For example, the DB2 system catalog might contain the latest package that is created by the DB2 command BIND or REBIND. It might also contain a former package version that is activated by the DB2 command REBIND SWITCH.

Access Path Data

This section of the Explain report introduces the access path chosen by DB2.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Access Path Data Block

The following example shows that the access path is contained in a frame.

```
THE ACCESS PATH CHOSEN BY DB2 AT 18:50:11.7   ON 2016-02-15
+-----------------------------------------------------------------+
| MATCHING INDEX SCAN WITH SCAN OF REFERENCED DATA PAGES           |
| NUMBER OF MATCHING COLUMNS: 1 - THE INDEX HAS 4 COLUMNS         |
| NON-CLUSTERED INDEX SCAN WILL BE USED                           |
| OPTIMIZER EXPECTS DYNAMIC PREFETCH                              |
| PAGE RANGE SCAN WILL NOT BE USED                                |
+-----------------------------------------------------------------+
```

Index Data

If an index is used, that is, an access path other than TABLE SPACE SCAN, information about this index is shown. The data is derived from the SYSIBM.SYSINDEXES table.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Index Data Block

Here is an example of the index data block section.

```
INDEX: SYSIBM.DSNKKX01 -----------------------------------------------------------
STATSTIME: 2016-02-16-14.45.54.186869
CREATED  : 0001-01-01-00.00.00.000000     ALTERED: 2003-09-21-23.30.17.962937
FULL KEY CARD:       885,PAGES :        16,LEVELS:       2,CLUSTRING: Y
1"ST KEY CARD:         1,SPACE :  245.760K,UNIQUE:     YES,CLUSTERED: N
INDEX TYPE   :         2,PGSIZE:      4096,BFPOOL:     BP0,DB.NAME  : DSNDB06
CLUSTERRATIO :  84.6328%,ERRULE:        NO,CLRULE:      NO,IXSPACE  : DSNKKX01
MAX.PIECESIZE:         0,COPY  :        NO,COPYLRSN: X'000000000000'
```

Key Data

If an index is used and LEVEL(INDEXES) is not specified, information about the key columns is presented. The data is derived from the SYSIBM.SYSKEYS and SYSIBM.SYSCOLUMNS tables.

If a matching index scan is used in the access path, the report indicates the columns that are used in the index scan. This is indicated by an arrow (<===) in the column named *KEY USED*. The number of arrows corresponds to the contents of the matching columns field MATCHCOLS in the PLAN_TABLE report block.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Key Data Block

Here is an example of the explain key data block section.

```
KEY                                        KEY                                KEY
NO. COLUMN NAME       COL.TYPE LNG NULL  CARD. ORDER LOW2KEY    HIGH2KEY   USED
                      COL.STAT LENGTH2   TYPESCHEMA  TYPENAME
                                                     CREATED
--- ----------------- -------- --- ----  ----- ----- ---------- ---------- ----
  1 LOCATION          VARCHAR  128 NO        1 ASC.  X'40404040 X'40404040 <===
                                      0  SYSIBM      VARCHAR
                                                     0001-01-01-00.00.00.000000
  2 COLLID            VARCHAR  128 NO       87 ASC.  X'4144424C X'55545255
                                      0  SYSIBM      VARCHAR
                                                     0001-01-01-00.00.00.000000
  3 NAME              VARCHAR  128 NO      576 ASC.  X'41444232 X'535F5550
                                      0  SYSIBM      VARCHAR
                                                     0001-01-01-00.00.00.000000
  4 VERSION           VARCHAR  122 NO       55 ASC.  X'31404040 X'56385231
                                      0  SYSIBM      VARCHAR
                                                     0001-01-01-00.00.00.000000
```

Key Distribution Data

This section introduces the Key Distribution Data.

If LEVEL(KEYDIST) has been specified and RUNSTATS has produced key distribution information for the first column of the index, a section in the report shows the distribution of up to ten most frequently used key values. The data is derived from the SYSIBM.SYSTABLES.CREATOR.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Key Distribution Data Block

This example shows the key distribution data section.

```
KEY DISTRIBUTION FOR : SYSIBM.SYSTABLES.CREATOR       -------------------------
SYSIBM    (27%),DSNB230   (11%),U473298   ( 9%),Q         ( 7%),XXASP09   ( 5%)
U01       ( 5%),USR2      ( 5%),XXASP32   ( 3%),XXASP16   ( 3%),USER001   ( 2%)
```

Table and Table Space Data

This section of the Explain report shows information for the accessed table and its corresponding table space.

The data is derived from the SYSIBM.SYSTABLES and SYSIBM.SYSTABLESPACE tables.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Table Data Block

This is an example of the Explain Table Data section.

```
TABLE: SYSIBM.SYSPACKAGE ------------------------------------------------------
STATSTIME: 2016-02-16-14.45.54.186869, TB TYPE  : TABLE
CREATED  : 2013-04-01-00.00.00.000000, ALTERED  : 2010-07-01-09.00.57.417442
ROWS     :       885, COLUMNS :    60, ROWLENGTH:  3913, EDIT PROC.:
% PAGES  :        16, DBASE ID:     6, AUDITING :  NONE, VALIDPROC.:
ACT.PAGES:        62, TABLE ID:   128, STATUS   : COMPX, TABCREATOR: SYSIBM
                                       TAB.STAT.:      , ENC.SCHEME: UNICODE

TABLESPACE: DSNDB06.SYSTSPKG ---------------------------------------------------
NAME      : SYSTSPKG                 , DATABASE  : DSNDB06
CREATOR   : SYSIBM                   , CREATED BY: SYSIBM
CREATED   : 2013-02-15-13.39.20.690282, ALTERED   : 2010-02-15-13.39.20.690282
STATSTIME : 2016-02-16-14.45.54.186869,
ACTIVE PGS:     372, DBASE ID  :     6, TS STATUS :     A, TS TYPE   :        G
PAGE SIZE :     4KB, OBJ ID    :  2067, ERASERULE :    NO, STORGROUP :
SPACE     :  1.720M, PAGESET ID:  2068, CLOSERULE :    NO, BUF.POOL  :      BP0
DS SIZE   : 68.719G, OLD VERS  :     0, LOCKPART  :   N/A, ENC.SCHEME:  UNICODE
LOCKMAX   :  SYSTEM, CUR VERS  :     1, LOCKRULE  :   ROW, SBCS CCSID:      367
TABLES/TS :       1, PARTITIONS:     1, LOG       :   YES, DBCS CCSID:     1200
MAXROWS   :     255, SEG SIZE  :    32, IMPLICIT  :    NO, MIX. CCSID:     1208
AVG ROWLEN:     201,
```

If table space scan has been selected as the access path method, and INDEX(NO) is not specified, a separate block is presented for each available index on the subject table along with information about key columns.

See “Index Data” on page 285 and “Key Data” on page 286 for the layout of these blocks.

Host Variable Data

This section of the Explain report is produced if HOSTVAR(YES) is specified for the OMEGAMON for Db2 PE explain plan or package.

If you define host variables which are not consistent with the corresponding column definition, DB2 selects an inefficient access path.

In “Explain Report - Host Variables Data Block” on page 287, the access path selected is table space scan even though an index is defined on the only column referenced in the WHERE clause. As the example in “Explain Report - Host Variables Data Block” on page 287 shows, DB2 has selected table space scan because the column definition is three characters, but the corresponding host variable is defined as four characters. By changing the host variable definition to three characters, a matching index scan is selected by DB2.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Host Variables Data Block

Here is an example of an Explain Report for the Host Variables Data block

```
 DECLARE C1 CURSOR FOR
 SELECT DEPTNO, DEPTNAME, LOCATION
 FROM DSNB610.DEPT
 WHERE DEPTNO = :HOSTVAR_STRUCTURE.DEPARTMENT_NUMBER
 ORDER BY DEPTNO

 --------


+-----------------------------------------------------------------+
| TABLE SPACE SCAN - NO INDEX IS USED                             |
| STANDARD SEQUENTIAL PREFETCH WILL BE PERFORMED                  |
+-----------------------------------------------------------------+


 --------


KEY                                KEY                                KEY
NO. COLUMN NAME       COL.TYPE LNG NULL  CARD. ORDER LOW2KEY    HIGH2KEY   USED
--- ----------        -------- --- ----  ----- ----- ---------- ---------- ----
  1 WORKDEPT          CHAR       3 YES       8 ASC.  C'B01      C'E11      <===


 --------


HOST VAR. TYPE  LENGTH  IND.  HOST VARIABLE NAME
--------------- ------  ---- ----------------------------------------
FIXED CHARACTER      4  NO    HOSTVAR_STRUCTURE.DEPARTMENT_NUMBER
```

Bind Plan Data

This section of the Explain report is shown if the object being explained is a plan or query number for a mini plan created by the bind process. Information related to the binding of the plan, such as plan binder, bind time, or isolation level, is presented.

This part of the report is only produced in connection with the first SQL statement of the plan.

When a plan is explained using OMEGAMON for Db2 PE explain, the bind-related data is stored in a DB2 table which enables you to compare relevant information for up to three generations of the plan.

If, in a given row, there is a difference among the three columns, an arrow (<===) is shown in the rightmost column.

The bottom part of this section shows data for each DBRM and package in the most recent plan generation. The report states the precompilation date and time, programming language, number of SQL statements, single-byte or double-byte character set, use of comma, use of decimal(31), type of source, and the DB2 release when the module was precompiled.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Plan Data Block

This is an example of the Bind Plan Data section.

```
PLAN NAME:    LOXXPLAN     LOCATION:    SYSDSN5                  CHANGES

CREATOR  :    PMDEV
BIND DATE:    2002-07-15
BIND TIME:    12:19:59.35
BOUND BY :    JEN
QUALIFIER:    PMDEV
BASE SIZE:        2040
AVG. SIZE:           0
CACHESIZE:        1024
PLENTRIES:           1
SYS.ENTR.:           0
SQL STMTS:           7
VALIDATE :    BIND
ISOLATION:    CUR.STAB.
VALID    :    YES
OPERATIVE:    YES
ACQUIRE  :    USE
RELEASE  :    COMMIT
DEFERPREP:    NO
CURR.SERV:    N/P                                              <===

DEGREE   :    1
REOPTIM. :    NO
DYN.RULES:
KEEP DYN.:    NO
SQLRULES :    DB2
PATH     :
DDF PROT.:    DRDA
FNCT.RES.:    2002-07-15-12
DISCONNCT:    EXPLICIT
OPTHINTID:
STORED BY:    PMDEV
STORED AT:    2002-01-15

================================================================================
DBRM/PACK PC-DATE    PC-TIME  LANG. SQLSTMT  CHARSET   COMMA DEC31 TYPE  REL.
--------- -------    -------  ----- -------  -------   ----- ----- ----  ----
```

Bind Package Data

This section of the Explain report is shown if the object being explained is a package.

The information related to the binding of the package, such as package owner, bind time or isolation level, is presented.

This part of the report is only produced in connection with the first SQL statement of the package.

For details on how to specify Explain commands refer to the *Report Command Reference*.

Explain Report - Package Data Block

This is an example of the Bind Package data section.

```
LOCATION     : PMODA11
COLLECTION ID: KO2EX520
PACKAGE ID   : DGO@TPG3
VERSION ID   : OMPE_FINAL
CONSIST.TOKEN: X'18C8F8D602A50FF6'
PDSNAME      : D010MPE.BASE51.TKO2DBRM

OWNER        : PMDEV52              QUOTE        : APOSTROPHE
CREATOR      : XRK                  COMMA        : PERIOD
BIND DATE    : 2016-02-15           HOSTLANG     : ASSEMBLER
BIND TIME    : 18.50.11.670393      CHARSET      : ALPHANUMERIC
CREATE DATE  : 2016-02-15           MIXED        : NO
CREATE TIME  : 18.49.53.347696      DEC31        : NO
QUALIFIER    : PMDEV52              DATA CURRENCY: ALLOW BLOCKING
BASE SIZE    :      5056           SQLERROR     : NOPACKAGE
AVERAGE SIZE :     47760           SOURCE       : DBRM
SYSENTRIES   :         0           PRECOMP. DATE: 2010-07-15
SQL STATEMENT:        17           PRECOMP. TIME: 13.20.55.105599
VALIDATE     : BIND                 VALID        : YES
ISOLATION    : UNCOMMITTED READ     OPERATIVE    : YES
RELEASE      : CHECK PLAN           REOPTIMIZAT. : NO
DEGREE       : 1                    DEFERPREPARE : INHERITED FROM PLAN
KEEP DYNAMIC : DRDA                 DDF PROTOCOL : INHERITED FROM PLAN
TYPE OF PACK.: BIND PACKAGE         OPT_HINT_ID  :
FNCT.RESOLVED: 2016-02-15-18.50.11.550346
    ....5....0....5....0....5....0....5....0....5....0....5....0....5....0....5..
PATH: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

Summary Report

This section introduces the summary report.

At normal completion of OMEGAMON for Db2 PE explain, the last pages of the output are a summary of the OMEGAMON for Db2 PE explain execution. This is called the *Summary Report*. Each command is prefixed with the report number.

For each SQLSTMT, QUERYNO, and QMFQUERY request, the access path is listed adjacent to the input request. For each PLAN or PACKAGE statement, the access path is listed for every SQL statement in the plan or package.

To the right of the access path information, the report page number (*rrr-nnnn*) is shown, unless LEVEL(SUMMARY) was specified. In this way the summary report can be used as a table of contents.

For details on how to specify EXPLAIN SUMMARY commands refer to the *Report Command Reference*.

Explain Report - Summary Report Block

This is an example of a Summary report.

```
REPORT ON: 02/18/16 15:05:08  OMEGAMON XE DB2 PE (V5.4)   PAGE       : SUMMARY
                                EXPLAIN SUMMARY REPORT    USER AUTHID: XRK

THE FOLLOWING   1 EXPLAIN REQUESTS WERE PROCESSED:                    PAGE NO

  1:    DA11 PACKAGE  : KO2EX540                    .DGO@TPG3
          DETAIL REPORT REQUESTED
     DBRM/PACK   STMT TYP
     DGO@TPG3 1011020 P    MATCHING INDEX SCAN(2/4)-DATA PAGES           1-2
     DGO@TPG3 1011021 P S  TABLE SPACE SCAN-NO INDEX WILL BE USED        1-7
     DGO@TPG3 1011021 P    ADDITIONAL SORT FOR ORDER BY                 1-10
     DGO@TPG3 1011070 P L  MATCHING INDEX SCAN(3/4)-DATA PAGES          1-12
     DGO@TPG3 1011071 P    MATCHING INDEX SCAN(1/4)-DATA PAGES          1-16
     DGO@TPG3 1011071 P    ADDITIONAL SORT FOR ORDER BY                 1-20
```

Column description

The TYP column can contain the following values:

P
Package

D
DBRM

S
Standard sequential prefetch

L
Prefetch through a page list Table space scan

+
Nonmatching index scan

A blank
No prefetch or others

The numbers in brackets following MATCHING INDEX SCAN, for example (2/3), show how many columns match, namely 2, and how many columns the index has, namely 3.

EXPLAIN PLAN Command

This section introduces the EXPLAIN PLAN command.

When you bind a plan, you might decide to include a package list that contains wildcard characters, for example COLLID3.* or even *.*. This could result in a plan pointing at thousands of packages with an even greater number of explainable SQL statements. To control the volume of output produced, the PACKLIMIT option is provided.

If a particular plan consists of more packages than specified in PACKLIMIT, a report with all the package names is produced, but no SQL statements in these packages are explained. This report shows the collection IDs, the creator and owner names, the version IDs, and the dates of precompilation. However, if any DBRMs belong to the plan, SQL statements in these DBRMs are explained.

For details on how to specify EXPLAIN PLAN commands refer to the *Report Command Reference*.

Explain PLAN Report - Package List Block

The following report example results of an EXPLAIN PLAN statement with PACKLIMIT(10) if a plan named *LARGPLAN* was bound with a package list of COLLECT.*, which includes 80 packages:

```
ACTUAL AT: 01/30/16 13:10:38 OMEGAMON XE for DB2 PE (V5.4)PAGE       : 1-50
                                EXPLAIN PLAN          DB2 VERSION: V10
LOCATION : DSNAPC1               LARGEPLAN            USER AUTHID: XRK
SUBSYSTEM: APC1                    DETAIL             CURR.SQLID : XRK

          USE PACKAGE=COLLID.NAME.(VERSION) TO GET A DETAILED LISTING

PACKAGE  COLLECTION ID.     CREATOR  OWNER    EXP  PC-DATE    VERSION
-------- ------------------ -------- -------- ---  ---------- ---------------
DRDAUPDT APC5COL3           XXASP16  XXASP16  NO   2010-11-30 VERSION_1.0.0_27/1
DRDAUPDT APC5COL3           XXASP16  XXASP16  NO   2010-11-27 VERSION_1.0.0_20/1
ABINDCS1 APC5COL9           XXASP09  XXASP09  NO   2010-07-24 NAMIK_PRIVATE_VER1
RUW      APC5COL9           XXASP09  XXASP09  YES  2010-12-01 NAMIK_PRIVATE_VER1
RUWCURHL APC5COL9           XXASP09  XXASP09  NO   2010-08-07 NAMIK_PRIVATE_VER1
CHOLZ    CHOLZCOL           USR1     USR1     YES  2015-08-18 VER3
CHOLZ    CHOLZCOL           USR1     USR1     YES  2015-08-18 VER2
CHOLZ    CHOLZCOL           USR1     USR1     YES  2015-08-18 VER1
DB0C4    DB0C4COL           USR1     USR1     YES  2015-08-18 VER3
DB0C4    DB0C4COL           USR1     USR1     YES  2015-08-18 VER2
DB0C4    DB0C4COL           USR1     USR1     YES  2015-08-18 VER1
HVAR2    HVAR2COL           USR1     USR1     YES  2015-08-18 VER3
HVAR2    HVAR2COL           USR1     USR1     YES  2015-08-18 VER2
HVAR2    HVAR2COL           USR1     USR1     YES  2015-08-18 VER1
KEYT     KEYTCOL            USR1     USR1     YES  2015-08-18 VER3
KEYT     KEYTCOL            USR1     USR1     YES  2015-08-18 VER2
KEYT     KEYTCOL            USR1     USR1     YES  2015-08-18 VER1
MIX      MIXCOL             USR1     USR1     YES  2015-08-18 VER3
MIX      MIXCOL             USR1     USR1     YES  2015-08-18 VER2
MIX      MIXCOL             USR1     USR1     YES  2015-08-18 VER1
MX       MXCOL              USR1     USR1     YES  2015-08-23 VER3
MX       MXCOL              USR1     USR1     YES  2015-08-23 VER2
MX       MXCOL              USR1     USR1     YES  2015-08-23 VER1
```

EXPLAIN PACKAGE Command

This section introduces the EXPLAIN PACKAGE command.

When a package is explained, you can specify the collection ID, the package name, or both, as generic names using an asterisk (*) as a wildcard character. For example, you have the following options:

```
EXPLAIN PACKAGE (DSNAPC1.COLLECT.MYT*)
EXPLAIN PACKAGE (DSNAPC1.COLLECT.MYTEST)
```

If a wildcard character is used, OMEGAMON for Db2 PE explain counts the total number of SQL statements that belong to the packages (the total number of SQL statements also includes non-explainable statements).

If the number of packages is more than one, and the total number of SQL statements in these packages is larger than 300, OMEGAMON for Db2 PE explain does not explain any SQL statements unless the FORCE(YES) option is specified.

If the package specification does not contain any wildcard character, the total number of SQL statements is less than 300, or only one package conforms to the specification, the SQL statements are explained.

However, if the package exists in more than one version, only the most recent version is explained. In this case a report showing all the versions for that package is produced.

For example, the following command was used to produce the report shown in "Explain Report - Package Version List Block" on page 291:

```
EXPLAIN PACKAGE (DSNAPC1.COLLECT.MYTEST.(-7)) GEN(3)
```

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Package Version List Block

Here is an example of the Explain report for the Package Version List block:

```
ACTUAL AT: 01/30/16 13:10:38 OMEGAMON XE for DB2 PE (V5.4)PAGE       : 1-1
                              EXPLAIN PACKAGE         DB2 VERSION: V10
LOCATION : DSNAPC1                                    USER AUTHID: XRK
SUBSYSTEM: APC1                     SUMMARY           CURR.SQLID : XRK


FPEY0166I  PACKAGE MYTEST IN COLLECTION COLLECT HAS THE FOLLOWING VERSIONS

PRE-COMP'D EXP GEN  VERSION IDENTIFICATION
---------- --- ---- ------------------------
2015-08-24 YES    0 VERSION0
2015-08-23 YES  -01 VERSION1
2015-08-22 YES  -02 VERSION2
2015-08-21 YES  -03 VERSION3
2015-08-20 YES  -04 VERSION4
2015-08-19 YES  -05 VERSION5
2015-08-18 YES  -06 VERSION6
2015-08-17 YES  -07*VERSION7IDENT
2015-08-16 YES  -08 VERSION8
2015-08-15 YES  -09 VERSION9
2015-08-14 YES  -10 < VERSION IDENTIFICATION NOT SPECIFIED >
2015-08-13 YES  -11 VERSION11
2015-08-12 YES  -12 VERSION12
2015-08-11 YES  -13 VERSION13
2015-08-10 YES  -14 VERSION14
2015-08-09 YES  -15 VERSION15
2015-08-08 YES  -16 VERSION16
2015-08-07 YES  -17 VERSION17
2015-08-06 YES  -18 VERSION18
2015-08-05 YES  -19 VERSION19
2015-08-04 YES  -20 VERSION20

START VERSION GENERATION NUMBER SPECIFIED:  -7
NUMBER OF VERSION GENERATIONS REQUESTED:     3
```

This report shows that the package exists in 21 versions, where the version that corresponds to generation number -7 was selected for explanation. The report further shows that the user asked for the explanation of three generations (-7, -8, and -9). The first generation to be explained is marked with an asterisk (*). Instead of specifying a generation ID, the version ID could be specified. The version ID can be specified either in full or in combination with a wildcard character as in the following example:

```
EXPLAIN PACKAGE(DSNAPC1.COLLECT.MYTEST.(VERSION7*))  GEN(3)
```

A maximum of 100 generations are listed.

EXPLAIN SQLSTMT Command

This section shows an example of an Explain report generated with the EXPLAIN SQLSTMT command.

For details on how to specify EXPLAIN commands refer to the *Report Command Reference*.

Explain Report - Example for SQL Text

Use the following EXPLAIN SQLSTMT command to generate the following example of an explain report.

```
GLOBAL   PLANEX(KO2EXPL)
         SSID(DA11)
         SQLID(XRK)
EXPLAIN  SQLSTMT
         (
           SELECT * FROM SYSIBM.SYSPACKAGE
             WHERE NAME   = 'DGO@TPG3'
             AND   COLLID = 'KO2EX520' ;
         )
         LEVEL(INDEXES)
EXEC
```

Here is an example of an SQL Text.

```
ACTUAL AT: 02/21/16 11:57:21  OMEGAMON XE DB2 PE (V5.4)   PAGE       : 1-1
                                EXPLAIN SQL STATEMENT     DB2 VERSION: V10
LOCATION : PMODA11                                        USER AUTHID: XRK
SUBSYSTEM: DA11                       INDEX               CURR.SQLID : XRK

 SQL STATEMENT TEXT :

             SELECT * FROM SYSIBM.SYSPACKAGE
               WHERE NAME   = 'DGO@TPG3'
               AND   COLLID = 'KO2EX520'

--------------------------------------------------------------------------------

EXPLAIN TABLE: XRK.DSN_STATEMNT_TABLE ---------------------------------------
EXPLAIN_TIME      : 2016-02-21-11.57.21.680000

PROGNAME          : DGO@TPT2          , COLLID            : KO2EX520
VERSION           : OMPE_FINAL        , APPLNAME (Plan)   : N/P
QUERYNO           : 999735911         , SECTNOI           : 0
STMT_ENCODE       : U - Unicode       , STMT_TYPE         : SELECT

PROCMS (Cost MS)  : 1                 , COST_CATEGORY     : A - No default *
PROCSU (Cost SU)  : 11                , REASON (Category) : N/P
TOTAL_COST        : 1                 , GROUP_MEMBER      : N/P

COST_CATEGORY     : A - Cost estimate without using default values
```

```
EXPLAIN TABLE: XRK.PLAN_TABLE -----------------------------------------------
EXPLAIN_TIME      : 2016-02-21-11.57.21.680000
TIMESTAMP         : 2016-02-21-11:57:21.68

PROGNAME          : DGO@TPT2          , COLLID            : KO2EX520
VERSION           : OMPE_FINAL        , APPLNAME (Plan)   : N/P
QUERYNO           : 999735911         , SECTNOI           : 0
QBLOCKNO          : 1                 , PARENT_QBLOCKNO   : 0
PLANNO            : 1                 , PARENT_PLANNO     : 0
MIXOPSEQ          : 0                 , QBLOCK_TYPE       : SELECT

TNAME (Table)     : SYSPACKAGE        , CREATOR (Table)   : SYSIBM
TABNO (Table)     : 1                 , CORRELATION_NAME  : N/P
TABLE_TYPE        : T - Table         , CTEREF            : 0
TABLE_ENCODE      : U - Unicode       , TABLE_MCCSID      : 1208
TABLE_SCCSID      : 367               , TABLE_DCCSID      : 1200
TSLOCKMODE        : N - No lock *     , GROUP_MEMBER      : N/P

ACCESSTYPE        : I - Index scan    , PRIMARY_ACCESSTYPE: BLANK
ACCESSNAME (Index): DSNKKX01          , ACCESSCREATOR     : SYSIBM
MATCHCOLS         : 0                 , INDEXONLY         : NO
METHOD (Join)     : 0 - First table   , JOIN_DEGREE       : 0
JOIN_TYPE         : b - INNER or NO   , MERGN             : NO
MERGE_JOIN_COLS   : 0                 , MERGC             : NO
PREFETCH          : S - Sequential    , PAGE_RANGE        : NO
WHEN_OPTIMIZE     : b - At bind time  , ACCESS_DEGREE     : 0
COLUMN_FN_EVAL    : BLANK             , ROUTINE_ID        : 0
HINT_USED         : N/P               , OPTHINT           : N/P
SCAN_DIRECTION    : N/A

SORTN_PGROUP_ID   : 0                 , SORTN_UNIQ   : NO , SORTC_UNIQ   : NO
SORTC_PGROUP_ID   : 0                 , SORTN_JOIN   : NO , SORTC_JOIN   : NO
ACCESS_PGROUP_ID  : 0                 , SORTN_ORDERBY: NO , SORTC_ORDERBY: NO
JOIN_PGROUP_ID    : 0                 , SORTN_GROUPBY: NO , SORTC_GROUPBY: NO

REMARKS           : N/P               , STMTTOKEN         : N/P
PARALLELISM_MODE  : BLANK             , BIND_EXPLAIN_ONLY : NO
EXPANSION_REASON  : N/A

TSLOCKMODE        : N - No lock (UR isolation)

--------------------------------------------------------------------------------
```

```
THE ACCESS PATH CHOSEN BY DB2 AT 11:57:21.6   ON 2016-02-21
+-----------------------------------------------------------------+
| NON-MATCHING INDEX SCAN WITH SCAN OF REFERENCED DATA PAGES       |
| NON-CLUSTERED INDEX SCAN WILL BE USED                           |
| PURE SEQUENTIAL PREFETCH WILL BE PERFORMED                      |
| PAGE RANGE SCAN WILL NOT BE USED                                |
+-----------------------------------------------------------------+

INDEX: SYSIBM.DSNKKX01 ------------------------------------------------------
STATSTIME: 2016-02-16-14.45.54.186869
CREATED  : 0001-01-01-00.00.00.000000     ALTERED: 2016-09-21-23.30.17.962937
FULL KEY CARD:       885,PAGES :        16,LEVELS:       2,CLUSTRING: Y
1"ST KEY CARD:         1,SPACE :  245.760K,UNIQUE:     YES,CLUSTERED: N
INDEX TYPE   :         2,PGSIZE:      4096,BFPOOL:     BP0,DB.NAME  : DSNDB06
CLUSTERRATIO :  84.6328%,ERRULE:        NO,CLRULE:      NO,IXSPACE  : DSNKKX01
MAX.PIECESIZE:         0,COPY  :        NO,COPYLRSN: X'000000000000'

TABLE: SYSIBM.SYSPACKAGE ----------------------------------------------------
STATSTIME: 2016-02-16-14.45.54.186869, TB TYPE  : TABLE
CREATED  : 1985-04-01-00.00.00.000000, ALTERED  : 2016-07-01-09.00.57.417442
ROWS     :       885, COLUMNS :    60, ROWLENGTH:  3913, EDIT PROC.:
% PAGES  :        16, DBASE ID:     6, AUDITING :  NONE, VALIDPROC.:
ACT.PAGES:        62, TABLE ID:   128, STATUS   : COMPX, TABCREATOR: SYSIBM
                                       TAB.STAT.:      , ENC.SCHEME: UNICODE

TABLESPACE: DSNDB06.SYSTSPKG ------------------------------------------------
NAME      : SYSTSPKG                  , DATABASE  : DSNDB06
CREATOR   : SYSIBM                    , CREATED BY: SYSIBM
CREATED   : 2016-02-15-13.39.20.690282, ALTERED   : 2016-02-15-13.39.20.690282
STATSTIME : 2016-02-16-14.45.54.186869,
ACTIVE PGS:     372, DBASE ID  :     6, TS STATUS :     A, TS TYPE   :        G
PAGE SIZE :     4KB, OBJ ID    :  2067, ERASERULE :    NO, STORGROUP :
SPACE     :  1.720M, PAGESET ID:  2068, CLOSERULE :    NO, BUF.POOL  :      BP0
DS SIZE   : 68.719G, OLD VERS  :     0, LOCKPART  :   N/A, ENC.SCHEME:  UNICODE
LOCKMAX   :  SYSTEM, CUR VERS  :     1, LOCKRULE  :   ROW, SBCS CCSID:      367
TABLES/TS :       1, PARTITIONS:     1, LOG       :   YES, DBCS CCSID:     1200
MAXROWS   :     255, SEG SIZE  :    32, IMPLICIT  :    NO, MIX. CCSID:     1208
AVG ROWLEN:     201,
```

```
REPORT ON: 02/21/16 11:57:21  OMEGAMON XE DB2 PE (V5.4)   PAGE       : SUMMARY
                              EXPLAIN SUMMARY REPORT    USER AUTHID: XRK

THE FOLLOWING   1 EXPLAIN REQUESTS WERE PROCESSED:                     PAGE NO

  1:    DA11 SQL STMT
             INDEXES REPORT REQUESTED

                    SELECT * FROM SYSIBM.SYSPACKAGE
                      WHERE NAME   = 'DGO@TPG3'
                      AND   COLLID = 'KO2EX520'
                         + NON-MATCHING INDEX SCAN-DATA PAGES SCAN        1-2

OMEGAMON XE for DB2 PE (V5.4) EXPLAIN PROCESSING COMPLETED.
```

Chapter 6. I/O activity report set

These topics provide information about the I/O activity reports.

I/O activity report header

OMEGAMON for Db2 PE header information is printed at the top of each page of the summary and detail report.

I/O Activity Report Header Example

Here is an example of an I/O Activity Report Header.

```
   LOCATION: LOCATION1              OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 4-2
      GROUP: GROUP2                        I/O ACTIVITY REPORT - EDM POOL                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER4                                                                                TO: NOT SPECIFIED
  SUBSYSTEM: DB2D                             ORDER: PRIMAUTH-PLANNAME                      INTERVAL FROM: 01/30/15 00:01:00.00
DB2 VERSION: V10                                                                                    TO: 01/30/15 00:45:22.95
```

Field description

The report header contains the following information, described in the order left block, middle block, right block:

LOCATION
The DB2 reporting location. If the location name is not available, the DB2 data sharing group name is printed in this field. If the DB2 data sharing group name does not exist, the DB2 subsystem ID is printed.

GROUP
The name of the DB2 data sharing group. This field shows N/A if there is no group name.

MEMBER
The name of the DB2 data sharing member or the member name of the DB2 subsystem. This field shows N/A if there is no member name.

This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data. This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

DB2 VERSION
The DB2 version number of the subsystem that generated the data.

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

Title - layout
The title of the report and the layout. The layout can be a default layout provided with OMEGAMON for Db2 PE or a layout you have tailored yourself.

ORDER
If the ORDER option of the REPORT or TRACE subcommand was used to arrange the report entries, the selected keywords are shown in this field. Depending on the context, the OMEGAMON for Db2 PE identifiers by which lock events are grouped are shown here.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

REQUESTED FROM and TO
The FROM and TO dates and times specified in the REPORT or TRACE subcommand.

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If both FROM and TO dates and times are omitted from the REPORT subcommand, the FROM and TO dates and times specified in GLOBAL are printed. If only the FROM date and time or only the TO date and time has been specified, NOT SPECIFIED is printed for the unspecified value.

If FROM and TO are not specified in REPORT or GLOBAL, NOT SPECIFIED appears for both the FROM and TO values.

If you have specified FROM and TO times without dates in REPORT or GLOBAL, ALL DATES is printed along with the specified times.

INTERVAL FROM
The start date and time of the first reduction interval covered by the report. If REDUCE is not specified, the INTERVAL defaults to 0 and the timestamps of the first and last events are printed.

INTERVAL TO
The end date and time of the last reduction interval covered by the report. If REDUCE is not specified, the INTERVAL defaults to 0 and the timestamps of the first and last events are printed.

I/O activity summary report

The I/O activity summary report provides an overview of system-wide I/O activity.

The I/O activity summary report:

- Summarizes the information contained in the I/O activity detail reports for a location (refer to "I/O activity detail report" on page 302).
- Shows on a single page a block of entries for each of the I/O categories: buffer pool, EDM pool, active log, archive log/BSDS, and cross invalidation (XI).
- Is produced if you specify the IOACTIVITY(REPORT) command and there is at least one I/O activity IFCID begin/end pair in the input data set satisfying the FROM and TO, and INCLUDE or EXCLUDE criteria. You do not have to specify the SUMMARY level because this is the default.

The following command produces the I/O activity summary report shown below:

```
IOACTIVITY
     REPORT
```

```
LOCATION: RS22ODS5                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
       GROUP: ODS5                             I/O ACTIVITY REPORT - SUMMARY                  REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCA5                                                                                        TO: NOT SPECIFIED
   SUBSYSTEM: OCA5                                                                            INTERVAL FROM: 02/28/19 11:20:21.31
 DB2 VERSION: V12                                                                                      TO: 02/28/19 11:21:58.70
0                                                                                  CT/PT/DBD    NOT IN                AVG LEN
 BUFFER POOL                    TOTALS       AET        EDM POOL                  REFERENCES  EDM POOL        AET    (BYTES)
 ----------------------------  -------- ---------       ----------------------------  ----------  --------  ---------  ---------
0TOTAL I/O REQUESTS              145806  0.000414       CURSOR TABLE - HEADER              0         0        N/C       0.00
                                                        CURSOR TABLE - DIRECTORY           0         0        N/C       0.00
 TOTAL READ I/O REQUESTS         145806  0.000414       CURSOR TABLE - RDS SECTION         0         0        N/C       0.00
   NON-PREFETCH READS               604                 -- TOTAL PLANS -----               0         0        N/C       0.00
     ZHYPERLINK                     298
     DISK CACHE HIT                 303
   PREFETCH READS
     WITHOUT I/O                      1                 PACKAGE TABLE - HEADER             0         0        N/C       0.00
     WITH I/O                    145201                 PACKAGE TABLE - DIRECTORY          0         0        N/C       0.00
     PAGES READ                 4644007                 PACKAGE TABLE - RDS SECTION        0         0        N/C       0.00
     PAGES READ / SUCC READ       31.98                 -- TOTAL PACKAGES --               0         0        N/C       0.00
0TOTAL WRITE REQUESTS                0       N/C       DATABASE DESCRIPTORS               0         0        N/C       0.00
   SYNCHRONOUS WRITES                0       N/C
    COUPLING FACILITY CASTOUTS       0       N/C
    PAGES WRITTEN PER WRITE       0.00
   ASYNCHRONOUS WRITES               0       N/C
    COUPLING FACILITY CASTOUTS       0       N/C
    PAGES WRITTEN PER WRITE       0.00
-ACTIVE LOG                 TOTALS       AET      ARCHIVE LOG              TOTALS       AET      BOOTSTRAP DATASET      TOTALS       AET
 ------------------------- -------- ---------     ------------------------ -------- ---------     ------------------------ -------- ---------
0TOTAL WAITS                    48  0.000294                                                     TOTAL WAITS                 0       N/C
0READ REQUESTS                   0       N/C      READ REQUESTS                  0       N/C      READ REQUESTS               0       N/C
                                                    DASD READ                     0       N/C
                                                    TAPE READ                     0       N/C
0WRITE REQUESTS                 48  0.000294      OFFLOAD REQUESTS               0       N/C      WRITE REQUESTS              0       N/C
 CONT. CI / WRITE             1.00                 BLOCKS / OFFLOAD            0.00
0OTHER WAITS                     0       N/C      OTHER WAITS                    0       N/C      CROSS-INVALIDATION ACTIVITY      TOTALS
   ALLOCATE                      0       N/C        ALLOCATE                     0       N/C      ------------------------------  --------
   DEALLOCATE                    0       N/C        DEALLOCATE                   0       N/C
   OPEN                          0       N/C        OPEN                         0       N/C      SYNCHRONOUS READS                      0
   CLOSE                         0       N/C        CLOSE                        0       N/C        REFRESHED FROM GROUP BPOOL           0
                                                    HSM RECALL                   0       N/C        REFRESHED FROM DASD                  0
                                                    CATALOG LOCATE               0       N/C
                                                    MULTI-DATA SET TAPE          0       N/C      SEQUENTIAL PREFETCHES                  0
                                                    TAPE VOL POSITIONING         0       N/C        REFRESHED FROM GROUP BPOOL           0
                                                    WTOR ISSUED                  0       N/C        REFRESHED FROM DASD                  0
                                                    DATA SET UNAVAILABLE         0       N/C
                                                    PHYSICAL UNIT UNAV.          0       N/C
                                                    RDR SERV.UNAVAILABLE         0       N/C
```

Figure 6. Sample I/O activity summary report

Buffer pool summary report

The buffer pool section of the summary report contains selected fields from the full buffer pool report.

TOTAL I/O REQUESTS
The total number of I/O requests (TOTALS) and the average elapsed time per I/O request (AET).

Calculation of TOTALS: count of matching IFCID 006 and 007 record pairs (read requests) + matching IFCID 008 and 009 record pairs (synchronous writes) + matching IFCID 009 and 010 record pairs (asynchronous writes)

Calculation of AET: (sum of differences in the store clock values DB2 field QWHSSTCK of matching IFCID 006 and 007 + IFCID 008 and 009 + IFCID 009 and 010 record pairs) / (count of matching IFCID 006 and 007 + IFCID 008 and 009 + IFCID 009 and 010 record pairs)

TOTAL READ I/O REQUESTS
The total number of I/O read requests (TOTALS) and the average elapsed time per read request (AET).

NON-PREFETCH READS
The total number of non-prefetch reads.

Calculation: count of IFCID 006 and 007 record pairs, with DB2 field QW0006F equal to R

Note: For consistency with the existing non-prefetch reads field, the average time is not calculated for the zHyperLink I/Os or the I/Os with disk cache hits.

ZHYPERLINK
The total number of non-prefetch reads that used zHyperLink.

DISK CACHE HIT
The total number of non-prefetch reads where all the requested pages were found in the DASD subsystem cache.

PREFETCH READS
An aggregate of all types of prefetches:

- Sequential prefetches (determined at bind time)
- List prefetch
- Sequential prefetch triggered by the sequential detection logic

WITHOUT I/O
The number of unsuccessful prefetch reads. This can occur because all the pages requested by a prefetch read were already in the buffer pool.

Calculation: count of matching IFCID 006 and 007 record pairs, with DB2 field QW0006F not equal to R (type of read request) and DB2 field QW0007NP equal to zero (indicating no pages were read)

WITH I/O
The number of successful prefetch reads.

Calculation: count of matching IFCID 006 and 007 record pairs, with DB2 field QW0006F not equal to R (type of request) and DB2 field QW0007NP greater than zero (number of pages read)

PAGES READ
The number of pages read for all prefetch read requests.

Calculation: sum of DB2 field QW0007NP with DB2 field QW0006F not equal to R

PAGES READ / SUCC READ
The number of pages read per successful prefetch read request.

Calculation: (sum of DB2 field QW0007NP with DB2 field QW0006F not equal to R) / (count of matching IFCID 006 and 007 record pairs, with QW0006F not equal to R and QW0007NP greater than zero)

Calculation of TOTALS: count of matching IFCID 006 and 007 record pairs

Calculation of AET: (sum of differences in the store clock values DB2 field QWHSSTCK of matching IFCID 006 and 007 record pairs) / (count of matching IFCID 006 and 007 record pairs)

TOTAL WRITE REQUESTS

The total number of write I/O requests (TOTALS) and the average elapsed time per write request (AET).

Calculation of TOTALS: count of matching IFCID 008 and 009 (synchronous writes) + IFCID 009 and 010 record pairs (asynchronous writes)

Calculation of AET: (sum of differences in the store clock values DB2 field QWHSSTCK of matching IFCID 008 and 009 record pairs (for synchronous writes) + matching IFCID 010 and 009 record pairs (for asynchronous writes)) / (count of matching IFCID 008 and 009 record pairs + matching IFCID 009 and 010 record pairs)

The write requests are divided into two categories: synchronous writes and asynchronous writes.

SYNCHRONOUS WRITES

The number of synchronous writes (TOTALS) and the average elapsed time per synchronous write request (AET).

COUPLING FACILITY CASTOUTS

The number of synchronous writes due to coupling facility castouts.

Calculation: QW0008FC / QW0010FC

PAGES WRITTEN PER WRITE

The average number of pages per synchronous write.

Calculation: (sum of DB2 field QW0008WR) / (count of matching IFCID 008 and 009 record pairs)

Calculation of TOTALS: count of matching IFCID 008 and 009 record pairs

Calculation of AET: (sum of differences in the store clock values DB2 field QWHSSTCK of matching IFCID 008 and 009 record pairs) / (count of matching IFCID 008 and 009 record pairs)

ASYNCHRONOUS WRITES

The number of asynchronous writes (TOTALS) and the average elapsed time per asynchronous write (AET).

COUPLING FACILITY CASTOUTS

The number of asynchronous writes due to coupling facility castouts.

Calculation: QW0008FC / QW0010FC

PAGES WRITTEN PER WRITE

The average number of pages written per asynchronous write.

Calculation: (sum of DB2 field QW0010WR) / (count of matching IFCID 009 and 010 record pairs)

Calculation of TOTALS: count of matching IFCID 009 and 010 record pairs

Calculation of AET: (sum of differences in the store clock values DB2 field QWHSSTCK of matching 9 and 10 record pairs) / (count of matching IFCID 009 and 010 record pairs)

EDM pool summary report

This section of the summary report contains selected fields from the EDM pool report.

The following fields are printed in the report:

CURSOR TABLE - HEADER

The number of load requests for cursor table headers (CT/PT/DBD REFERENCES).

The number of cursor table header loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time of a cursor table header load (AET).

The average length of a loaded cursor table header in bytes (AVG LEN (BYTES)).

CURSOR TABLE - DIRECTORY

The number of load requests for cursor table directories (CT/PT/DBD REFERENCES).

The number of cursor table directory loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time of a cursor table directory load (AET).

The average length of a loaded cursor table directory in bytes (AVG LEN (BYTES)).

CURSOR TABLE - RDS SECTION

The number of load requests for cursor table RDS sections (CT/PT/DBD REFERENCES).

The number of cursor table RDS section loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time of a cursor table RDS section load (AET).

The average section length of a loaded cursor table RDS section in bytes (AVG LEN (BYTES)).

TOTAL PLANS

The number of load requests for plans; that is, the sum of CT/PT/DBD references for cursor table header, directory, and RDS section (CT/PT/DBD REFERENCES).

The number of plan loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time per plan load (AET).

The average section length of a loaded plan in bytes (AVG LEN (BYTES)).

PACKAGE TABLE - HEADER

The number of load requests for package table headers (CT/PT/DBD REFERENCES).

The number of package table header loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time of a package table header load (AET).

The average length of a loaded package table header in bytes (AVG LEN (BYTES)).

PACKAGE TABLE - DIRECTORY

The number of load requests for package table directories (CT/PT/DBD REFERENCES).

The number of package table directory loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time of a package table directory load (AET).

The average length of a loaded package table directory in bytes (AVG LEN (BYTES)).

PACKAGE TABLE - RDS SECTION

The number of load requests for package table RDS sections (CT/PT/DBD REFERENCES).

The number of package table RDS section loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time of a package table RDS section load (AET).

The average section length of a package table RDS section in bytes (AVG LEN (BYTES)).

TOTAL PACKAGES

The number of load requests for package tables; that is, the sum of CT/PT/DBD references for the package table header, directory, and RDS section (CT/PT/DBD REFERENCES).

The number of package table loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time per package table load (AET).

The average section length of a loaded package table in bytes (AVG LEN (BYTES)).

DATABASE DESCRIPTORS

The number of load requests for database descriptors (CT/PT/DBD REFERENCES).

The number of DBD loads not in the EDM pool (NOT IN EDM POOL).

The average elapsed time of a database descriptor load (AET).

The average length of a loaded database descriptor in bytes (AVG LEN (BYTES)).

Active log summary report

This section of the summary report contains selected fields from the Active Log report.

The following fields are printed in the report:

TOTAL WAITS
The total number of waits for read and write requests and other waits (TOTALS) and the average elapsed time of an I/O wait of any type (AET).

READ REQUESTS
The number of read requests (TOTALS) and the average elapsed time of a read request (AET).

WRITE REQUESTS
The number of write requests (TOTALS) and the average elapsed time of a write request (AET).

CONT. CI / WRITE
The number of contiguous control intervals per write request.

OTHER WAITS
The total number of waits for resource allocation and deallocation, and the number of waits to open and close data sets (TOTALS).

The average elapsed time of all other waits (AET).

The next four rows relate to waits other than waits for read or write requests.

ALLOCATE
The number of waits for resource allocation (TOTALS) and the average elapsed time of a wait for resource allocation (AET).

DEALLOCATE
The number of waits for resource deallocation (TOTALS) and the average elapsed time of waits for resource deallocation (AET).

OPEN
The number of waits to open data sets (TOTALS) and the average elapsed time of waits to open data sets (AET).

CLOSE
The number of waits to close data sets (TOTALS) and the average elapsed time of waits to close data sets (AET).

Archive log summary report

This section of the summary report contains selected fields from the Archive Log report.

The following fields are printed in the report:

READ REQUESTS
The total number of archive read requests (TOTALS) and the average elapsed time of an archive read request (AET).

Archive read requests are subdivided into the following categories:

DASD READ
The total number of reads from the DASD and (TOTALS) the average elapsed time of reads from the DASD (AET).

TAPE READ
The total number of reads from the tape (TOTALS) and the average elapsed time of reads from the tape (AET).

OFFLOAD REQUESTS
The total number of archive offloads (TOTALS) and the average elapsed time per archive offload (AET).

BLOCKS / OFFLOAD
The number of blocks of data written per offload.

OTHER WAITS
Waits other than read or write requests. The total elapsed time (TOTALS) and the average elapsed time of all other waits (AET).

ALLOCATE
The total number of waits (TOTALS) and the average elapsed time of a wait for resource allocation (AET).

DEALLOCATE
The total number of waits (TOTALS) and the average elapsed time of a wait for resource deallocation (AET).

OPEN
The total number of waits (TOTALS) and the average elapsed time of a wait to open data sets (AET).

CLOSE
The total number of waits (TOTALS) and the average elapsed time of a wait to close data sets (AET).

HSM RECALL
The total number of waits (TOTALS) and the average elapsed time of a wait for HSM to recall data sets (AET).

CATALOG LOCATE
The total number of waits (TOTALS) and the average elapsed time per wait to locate data sets through the catalog (AET).

MULTI-DATA SET TAPE
The total number of waits (TOTALS) and the average elapsed time per wait for multi-data set tape volume (AET).

TAPE VOL POSITIONING
The total number of waits (TOTALS) and the average elapsed time per wait for tape volume positioning (AET).

WTOR ISSUED
The total number of waits (TOTALS) and the average elapsed time per wait due to write-to-operator messages being issued (AET).

DATA SET UNAVAILABLE
The total number of waits (TOTALS) and the average elapsed time of waits due to a data set being unavailable (AET).

PHYSICAL UNIT UNAV.
The total number of waits (TOTALS) and the average elapsed time of waits due to an unavailable physical unit (AET).

RDR SERV. UNAVAILABLE
The total number of waits (TOTALS) and the average elapsed time of a wait due to an unavailable reader service task (AET).

Bootstrap data set summary report

This section of the summary report contains selected fields from the bootstrap data set report.

The following fields are printed in the report:

TOTAL WAITS
The total number of waits due to read and write requests for the bootstrap data set (TOTALS) and the average duration of bootstrap data set waits (AET).

READ REQUESTS
The total number of BSDS reads (TOTALS) and the average elapsed time per read from BSDS (AET).

WRITE REQUESTS
The total number of writes to the BSDS (TOTALS) and the average elapsed time per BSDS write (AET).

Cross-invalidation activity summary report

This section of the summary report contains selected fields from the cross-invalidation summary report.

The following fields are printed in the report:

SYNCHRONOUS READS
The number of cross-invalidated pages which are refreshed via synchronous read.

REFRESHED FROM GROUP BPOOL
The number of cross-invalidated pages which are refreshed from the group buffer pool via synchronous read.

REFRESHED FROM DASD
The number of cross-invalidated pages which are refreshed from the DASD via synchronous read.

SEQUENTIAL PREFETCH
The number of cross-invalidated pages which are refreshed via sequential prefetch.

REFRESHED FROM GROUP BPOOL
The number of cross-invalidated pages which are refreshed from the group buffer pool via sequential prefetch.

REFRESHED FROM DASD
The number of cross-invalidated pages which are refreshed from the DASD via sequential prefetch.

I/O activity detail report

The I/O activity detail report provides detailed information about each category of I/O activity.

Totals are accumulated for most columns in the report. The information in the *Total* column on each detail report for grand totals also appears in the I/O activity summary report.

Buffer pool detail report

The buffer pool report provides information about the movement of database pages between the DASD and the main storage buffers. It presents information about the number of read and write operations, the amount of read and write requests, and the average wait times.

The following command produces the report shown below:

```
IOACTIVITY
     REPORT
        LEVEL(BUFFER)
```

```
1   LOCATION: RS22ODS5                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
       GROUP: ODS5                           I/O ACTIVITY REPORT - BUFFER POOL                  REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCA5                                                                                          TO: NOT SPECIFIED
   SUBSYSTEM: OCA5                             ORDER: PRIMAUTH-PLANNAME-BPID                     INTERVAL FROM: 02/28/19 11:20:21.31
 DB2 VERSION: V12                                                                                          TO: 02/28/19 11:21:58.70
0PRIMAUTH              -- I/O REQUEST ---  ---------------- READ  REQUESTS -------------  ---------- WRITE REQUEST -----------
  PLANNAME                                                 ------- WITH I/O -------
   BPID                                                                  PAGES/  W/OUT                 CAST           PAGES/    DB
                          TOTAL       AET     TOTAL TYPE        AET      %   READ  I/O %     TOTAL TYPE  OUT        AET  WRITE  OPEN
 --------------------  -------- ---------  -------- ----- --------- ------ ------ ------  -------- ----- ---- --------- ------  ----
0SYSOPR
  'BLANK'
   BP0
                              4  0.000331         2 SYNCH  0.000337 100.00   1.00   0.00         0 -                N/C   0.00     0
                                                  2 DYNPF  0.000649  50.00   5.00  50.00
0TS5811
  DSNREXX
   BP0
                         145802  0.000414       602 SYNCH  0.000132 100.00   1.00   0.00         0 -                N/C   0.00     0
                                                298 ZHYPL  0.000067 100.00   1.00   0.00
                                             145200 SEQPF  0.000415 100.00  31.98   0.00
0
 *** GRAND TOTAL ***
                         145806  0.000414       604 SYNCH  0.000132 100.00   1.00   0.00         0 -                N/C   0.00     0
                                                298  ZHPL  0.000067 100.00   1.00   0.00
                                             145200 SEQPF  0.000415 100.00  31.98   0.00
                                                  2 DYNPF  0.000649  50.00   5.00  50.00
                                                                                      ----------------------------------------
                                                                                      !       PAGE     ACTIVE    UPDATED     !
                                                                                      !     FAULTS    BUFFERS      PAGES     !
                                                                                      ! ---------- ---------- ----------     !
                                                                                      !          0          0          0     !
                                                                                      ----------------------------------------
0I/O ACTIVITY REPORT COMPLETE
```

Figure 7. Buffer pool detail report

OMEGAMON for Db2 PE Identifiers

The buffer pool report presents data summarized by OMEGAMON for Db2 PE identifiers. The report can be ordered by up to three OMEGAMON for Db2 PE identifiers. The identifiers used to sort the report are printed in the leftmost column. They are printed whenever they change. The second and third identifiers are indented to appear under the relevant column subheading.

Note: Blank or null OMEGAMON for Db2 PE identifiers are denoted by the word 'BLANK'.

I/O REQUEST

TOTAL

The total number of I/O requests.

AET

The average elapsed time per I/O request.

READ REQUESTS

TOTAL

The number of read I/O requests of a specific type.

Calculation: count of matching IFCID 006 and 007 record pairs of the same type

TYPE

The type of read request. The field can contain one of the following values:

SYNCH

Synchronous read request

SEQPF

Sequential prefetch requests (determined at bind time)

DYNPF

Dynamic prefetch request (triggered at run time by sequential detection logic)

LSTPF

List prefetch request

ZHYPL

Synchronous reads that used zHyperLink. This is a subset of the total synchronous reads.

If there are no read requests, a dash (—) is printed.

Derivation:

SYNCH
DB2 field QW0006F equal to R

SEQPF
DB2 field QW0006F equal to S

DYNPF
DB2 field QW0006F equal to D

LSTPF
DB2 field QW0006F equal to L

WITH I/O AET
The average elapsed time for a read of a specific type.

WITH I/O %
The percentage of total read requests of a particular type that resulted in an I/O.

WITH I/O PAGES/READ
Pages read per successful read request of a particular type.

W/OUT I/O %
The percentage of total read requests of a particular type that did not result in an I/O. This can occur because all the pages requested by a prefetch read were already in the buffer pool.

WRITE REQUEST

TOTAL
The number of write I/O requests of a specific type. Up to two lines are generated, depending on the write type.

For synchronous writes: count of matching IFCID 008 and 009 record pairs

For asynchronous writes: count of matching IFCID 009 and 010 record pairs

TYPE
The type of write request. The field can contain one of the following values:

SYNCH
Synchronous write request

ASYNC
Asynchronous write request

If there are no write requests, a dash (—) is printed.

CASTOUT
The number of synchronous and asynchronous writes due to coupling facility castouts. This field contains one of the following values:

YES
The write operations were initiated due to a coupling facility castout.

NO
The write operations were initiated as a normal write I/O.

AET
The average elapsed time per write of a specific type.

PAGES/WRITE
The number of pages written per write of a specific type.

DB OPEN
The number of database open requests.

PAGE FAULTS
The number of anticipated page faults. Real storage frames are tested before issuing write.

ACTIVE BUFFERS
The number of active buffers in the pool.

UPDATED PAGES
The number of updated pages in the deferred write queue for the buffer pool that is identified in field QW0008BP or QW0010BP.

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
A grand total is printed at the end of each location if there is more than one first-level identifier reported.

EDM pool detail report

The EDM pool report provides information about the number of cursor table, package table, or database directory requests, loads from the DASD, their average elapsed times, and the average section lengths of the loaded data items.

Note: The OMEGAMON for Db2 PE Statistics reports and traces include EDM pool statistics. Refer to Chapter 10, “Statistics report set,” on page 1077 for more information.

The following command produces the EDM pool report shown in “I/O Activity EDM Pool Report” on page 305.

```
IOACTIVITY
     REPORT
        LEVEL (EDM)
```

I/O Activity EDM Pool Report

This is an example of an EDM pool report.

```
   LOCATION: LOCATION1              OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                      PAGE: 1-1
      GROUP: GROUP1                          I/O ACTIVITY REPORT - EDM POOL                   REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER1                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DB2A                           ORDER: INTERVAL-PRIMAUTH-PLANNAME                  INTERVAL FROM: 01/30/15 01:00:00.00
DB2 VERSION: V10                                                                                          TO: 01/30/15 20:50:00.00

INTERVAL                                                                                                                  AVERAGE
 PRIMAUTH                                                                                                      ELAPSED     SECTION
  PLANNAME                                                                                  CT/PT/DBD     NOT IN       TIME      LENGTH
                          PACKAGE / DBD / PLAN NAME          TYPE                          REFERENCE   EDM POOL   PER LOAD     (BYTES)
------------------------- ---------------------------------- --------------------------- ---------  ---------  --------- -----------

01/30 01:00 - 06/01 01:05
 AUTH_10
  PLAN_10
                          DBD: 10                            DATABASE DESCRIPTOR                 1        101   0.110000      100.00

01/30 01:20 - 06/01 01:25
 AUTH_10
  PLAN_10
                          PLAN: PLAN_00                      CURSOR TABLE - HEADER               1        201   0.120000      200.00

01/30 01:40 - 06/01 01:45
 AUTH_10
  PLAN_10
                          PLAN: PLAN_01                      CURSOR TABLE - DIRECTORY            1        301   0.130000      300.00

01/30 02:00 - 06/01 02:05
 AUTH_10
  PLAN_10
                          PLAN: PLAN_02                      CURSOR TABLE - RDS SECTION          1        401   0.140000      400.00

01/30 02:20 - 06/01 02:25
 AUTH_10
  PLAN_10
                          PACKAGE: LOCN- LOCATION_DB2A       PACKAGE TABLE - HEADER              1        501   0.150000      500.00
                                   COLL- COLLECTION_DB2A
                                   PKID- PACKAGE_DB2A
                                   CTKN- X'C3E3D56DC4C2F2C1'

01/30 02:40 - 06/01 02:45
 AUTH_10
  PLAN_10
                          PACKAGE: LOCN- LOCATION_SYD2
                                   COLL- COLLECTION_SYD2     PACKAGE TABLE - DIRECTORY           1        601   0.160000      600.00
                                   PKID- PACKAGE_SYD2
                                   CTKN- X'C3E3D56DE2E8C4F2'

01/30 03:00 - 01/30 03:05
 AUTH_10
  PLAN_10
                          PACKAGE: LOCN- LOCATION_LOCATION1
                                   COLL- COLLECTION_SYD1
                                   PKID- PACKAGE_LOCATION1   PACKAGE TABLE - RDS SECTION         1        701   0.170000      700.00
                                   CTKN- X'C3E3D56DE2E8C4F1'
```

```
   LOCATION: LOCATION1              OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                      PAGE: 1-2
      GROUP: GROUP1                          I/O ACTIVITY REPORT - EDM POOL                   REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER1                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DB2A                           ORDER: INTERVAL-PRIMAUTH-PLANNAME                  INTERVAL FROM: 01/30/15 01:00:00.00
DB2 VERSION: V10                                                                                          TO: 01/30/15 20:50:00.00

INTERVAL                                                                                                                  AVERAGE
 PRIMAUTH                                                                                                      ELAPSED     SECTION
  PLANNAME                                                                                  CT/PT/DBD     NOT IN       TIME      LENGTH
                          PACKAGE / DBD / PLAN NAME          TYPE                          REFERENCE   EDM POOL   PER LOAD     (BYTES)
------------------------- ---------------------------------- --------------------------- ---------  ---------  --------- -----------
*** GRAND TOTAL - PACKAGE                                                                         3       1803   0.160000      600.00
*** GRAND TOTAL - PLAN                                                                            3        903   0.130000      300.00
*** GRAND TOTAL - DBD                                                                             1        101   0.110000      100.00

I/O ACTIVITY REPORT COMPLETE
```

Column description

The following is a description of each column printed in the EDM pool report:

OMEGAMON for Db2 PE Identifiers

The EDM pool report presents data summarized by OMEGAMON for Db2 PE identifiers. The report can be ordered by up to three OMEGAMON for Db2 PE identifiers. The identifiers used to sort the report are printed in the leftmost column. They are printed whenever they change. The second and third identifiers are indented to appear under the relevant column subheading.

Note: Blank or null OMEGAMON for Db2 PE identifiers are denoted by the word 'BLANK'.

PACKAGE / DBD / PLAN NAME

The name of the cursor table, package table, or database directory. The package name is printed on four lines, and consists of the following fields:

LOCN
Location name

COLL
Collection identifier

PKID
Package identifier

CTKN
Consistency token

TYPE
The type of data being accessed.

CT/PT/DBD REFERENCE
The number of cursor table, package table, or database directory requests performed by the data type specified in the TYPE column.

NOT IN EDM POOL
The number of times cursor table, package table, or database directory was not found in the EDM pool. If it is not found in the EDM pool, the request can be satisfied from the buffer pool or the DASD.

ELAPSED TIME PER LOAD
The average elapsed time of loads from the buffer pool or DASD.

AVERAGE SECTION LENGTH (BYTES)
The average section length of a loaded data item identified in the TYPE column.

TYPE TOTAL
When the data contains two or more EDM records with the same data type and the same OMEGAMON for Db2 PE identifiers, a type total line is printed with the following heading:

- DBD TOTAL for type DBD
- PLANNAME TOTAL for type CT
- PACKAGE TOTAL for type PT

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
A grand total is printed at the end of each location if there is more than one first-level identifier reported.

Active log detail report

The active log report provides information about the writing and retrieving of log records. It presents the number of reads, writes, and non-I/O waits related to the active log and the average elapsed times spent waiting for these events.

The report is ordered by the data set identifier.

The following command produces the active log report shown in “I/O Activity Log Report” on page 307.

```
IOACTIVITY
     REPORT
        LEVEL (ACTLOG)
```

I/O Activity Log Report

This is an example of the I/O Activity log report.

```
   LOCATION: LOCATION1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
      GROUP: GROUP1                          I/O ACTIVITY REPORT - ACTLOG                REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER1                                                                              TO: NOT SPECIFIED
  SUBSYSTEM: DB2A                              ORDER: INTERVAL-DATASET                    INTERVAL FROM: 01/30/15 05:00:00.00
DB2 VERSION: V10                                                                                  TO: 01/30/15 07:05:00.00

INTERVAL                        I/O REQ   READ REQ  --WRITE REQUESTS--  ------------  OTHER WAITS  ------------
 DATASET                          TOTAL      TOTAL      TOTAL CI/WRITE      ALLOC   DEALLOC      OPEN      CLOSE
                                   AET        AET        AET               AET        AET        AET        AET
---------------------------  ----------  ---------  --------- --------  ---------- --------- --------- ---------
01/30 05:00 - 06/01 05:05
 ACTLG001
                                       1          1          0      N/C          0         0         0          0
                                0.200000   0.200000        N/C                 N/C       N/C       N/C        N/C
01/30 05:20 - 06/01 05:25
 ACTLG002
                                       1          1          0      N/C          0         0         0          0
                                0.210000   0.210000        N/C                 N/C       N/C       N/C        N/C
01/30 06:00 - 06/01 06:05
 ACTLG003
                                       1          0          1 12345.00          0         0         0          0
                                0.220000        N/C   0.220000                 N/C       N/C       N/C        N/C

01/30 07:00 - 06/01 07:05
 ACTLG004
                                       1          0          0      N/C          1         0         0          0
                                0.270000        N/C        N/C             0.270000       N/C       N/C        N/C

 ACTLG005
                                       1          0          0      N/C          0         1         0          0
                                0.280000        N/C        N/C                 N/C  0.280000       N/C        N/C

 ACTLG006
                                       1          0          0      N/C          0         0         1          0
                                0.290000        N/C        N/C                 N/C       N/C  0.290000        N/C

 ACTLG007
                                       1          0          0      N/C          0         0         0          1
                                0.300000        N/C        N/C                 N/C       N/C       N/C  0.300000

 ** TOTAL **
 01/30 07:00 - 01/30 07:05
                                       4          0          0      N/C          1         1         1          1
                                0.285000        N/C        N/C             0.270000  0.280000  0.290000  0.300000
01/30 05:00 - 01/30 05:05
 ACTLG001
                                       1          1          0      N/C          0         0         0          0
                                0.200000   0.200000        N/C                 N/C       N/C       N/C        N/C



*** GRAND TOTAL ***
                                      14          4          2 12345.00          2         2         2          2
                                0.252857   0.205000   0.220000             0.270000  0.280000  0.290000  0.300000

I/O ACTIVITY REPORT COMPLETE
```

Column description

The following is a description of each column printed in the active log report:

OMEGAMON for Db2 PE Identifiers

The active log report presents data summarized by OMEGAMON for Db2 PE identifiers. The report can be ordered by up to three OMEGAMON for Db2 PE identifiers. The identifiers used to sort the report are printed in the leftmost column. They are printed whenever they change. The second and third identifiers are indented to appear under the relevant column subheading.

Note:

1. Blank or null OMEGAMON for Db2 PE identifiers are denoted by the word 'BLANK'.
2. **DATASET** is the most significant identifier. It is the 8-byte ID that identifies the active log data set where the reported activity occurs. It has the value ACTLG*cxx*, where *c* is the copy number and *xx* is the sequence number of the active log data set.

I/O REQ

TOTAL
The total number of I/O requests.

AET
The average elapsed time of all waits.

READ REQ

TOTAL
The total number of read requests.

AET
The average elapsed time of a read request.

WRITE REQUESTS

TOTAL
The total number of write requests.

AET
The average elapsed time of a write request.

CI/WRITE
The number of control intervals per write.

OTHER WAITS

ALLOC
The number of waits for resource allocation.

AET
The average elapsed time of a wait for resource allocation.

DEALLOC
The number of waits for resource deallocation.

AET
The average elapsed time of waits for resource deallocation.

OPEN
The number of waits to open data sets.

AET
The average elapsed time of a wait to open data sets.

CLOSE
The number of waits to close data sets.

AET
The average elapsed time of a wait to close data sets.

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
A grand total is printed at the end of each location if there is more than one first-level identifier reported.

Bootstrap data set detail report

The archive log/BSDS report provides information about the writing of log records and the retrieval of log data. It also contains information about the bootstrap data set that controls the movement of full active log data sets to the archive log.

The report presents the following activity types:

- Archive waits
- Archive read requests
- Archive offload requests
- BSDS read requests
- BSDS write requests

Archive Log Activity

This section shows an example of how to produce the Archive Log/BSDS report and explains fields and columns shown in the report.

The following command produces the Archive Log/BSDS report in "I/O Activity—Archive Log Activity Report" on page 310.

```
IOACTIVITY
     REPORT
        LEVEL (ARCLOG)
```

I/O Activity—Archive Log Activity Report

This is an example of an archive log/BSDS report.

```
   LOCATION: LOCATION1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-1
      GROUP: GROUP1                         I/O ACTIVITY REPORT - ARCLOG                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB1A                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DB1A                             ORDER: DATASET-INTERVAL                       INTERVAL FROM: 01/30/15 14:00:00.00
DB2 VERSION: V10                                                                                       TO: 01/30/15 14:35:00.00


ARCHIVE LOG ACTIVITY ------------------------------------------------------------------------------------------------------------------

DATASET
 INTERVAL                    WAIT TYPE         TOTAL       AET   OTHER WAITS                    TOTAL       AET
--------------------------  -------------- -------- ---------   -------------------------- -------- ---------
00111583
 01/30 14:25 - 01/30 14:30
                             READ FROM DASD        0       N/C   ALLOCATE                          0       N/C
                             READ FROM TAPE        0       N/C   DEALLOCATE                        0       N/C
                             OFFLOAD               1 71.230139   OPEN                              0       N/C
                             OTHER                 0       N/C   CLOSE                             0       N/C
                                                                 HSM RECALL                        0       N/C
                             BLOCKS/OFFLOAD 26999.00             CATALOG LOCATE                    0       N/C
                                                                 MULTI DATA SET TAPE VOLUME        0       N/C
                                                                 TAPE VOLUME POSITIONING           0       N/C
                                                                 WTOR ISSUED                       0       N/C
                                                                 DATA SET UNAVAILABLE              0       N/C
                                                                 PHYSICAL UNIT UNAVAILABLE         0       N/C
                                                                 READER SERVICE UNAVAILABLE        0       N/C

00111584
 01/30 14:30 - 01/30 14:35
                             READ FROM DASD        0       N/C   ALLOCATE                          0       N/C
                             READ FROM TAPE        0       N/C   DEALLOCATE                        0       N/C
                             OFFLOAD               1 67.210716   OPEN                              0       N/C
                             OTHER                 0       N/C   CLOSE                             0       N/C
                                                                 HSM RECALL                        0       N/C
                             BLOCKS/OFFLOAD 26999.00             CATALOG LOCATE                    0       N/C
                                                                 MULTI DATA SET TAPE VOLUME        0       N/C
                                                                 TAPE VOLUME POSITIONING           0       N/C
                                                                 WTOR ISSUED                       0       N/C
                                                                 DATA SET UNAVAILABLE              0       N/C
                                                                 PHYSICAL UNIT UNAVAILABLE         0       N/C
                                                                 READER SERVICE UNAVAILABLE        0       N/C

00111585
 01/30 14:30 - 01/30 14:35
                             READ FROM DASD        0       N/C   ALLOCATE                          0       N/C
                             READ FROM TAPE        0       N/C   DEALLOCATE                        0       N/C
                             OFFLOAD               1 64.683949   OPEN                              0       N/C
                             OTHER                 0       N/C   CLOSE                             0       N/C
                                                                 HSM RECALL                        0       N/C
                             BLOCKS/OFFLOAD 26999.00             CATALOG LOCATE                    0       N/C
                                                                 MULTI DATA SET TAPE VOLUME        0       N/C
                                                                 TAPE VOLUME POSITIONING           0       N/C
                                                                 WTOR ISSUED                       0       N/C
                                                                 DATA SET UNAVAILABLE              0       N/C
                                                                 PHYSICAL UNIT UNAVAILABLE         0       N/C
                                                                 READER SERVICE UNAVAILABLE        0       N/C
```

```
   LOCATION: LOCATION1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-2
      GROUP: GROUP1                          I/O ACTIVITY REPORT - ARCLOG                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB1A                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DB1A                              ORDER: DATASET-INTERVAL                      INTERVAL FROM: 01/30/15 14:00:00.00
DB2 VERSION: V10                                                                                       TO: 01/30/15 14:35:00.00


ARCHIVE LOG ACTIVITY ------------------------------------------------------------------------------------------------------------

DATASET
 INTERVAL                    WAIT TYPE         TOTAL       AET   OTHER WAITS                  TOTAL       AET
--------------------------  ------------- -------- ---------   -------------------------- -------- ---------
10111583
 01/30 14:25 - 01/30 14:30
                             READ FROM DASD        0       N/C   ALLOCATE                         2  0.119761
                             READ FROM TAPE        0       N/C   DEALLOCATE                       2  0.000664
                             OFFLOAD               0       N/C   OPEN                             2  0.005564
                             OTHER                 8  0.038971   CLOSE                            2  0.029896
                                                                  HSM RECALL                       0       N/C
                             BLOCKS/OFFLOAD      N/C             CATALOG LOCATE                   0       N/C
                                                                  MULTI DATA SET TAPE VOLUME       0       N/C
                                                                  TAPE VOLUME POSITIONING          0       N/C
                                                                  WTOR ISSUED                      0       N/C
                                                                  DATA SET UNAVAILABLE             0       N/C
                                                                  PHYSICAL UNIT UNAVAILABLE        0       N/C
                                                                  READER SERVICE UNAVAILABLE       0       N/C

10111584
 01/30 14:25 - 01/30 14:30
                             READ FROM DASD        0       N/C   ALLOCATE                         2  0.108854
                             READ FROM TAPE        0       N/C   DEALLOCATE                       0       N/C
                             OFFLOAD               0       N/C   OPEN                             2  0.006097
                             OTHER                 5  0.049937   CLOSE                            1  0.019781
                                                                  HSM RECALL                       0       N/C
                             BLOCKS/OFFLOAD      N/C             CATALOG LOCATE                   0       N/C
                                                                  MULTI DATA SET TAPE VOLUME       0       N/C
                                                                  TAPE VOLUME POSITIONING          0       N/C
                                                                  WTOR ISSUED                      0       N/C
                                                                  DATA SET UNAVAILABLE             0       N/C
                                                                  PHYSICAL UNIT UNAVAILABLE        0       N/C
                                                                  READER SERVICE UNAVAILABLE       0       N/C

 01/30 14:30 - 01/30 14:35
                             READ FROM DASD        0       N/C   ALLOCATE                         0       N/C
                             READ FROM TAPE        0       N/C   DEALLOCATE                       2  0.000614
                             OFFLOAD               0       N/C   OPEN                             0       N/C
                             OTHER                 3  0.014140   CLOSE                            1  0.041191
                                                                  HSM RECALL                       0       N/C
                             BLOCKS/OFFLOAD      N/C             CATALOG LOCATE                   0       N/C
                                                                  MULTI DATA SET TAPE VOLUME       0       N/C
                                                                  TAPE VOLUME POSITIONING          0       N/C
                                                                  WTOR ISSUED                      0       N/C
                                                                  DATA SET UNAVAILABLE             0       N/C
                                                                  PHYSICAL UNIT UNAVAILABLE        0       N/C
                                                                  READER SERVICE UNAVAILABLE       0       N/C
```

```
   LOCATION: LOCATION1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-3
      GROUP: GROUP1                          I/O ACTIVITY REPORT - ARCLOG                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB1A                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DB1A                              ORDER: DATASET-INTERVAL                      INTERVAL FROM: 01/30/15 14:00:00.00
DB2 VERSION: V10                                                                                       TO: 01/30/15 14:35:00.00


ARCHIVE LOG ACTIVITY ------------------------------------------------------------------------------------------------------------

DATASET
 INTERVAL                    WAIT TYPE         TOTAL       AET   OTHER WAITS                  TOTAL       AET
--------------------------  ------------- -------- ---------   -------------------------- -------- ---------
 ** TOTAL **
 10111584
                             READ FROM DASD        0       N/C   ALLOCATE                         2  0.108854
                             READ FROM TAPE        0       N/C   DEALLOCATE                       2  0.000614
                             OFFLOAD               0       N/C   OPEN                             2  0.006097
                             OTHER                 8  0.036513   CLOSE                            2  0.030486
                                                                  HSM RECALL                       0       N/C
                             BLOCKS/OFFLOAD      N/C             CATALOG LOCATE                   0       N/C
                                                                  MULTI DATA SET TAPE VOLUME       0       N/C
                                                                  TAPE VOLUME POSITIONING          0       N/C
                                                                  WTOR ISSUED                      0       N/C
                                                                  DATA SET UNAVAILABLE             0       N/C
                                                                  PHYSICAL UNIT UNAVAILABLE        0       N/C
                                                                  READER SERVICE UNAVAILABLE       0       N/C

10111585
 01/30 14:30 - 01/29 14:35
                             READ FROM DASD        0       N/C   ALLOCATE                         2  0.061112
                             READ FROM TAPE        0       N/C   DEALLOCATE                       2  0.000672
                             OFFLOAD               0       N/C   OPEN                             2  0.003976
                             OTHER                 8  0.021197   CLOSE                            2  0.019029
                                                                  HSM RECALL                       0       N/C
                             BLOCKS/OFFLOAD      N/C             CATALOG LOCATE                   0       N/C
                                                                  MULTI DATA SET TAPE VOLUME       0       N/C
                                                                  TAPE VOLUME POSITIONING          0       N/C
                                                                  WTOR ISSUED                      0       N/C
                                                                  DATA SET UNAVAILABLE             0       N/C
                                                                  PHYSICAL UNIT UNAVAILABLE        0       N/C
                                                                  READER SERVICE UNAVAILABLE       0       N/C
.
.
.
*** GRAND TOTAL ***
                             READ FROM DASD        0       N/C   ALLOCATE                        12  0.089906
                             READ FROM TAPE        0       N/C   DEALLOCATE                      12  0.000704
                             OFFLOAD               3 67.708268   OPEN                            12  0.005138
                             OTHER                48  0.030689   CLOSE                           12  0.027008
                                                                  HSM RECALL                       0       N/C
                             BLOCKS/OFFLOAD 26999.00             CATALOG LOCATE                   0       N/C
                                                                  MULTI DATA SET TAPE VOLUME       0       N/C
                                                                  TAPE VOLUME POSITIONING          0       N/C
                                                                  WTOR ISSUED                      0       N/C
                                                                  DATA SET UNAVAILABLE             0       N/C
                                                                  PHYSICAL UNIT UNAVAILABLE        0       N/C
                                                                  READER SERVICE UNAVAILABLE       0       N/C
```

Column description

The following is a description of each column printed in the archive log activity section of the archive log/BSDS report.

OMEGAMON for Db2 PE Identifiers

The archive log activity report presents data summarized by OMEGAMON for Db2 PE identifiers. The report can be ordered by up to three OMEGAMON for Db2 PE identifiers. The identifiers used to sort the report are printed in the leftmost column. They are printed whenever they change. The second and third identifiers are indented to appear under the relevant column subheading.

Note:

1. Blank or null OMEGAMON for Db2 PE identifiers are denoted by the word 'BLANK'.
2. **DATASET** is the most significant identifier. It is the 8-byte ID that identifies the archive log data set where the reported activity occurs. It has the value *cxxxxxxx*, where *c* is the copy number and *xxxxxxx* is the sequence number. The sequence number is the same as the last seven characters of the data set name.

WAIT TYPE

READ FROM DASD
The total number of waits and the average elapsed time of a wait for archive log reads from the DASD.

READ FROM TAPE
The total number of waits and the average elapsed time of a wait of archive log reads from the tape.

OFFLOAD
The total number of waits for archive log write requests and the average elapsed time of waits per archive log write.

OTHER
The total number of non-I/O waits and the average elapsed time of non-I/O waits on the archive log data set.

OTHER WAITS
The following fields identify the other waits section.

ALLOCATE
The total number of waits and the average elapsed time of a wait for resource allocation.

DEALLOCATE
The total number of waits and the average elapsed time of a wait for resource deallocation.

OPEN
The total number of waits and the average elapsed time of a wait to open a data set.

CLOSE
The total number of waits and the average elapsed time of a wait to close a data set.

HSM RECALL
The total number of waits and the average elapsed time of a wait for HSM to recall data sets.

CATALOG LOCATE
The total number of waits and the average elapsed time of a wait to locate data sets through the catalog.

MULTI DATA SET TAPE VOLUME
The total number of waits and the average elapsed time per wait for multi-data set tape volume.

TAPE VOLUME POSITIONING
The total number of waits and the average elapsed time per wait for tape volume positioning.

WTOR ISSUED
The total number of waits and the average elapsed time of waits due to a write-to-operator message being issued.

DATA SET UNAVAILABLE
The total number of waits and the average elapsed time of a wait due to a data set being unavailable.

PHYSICAL UNIT UNAVAILABLE
The total number of waits and the average elapsed time of a wait due to an unavailable physical unit.

READER SERVICE UNAVAILABLE
The total number of waits and the average elapsed time per wait for an unavailable reader service task.

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
A grand total is printed at the end of each location if there is more than one first-level identifier reported.

Bootstrap Data Set Activity

This section shows an example of how to produce the Bootstrap Data Set (BSDS) report and explains fields shown in the report.

The following command produces the archive log/BSDS report in "I/O Activity—Bootstrap Data Set Activity" on page 313.

```
IOACTIVITY
     REPORT
        LEVEL (ARCLOG)
```

I/O Activity—Bootstrap Data Set Activity

```
BOOTSTRAP DATA SET ACTIVITY ---------------------------------------------------------------------------------------------------------

DATASET
 INTERVAL                    WAIT TYPE         TOTAL       AET
---------------------------  --------------- -------- ---------
BSDS0001
 01/29 14:00 - 01/29 14:05
                              READ                 2  0.001947
                              WRITE                2  0.001098
                              READ AND WRITE       4  0.001523

 01/29 14:05 - 01/29 14:10
                              READ                 8  0.001644
                              WRITE                8  0.001216
                              READ AND WRITE      16  0.001430

 01/29 14:20 - 01/29 14:25
                              READ                94  0.001747
                              WRITE               94  0.001050
                              READ AND WRITE     188  0.001398

 01/29 14:25 - 01/29 14:30
                              READ               700  0.001248
                              WRITE              215  0.001030
                              READ AND WRITE     915  0.001197

 01/29 14:30 - 01/29 14:35
                              READ               460  0.001233
                              WRITE              212  0.000992
                              READ AND WRITE     672  0.001157

 ** TOTAL **
 BSDS0001
                              READ              1264  0.001283
                              WRITE              531  0.001021
                              READ AND WRITE    1795  0.001206

 BSDS0002
  01/29 14:00 - 01/29 14:05
                              READ                 2  0.001660
                              WRITE                2  0.001049
                              READ AND WRITE       4  0.001354

*** GRAND TOTAL ***
                              READ              1795  0.001392
                              WRITE             1062  0.001040
                              READ AND WRITE    2857  0.001261

I/O ACTIVITY REPORT COMPLETE
```

Field description

The following field descriptions are for the bootstrap data set activity section of the archive log/BSDS report.

OMEGAMON for Db2 PE Identifiers
The bootstrap data set activity report presents data summarized by OMEGAMON for Db2 PE identifiers. The report can be ordered by up to three OMEGAMON for Db2 PE identifiers. The identifiers used to sort the report are printed in the leftmost column. They are printed whenever they change. The second and third identifiers are indented to appear under the relevant column subheading.

Note:

1. Blank or null OMEGAMON for Db2 PE identifiers are denoted by the word 'BLANK'.
2. **DATASET** is the most significant identifier. It is the 8-byte ID that identifies the BSDS data set where the reported activity occurs. It can have either of the following values:
   - BSDS0001
   - BSDS0002

WAIT TYPE

READ
The total number of BSDS reads. and the average elapsed time per BSDS read.

WRITE
The total number of BSDS writes and the average elapsed time per BSDS write.

READ AND WRITE
The total number of BSDS reads and writes and the average elapsed time per BSDS read and write.

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
A grand total is printed at the end of each location if there is more than one first-level identifier reported.

Cross-invalidation activity detail report

The cross-invalidation report presents buffer refresh events due to cross invalidation summarized by selected OMEGAMON for Db2 PE identifiers. If two DB2 systems compete for read/write interest on a page set or partition, a certain amount of buffer cross-invalidation activity occurs to maintain DB2 buffer pool coherency between the two systems.

Cross-invalidation (XI) renders a higher percentage of the buffer pool data invalid. It has the effect of reducing the buffer pool size and thus the buffer pool hit ratio. Buffer pool pages must be continually refreshed when high cross-invalidation levels are reached. This can be a significant overhead in data sharing if workloads between DB2 systems are not properly balanced.

The following command produces the cross-invalidation report in “I/O Activity Cross-Invalidation Report” on page 315.

```
IOACTIVITY
     REPORT
        LEVEL (XI)
```

I/O Activity Cross-Invalidation Report

```
   LOCATION: LOCATION1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: GROUP1                    I/O ACTIVITY REPORT - CROSS INVALIDATION            REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER1                                                                                 TO: NOT SPECIFIED
  SUBSYSTEM: DB2A                          ORDER: INTERVAL-PRIMAUTH-PLANNAME                 INTERVAL FROM: 01/30/15 18:50:00.00
DB2 VERSION: V10                                                                                     TO: 01/30/15 20:50:00.00

INTERVAL
 PRIMAUTH                                                                                -SYNCHRONOUS READS-   -SEQUENTIAL PREFETCHES-
  PLANNAME            PAGE                                                                 GBPOOL       DASD      GBPOOL       DASD
------------------  ------------------------------------------------------------------   --------   --------    --------   --------

01/30 18:50 - 01/30 18:55
 AUTH_10
  PLAN_10
                     DB=4        OB=2        PIECE#=0  PAGE#=X'000002' BPID=BP22            1          0           0          0
01/30 18:55 - 01/30 19:00
 AUTH_10
  PLAN_10
                     DB=4        OB=2        PIECE#=0  PAGE#=X'000002' BPID=BP22            3          0           0          0

01/30 19:00 - 01/30 19:05
 AUTH_10
  PLAN_10
                     DB=4        OB=2        PIECE#=0  PAGE#=X'000002' BPID=BP22            1          0           0          0
                     DB=4        OB=2        PIECE#=0  PAGE#=X'000004' BPID=BP22            1          0           0          0

                     *SUM OF PLAN_10*                                                       2          0           0          0

01/30 19:05 - 01/30 19:10
 AUTH_10
  PLAN_10
                     DB=4        OB=2        PIECE#=0  PAGE#=X'000002' BPID=BP22            0          1           0          0
                     DB=4        OB=2        PIECE#=0  PAGE#=X'000004' BPID=BP22            2          0           0          0

                     *SUM OF PLAN_10*                                                       2          1           0          0

 .
 .
 .
*** GRAND TOTAL ***                                                                        19          4           2          0

I/O ACTIVITY REPORT COMPLETE
```

Column description

The following is a description of each column printed in the cross-invalidation report:

OMEGAMON for Db2 PE Identifiers
The XI report presents data summarized by OMEGAMON for Db2 PE identifiers. The report can be ordered by up to three OMEGAMON for Db2 PE identifiers. The identifiers used to sort the report are printed in the leftmost column. They are printed whenever they change. The second and third identifiers are indented to appear under the relevant column subheading.

Note: Blank or null OMEGAMON for Db2 PE identifiers are denoted by the word 'BLANK'.

PAGE
The name of the page involved in the cross invalidation. The name consists of the following parts:

DB
Database name

OB
Page set name

PIECE#
Page set piece number

PAGE#
Page number

BPID
Buffer pool ID

If DATABASE or PAGESET are selected in the ORDER option, DB or OB are not shown as part of the page name.

SYNCHRONOUS READS
The number of times the page was refreshed via a synchronous read for a particular combination of OMEGAMON for Db2 PE identifiers and cross-invalidated page:

GBPOOL
From the group buffer pool.

DASD
From the DASD.

SEQUENTIAL PREFETCHES
The number of times the page was refreshed via a sequential prefetch for a particular combination of OMEGAMON for Db2 PE identifiers and cross-invalidated page.

GBPOOL
From the group buffer pool.

DASD
From DASD.

SUM OF
The totals for all pages within a combination of OMEGAMON for Db2 PE identifiers if two or more entries are printed in the PAGE column.

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
A grand total is printed at the end of each location if there is more than one first-level identifier reported.

Chapter 7. Locking Report Set

These topics provide information about the Locking reports.

For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*. It also provides information on input to locking reports.

Member-Scope Traces and Reports

Member-scope traces present events in chronological sequence within the DB2 subsystem (member) where the events occurred, whereas reports show these events aggregated by the OMEGAMON for Db2 PE identifiers you have specified.

OMEGAMON for Db2 PE can present data from several DB2 members within a data sharing group. The data in member-scope reports is presented by a combination of location, group, subsystem, and member. Whenever one of the values changes, a new page is started and the page number is initialized.

The information in this section is only applicable to DB2 data sharing environments.

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*.

Member-Scope Locking Trace

This is an example of a Member-Scope Locking trace.

```
   LOCATION: PMODBZ1                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-1
      GROUP: DBZ1                              LOCKING TRACE - DEADLOCK                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                                 ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                                    PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT    TYPE      NAME                    EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA         08:10:31.30440975 DEADLOCK                                   COUNTER =11975     WAITERS =    2
SKA      'BLANK'  C614015B874D N/P                                                           TSTAMP  =06/04/15 08:10:31.28
DISTSERV SERVER                                     TABLE     DB  =TDKDB                    HASH    =X'00012011'
REQLOC  :::FFFF:9.152.78.                                     OB  =32                       ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :ska                                                                                LUW=G9984E80.P64B.C614015B874D
WSNAME  :mupfel                                                                             MEMBER  =SZ11      CONNECT =SERVER
TRANSACT:java                                                                               PLANNAME=DISTSERV  CORRID  =java
                                                                                            DURATION=COMMIT    PRIMAUTH=SKA
                                                                                            STATE   =S         STMTINFO=DYNAMIC
                                                                                            ENDUSER =ska
                                                                                            WSNAME  =mupfel
                                                                                            TRANSAC=java
                                                                                            PROGNAME=SYSSH200
                                                                                            COLLID  =NULLID
                                                                                            LOCATION=N/P
                                                                                            CONTOKEN=X'5359534C564C3031'
                                                                                            STMTID  =X'00000000000012B9'
                                                                                            ---------- WAITER ----------
                                                                                            LUW=G9984E80.P64A.C614015B8346
                                                                                            MEMBER  =SZ11      CONNECT =SERVER
                                                                                            PLANNAME=DISTSERV  CORRID  =java
                                                                                            DURATION=COMMIT    PRIMAUTH=SKA
                                                                                            REQUEST =CHANGE    WORTH   =   18
                                                                                            STATE   =X         STMTINFO=DYNAMIC
                                                                                            ENDUSER =ska
                                                                                            WSNAME  =mupfel
                                                                                            TRANSAC=java
                                                                                            PROGNAME=SYSSH200
                                                                                            COLLID  =NULLID
                                                                                            LOCATION=N/P
                                                                                            CONTOKEN=X'5359534C564C3031'
                                                                                            STMTID  =X'00000000000012B9'
```

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```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-2
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                   TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                        ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                           PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
---------------------------- ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA                                   TABLE     DB  =TDKDB              HASH    =X'00012011'
SKA      'BLANK'  C614015B874D                                     OB  =32                 -----------BLOCKER IS WAITER-----------
DISTSERV SERVER                                                                           LUW=G9984E80.P64A.C614015B8346
REQLOC  :::FFFF:9.152.78.                                                                 MEMBER  =SZ11      CONNECT =SERVER
ENDUSER :ska                                                                              PLANNAME=DISTSERV  CORRID  =java
WSNAME  :mupfel                                                                           DURATION=COMMIT    PRIMAUTH=SKA
TRANSACT:java                                                                             STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
                                                                                          ---------------- WAITER -------*VICTIM*-
                                                                                          LUW=G9984E80.P64B.C614015B874D
                                                                                          MEMBER  =SZ11      CONNECT =SERVER
                                                                                          PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          REQUEST =CHANGE    WORTH   =   17
                                                                                          STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-3
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                   TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                        ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                           PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
---------------------------- ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA        08:10:36.28514203 DEADLOCK                                  COUNTER =11976     WAITERS =    2
SKA      'BLANK'  C614015B7C7C N/P                                                         TSTAMP  =06/04/15 08:10:36.28
DISTSERV SERVER                                           TABLE     DB  =TDKDB            HASH    =X'00012011'
REQLOC  :::FFFF:9.152.78.                                 OB  =32                       ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :ska                                                                              LUW=G9984E80.P649.C614015B7C7C
WSNAME  :mupfel                                                                           MEMBER  =SZ11      CONNECT =SERVER
TRANSACT:java                                                                             PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          STATE   =S         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
                                                                                          ---------------- WAITER ----------------
                                                                                          LUW=G9984E80.P64A.C614015B8346
                                                                                          MEMBER  =SZ11      CONNECT =SERVER
                                                                                          PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          REQUEST =CHANGE    WORTH   =   18
                                                                                          STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                   OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-4
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                   TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                        ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                           PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
---------------------------- ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA                                   TABLE     DB  =TDKDB              HASH    =X'00012011'
SKA      'BLANK'  C614015B7C7C                                     OB  =32                 -----------BLOCKER IS WAITER-----------
DISTSERV SERVER                                                                           LUW=G9984E80.P64A.C614015B8346
REQLOC  :::FFFF:9.152.78.                                                                 MEMBER  =SZ11      CONNECT =SERVER
ENDUSER :ska                                                                              PLANNAME=DISTSERV  CORRID  =java
WSNAME  :mupfel                                                                           DURATION=COMMIT    PRIMAUTH=SKA
TRANSACT:java                                                                             STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
                                                                                          ---------------- WAITER -------*VICTIM*-
                                                                                          LUW=G9984E80.P649.C614015B7C7C
                                                                                          MEMBER  =SZ11      CONNECT =SERVER
                                                                                          PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          REQUEST =CHANGE    WORTH   =   17
                                                                                          STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)               PAGE: 1-5
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                            PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA         08:10:41.29402510 DEADLOCK                                  COUNTER =11977     WAITERS =    2
SKA      'BLANK'  C614015D652E N/P                                                          TSTAMP  =06/04/15 08:10:41.28
DISTSERV SERVER                                     TABLE     DB  =TDKDB                  HASH    =X'00012011'
REQLOC  :::FFFF:9.152.78.                                     OB  =32                     ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :ska                                                                             LUW=G9984E80.P654.C614015D652E
WSNAME  :mupfel                                                                          MEMBER  =SZ11      CONNECT =SERVER
TRANSACT:java                                                                            PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         STATE   =S         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
                                                                                         ---------- WAITER ----------
                                                                                         LUW=G9984E80.P64A.C614015B8346
                                                                                         MEMBER  =SZ11      CONNECT =SERVER
                                                                                         PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         REQUEST =CHANGE    WORTH   =   18
                                                                                         STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)               PAGE: 1-6
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                            PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA                                    TABLE     DB  =TDKDB             HASH    =X'00012011'
SKA      'BLANK'  C614015D652E                            OB  =32                     -----------BLOCKER IS WAITER-----------
DISTSERV SERVER                                                                          LUW=G9984E80.P64A.C614015B8346
REQLOC  :::FFFF:9.152.78.                                                                MEMBER  =SZ11      CONNECT =SERVER
ENDUSER :ska                                                                             PLANNAME=DISTSERV  CORRID  =java
WSNAME  :mupfel                                                                          DURATION=COMMIT    PRIMAUTH=SKA
TRANSACT:java                                                                            STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
                                                                                         ---------- WAITER -------*VICTIM*-
                                                                                         LUW=G9984E80.P654.C614015D652E
                                                                                         MEMBER  =SZ11      CONNECT =SERVER
                                                                                         PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         REQUEST =CHANGE    WORTH   =   17
                                                                                         STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)               PAGE: 1-7
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                            PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA         08:10:51.32753756 DEADLOCK                                  COUNTER =11979     WAITERS =    2
SKA      'BLANK'  C614015B874D N/P                                                          TSTAMP  =06/04/15 08:10:51.31
DISTSERV SERVER                                     TABLE     DB  =TDKDB                  HASH    =X'00012011'
REQLOC  :::FFFF:9.152.78.                                     OB  =32                     ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :ska                                                                             LUW=G9984E80.P64B.C614015B874D
WSNAME  :mupfel                                                                          MEMBER  =SZ11      CONNECT =SERVER
TRANSACT:java                                                                            PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         STATE   =S         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
                                                                                         ---------- WAITER ----------
                                                                                         LUW=G9984E80.P64A.C614015B8346
                                                                                         MEMBER  =SZ11      CONNECT =SERVER
                                                                                         PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         REQUEST =CHANGE    WORTH   =   18
                                                                                         STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-8
      GROUP: DBZ1                              LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                      SCOPE: MEMBER                          PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
----------------------------- ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA                                    TABLE     DB  =TDKDB             HASH    =X'00012011'
SKA      'BLANK'  C614015B874D                                      OB  =32                ----------BLOCKER IS WAITER------------
DISTSERV SERVER                                                                           LUW=G9984E80.P64A.C614015B8346
REQLOC  :::FFFF:9.152.78.                                                                 MEMBER  =SZ11      CONNECT =SERVER
ENDUSER :ska                                                                              PLANNAME=DISTSERV  CORRID  =java
WSNAME  :mupfel                                                                           DURATION=COMMIT    PRIMAUTH=SKA
TRANSACT:java                                                                             STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
                                                                                          ---------------- WAITER -------*VICTIM*-
                                                                                          LUW=G9984E80.P64B.C614015B874D
                                                                                          MEMBER  =SZ11      CONNECT =SERVER
                                                                                          PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          REQUEST =CHANGE    WORTH   =   17
                                                                                          STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-9
      GROUP: DBZ1                              LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                      SCOPE: MEMBER                          PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
----------------------------- ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA         08:10:56.32255947 DEADLOCK                                  COUNTER =11980     WAITERS =    2
SKA      'BLANK'  C614015D652E N/P                                                         TSTAMP  =06/04/15 08:10:56.32
DISTSERV SERVER                                           TABLE     DB  =TDKDB            HASH    =X'00012011'
REQLOC  :::FFFF:9.152.78.                                           OB  =32               ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :ska                                                                              LUW=G9984E80.P654.C614015D652E
WSNAME  :mupfel                                                                           MEMBER  =SZ11      CONNECT =SERVER
TRANSACT:java                                                                             PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          STATE   =S         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
                                                                                          ---------------- WAITER ----------------
                                                                                          LUW=G9984E80.P64A.C614015B8346
                                                                                          MEMBER  =SZ11      CONNECT =SERVER
                                                                                          PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          REQUEST =CHANGE    WORTH   =   18
                                                                                          STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-10
      GROUP: DBZ1                              LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                      SCOPE: MEMBER                          PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
----------------------------- ----------------- -------- --------- ----------------------- ----------------------------------------
SKA      java     DRDA                                    TABLE     DB  =TDKDB             HASH    =X'00012011'
SKA      'BLANK'  C614015D652E                                      OB  =32                ----------BLOCKER IS WAITER------------
DISTSERV SERVER                                                                           LUW=G9984E80.P64A.C614015B8346
REQLOC  :::FFFF:9.152.78.                                                                 MEMBER  =SZ11      CONNECT =SERVER
ENDUSER :ska                                                                              PLANNAME=DISTSERV  CORRID  =java
WSNAME  :mupfel                                                                           DURATION=COMMIT    PRIMAUTH=SKA
TRANSACT:java                                                                             STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
                                                                                          ---------------- WAITER -------*VICTIM*-
                                                                                          LUW=G9984E80.P654.C614015D652E
                                                                                          MEMBER  =SZ11      CONNECT =SERVER
                                                                                          PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          REQUEST =CHANGE    WORTH   =   17
                                                                                          STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-11
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                     REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                            PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                   EVENT SPECIFIC DATA
---------------------------- ---------------- -------- --------- ---------------------- ----------------------------------------
SKA      java     DRDA         08:11:11.38269228 DEADLOCK                                COUNTER =11983     WAITERS =    2
SKA      'BLANK'  C614015D652E N/P                                                        TSTAMP  =06/04/15 08:11:11.38
DISTSERV SERVER                                     TABLE     DB  =TDKDB                 HASH    =X'00012011'
REQLOC  :::FFFF:9.152.78.                                     OB  =32                    ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :ska                                                                             LUW=G9984E80.P654.C614015D652E
WSNAME  :mupfel                                                                          MEMBER  =SZ11      CONNECT =SERVER
TRANSACT:java                                                                            PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         STATE   =S         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
                                                                                         ---------------- WAITER ----------------
                                                                                         LUW=G9984E80.P64B.C614015B874D
                                                                                         MEMBER  =SZ11      CONNECT =SERVER
                                                                                         PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         REQUEST =CHANGE    WORTH   =   18
                                                                                         STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-12
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                     REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                            PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                   EVENT SPECIFIC DATA
---------------------------- ---------------- -------- --------- ---------------------- ----------------------------------------
SKA      java     DRDA                                    TABLE     DB  =TDKDB            HASH    =X'00012011'
SKA      'BLANK'  C614015D652E                                     OB  =32                ----------BLOCKER IS WAITER------------
DISTSERV SERVER                                                                          LUW=G9984E80.P64B.C614015B874D
REQLOC  :::FFFF:9.152.78.                                                                MEMBER  =SZ11      CONNECT =SERVER
ENDUSER :ska                                                                             PLANNAME=DISTSERV  CORRID  =java
WSNAME  :mupfel                                                                          DURATION=COMMIT    PRIMAUTH=SKA
TRANSACT:java                                                                            STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
                                                                                         ---------------- WAITER -------*VICTIM*-
                                                                                         LUW=G9984E80.P654.C614015D652E
                                                                                         MEMBER  =SZ11      CONNECT =SERVER
                                                                                         PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         REQUEST =CHANGE    WORTH   =   17
                                                                                         STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'

   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-13
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                     REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                    SCOPE: MEMBER                            PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                   EVENT SPECIFIC DATA
---------------------------- ---------------- -------- --------- ---------------------- ----------------------------------------
SKA      java     DRDA         08:11:21.38524034 DEADLOCK                                COUNTER =11985     WAITERS =    2
SKA      'BLANK'  C614015B7C7C N/P                                                        TSTAMP  =06/04/15 08:11:21.38
DISTSERV SERVER                                     TABLE     DB  =TDKDB                 HASH    =X'00012011'
REQLOC  :::FFFF:9.152.78.                                     OB  =32                    ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :ska                                                                             LUW=G9984E80.P649.C614015B7C7C
WSNAME  :mupfel                                                                          MEMBER  =SZ11      CONNECT =SERVER
TRANSACT:java                                                                            PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         STATE   =S         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
                                                                                         ---------------- WAITER ----------------
                                                                                         LUW=G9984E80.P64A.C614015B8346
                                                                                         MEMBER  =SZ11      CONNECT =SERVER
                                                                                         PLANNAME=DISTSERV  CORRID  =java
                                                                                         DURATION=COMMIT    PRIMAUTH=SKA
                                                                                         REQUEST =CHANGE    WORTH   =   18
                                                                                         STATE   =X         STMTINFO=DYNAMIC
                                                                                         ENDUSER =ska
                                                                                         WSNAME  =mupfel
                                                                                         TRANSAC=java
                                                                                         PROGNAME=SYSSH200
                                                                                         COLLID  =NULLID
                                                                                         LOCATION=N/P
                                                                                         CONTOKEN=X'5359534C564C3031'
                                                                                         STMTID  =X'00000000000012B9'
```

```
   LOCATION: PMODBZ1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-14
      GROUP: DBZ1                             LOCKING TRACE - DEADLOCK                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZ11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SZ11                                                                          ACTUAL FROM: 06/04/15 08:10:31.30
DB2 VERSION: V10                                      SCOPE: MEMBER                          PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                  EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- --------------------- ----------------------------------------
SKA      java     DRDA                                    TABLE     DB  =TDKDB             HASH    =X'00012011'
SKA      'BLANK'  C614015B7C7C                                      OB  =32                ----------BLOCKER IS WAITER-----------
DISTSERV SERVER                                                                           LUW=G9984E80.P64A.C614015B8346
REQLOC  :::FFFF:9.152.78.                                                                 MEMBER  =SZ11      CONNECT =SERVER
ENDUSER :ska                                                                              PLANNAME=DISTSERV  CORRID  =java
WSNAME  :mupfel                                                                           DURATION=COMMIT    PRIMAUTH=SKA
TRANSACT:java                                                                             STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'
                                                                                          ---------------- WAITER -------*VICTIM*-
                                                                                          LUW=G9984E80.P649.C614015B7C7C
                                                                                          MEMBER  =SZ11      CONNECT =SERVER
                                                                                          PLANNAME=DISTSERV  CORRID  =java
                                                                                          DURATION=COMMIT    PRIMAUTH=SKA
                                                                                          REQUEST =CHANGE    WORTH   =    17
                                                                                          STATE   =X         STMTINFO=DYNAMIC
                                                                                          ENDUSER =ska
                                                                                          WSNAME  =mupfel
                                                                                          TRANSAC=java
                                                                                          PROGNAME=SYSSH200
                                                                                          COLLID  =NULLID
                                                                                          LOCATION=N/P
                                                                                          CONTOKEN=X'5359534C564C3031'
                                                                                          STMTID  =X'00000000000012B9'

LOCKING TRACE COMPLETE
```

Group-Scope Traces and Reports

In group-scope traces, events are reported in a chronological sequence within the DB2 data sharing group, regardless of which member of the group actually generated the events.

The member name is printed in the body of the trace for each reported event, so that it is easy to see the member where the event occurred. Similarly, group-scope reports show events that are aggregated by the OMEGAMON for Db2 PE identifiers you specified. Data in group-scope reports is presented by member.

The information in this section is only applicable to DB2 data sharing environments.

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*.

Group-Scope Locking Report

You can generate a Group-Scope Locking report as follows:

```
LOCKING
  REPORT
     SCOPE (GROUP)
     LEVEL (SUSPENSION)
```

This is an example of a Group-Scope Locking report:

```
   LOCATION: USIBMSYSTDB2              OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: USIBMSYSTDB2                       LOCKING REPORT - SUSPENSION                 REQUESTED FROM: NOT SPECIFIED
                                                                                                       TO: NOT SPECIFIED
                                              ORDER: DATABASE-PAGESET                       INTERVAL FROM: 01/30/15 19:32:58.89
DB2 VERSION: V10                                   SCOPE: GROUP                                     TO: 01/30/15 19:56:04.31

DATABASE                                                          --SUSPEND REASONS-- ---------- R E S U M E   R E A S O N S ----------
 PAGESET          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  GLOB.  S.NFY ---- NORMAL ----  TIMEOUT/CANCEL  --- DEADLOCK ---
  MEMBER          TYPE      NAME                    SUSPENDS LATCH  IRLMQ  OTHER NMBR        AET NMBR        AET NMBR        AET
------------------ --------- ----------------------- -------- -----  -----  ----- ---- ----------- ---- ----------- ---- -----------
'BLANK'
 'BLANK'
  SSDQ             ALTERBUF  BPID=BP0                       5     0      0      0    5    0.001645    0         N/C    0         N/C
                                                             0      0      5
                   SCA ACCS  N/A                           2     0      0      0    2    0.001674    0         N/C    0         N/C
                                                             0      0      2
                   ** SUM OF SSDQ            **            7     0      0      0    7    0.001653    0         N/C    0         N/C
                                                             0      0      7
  V53B             GBP CAST  BPID=GBP2                     1     0      0      0    1    0.001395    0         N/C    0         N/C
                                                             0      0      1
                   GBP S/S   BPID=GBP0                     3     0      0      0    3    0.002451    0         N/C    0         N/C
                                                             0      0      3
                   ** SUM OF V41B            **            4     0      0      0    4    0.002187    0         N/C    0         N/C
                                                             0      0      4

 *GROUP TOTAL*
 'BLANK'                                                  11     0      0      0   11    0.001847    0         N/C    0         N/C
                                                             0      0     11

TPCCE1
 TCUST000
  SSDQ             OPENLOCK  N/P                           1     0      0      0    1    0.001677    0         N/C    0         N/C
                                                             0      0      1

AUSDB01
 SYDPS01
  SSDQ             TREEPLCK  N/P                           1     0      0      0    1    0.001445    0         N/C    0         N/C
                                                             0      0      1

  V53B             P/P PLCK  PAGE=X'80000000'              2     0      0      0    2    8.240814    0         N/C    0         N/C
                             BPID=BP2                        0      0      2

 *GROUP TOTAL*
 SYDPS01                                                  3     0      0      0    3    5.494357    0         N/C    0         N/C
                                                             0      0      3

 SYDPS02
  V53B             P/P CAST  BPID=BP2                     1     0      0      0    1   16.776381    0         N/C    0         N/C
                                                             0      0      1

*TOTAL*
AUSDB01                                                   4     0      0      0    4    8.314863    0         N/C    0         N/C
                                                             0      0      4

*GRAND TOTAL*                                            16     0      0      0   16    2.080090    0         N/C    0         N/C
                                                             0      0     16
```

Identifiers Used in Locking

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*.

In addition to the standard OMEGAMON for Db2 PE identifiers, Locking reports and traces use two other identifiers to show the type of resource and event type:

RESOURCETYPE-Resource type
The type of lock resource. You can specify one of the values shown in Table 3 on page 327.

TYPE-Event type
Specifies which event types are to be included in, or excluded from, the lock detail trace. The valid values for this field are shown in Table 2 on page 323.

Table 2. Event Types

Type	Events
IRLMREQ	Lock, unlock, change, query, and notify requests
CLAIMREQ	Claim acquire, claim change, and claim release
DRAINREQ	Drain request and drain release
PLOCKREQ	Page set or partition as well as page P-Lock requests
IRLMSUSP	The beginning of lock, unlock, change, query, and notify suspensions
DRAINSUSP	The beginning of drain suspensions
LATCHSUSP	The beginning of page latch suspensions

Table 2. Event Types (continued)	
Type	**Events**
IRLMRES	The end (resumption) of lock, unlock, change, query, and notify suspensions
DRAINRES	The end (resumption) of drain suspensions
LATCHRES	The end (resumption) of page latch suspensions
TIMEOUT	Timeouts
DEADLOCK	Deadlocks
LOCKSUMMARY	Lock summary events
LOCKAVOID	Successful lock avoidance events

The default is *all* event types.

Note: TYPE can also be used with the REDUCE and FILE subcommands of locking. These subcommands support a limited number of types, as follows:

- Valid types for REDUCE are: IRLMRES, DRAINRES, and LATCHRES.
- Valid types for FILE are: IRLMREQ, CLAIMREQ, DRAINREQ, and LOCKAVOID.

If a non-valid type for REDUCE or FILE is used with EXCLUDE, the event type is not filtered.

If no valid types for REDUCE or FILE are used with INCLUDE, an empty report or file is produced.

The Locking Header of Reports and Traces

This topic describes the headers and fields of Locking reports and traces. The report header and trace header are similar for all reports and traces. All other report or trace sections differ depending on the type of report and are described in the respective report or trace topics.

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*.

Layout of a Locking Report Header

The following example shows the layout of a report header, where the letter *x* is a placeholder marking the maximum size of the data section of each field.

```
   LOCATION: xxxxxxxxxxxxxxx        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R34M0)              PAGE: 1-n
      GROUP: xxxxxxxx                        LOCKING REPORT - xxxxxxxxxx               REQUESTED FROM: mm/dd/yy hh:mm:ss.nn
     MEMBER: xxxxxxxx                                                                          TO: mm/dd/yy hh:mm:ss.nn
  SUBSYSTEM: xxxx                                ORDER: xxxxxx                          INTERVAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn                               SCOPE: xxxxxx                                 TO: mm/dd/yy hh:mm:ss.nn
```

Layout of the Locking Trace Header

All traces have the same layout. This example shows the layout of a trace header, where the letter *x* is a placeholder marking the maximum size of the data section of each field. In this example the trace is ordered by the event timestamp.

```
   LOCATION: xxxxxxxxxxxxxxx        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)               PAGE: 1-n
      GROUP: xxxxxxxx                                                               REQUESTED FROM: mm/dd/yy hh:mm:ss.nn
     MEMBER: xxxxxxxx                        LOCKING TRACE - xxxxxxxxxx                          TO: mm/dd/yy hh:mm:ss.nn
  SUBSYSTEM: xxxx                                                                     ACTUAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn                               SCOPE: xxxxxx                           PAGE DATE: mm/dd/yy
```

Field descriptions of Locking headers

Headings are printed on all reports and traces at the start of each page. Locking reports and traces carry the following header information:

LOCATION
The DB2 reporting location. If the location name is not available, the DB2 data sharing group name is printed in this field. If the DB2 data sharing group name does not exist, the DB2 subsystem ID is printed.

GROUP
The name of the DB2 data sharing group. This field shows N/A if there is no group name.

MEMBER
The name of the DB2 data sharing member or the member name of the DB2 subsystem. This field shows N/A if there is no member name.

This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data. This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

DB2 VERSION
The DB2 version number of the subsystem that generated the data.

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

REPORT or TRACE type
For report, this can be:

- SUSPENSION
- LOCKOUT
- DETAIL

For trace, this can be:

- DEADLOCK
- TIMEOUT
- SUSPENSION
- LOCKOUT
- DETAIL

ORDER
If the ORDER option of the REPORT or TRACE subcommand was used to arrange the report entries, the selected keywords are shown in this field. Depending on the context, the OMEGAMON for Db2 PE identifiers by which lock events are grouped are shown here.

SCOPE
Scope of the report or trace, this can be MEMBER or GROUP. A member-scope report or trace shows data from a group for each individual member. In a group-scope report or trace, the data from individual members is consolidated and presented for the entire group.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

REQUESTED FROM and TO
The FROM and TO dates and times specified in the REPORT or TRACE subcommand.

If both FROM and TO dates and times are omitted from the REPORT subcommand, the FROM and TO dates and times specified in GLOBAL are printed. If only the FROM date and time or only the TO date and time has been specified, NOT SPECIFIED is printed for the unspecified value.

If FROM and TO are not specified in REPORT or GLOBAL, NOT SPECIFIED appears for both the FROM and TO values.

If you have specified FROM and TO times without dates in REPORT or GLOBAL, ALL DATES is printed along with the specified times.

INTERVAL FROM
The start date and time of the first reduction interval covered by the report. If REDUCE is not specified, the INTERVAL defaults to 0 and the timestamps of the first and last events are printed.

INTERVAL TO
The end date and time of the last reduction interval covered by the report. If REDUCE is not specified, the INTERVAL defaults to 0 and the timestamps of the first and last events are printed.

ACTUAL FROM/TO
The date and time of the first and last record included in the log for a location, group, subsystem, or member.

PAGE DATE
The date of the timestamps printed on this page. A page break occurs at the change of the date. This is useful if a trace page contains more than one entry and the date is not shown for each entry.

Locking Activity Report

Here you find a detailed description about Locking activity reports.

Note: For an introduction to the Locking Activity report set and general locking information refer to the *Reporting User's Guide*.

Lock Suspension Report

The Lock Suspension report summarizes all Lock Suspension activities across a specified time period.

The suspensions are reported by any combination of up to three OMEGAMON for Db2 PE identifiers. The report summarizes the Lock Suspension activities of:

- An IRLM request (except when the resource type is a drain lock).
- An IRLM request where the resource type is a drain lock.
- A drain request where the claim count is not zero.

  This suspension occurs when the agent making the drain request has to wait for the claim count on the particular resource to become zero.
- A suspension of a page latch request.

  This suspension occurs when the agent making the page latch request has to wait for a page which is currently being held by another agent.

The Lock Suspension report is produced if level SUSPENSION is specified in the REPORT subcommand. The ORDER subcommand specifies by which OMEGAMON for Db2 PE identifiers the report is to be sorted.

Optionally, the SPREADSHEETDD subcommand option can be used to create a data set with Lock Suspension data that can be imported in spreadsheet programs for individual analyses. Refer to “Using Lock Suspension Data with Spreadsheets” on page 332 for more details.

Every suspension results in a normal resume or a lockout (deadlock or timeout), or is canceled (in the case of page latch suspensions). In any case, and if the suspension delay is unacceptable, review the plans and associated tables and indexes.

“Layout of a Suspension Report” on page 326 shows the layout of a suspension report. The letter x is a placeholder marking the maximum size of a field. See “Lock Suspension Report” on page 332 for an example of a suspension report.

The report presents data summarized by OMEGAMON for Db2 PE identifiers. The report can be sorted by up to three identifiers. For group-scope reports, the member name is added implicitly as an additional identifier and sort criterion.

Layout of a Suspension Report

This is the layout of a suspension report.

```
   LOCATION: xxxxxxxxxxxxxxxx         OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-n
      GROUP: xxxxxxxx                              LOCKING REPORT - SUSPENSION               REQUESTED FROM: mm/dd/yy hh:mm:ss.nn
     MEMBER: xxxxxxxx                                                                                TO: mm/dd/yy hh:mm:ss.nn
  SUBSYSTEM: xxxx                                        ORDER: xxxxxx                       INTERVAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn                                       SCOPE: xxxxxx                                 TO: mm/dd/yy hh:mm:ss.nn

IDENT1xx
 IDENT2xx                                                    --SUSPEND REASONS-- ---------  R E S U M E    R E A S O N S  ---------
  IDENT3xx         --- L O C K   R E S O U R C E --- TOTAL    LOCAL  GLOB.  S.NFY ---- NORMAL ----  TIMEOUT/CANCEL  --- DEADLOCK ---
    MEMBER         TYPE      NAME                   SUSPENDS LATCH  IRLMQ  OTHER NMBR          AET NMBR          AET NMBR          AET
------------------ --------- ---------------------- -------- -----  -----  ----- ---- ----------- ---- ----------- ---- -----------
xxxxxxxxxxxxxxxx   xxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxx nnnnnnnn nnnnn  nnnnn  nnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn
 xxxxxxxxxxxxxxxx            xxxxxxxxxxxxxxxxxxxxxxx          nnnnn  nnnnn  nnnnn
  xxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxx                  xxxxxxxxxxxxxxxxxxxxxxx

                   xxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxx nnnnnnnn nnnnn  nnnnn  nnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn
                             xxxxxxxxxxxxxxxxxxxxxxx          nnnnn  nnnnn  nnnnn
                             xxxxxxxxxxxxxxxxxxxxxxx
                             xxxxxxxxxxxxxxxxxxxxxxx

                   .
                   .
                   .

                   *SUM OF xxxxxxxxxxxxxxxx*         nnnnnnnn nnnnn  nnnnn  nnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn
                                                              nnnnn  nnnnn  nnnnn
 .
 .
 .

   *GROUP TOTAL*                                    nnnnnnnn nnnnn  nnnnn  nnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn
                                                              nnnnn  nnnnn  nnnnn
  *SUBTOTAL*                                        nnnnnnnn nnnnn  nnnnn  nnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn
                                                              nnnnn  nnnnn  nnnnn
 *TOTAL*                                            nnnnnnnn nnnnn  nnnnn  nnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn
                                                              nnnnn  nnnnn  nnnnn
*GRAND TOTAL*                                       nnnnnnnn nnnnn  nnnnn  nnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn nnnn ssss.nnnnnn
                                                              nnnnn  nnnnn  nnnnn
```

Field description

The header information to this report is described in "The Locking Header of Reports and Traces" on page 324.

IDENT1XX, IDENT2XX, IDENT3XX
These mark the positions where the order criteria are listed and reported.

In group-scope reports, MEMBER is automatically added as the second, third, or fourth identifier.

If you specify DATABASE, PAGESET, or both, in the ORDER option, the database name, page set name, or both names, are removed from the resource name. In this case, 'BLANK' is printed.

MEMBER
Group member name of the DB2 subsystem. This is only printed for member-scope reports.

LOCK RESOURCE TYPE
The type of resource on which the suspended request is made. Valid values are shown in Table 3 on page 327.

Table 3. Lock Resource Type

Type	Description
ALTERBUF	Alter buffer pool lock
BINDLOCK	Autobind lock and remote bind lock for the serialization of local autobinds or packages, remote binds, and remote rebinds of packages
CATM CAT	CATMAINT convert catalog lock
CATM DIR	CATMAINT convert directory lock
CATM MIG	CATMAINT migration lock
CDB PLCK	DDF communications database P-lock
COLLECT	Collection ID
DATABASE	Locking of the DBD
DATAPAGE	Data page locking
DBALLOC	Start and stop lock on the database allocation table
DBCMD SER	Database command serialization

Table 3. Lock Resource Type (continued)	
Type	**Description**
DBD	DBD load lock
DBD PLCK	DBD P-lock
DRAIN	All types of drain locking
DRAIN CS	Cursor stability drain lock
DRAIN RR	Repeatable read drain lock
DRAIN W	Write drain lock
EXCP UPD	Database group exception update lock
GBP CAST	Group buffer pool level castout P-lock
GBP S/S	Group buffer pool start and stop lock
HASH-ANC	Hash anchor lock
HDRPHASHB	BACKUP SYSTEM or RESTORE SYSTEM utility lock
INDEX KEY	Index Key lock
INDEXEOF	Index end-of-file lock
INDEXPAGE	Index page locking
LOB	Large object
LPL/GREC	Database group exception LPL/GRECP lock
LPLRECVRY	Logical page list recovery
MASSDEL	Mass delete lock
OPENLOCK	Page set or data set open lock
OTHER	All unlisted resource types
P/P CAST	Page set and partition level castout P-lock
P/P PLCK	Page set and partition P-lock
PAGE	Resource involved in page latch suspensions
PAGEPLCK	Page P-lock
PAGESET	Nonpartitioned table spaces and indexes. Drained at the page set level.
PART NSPL	Partitions of partitioned table spaces and indexes using the non-SPL (selective partition locking) scheme.
PART SPL	Partitions of partitioned table spaces and indexes using the SPL (selective partition locking) scheme.
RLF PLCK	RLF P-lock
ROW	Data row locking
RPR_DBD	Repair DBD test and diagnose lock
SCA ACCS	SCA access for restart or redo information
SKCT	Skeleton cursor table locking

Table 3. Lock Resource Type (continued)	
Type	**Description**
SKPT	Skeleton package table Note, if the lock resource type has a value of SKPT the Lock Detail report shows compressed parts of the SKPT resource name as hexadecimal strings in reports and traces. It consists of the following parts: • Collection ID, which is compressed (18 bytes) • Program name, which is compressed (8 bytes) • Consistency token (8 bytes) With the hexadecimal value you can compare values of different locks. See "Layout of a Locking Detail report for the lock resource type SKPT" on page 337 for an example of a Locking Detail report for the lock resource type SKPT. SKPT resource names are shown for the Locking Activity **report** at the following LEVEL: • LOCKOUT • SUSPENSION SKPT resource names are shown for the Locking Activity **trace** at the following LEVEL: • LOCKOUT • TIMEOUT • SUSPENSION • DETAIL
SYSLGRNG	Buffer manager SYSLGRNG recording lock
TABLE	Table locking
TREEPLCK	Index tree P-lock
UTIL EXC	Utility exclusive execution lock
UTIL UID	Utility UID lock
UTILSER	Utility serialization lock
XML LOCK	XML lock

Note: For a suspended request where the resource type is not supplied, N/P is printed.

LOCK RESOURCE NAME

The name on which the suspended request is made. Each part of the lock resource name is printed on a separate line. The abbreviations shown in the report are explained, in alphabetical order, in Table 4 on page 329.

Table 4. Lock Resource Name Abbreviations	
Abbreviation	**Description**
ANCH	Anchor point ID
BPID	Buffer pool ID
COLL	Collection name
CKTN	Consistency token

Table 4. Lock Resource Name Abbreviations (continued)	
Abbreviation	**Description**
DB	Database name
HASH	Database group exception hash class
OB	Object name
PAGE	Physical page
PART	Partition
PKID	Package name
PLAN	Plan name
RMID	Resource manager ID
ROW	Data row
ROWI	Row ID for LOB
SUBP	Subpage
UID	Utility ID
VER#	Version number of LOB

Note:

1. The database names and object names are translations obtained from the IFCID 105 and 107 records. If these records are not available, the decimal representation of the database and object names are printed.
2. If you specify DATABASE, PAGESET, or both, in the ORDER option, the database name, page set name, or both names, are removed from the resource name and printed in the OMEGAMON for Db2 PE identifier column. If the name only consists of the database and page set, N/P is printed in the resource name column. If the resource name does not contain the database and page set, 'BLANK' is printed in the OMEGAMON for Db2 PE identifier column and all resource name parts are printed in the lock resource block.

TOTAL SUSPENDS
The number of suspensions for the particular combination of OMEGAMON for Db2 PE identifiers.

SUSPEND REASONS
The reason why a particular request was suspended. The requests composing the particular combination of OMEGAMON for Db2 PE identifiers and lock resource can be suspended for several reasons. The SUSPEND REASONS column shows all reasons identified by the IRLM resume records. Therefore, the sum of the counts in this column can differ from the TOTAL SUSPENDS count.

The categorized reasons for suspension are:

LOCAL
Local resource contention. This occurs when you request access to a local resource that is locked.

LATCH
IRLM latch contention. This occurs when the IRLM needs to serialize a resource. For example, the IRLM serializes the adding and removing of locks to the lock table. The lock table is latched for a short period of time, and the resulting suspensions, if any, are brief.

GLOB.
Global contention. This occurs when you request access to a global resource that is locked.

IRLMQ
IRLM queued request.

S.NFY
Intersystem message sending.

OTHER
Suspensions other than those listed here. Suspensions reported as OTHER are either serviceability values, drain suspensions, contentions with retained locks, or page latch suspensions.

RESUME REASONS
The reasons for resumption of the suspended tasks. The reason can be normal, timeout, deadlock, and canceled (canceled only applies to page latch suspensions).

NORMAL NMBR
The number of suspensions that ended when the task resumed normal processing after completion of the lock request. In page latch suspensions, this is the number of suspensions where the latch requester was not canceled.

NORMAL AET
The average elapsed time of a suspension that ended in the task resuming normally. In page latch suspensions, this is the average elapsed time of a suspension where the latch requester was not canceled.

The format for this field is *ssss.nnnnnn*.

TIMEOUT NMBR
The number of waits to access locked resources that resulted in exceeding a preset time interval.

TIMEOUT AET
The average elapsed time of a resumption due to a timeout.

The format for this field is *ssss.nnnnnn*.

CANCEL NMBR
The number of page latch suspensions that ended with the latch requester being canceled.

CANCEL AET
The average elapsed time of a page latch suspension that ended with the latch requester being canceled.

The format for this field is *ssss.nnnnnn*.

DEADLOCK NMBR
The number of deadlocks.

DEADLOCK AET
The average duration of a deadlock.

The format for this field is *ssss.nnnnnn*.

SUM OF
The sum printed for the lowest-level identifier when there is more than one combination of request type, resource type, and lock resource reported under it.

GROUP TOTAL
The sum of report entries that belong to a data sharing group if more than one member of the group is reported for a particular combination of OMEGAMON for Db2 PE identifiers. A GROUP TOTAL only appears in group-scope reports.

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
If there is more than one first-level identifier reported, a grand total is printed at the end of each group in a group-scope report or at the end of each member in a member-scope report.

Lock Suspension Report

The following sample suspension report is produced with this command:

```
LOCKING
     REPORT
```

This is a sample Lock Suspension report.

```
   LOCATION: OMPDA21                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
      GROUP: N/P                                LOCKING REPORT - SUSPENSION                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                          TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                  ORDER: PRIMAUTH-PLANNAME                        INTERVAL FROM: 02/14/15 19:46:09.24
DB2 VERSION: V10                                      SCOPE: MEMBER                                       TO: 02/14/15 19:48:51.36

                                                    --SUSPEND REASONS-- ---------- R E S U M E   R E A S O N S -----------
PRIMAUTH          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  GLOB.  S.NFY ---- NORMAL ----  TIMEOUT/CANCEL  --- DEADLOCK ---
 PLANNAME         TYPE      NAME                    SUSPENDS LATCH  IRLMQ  OTHER NMBR         AET NMBR          AET NMBR         AET
----------------- --------- ---------------------- -------- -----  -----  ----- ---- ---------- ---- ---------- ---- ----------
...
                  SKPT                                   15     0      0      0   15    0.000042    0         N/C    0         N/C
                                                                      15      0      0
                           CTKN=5359534C564C3031
                           COLL(HEX)=              X'11223344556677889900112233445667788'
                           PKID(HEX)=              X'1122334455667788'

...
LOCKING REPORT COMPLETE
```

Using Lock Suspension Data with Spreadsheets

This section provides the necessary information to enable you to use lock suspension report data that is created with the LOCKING REPORT SPREADSHEETDD command in a spreadsheet program.

It is assumed that you created a data set with lock suspension data on the host by using the SPREADSHEETDD option of the LOCKING REPORT command. Refer to the *Report Command Reference* for more information about the SPREADSHEETDD option. Further, it is assumed that you downloaded the data set to your client as a text file (choose `ascii` or `text`, not `binary`, as transfer type in your file transfer program). The data set should be available as a plain text file in ASCII format on your client.

It is assumed that you are familiar with the use of spreadsheet programs. Modern spreadsheets provide means to import data from plain text files, provided that data in these files is organized as records and individual fields of the records are separated by a known separator character. The file containing lock suspension data has its fields separated by colons (`;`). Therefore, you must specify the colon as the separator character (also called a *delimiter*) when you are importing the data into the spreadsheet program. See the help information of the spreadsheet of your choice for details on how to import data.

After the data is imported to your spreadsheet, the records from the plain text file are represented in spreadsheet rows and the fields are represented in spreadsheet columns.

The remainder of this section describes details about the data as it is initially represented in the spreadsheet. Further use, such as sorting, filtering, analysis, and interpretation is not described. For the latter, see “Lock Suspension Report” on page 326.

- The first row contains report header information, similar to `OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)Locking Report Suspension`.

  You might notice how the colon-separated format in the plain text file converts to subsequent cells in a spreadsheet row.

```
OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) ;Locking;Report ;Suspension
```

- The second row contains the *column labels*, as shown in Table 5 on page 333. Approximately 35 columns are shown; the precise number depends on what was specified with the ORDER subcommand option when the data was generated.
- The third and all following rows contain the accumulated lock suspension data values.

  Empty cells represent missing data values, usually shown in reports as `N/A`, `N/C`, or `N/P`.

Table 5. Spreadsheet representation of lock suspension data		
Col.	**Column label**	**Includes the following DB2 lock resource types**
1	Location	
2	Group	
3	Member	
4	Subsystem	
5	Database	
6	Pageset	
7	(Content varies)	
8	Suspensions Total Occurrences	All
9	Suspensions Average Elapsed Time	
10	Deadlocks Total Occurrences	All
11	Timeouts Total Occurrences	All
12	Row Lock Suspension Occurrences	Row (X'18')
13	Row Lock Suspension Average Elapsed Time	
14	Page Lock Suspension Occurrences	Datapage (X'00')
15	Page Lock Suspension Average Elapsed Time	
16	Page Latch Suspension Occurrences	Number of IFCID 226 and 227 pairs
17	Page Latch Suspension Average Elapsed Time	
18	Pageset Lock Suspension Occurrences	• Pageset (X'02') • Partitioned table space (X'03') • Partition (X'06')
19	Pageset Lock Suspension Average Elapsed Time	
20	Database Lock Suspension Occurrences	Database (X'01')
21	Database Lock Suspension Average Elapsed Time	
22	Table Lock Suspension Occurrences	Table (X'10')
23	Table Lock Suspension Average Elapsed Time	
24	LOB Lock Suspension Occurrences	LOB (X'30')
25	LOB Lock Suspension Average Elapsed Time	
26	Drain Lock Suspension Occurrences	• CS-read drain (X'14') • RR-read drain (X'15') • Write drain (X'16')
27	Drain Lock Suspension Average Elapsed Time	
28	Page P-Lock Suspension Occurrences	Page P-Lock (X'1E')

Table 5. Spreadsheet representation of lock suspension data (continued)		
Col.	**Column label**	**Includes the following DB2 lock resource types**
29	Page P-Lock Suspension Average Elapsed Time	
30	Pageset P-Lock Suspension Occurrences	Pageset/partition P-Lock (X'1D')
31	Pageset P-Lock Suspension Average Elapsed Time	
32	Other P-Lock Suspension Occurrences	• Index manager tree P-Lock (X'1C') • DDF CDB P-Lock (X'1F') • Group Buffer Pool level castout P-Lock (X'20') • Pageset or partition level castout P-Lock (X'21') • RLF P-Lock (X'22') • DBD P-Lock (X'23')
33	Other P-Lock Suspension Average Elapsed Time	
34	Miscellaneous Lock Suspension Occurrences	All others not listed above.
35	Miscellaneous Lock Suspension Average Elapsed Time	

Lockout Report

The lockout report summarizes timeouts and deadlocks occurring within a specified period of time.

The report shows the number of times an agent, identified by up to three OMEGAMON for Db2 PE identifiers, has been timed out or involved in a deadlock when requesting a particular resource. In addition, it shows the other contenders for the resource and the number of times they act as holders or waiters.

There is no correlation between the number of deadlock events reported by Locking reports and traces and the number of deadlocks reported in Accounting and Statistics reports. Whereas Accounting and Statistics reports count all deadlock occurrences, regardless of how they resolve, Locking reports only those deadlocks that were resolved by DB2. DB2 can resolve a deadlock either by making a process roll back, thereby releasing the locks it holds on resources, or by requesting a process to terminate.

The lockout report is produced if level LOCKOUT is specified in the REPORT subcommand and if there is at least one combination of a lockout agent's identifier satisfying the FROM and TO, and INCLUDE or EXCLUDE criteria.

The ORDER subcommand specifies by which OMEGAMON for Db2 PE identifiers the report is to be sorted. You can specify up to three identifiers.

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*.

Layout of a Lockout Report

This is the layout of a lockout report. The letter x is a placeholder marking the maximum size of a field. See "Example of a Lockout Report" on page 336 for an example of a lockout report.

```
   LOCATION: xxxxxxxxxxxxxxx        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-n
      GROUP: xxxxxxxx                          LOCKING REPORT - LOCKOUT                 REQUESTED FROM: mm/dd/yy hh:mm:ss.nn
     MEMBER: xxxxxxxx                                                                          TO: mm/dd/yy hh:mm:ss.nn
  SUBSYSTEM: xxxx                                    ORDER: xxxxxx                     INTERVAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn                                   SCOPE: xxxxxx                               TO: mm/dd/yy hh:mm:ss.nn

xxxxxxxx
 xxxxxxxx
  xxxxxxxx         --- L O C K   R E S O U R C E ---                     ---------- A G E N T S ------------  BLOCKER/
    MEMBER         TYPE     NAME                    TIMEOUTS DEADLOCKS   MEMBER    PLANNAME  CONNECT   CORRID        HOLDER WAITER
------------------ -------- ----------------------- -------- ---------   --------  --------  --------  ------------  ------ ------
xxxxxxxxxxxxxxxx   xxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxx    nnnnn     nnnnn
 xxxxxxxxxxxxxxxx           xxxxxxxxxxxxxxxxxxxxxxxx                     xxxxxxxx  xxxxxxxx  xxxxxxxx  xxxxxxxxxxxx  nnnnnn nnnnnn
  xxxxxxxxxxxxxxxx          xxxxxxxxxxxxxxxxxxxxxxxx                     xxxxxxxx  xxxxxxxx  xxxxxxxx  xxxxxxxxxxxx  nnnnnn nnnnnn
   xxxxxxxx                 xxxxxxxxxxxxxxxxxxxxxxxx                     .
                                                                         .
                                                                         .

                   xxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxx    nnnnn     nnnnn   xxxxxxxx  xxxxxxxx  xxxxxxxx  xxxxxxxxxxxx  nnnnnn nnnnnn
                             xxxxxxxxxxxxxxxxxxxxxxxx                     .
                             xxxxxxxxxxxxxxxxxxxxxxxx                     .
                                                                          .

                   ** LOCKOUTS FOR xxxxxxxx       **    nnnnn     nnnnn
 .
 .
 .

   *GROUP TOTAL*                                       nnnnn     nnnnn
  *SUBTOTAL*                                           nnnnn     nnnnn
 *TOTAL*                                               nnnnn     nnnnn
*GRAND TOTAL*                                          nnnnn     nnnnn
```

Field descriptions

LOCK RESOURCE TYPE
The type of resource involved in the lockout.

LOCK RESOURCE NAME
The name of the resource on which the timeout or deadlock occurred. Each part of the lock resource name is printed on a separate line.

TIMEOUTS
The number of times the resource was involved in a timeout.

DEADLOCKS
The number of times the resource was involved in a deadlock.

There is no correlation between the number of deadlocks reported by Locking reports and traces and the number of deadlocks reported in Accounting and Statistics reports. Whereas Accounting and Statistics reports count all deadlock occurrences, regardless of how they resolve, Locking reports only those deadlocks that were resolved by DB2. DB2 can resolve a deadlock either by making a process roll back, thereby releasing the locks on resources, or by requesting a process to terminate.

AGENTS
The agents in contention for the resource during the lockout. This block consists of the following columns:

MEMBER
The agent's member name. In a non-data-sharing environment, this field shows N/P.

PLANNAME
The agent's plan name or the word SYSTEM if there is contention with a retained lock.

CONNECT
The agent's connection name.

CORRID
The agent's correlation identifier.

BLOCKER/HOLDER

For timeouts, the number of times the agent held the resource during the lockout.

For deadlocks, the number of times the agent was the blocker, either as a holder or a waiter.

WAITER
The number of times the agent waited for the resource during the lockout.

LOCKOUTS FOR
The number of timeout and deadlock records aggregated for the currently reported set of OMEGAMON for Db2 PE identifiers.

For timeouts, this value is equivalent to the sum of the entries in the TIMEOUTS column.

A deadlock record involves several resources. Therefore, this value differs from the sum of the entries in the DEADLOCKS column.

GROUP TOTAL
The sum of report entries that belong to a data sharing group if more than one member of the group is reported for a particular combination of the DB2 identifiers. A GROUP TOTAL only appears in group-scope reports.

SUBTOTAL
When a report is ordered by three identifiers and there is more than one third-level identifier reported under it, a subtotal is printed each time the second-level identifier changes.

TOTAL
When a report is ordered by two or three identifiers and there is more than one second-level identifier reported under it, a total is printed each time the first-level identifier changes.

GRAND TOTAL
If there is more than one first-level identifier reported, a grand total is printed at the end of each group in a group-scope report or at the end of each member in a member-scope report.

Example of a Lockout Report

The following command is used to produce the example of the Lockout report:

```
LOCKING
     REPORT
        LEVEL (LOCKOUT)
```

Here is the example of the Lockout report:

```
   LOCATION: STLEC1                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: N/P                               LOCKING REPORT - LOCKOUT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: VA1A                             ORDER: PRIMAUTH-PLANNAME                       INTERVAL FROM: 06/04/15 00:15:44.20
DB2 VERSION: V10                                    SCOPE: MEMBER                                       TO: 06/04/15 00:15:44.20


PRIMAUTH           --- L O C K   R E S O U R C E ---                     --------------- A G E N T S --------------   BLOCKER/
 PLANNAME          TYPE      NAME                    TIMEOUTS DEADLOCKS   MEMBER    PLANNAME  CONNECT   CORRID         HOLDER WAITER
------------------ --------- ----------------------- -------- ---------   --------  --------  --------  ------------   ------ ------
SYSADM
 DSNTEP3           SKPT                                     1         0   N/P       DSNTEP3   BATCH     L829UTT1           1      0

                            CTKN=0000000000000000
                            COLL(HEX)=              X'11223344556677889900112233445667788'
                            PKID(HEX)=              X'1122334455667788'
                   ** LOCKOUTS FOR DSNTEP3        **        1         0

LOCKING REPORT COMPLETE
```

Locking Detail Report

The Locking Detail (also referred to as Lock Detail) report is based on IFCID 21, which records the detail lock requests.

The Locking Detail report is produced if level DETAIL is specified in the REPORT subcommand.

The ORDER subcommand specifies by which OMEGAMON for Db2 PE identifiers the report is to be sorted. In this sample the data is accumulated and ordered by DATABASE-PAGESET.

“Layout of a Locking Detail Report” on page 336 shows the layout of a Locking Detail report. The letter x is a placeholder marking the maximum size of a field. See “Locking Detail Report” on page 339 for an example of a Locking Detail report.

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*.

Layout of a Locking Detail Report

You can generate a Locking Detail report as follows:

```
LOCKING
  REPORT
     SCOPE (MEMBER)
     LEVEL (DETAIL)
```

```
   LOCATION: xxxx                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: X-Y
      GROUP: xxxx                              LOCKING REPORT - DETAIL                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: xxxx                                                                                 TO: NOT SPECIFIED
  SUBSYSTEM: xxxx                                ORDER: DATABASE-PAGESET                      INTERVAL FROM: MM/DD/YY HH:MM:SS.TT
DB2 VERSION: Vx                                       SCOPE: MEMBER                                  TO: MM/DD/YY HH:MM:SS.TT

                                                                --REQ TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE           --- L O C K   R E S O U R C E --- TOTAL    LOCAL LOCK  UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET           TYPE      NAME                    REQ      XES   CHNGE OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ----------------------- -------- ----- ----- ------ ----- ----- ----- -----  ----- ----- ----- ------
DBNAME
 TSNAME            LOCK TYPE resource-name           xxxxxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx  xxxxx
                                                             xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx        xxxxx xxxxx xxxxx
xxxxx

                   ** SUM OF TSNAME **               xxxxxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx  xxxxx
                                                             xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx        xxxxx xxxxx xxxxx  xxxxx


*TOTAL*
DBNAME                                               xxxxxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx  xxxxx
                                                             xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx        xxxxx xxxxx xxxxx  xxxxx
```

Note: If the lock resource type has a value of SKPT (skeleton package table locking) the Lock Detail report shows compressed parts of the SKPT resource name as hexadecimal strings in reports and traces. It consists of the following parts:

- Collection ID, which is compressed.
- Program name, which is compressed.
- Consistency token

With the hexadecimal value you can compare values of different locks. See “Layout of a Locking Detail report for the lock resource type SKPT” on page 337 for an example of a Locking Detail report for the lock resource type SKPT.

Layout of a Locking Detail report for the lock resource type SKPT

Here is an example of the layout of a Locking Detail report for the lock resource type SKPT.

```
   LOCATION: xxxx                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: X-Y
      GROUP: xxxx                              LOCKING REPORT - DETAIL                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: xxxx                                                                                 TO: NOT SPECIFIED
  SUBSYSTEM: xxxx                                ORDER: DATABASE-PAGESET                      INTERVAL FROM: MM/DD/YY HH:MM:SS.TT
DB2 VERSION: Vx                                       SCOPE: MEMBER                                  TO: MM/DD/YY HH:MM:SS.TT

                                                                --REQ TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE           --- L O C K   R E S O U R C E --- TOTAL    LOCAL LOCK  UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET           TYPE      NAME                    REQ      XES   CHNGE OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ----------------------- -------- ----- ----- ------ ----- ----- ----- -----  ----- ----- ----- ------
DBNAME
 TSNAME            SKPT      COLL(HEX)=X'11223344556677889900112233445667788'
                             PKID(HEX)=X'1122334455667788'
                             CTKN     =0000000000000000

                                                      xxxxxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx  xxxxx
                                                               xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx        xxxxx xxxxx xxxxx
xxxxx

                   ** SUM OF TSNAME **               xxxxxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx  xxxxx
                                                               xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx        xxxxx xxxxx xxxxx  xxxxx


*TOTAL*
DBNAME                                               xxxxxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx  xxxxx
                                                               xxxxx xxxxx xxxxx  xxxxx xxxxx xxxxx        xxxxx xxxxx xxxxx  xxxxx
```

Field description

Here is a description of all fields except for the report header, which is described in “The Locking Header of Reports and Traces” on page 324.

LOCK RESOURCE TYPE
The type of resource on which the lock detail request is made. Valid values are shown in Table 3 on page 327.

LOCK RESOURCE NAME
The name on which the lock detail request is made. Each part of the lock resource name is printed on a separate line. The abbreviations shown in the report are explained, in alphabetical order, in Table 4 on page 329.

TOTAL REQ
The total number of lock requests. The sum is calculated by adding the number of request types like LOCK, UNLOCK, CHANGE, or OTHER request types.

LOCAL
The number of lock requests that were **not** sent to cross-system extended services (XES). The sum is calculated by adding the number of request types like LOCK, UNLOCK, CHANGE, or OTHER request types found in the IRLM FUNCTION CODE if data indicates that the request was **not** sent to z/OS XES.

XES
The number of lock requests that were sent to cross-system extended services (XES). The sum is calculated by adding the number of request types like LOCK, UNLOCK, CHANGE, or OTHER request types found in the IRLM FUNCTION CODE if data indicates that the request was sent to z/OS XES.

REQ TYPE
The lock request types:

LOCK
Lock function

UNLOCK
Unlock function

CHNGE
Change function

OTHER
Any other functions

LOCK STATE
The lock state can be:

IS
Intent share

IX
Intent exclusive

SIX
Share with intent exclusive

NSU
Non shared update

S
Share

X
Exclusive

U
Update

LOCK DURATION
The lock duration can be:

CMT
Commit

CMT+1
Commit + 1

ALLOC
Allocation

MAN
Manual

MAN+1
Manual + 1

OTHER
Other

COND
The number of lock requests with request type or mode CONDITIONAL.

AUTREL
The number of lock requests with request type or mode AUTOMATIC RELEASE.

TOTAL
Total lines are printed regardless of the number of different IDs printed before even if the report presents only a single ID.

Locking Detail Report

You can generate a Locking Detail report as follows:

```
LOCKING
  REPORT
     SCOPE (MEMBER)
     LEVEL (DETAIL)
```

“Locking Detail Report” on page 339 shows a sample Locking Detail report, produced by the following command:

```
⋮
LOCKING
      REPORT
         LEVEL (DETAIL)
⋮
```

```
   LOCATION: OMPD0001                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-1
      GROUP: N/P                               LOCKING REPORT - DETAIL                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB2U001                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: DB2U                             ORDER: DATABASE-PAGESET                    INTERVAL FROM: 03/04/15 08:54:13.83
DB2 VERSION: V10                                   SCOPE: MEMBER                                      TO: 03/04/15 09:02:47.51

                                                                        --REQ  TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE           --- L O C K   R E S O U R C E --- TOTAL    LOCAL  LOCK   UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET           TYPE      NAME                    REQ      XES    CHNGE  OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ----------------------- -------- -----  -----  -----  ----- ----- ----- -----  ----- ----- -----  -----
'BLANK'
 'BLANK'           EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  1                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  2                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  3                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  4                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  5                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  6                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  7                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  8                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH=  9                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 10                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 11                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 12                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 13                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 14                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 15                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 16                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 17                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 18                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 19                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 20                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 21                          32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16      0     0     0     0     32     0     0      0
                             HASH= 22                          32     0      0     16    16     0           0     0     0      0
...
```

```
   LOCATION: OMPD0001                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-3
      GROUP: N/P                               LOCKING REPORT - DETAIL                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB2U001                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: DB2U                             ORDER: DATABASE-PAGESET                        INTERVAL FROM: 03/04/15 08:54:13.83
DB2 VERSION: V10                                  SCOPE: MEMBER                                      TO: 03/04/15 09:02:47.51

                                                                          --REQ  TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  LOCK   UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET          TYPE      NAME                    REQ      XES    CHNGE  OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ----------------------- -------- -----  -----  -----  ----- ----- ----- -----  ----- ----- -----  -----
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 46                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 47                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 48                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 49                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 50                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 51                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 52                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 53                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 54                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 55                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 56                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      64     0     32     32     0     0     0     0     64     0     0      0
                             HASH= 57                            64     0      0     16    48     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 58                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 59                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 60                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 61                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 62                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 63                            32     0      0     16    16     0           0     0     0      0
                   EXCP UPD  RMID= 14                      32     0     16     16     0     0     0     0     32     0     0      0
                             HASH= 64                            32     0      0     16    16     0           0     0     0      0
                   GBP S/S   BPID=GBP0                     62     0     31     31     0     0     0     0     62     0     0      2
                                                                 62     0      0     29    2     0           0     0     0      0
                   GBP S/S   BPID=GBP1                     68     0     34     34     0     0     0     0     68     0     0      2
                                                                 68     0      0     32    2     0           0     0     0      0
                   GBP S/S   BPID=GBP16K0                  36     0     18     18     0     0     0     0     36     0     0      2
                                                                 36     0      0     16    2     0           0     0     0      0
                   GBP S/S   BPID=GBP2                     68     0     34     34     0     0     0     0     68     0     0      2
                                                                 68     0      0     32    2     0           0     0     0      0
```

```
   LOCATION: OMPD0001                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-4
      GROUP: N/P                               LOCKING REPORT - DETAIL                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB2U001                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: DB2U                             ORDER: DATABASE-PAGESET                        INTERVAL FROM: 03/04/15 08:54:13.83
DB2 VERSION: V10                                  SCOPE: MEMBER                                      TO: 03/04/15 09:02:47.51

                                                                          --REQ  TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  LOCK   UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET          TYPE      NAME                    REQ      XES    CHNGE  OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ----------------------- -------- -----  -----  -----  ----- ----- ----- -----  ----- ----- -----  -----
                   GBP S/S   BPID=GBP32K                   36     0     18     18     0     0     0     0     36     0     0      2
                                                                 36     0      0     16    2     0           0     0     0      0
                   GBP S/S   BPID=GBP8K0                   36     0     18     18     0     0     0     0     36     0     0      2
                                                                 36     0      0     16    2     0           0     0     0      0
                   N/P       N/P                       162916  153K   4705   154K   128   215   130     0   2054  134K     0    322
                                                         10147   3928    781  15934   125   651           9068  4375 13075      0
                   SCA ACCS  N/A                         56     4     28     28     0     0     0     0     56     0     0      0
                                                                 52     0      0     0    56     0           0     0     0      0
                   SKCT      PLAN=DCXIP001                4     0     4      0     0     0     0     0     0     0     0      0
                                                                 4     0      0     4     0     0           0     0     4      0
                   SKCT      PLAN=KO2PLAN                 1     1     1      0     0     0     0     0     0     0     0      0
                                                                 0     0      0     1     0     0           0     0     1      0
                   SKPT      COLL=X'D8C4D4E7D9E3D330D3C3C440404040404040'
                             PKID=X'C1E7E5C5C9C9D3C3'
                             CTKN=17C8584801D08F08         3     3     3      0     0     0     0     0     0     3     0      3
                                                                 0     0      0     3     0     0           0     0     0      0
                   SKPT      COLL=X'E2F7E4D3E2C4F7C44040404040404040404040C5'
                             PKID=X'D4E8E335D4E3D7E4'
                             CTKN=5359534C564C3031       276   276   276      0     0     0     0     0     0   276     0    276
                                                                 0     0      0   276     0     0           0     0     0      0
                   SKPT      COLL=X'E2F7E4D3E2C4F7C44040404040404040E335'
                             PKID=X'F7E2E2C43832D3C3'
                             CTKN=5359534C564C3031      1586  1586  1586      0     0     0     0     0     0  1586     0   1586
                                                                 0     0      0  1586     0     0           0     0     0      0
                   SKPT      COLL=X'E2F7E4D3E2C4F7C44040404040404040E335'
                             PKID=X'F7E2E2C43833D3C3'
                             CTKN=5359534C564C3031    114823  115K   115K     0     0     0     0     0     0  115K     0   115K
                                                                 0     0      0  115K     0     0           0     0     0      0
                   SKPT      COLL=X'E2F7E4D3E2C4F7C44040404040404040E335'
                             PKID=X'F7E2E3343831D3C3'
                             CTKN=5359534C564C3031        18    18    18      0     0     0     0     0     0    18     0     18
                                                                 0     0      0    18     0     0           0     0     0      0
                   SKPT      COLL=X'E2F7E4D3E2C4F7C44040404040404040E335'
                             PKID=X'F7E2E3343832D3C3'
                             CTKN=5359534C564C3031     10895 10895 10895      0     0     0     0     0     0 10895     0  10895
                                                                 0     0      0 10895     0     0           0     0     0      0
                   SKPT      COLL=X'E2F7E4D3E2C4F7C44040404040404040E335'
                             PKID=X'F7E2E3343833D3C3'
                             CTKN=5359534C564C3031       116   116   116      0     0     0     0     0     0   116     0    116
                                                                 0     0      0   116     0     0           0     0     0      0
                   X'FF'     DB  =10435                 1026     0   513    513     0     0     0     0  1026     0     0      0
                             OB  =54996                        1026     0      0     0  1026     0           0     0     0      0
                   X'09'     DB  =XDELDX31                2     0     1      1     0     0     0     0     2     0     0      0
                             OB  =IXINM200                      2     0      0     0     1     0           0     0     0      0
                   X'09'     DB  =XDELDX31                2     0     1      1     0     0     0     0     2     0     0      0
                             OB  =IXIPPR02                      2     0      0     0     1     0           0     0     0      0
...
```

```
   LOCATION: OMPD0001                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-6
      GROUP: N/P                                LOCKING REPORT - DETAIL                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB2U001                                                                             TO: NOT SPECIFIED
  SUBSYSTEM: DB2U                             ORDER: DATABASE-PAGESET                   INTERVAL FROM: 03/04/15 08:54:13.83
DB2 VERSION: V10                                  SCOPE: MEMBER                                 TO: 03/04/15 09:02:47.51

                                                                    --REQ  TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  LOCK   UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET          TYPE      NAME                    REQ      XES    CHNGE  OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ---------------------- -------- -----  -----  -----  ----- ----- ----- -----  ----- ----- -----  -----
                  X'09'     DB  =XDELDX31               16    12      8      8      0     0     0     0     16     0     0      8
                            OB  =TSITLD01                      4      0      0      0    16     0                 0     0     0      0
                  X'09'     DB  =XDELDX31                2     0      1      1      0     0     0     0      2     0     0      0
                            OB  =TSSIB008                      2      0      0      0     1     0                 0     0     0      0
                  X'09'     DB  =XDELDX31                4     4      2      2      0     0     0     0      4     0     0      0
                            OB  =232                           0      0      0      0     4     0                 0     0     0      0
                  X'2E'     DB  =512                    17     0     17      0     17     0     0     0      0     0     0      0
                            OB  =312                           17     0      0      0     0     0                 0     0    17      0
                  X'2F'     DB  =49876               67167  5570  33584  33583      0     0     0     0  67167     0     0      0
                            OB  =50029                     61597      0      0      0 67167     0                 0     0     0      0
                  X'34'     DB  =58088                 523    72    296    227      0     0     0     0    523     0     0    304
                            OB  =57965                         451      0      0    523     0     0                 0     0     0      0
                  ** SUM OF 'BLANK'                  361905  286K   168K   189K    145   215   130     0  73304  262K     0   128K
                                                             75740  3928    781   145K 69512   651        9068  4375 13097      0
*TOTAL*
'BLANK'                                              361905  286K   168K   189K    145   215   130     0  73304  262K     0   128K
                                                             75740  3928    781   145K 69512   651        9068  4375 13097      0
DCXID001
 327              MASSDEL   N/P                          6     3      6      0      0     0     0     0      0     6     0      0
                                                             3      0      0      6     0     0                 0     0     0      0
                  ** SUM OF 327                          6     3      6      0      0     0     0     0      0     6     0      0
                                                             3      0      0      6     0     0                 0     0     0      0
*TOTAL*
DCXID001                                                     6     3      6      0      0     0     0     0      0     6     0      0
                                                             3      0      0      6     0     0                 0     0     0      0
DSNDB01
 DSNLLX01         OPENLOCK  N/P                          6     6      3      3      0     0     0     0      6     0     0      3
                                                             0      0      0      3     0     0                 0     0     0      0
                  PAGEPLCK  PART=    1                   6     0      3      3      0     0     0     0      0     0     0      0
                            BPID=BP0                         6      0      0      3     0     0                 0     0     6      0
                  PAGEPLCK  PART=    1                   2     0      1      1      0     0     0     0      0     0     0      0
                            PAGE=X'00000E88'                 2      0      0      0     1     0                 0     0     2      0
                            BPID=BP0
                  PAGEPLCK  PART=    1                   2     0      1      1      0     0     0     0      0     0     0      0
                            PAGE=X'000005A8'                 2      0      0      0     1     0                 0     0     2      0
                            BPID=BP0
                  PAGEPLCK  PART=    1                   4     0      2      2      0     0     0     0      0     0     0      0
                            PAGE=X'000005FC'                 4      0      0      0     2     0                 0     0     4      0
                            BPID=BP0

...
```

```
   LOCATION: OMPD0001                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-9
      GROUP: N/P                                LOCKING REPORT - DETAIL                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB2U001                                                                             TO: NOT SPECIFIED
  SUBSYSTEM: DB2U                             ORDER: DATABASE-PAGESET                   INTERVAL FROM: 03/04/15 08:54:13.83
DB2 VERSION: V10                                  SCOPE: MEMBER                                 TO: 03/04/15 09:02:47.51

                                                                    --REQ  TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  LOCK   UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET          TYPE      NAME                    REQ      XES    CHNGE  OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ---------------------- -------- -----  -----  -----  ----- ----- ----- -----  ----- ----- -----  -----
                  PAGEPLCK  PART=    1                   2     0      1      1      0     0     0     0      0     0     0      0
                            PAGE=X'00005F83'                 2      0      0      0     1     0                 0     0     2      0
                            BPID=BP0
                  PAGEPLCK  PART=    1                   2     0      1      1      0     0     0     0      0     0     0      0
                            PAGE=X'00005F88'                 2      0      0      0     1     0                 0     0     2      0
                            BPID=BP0
                  PAGEPLCK  PART=    1                   6     0      3      3      0     0     0     0      0     0     0      0
                            PAGE=X'00005F91'                 6      0      0      0     3     0                 0     0     6      0
                            BPID=BP0
                  PAGEPLCK  PART=    1                   2     0      1      1      0     0     0     0      0     0     0      0
                            PAGE=X'00005F92'                 2      0      0      0     1     0                 0     0     2      0
                            BPID=BP0
                  PAGEPLCK  PART=    1                   2     0      1      1      0     0     0     0      0     0     0      0
                            PAGE=X'00005F94'                 2      0      0      0     1     0                 0     0     2      0
                            BPID=BP0
                  ** SUM OF DSNLLX02                    66     6     33     33      0     0     0     0      6     0     0      3
                                                             60     0      0      5    28     0                 0     0    60      0
 SYSLGRNX         DATAPAGE  PAGE=X'000006B0'             1     0      1      0      0     0     0     0      0     1     0      1
                                                             1      0      0      0     0     1                 0     0     0      1
                  DATAPAGE  PAGE=X'00000BB3'             1     0      1      0      0     0     0     0      0     1     0      1
                                                             1      0      0      0     0     1                 0     0     0      1
                  DATAPAGE  PAGE=X'0000095A'             1     0      1      0      0     0     0     0      0     1     0      1
                                                             1      0      0      0     0     1                 0     0     0      1
                  DATAPAGE  PAGE=X'00000957'             2     0      2      0      0     0     0     0      0     2     0      2
                                                             2      0      0      0     0     2                 0     0     0      2
                  DATAPAGE  PAGE=X'00000958'             9     0      9      0      0     0     0     0      0     9     0      9
                                                             9      0      0      0     0     9                 0     0     0      9
                  DATAPAGE  PAGE=X'00000959'             2     0      2      0      0     0     0     0      0     2     0      2
                                                             2      0      0      0     0     2                 0     0     0      2
                  DATAPAGE  PAGE=X'00001DD6'             3     0      3      0      0     0     0     0      0     3     0      3
                                                             3      0      0      0     0     3                 0     0     0      3
                  DATAPAGE  PAGE=X'00001DD9'             3     0      3      0      0     0     0     0      0     3     0      3
                                                             3      0      0      0     0     3                 0     0     0      3
                  DATAPAGE  PAGE=X'00007F6D'            24     0     14      0      0     0     0     0     10    14     0     14
                                                            24     10      0      0    10    14                 0     0     0      4
                  DATAPAGE  PAGE=X'oo007F6E'             2     0      2      0      0     0     0     0      0     2     0      2
                                                             2      0      0      0     0     2                 0     0     0      2
                  DATAPAGE  PAGE=X'00007F6F'             1     0      1      0      0     0     0     0      0     1     0      1
                                                             1      0      0      0     0     1                 0     0     0      1
                  DATAPAGE  PAGE=X'00007F69'             1     0      1      0      0     0     0     0      0     1     0      1
                                                             1      0      0      0     0     1                 0     0     0      1
                  DATAPAGE  PAGE=X'00007F70'            16     0     11      0      0     0     0     0      5    11     0     11
                                                            16     5      0      0     5    11                 0     0     0      6
```

```
   LOCATION: OMPD0001                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-10
      GROUP: N/P                                LOCKING REPORT - DETAIL                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB2U001                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: DB2U                              ORDER: DATABASE-PAGESET                     INTERVAL FROM: 03/04/15 08:54:13.83
DB2 VERSION: V10                                  SCOPE: MEMBER                                         TO: 03/04/15 09:02:47.51

                                                                    --REQ  TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  LOCK   UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET          TYPE      NAME                    REQ      XES    CHNGE  OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ----------------------- -------- -----  -----  -----  ----- ----- ----- -----  ----- ----- -----  -----
                   DATAPAGE  PAGE=X'00007F71'              21     0     14      0      0     0     0     0      7    14     0     14
                                                                 21      7      0      0     9    12           0     0     0      5
                   DATAPAGE  PAGE=X'00007F72'              40     0     30      0      0     0     0     0     10    30     0     30
                                                                 40     10      0      0    30    10           0     0     0      0
                   OPENLOCK  N/P                          6     6      3      3      0     0     0     0      6     0     0      3
                                                                  0      0      0      0     3     0           0     0     0      0
                   PAGEPLCK  PART=    1                  6     0      3      3      0     0     0     0      0     0     0      0
                             BPID=BP0                           6      0      0      0     3     0           0     0     6      0
                   PAGESET   N/P                         59     0     59      0      0    59     0     0      0    59     0      0
                                                                 59      0      0      0     0     0           0     0     0      0
                   ** SUM OF SYSLGRNX                   198     6    160      6      0    59     0     0     38   154     0     98
                                                                192     32      0      0    60    73           0     0     6     41
*TOTAL*
DSNDB01                                                 334    18    228     74      0    59     0     0     50   154     0    104
                                                               316     32      0      5   123    73           0     0   130     41
DSNDB06
 DSNACH01         DRAIN CS  N/P                          2     0      1      1      0     0     0     0      2     0     0      1
                                                                  2      0      0      1     0     0           0     0     0      0
                   OPENLOCK  N/P                          2     2      1      1      0     0     0     0      2     0     0      0
                                                                  0      0      0      0     1     0           0     0     0      0
                   ** SUM OF DSNACH01                     4     2      2      2      0     0     0     0      4     0     0      1
                                                                  2      0      0      1     1     0           0     0     0      0
 SYSDBASE          DATAPAGE  PAGE=X'00000027'             12    12     12      0      0     0     0     0     12     0     0      9
                                                                  0      0      0     12     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'00000028'              6     6      6      0      0     0     0     0      6     0     0      0
                                                                  0      0      0      6     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'0000016E'            132   132     66     66      0     0     0     0     66     0     0      0
                                                                  0      0      0    132     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'0000016F'             24    24     12     12      0     0     0     0     12     0     0      0
                                                                  0      0      0     24     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'00000170'           1656  1656    864    792      0     0     0     0    864     0     0     72
                                                                  0      0      0   1656     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'00000174'            720   720    400    320      0     0     0     0    400     0     0      0
                                                                  0      0      0    720     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'00001337'             97    97     97      0      0     0     0     0     97     0     0      0
                                                                  0      0      0     97     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'000014A7'              4     4      4      0      0     0     0     0      4     0     0      3
                                                                  0      0      0      4     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'0000149A'              4     4      4      0      0     0     0     0      4     0     0      3
                                                                  0      0      0      4     0     0           0     0     0      0
...
```

```
   LOCATION: OMPD0001                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-5966
      GROUP: N/P                                LOCKING REPORT - DETAIL                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: DB2U001                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: DB2U                              ORDER: DATABASE-PAGESET                     INTERVAL FROM: 03/04/15 08:54:13.83
DB2 VERSION: V10                                  SCOPE: MEMBER                                         TO: 03/04/15 09:02:47.51

                                                                    --REQ  TYPE-- -----LOCK STATE--------  --LOCK DURATION--
DATABASE          --- L O C K   R E S O U R C E --- TOTAL    LOCAL  LOCK   UNLOCK IS    IX    SIX   NSU    MAN   CMT   ALLOC COND
 PAGESET          TYPE      NAME                    REQ      XES    CHNGE  OTHER  S     X     U            MAN+1 CMT+1 OTHER AUTREL
------------------ --------- ----------------------- -------- -----  -----  -----  ----- ----- ----- -----  ----- ----- -----  -----
                   DATAPAGE  PAGE=X'000039D5'             12    12     12      0      0     0     0     0     12     0     0      9
                                                                  0      0      0     12     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'000039EE'             12    12     12      0      0     0     0     0     12     0     0      9
                                                                  0      0      0     12     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'000039EF'             52    52     52      0      0     0     0     0     52     0     0     39
                                                                  0      0      0     52     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'000039E4'             52    52     52      0      0     0     0     0     52     0     0     39
                                                                  0      0      0     52     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'000039F0'             32    32     32      0      0     0     0     0     32     0     0     24
                                                                  0      0      0     32     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'00003968'              5     5      5      0      0     0     0     0      5     0     0      4
                                                                  0      0      0      5     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'00003971'            410   410    410      0      0     0     0     0    410     0     0    328
                                                                  0      0      0    410     0     0           0     0     0      0
                   DATAPAGE  PAGE=X'00003999'              4     4      4      0      0     0     0     0      4     0     0      3
                                                                  0      0      0      4     0     0           0     0     0      0
                   PAGESET   N/P                         126    11    126      0    126     0     0     0      0   126     0      0
                                                                115      0      0      0     0     0           0     0     0      0
                   ** SUM OF 9                          2038  1923   1901    137    126     0     0     0   1775   126     0    601
                                                                115      0      0   1912     0     0         137     0     0      0
*TOTAL*
6                                                       2602  2095   2417    185    368     0     0     0   1918   451    42    723
                                                                507      0      0   2180    27     0           137     0    54      0
*GRAND TOTAL*                                        2160727 1050K  1576K   568K   244K 70460   130     0   537K  891K 37113   566K
                                                             1111K  15686    781   983K  395K  5621       62188  5017  629K  40093
LOCKING REPORT COMPLETE
```

Locking Trace

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*. It also provides information on input to locking.

The layout for locking traces is the same for each trace apart from the event-specific data. “Layout of a Deadlock Trace” on page 343 shows the general layout of the locking trace and describes the common fields.

Layout of a Deadlock Trace

```
   LOCATION: XXXXXXXXXXXXXXXX          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: L-N
      GROUP: XXXXXXXX                                                                 REQUESTED FROM: MM/DD/YY HH:MM:SS.NN
     MEMBER: XXXXXXXX                              LOCKING TRACE - reporttype                      TO: MM/DD/YY HH:MM:SS.NN
  SUBSYSTEM: XXXX                                                                       ACTUAL FROM: MM/DD/YY HH:MM:SS.NN
DB2 VERSION: VN RN                                      SCOPE: MEMBER                     PAGE DATE: MM/DD/YY

PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------

XXXXXXXX XXXXXXXX XXXXXXXX     HH:MM:SS.NNNNNNNN XXXXXXXX XXXXXXXX XXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXX XXXXXXXX XXXXXXXXXXX N/P                XXXXXXXX          XXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXX XXXXXXXX                                                  XXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
REQLOC:  XXXXXXXXXXXXXXXX                                          XXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                                                   XXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                                                                           XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

Field description

Here you find a description of all fields except for the trace header and the OMEGAMON for Db2 PE identifiers, for details of the trace header see “The Locking Header of Reports and Traces” on page 324. The descriptions start with the timestamp block and move to the right.

reporttype
This can be:

- DEADLOCK
- TIMEOUT
- LOCKOUT
- SUSPENSION
- DETAIL

EVENT TIMESTAMP
The time at which the event occurred. The trace is sorted and printed in the order of this timestamp. The format of this timestamp is *hh:mm:ss.nnnnnnnn*.

RELATED TIMESTAMP
The timestamp of the suspended request that was selected as the victim of this event. This field only shows a value for suspension and detail traces. For other traces, this field always shows N/P because the related suspension event is not reported.

EVENT
The Locking event. This varies according to the type of trace.

LOCK RESOURCE TYPE
The type of locked resource. The values for the locked resource types are shown in Table 3 on page 327.

LOCK RESOURCE NAME
The name of the resource. Each part of the lock resource name is printed on a separate line. The format of the name depends on the resource type as shown in Table 4 on page 329.

EVENT SPECIFIC DATA
The layout and content of the event specific data varies according to the reported event and is described in the sections following.

Deadlock Trace

The deadlock trace contains an entry for every occurrence of a deadlock during a specified time period.

The trace shows when the deadlock occurred and provides details on the resources involved in the deadlock and information about the threads that held the resource or waited to use the resource. If the resource was held by more than one agent and not all of them were actively involved in the deadlock, the holder data cannot be determined and is not printed.

The data specific to the deadlock. For each resource involved in a deadlock there is a block of waiter's data and a block of blocker's data.

A blocker is a thread that prevents the victim getting its lock. The blocker can be a holder of the lock or another waiter (one that came in before the victim) that is incompatible with the holder's lock.

There is no correlation between the number of deadlock events reported by Locking reports and traces and the number of deadlocks reported in Accounting and Statistics reports. Whereas Accounting and Statistics reports count all deadlock occurrences, regardless of how they resolve, Locking reports only those deadlocks that were resolved by DB2. DB2 can resolve a deadlock either by making a process roll back, thereby releasing the locks it holds on resources, or by requesting a process to terminate.

The format of the deadlock-specific data is shown in "The Format of Deadlock-Specific Data" on page 344.

Trace Data Specific to Deadlock Event

This topic describes the trace data that is specific to the Deadlock Event.

The Format of Deadlock-Specific Data

The following example shows the layout of Deadlock-Specific data.

```
COUNTER =XXXXX     WAITERS =XXXXX
TSTAMP  =MM/DD/YY HH:MM:SS.ss
HASH    =X'HHHHHHHH'
---------- BLOCKER is HOLDER -----------
LUW=XXXXXXXX.XXXXXXXX.XXXXXXXXXXX
MEMBER  =XXXXXXXX  CONNECT =XXXXXXXX
PLANNAME=XXXXXXXX  CORRID  =XXXXXXXXXXX
DURATION=XXXXXXXX  PRIMAUTH=XXXXXXXX
STATE   =XXXXX     STMTINFO=XXXXXXXX
ENDUSER =XXXXXXXXXXX
WSNAME  =XXXXXXXXXXX
TRANSAC=XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
PROGNAME=xxxxxxxx
COLLID  =xxxxxxxxxxxxxxxxx
LOCATION=xxxxxxxxxxxxxxx
CONTOKEN=X'xxxxxxxxxxxxxxx'
STMTID  =X'xxxxxxxxxxxxxx'

---------------- WAITER ----------------
LUW=XXXXXXXX.XXXXXXXX.XXXXXXXXXXX
MEMBER =XXXXXXXX   CONNECT =XXXXXXXX
PLANNAME=XXXXXXXX  CORRID  =XXXXXXXXXXX
DURATION=XXXXXXXX  PRIMAUTH=XXXXXXXX
REQUEST =XXXXXX    WORTH   =XXXXX
STATE   =XXXXX     STMTINFO=XXXXXXXX
ENDUSER =XXXXXXXXXXX
WSNAME  =XXXXXXXXXXX
TRANSAC=XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
PROGNAME=xxxxxxxx
COLLID  =xxxxxxxxxxxxxxxxx
LOCATION=xxxxxxxxxxxxxxx
CONTOKEN=X'xxxxxxxxxxxxxxx'
STMTID  =X'xxxxxxxxxxxxxx'
```

Field description

The individual fields have the following meaning:

COUNTER
The deadlock interval counter.

WAITERS
The number of waiters involved in the deadlock.

TSTAMP
The time when the deadlock occurred.

HASH
The lock resource hash value.

LUW
The ID of the blocker's or waiter's logical unit of work.

MEMBER
The blocker's or waiter's member name. In a non-data-sharing environment, this field contains N/P.

CONNECT
The holder's or waiter's connection name.

PLANNAME
The blocker's or waiter's plan name.

CORRID
The blocker's or waiter's correlation name.

DURATION
The lock duration of the deadlock blocker or waiter. Valid values are shown in Table 6 on page 345.

Table 6. Lock Duration

Duration	Description
MANUAL	Varies depending on the ISOLATION parameter
MANUAL+1	Temporary change of consistency level from CS to RR during bind and DDL
COMMIT	Until commit
COMMIT+1	Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD
ALLOCATN	Until deallocation
PLAN	For the duration of the plan
UTILITY	For the duration of the utility execution
INTEREST	For the duration of P-Locks
FREE ALL	Until all locks are freed

PRIMAUTH
The primary authorization ID of the thread.

REQUEST
The waiter's request, which can be one of the following:

- LOCK
- UNLOCK
- CHANGE

WORTH
The waiter's worth value assigned by DB2.

STATE
The holder's or waiter's state or mode of the lock applied to the resource. Valid values are shown in Table 7 on page 345.

Table 7. Lock State

State	Description
UPS	Unprotected share
IS	Intent share
IX	Intent exclusive
S	Share
U	Update
SIX	Share with intent exclusive
NSU	Nonshared update
X	Exclusive

STMTINFO
The statement information of the holder or waiter.

ENDUSER
End user's user ID. This field is not shown when this information is not present.

WSNAME
End user's workstation name. This field is not shown when this information is not present.

TRANSAC
The end user's transaction name. This field is not shown when this information is not present.

PROGNAME
The program name can be one of the following:

- The name of the blocker's program that is currently in control at the time of the deadlock and not necessarily the program that acquired the lock.
- The waiter’s program that is contending the resource.

COLLID
The collection identifier can be one of the following:

- The package collection ID of the blocker's program that is currently in control at the time of the deadlock and not necessarily the program that acquired the lock.
- The package collection ID of the waiter's program that is contending the resource.

LOCATION
The location can be one of the following:

- The location of the blocker's program that is currently in control at the time of the deadlock and not necessarily the program that acquired the lock.
- The location of the waiter's program that is contending the resource.

CONTOKEN
The consistency token can be one of the following:

- The consistency token of the blocker's program that is currently in control at the time of the deadlock and not necessarily the program that acquired the lock.
- The consistency token of the waiter's program that is contending the resource.

STMTID
The statement ID of the holder or waiter.

Deadlock Trace Example

“Deadlock trace example” on page 346 shows a sample deadlock trace, produced by the following command:

```
⋮
LOCKING
     TRACE
        LEVEL (DEADLOCK)
⋮
```

Deadlock trace example

This is a sample deadlock trace:

```
   LOCATION: OMPDA21                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: DBDAGROU                           LOCKING TRACE - DEADLOCK                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: DA31MEMB                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: DA31                                                                          ACTUAL FROM: 11/03/15 17:30:58.10
DB2 VERSION: V10                                    SCOPE: MEMBER                            PAGE DATE: 11/03/15
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT    TYPE      NAME                    EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------
SHA      java     DRDA         17:30:58.10472181 DEADLOCK                                   COUNTER = 5243     WAITERS =    2
SHA      'BLANK'  C508B221EA18 N/P                                                          TSTAMP  =11/03/15 17:30:58.10
DISTSERV SERVER                                    TABLE     DB  =TDKDB                    HASH    =X'00010B1E'
REQLOC  :::FFFF:9.152.122                                    OB  =11                       ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :sha                                                                               LUW=G9987A4A.B5FF.C508B221EA18
WSNAME  :miller                                                                            MEMBER  =DA31MEMB  CONNECT =SERVER
TRANSACT:java                                                                              PLANNAME=DISTSERV  CORRID  =java
                                                                                           DURATION=COMMIT    PRIMAUTH=SHA
                                                                                           STATE   =S         STMTINFO=N/A
                                                                                           ENDUSER =sha
                                                                                           WSNAME  =miller
                                                                                           TRANSAC=java
                                                                                           PROGNAME=SYSKA501
                                                                                           COLLID  =NULLID
                                                                                           LOCATION=N/P
                                                                                           CONTOKEN=X'5359534C564C3031'
                                                                                           STMTID  =N/A
                                                                                           ---------- WAITER ----------
                                                                                           LUW=G9987A4A.B601.C508B2220AB3
                                                                                           MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                           PLANNAME=DISTSERV  CORRID  =java
                                                                                           DURATION=COMMIT    PRIMAUTH=SHA
                                                                                           REQUEST =CHANGE    WORTH   =   18
                                                                                           STATE   =X         STMTINFO=N/A
                                                                                           ENDUSER =sha
                                                                                           WSNAME  =miller
                                                                                           TRANSAC=java
                                                                                           PROGNAME=SYSKA501
                                                                                           COLLID  =NULLID
                                                                                           LOCATION=N/P
                                                                                           CONTOKEN=X'5359534C564C3031'
                                                                                           STMTID  =N/A

                                                   TABLE     DB  =TDKDB                    HASH    =X'00010B1E'
                                                               OB  =11                     ----------BLOCKER IS WAITER----------
                                                                                           LUW=G9987A4A.B601.C508B2220AB3
                                                                                           MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                           PLANNAME=DISTSERV  CORRID  =java
                                                                                           DURATION=COMMIT    PRIMAUTH=SHA
                                                                                           STATE   =X         STMTINFO=N/A
                                                                                           ENDUSER =sha
                                                                                           WSNAME  =miller
                                                                                           TRANSAC=java
                                                                                           PROGNAME=SYSKA501
                                                                                           COLLID  =NULLID
                                                                                           LOCATION=N/P
                                                                                           CONTOKEN=X'5359534C564C3031'
                                                                                           STMTID  =N/A
                                                                                           ---------- WAITER -------*VICTIM*-
                                                                                           LUW=G9987A4A.B5FF.C508B221EA18
                                                                                           MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                           PLANNAME=DISTSERV  CORRID  =java
                                                                                           DURATION=COMMIT    PRIMAUTH=SHA
                                                                                           REQUEST =CHANGE    WORTH   =   17
                                                                                           STATE   =X         STMTINFO=N/A
                                                                                           ENDUSER =sha
                                                                                           WSNAME  =miller
                                                                                           TRANSAC=java
                                                                                           PROGNAME=SYSKA501
                                                                                           COLLID  =NULLID
                                                                                           LOCATION=N/P
                                                                                           CONTOKEN=X'5359534C564C3031'
                                                                                           STMTID  =N/A

SHA      java     DRDA         17:31:08.12271550 DEADLOCK                                   COUNTER = 5245     WAITERS =    2
SHA      'BLANK'  C508B2220AB3 N/P                                                          TSTAMP  =11/03/15 17:31:08.10
DISTSERV SERVER                                    TABLE     DB  =TDKDB                    HASH    =X'00010B1E'
```

```
REQLOC  :::FFFF:9.152.122                                   OB  =11             ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :sha                                                                    LUW=G9987A4A.B601.C508B2220AB3
WSNAME  :miller                                                                 MEMBER  =DA31MEMB  CONNECT =SERVER
TRANSACT:java                                                                   PLANNAME=DISTSERV  CORRID  =java
                                                                                DURATION=COMMIT    PRIMAUTH=SHA
                                                                                STATE   =S         STMTINFO=N/A
                                                                                ENDUSER =sha
                                                                                WSNAME  =miller
                                                                                TRANSAC=java
                                                                                PROGNAME=SYSKA501
                                                                                COLLID  =NULLID
                                                                                LOCATION=N/P
                                                                                CONTOKEN=X'5359534C564C3031'
                                                                                STMTID  =N/A
                                                                                ---------------- WAITER ----------------
                                                                                LUW=G9987A4A.AB57.C5087DE5ED7E
                                                                                MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                PLANNAME=DISTSERV  CORRID  =java
                                                                                DURATION=COMMIT    PRIMAUTH=SHA
                                                                                REQUEST =CHANGE    WORTH   =   18
                                                                                STATE   =X         STMTINFO=N/A
                                                                                ENDUSER =sha
                                                                                WSNAME  =miller
                                                                                TRANSAC=java
                                                                                PROGNAME=SYSKA501
                                                                                COLLID  =NULLID
                                                                                LOCATION=N/P
                                                                                CONTOKEN=X'5359534C564C3031'
                                                                                STMTID  =N/A
                                                    TABLE     DB  =TDKDB        HASH    =X'00010B1E'
                                                              OB  =11           -----------BLOCKER IS WAITER-----------
                                                                                LUW=G9987A4A.AB57.C5087DE5ED7E
                                                                                MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                PLANNAME=DISTSERV  CORRID  =java
                                                                                DURATION=COMMIT    PRIMAUTH=SHA
                                                                                STATE   =X         STMTINFO=N/A
                                                                                ENDUSER =sha
                                                                                WSNAME  =miller
                                                                                TRANSAC=java
                                                                                PROGNAME=SYSKA501
                                                                                COLLID  =NULLID
                                                                                LOCATION=N/P
                                                                                CONTOKEN=X'5359534C564C3031'
                                                                                STMTID  =N/A
                                                                                ---------------- WAITER -------*VICTIM*-
                                                                                LUW=G9987A4A.B601.C508B2220AB3
                                                                                MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                PLANNAME=DISTSERV  CORRID  =java
                                                                                DURATION=COMMIT    PRIMAUTH=SHA
                                                                                REQUEST =CHANGE    WORTH   =   17
                                                                                STATE   =X         STMTINFO=N/A
                                                                                ENDUSER =sha
                                                                                WSNAME  =miller
                                                                                TRANSAC=java
                                                                                PROGNAME=SYSKA501
                                                                                COLLID  =NULLID
                                                                                LOCATION=N/P
                                                                                CONTOKEN=X'5359534C564C3031'
                                                                                STMTID  =N/A

SHA      java     DRDA         17:31:13.10897581 DEADLOCK                      COUNTER = 5246     WAITERS =    2
SHA      'BLANK'  C50864AAC7BA N/P                                            TSTAMP  =11/03/15 17:31:13.10
DISTSERV SERVER                                    TABLE     DB  =TDKDB       HASH    =X'00010B1E'
```

```
REQLOC  :::FFFF:9.152.122                                   OB  =11              ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :sha                                                                     LUW=G9987A4A.C220.C50864AAC7BA
WSNAME  :miller                                                                  MEMBER  =DA31MEMB  CONNECT =SERVER
TRANSACT:java                                                                    PLANNAME=DISTSERV  CORRID  =java
                                                                                 DURATION=COMMIT    PRIMAUTH=SHA
                                                                                 STATE   =S         STMTINFO=N/A
                                                                                 ENDUSER =sha
                                                                                 WSNAME  =miller
                                                                                 TRANSAC=java
                                                                                 PROGNAME=SYSKA501
                                                                                 COLLID  =NULLID
                                                                                 LOCATION=N/P
                                                                                 CONTOKEN=X'5359534C564C3031'
                                                                                 STMTID  =N/A
                                                                                 ---------------- WAITER ----------------
                                                                                 LUW=G9987A4A.AB57.C5087DE5ED7E
                                                                                 MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                 PLANNAME=DISTSERV  CORRID  =java
                                                                                 DURATION=COMMIT    PRIMAUTH=SHA
                                                                                 REQUEST =CHANGE    WORTH   =   18
                                                                                 STATE   =X         STMTINFO=N/A
                                                                                 ENDUSER =sha
                                                                                 WSNAME  =miller
                                                                                 TRANSAC=java
                                                                                 PROGNAME=SYSKA501
                                                                                 COLLID  =NULLID
                                                                                 LOCATION=N/P
                                                                                 CONTOKEN=X'5359534C564C3031'
                                                                                 STMTID  =N/A
                                                    TABLE     DB  =TDKDB         HASH    =X'00010B1E'
                                                              OB  =11            -----------BLOCKER IS WAITER-----------
                                                                                 LUW=G9987A4A.AB57.C5087DE5ED7E
                                                                                 MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                 PLANNAME=DISTSERV  CORRID  =java
                                                                                 DURATION=COMMIT    PRIMAUTH=SHA
                                                                                 STATE   =X         STMTINFO=N/A
                                                                                 ENDUSER =sha
                                                                                 WSNAME  =miller
                                                                                 TRANSAC=java
                                                                                 PROGNAME=SYSKA501
                                                                                 COLLID  =NULLID
                                                                                 LOCATION=N/P
                                                                                 CONTOKEN=X'5359534C564C3031'
                                                                                 STMTID  =N/A
                                                                                 ---------------- WAITER -------*VICTIM*-
                                                                                 LUW=G9987A4A.C220.C50864AAC7BA
                                                                                 MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                                 PLANNAME=DISTSERV  CORRID  =java
                                                                                 DURATION=COMMIT    PRIMAUTH=SHA
                                                                                 REQUEST =CHANGE    WORTH   =   17
                                                                                 STATE   =X         STMTINFO=N/A
                                                                                 ENDUSER =sha
                                                                                 WSNAME  =miller
                                                                                 TRANSAC=java
                                                                                 PROGNAME=SYSKA501
                                                                                 COLLID  =NULLID
                                                                                 LOCATION=N/P
                                                                                 CONTOKEN=X'5359534C564C3031'
                                                                                 STMTID  =N/A
SHA      java     DRDA        17:31:18.11530803 DEADLOCK                         COUNTER = 5247     WAITERS =    2
SHA      'BLANK'  C508B221EA18 N/P                                               TSTAMP  =11/03/15 17:31:18.11
DISTSERV SERVER                                     TABLE     DB  =TDKDB        HASH    =X'00010B1E'
...
```

```
REQLOC  :::FFFF:9.152.122                                OB  =11              ---------- BLOCKER is HOLDER --*VICTIM*-
ENDUSER :sha                                                                 LUW=G9987A4A.B5FF.C508B221EA18
WSNAME  :miller                                                              MEMBER  =DA31MEMB  CONNECT =SERVER
TRANSACT:java                                                                PLANNAME=DISTSERV  CORRID  =java
                                                                             DURATION=COMMIT    PRIMAUTH=SHA
                                                                             STATE   =S         STMTINFO=N/A
                                                                             ENDUSER =sha
                                                                             WSNAME  =miller
                                                                             TRANSAC=java
                                                                             PROGNAME=SYSKA501
                                                                             COLLID  =NULLID
                                                                             LOCATION=N/P
                                                                             CONTOKEN=X'5359534C564C3031'
                                                                             STMTID  =N/A
                                                                             ---------------- WAITER ----------------
                                                                             LUW=G9987A4A.B601.C508B2220AB3
                                                                             MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                             PLANNAME=DISTSERV  CORRID  =java
                                                                             DURATION=COMMIT    PRIMAUTH=SHA
                                                                             REQUEST =CHANGE    WORTH   =   18
                                                                             STATE   =X         STMTINFO=N/A
                                                                             ENDUSER =sha
                                                                             WSNAME  =miller
                                                                             TRANSAC=java
                                                                             PROGNAME=SYSKA501
                                                                             COLLID  =NULLID
                                                                             LOCATION=N/P
                                                                             CONTOKEN=X'5359534C564C3031'
                                                                             STMTID  =N/A
                                         TABLE     DB  =TDKDB                HASH    =X'00010B1E'
                                                   OB  =11                   -----------BLOCKER IS WAITER-----------
                                                                             LUW=G9987A4A.B601.C508B2220AB3
                                                                             MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                             PLANNAME=DISTSERV  CORRID  =java
                                                                             DURATION=COMMIT    PRIMAUTH=SHA
                                                                             STATE   =X         STMTINFO=N/A
                                                                             ENDUSER =sha
                                                                             WSNAME  =miller
                                                                             TRANSAC=java
                                                                             PROGNAME=SYSKA501
                                                                             COLLID  =NULLID
                                                                             LOCATION=N/P
                                                                             CONTOKEN=X'5359534C564C3031'
                                                                             STMTID  =N/A
                                                                             ---------------- WAITER -------*VICTIM*-
                                                                             LUW=G9987A4A.B5FF.C508B221EA18
                                                                             MEMBER  =DA31MEMB  CONNECT =SERVER
                                                                             PLANNAME=DISTSERV  CORRID  =java
                                                                             DURATION=COMMIT    PRIMAUTH=SHA
                                                                             REQUEST =CHANGE    WORTH   =   17
                                                                             STATE   =X         STMTINFO=N/A
                                                                             ENDUSER =sha
                                                                             WSNAME  =miller
                                                                             TRANSAC=java
                                                                             PROGNAME=SYSKA501
                                                                             COLLID  =NULLID
                                                                             LOCATION=N/P
                                                                             CONTOKEN=X'5359534C564C3031'
                                                                             STMTID  =N/A
LOCKING TRACE COMPLETE
```

Timeout Trace

The timeout trace shows when a timeout occurred and provides details of the resource involved in the timeout event and information about the threads that held the resource or waited to use the resource.

The following sections show the layout of event-specific information for a timeout trace and describe the fields reported. At the end of this topic you find an example of a timeout trace.

Trace Data Specific to Timeout Event

The details related to the timeout. The format of the timeout-specific data is shown in “Format of timeout-specific data” on page 350.

Format of timeout-specific data

The following example shows details related to the timeout.

```
REQUEST =LOCK UNCONDITIONAL
STATE =IS          ZPARM INTERVAL= 30
DURATION=COMMIT    INTERV.COUNTER= 1
HASH =X'00015F0F'
STMTINFO=DYNAMIC
STMTID =X'000000000000A341'
------------ HOLDERS/WAITERS -----------
HOLDER
LUW=DEIBMIPS.IPUAXZ32.C6215376BB44
MEMBER =SZ32       CONNECT =BATCH
PLANNAME=DSNTIA10 CORRID  =YULT3978
DURATION=COMMIT    PRIMAUTH=SKA
STATE =X           STMTINFO=DYNAMIC
STMTID =X'000000000000A312'
```

Field description

The individual fields have the following meaning:

REQUEST
The timeout request, consists of one of the following:

- LOCK
- CHANGE

Followed by the timeout attribute CONDITIONAL or UNCONDITIONAL.

STATE
The state or mode of the lock applied to the resource. Valid values are shown in Table 7 on page 345.

ZPARM INTERVAL
The timeout interval (ZPARM value), which is the timeout value specified on the installation panel DSNTIPX or in the ZPARM name STORTIME in DSN6SYSP.

DURATION
The length of time for which the lock was held. Valid values are shown in Table 8 on page 351.

Table 8. Lock Duration

Duration	Description
MANUAL	Varies depending on the ISOLATION parameter
MANUAL+1	Temporary change of consistency level from CS to RR during bind and DDL
COMMIT	Until commit
COMMIT+1	Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD
ALLOCATN	Until deallocation
PLAN	Lock held for the duration of the plan
UTILITY	For the duration of the utility execution
FREE ALL	Until all locks are freed
X'00'	The suspension reason is a retained lock

The DURATION attribute controls when locks are released. As a general rule, a lock is only released when an agent makes an unlock request with a duration longer than, or equal to, the longest lock duration specified for the resource by that agent.

You increase lock durations using either a lock request or a change request. Lock durations are decreased using a change request.

INTERV.COUNTER
The number of timeout intervals that can occur before the agent is timed out.

HASH
The lock resource hash value.

STMTINFO
The waiter's statement information. Possible values are:

STATIC
The statement is of type static.

DYNAMIC
The statement is of type dynamic.

STMTID
The cached statement ID for the statement waiting for the resource. A value of zero indicates that the client did not supply this information.

Fields that are printed for each holder/waiter

The following fields are printed for each **holder/waiter** of the reported lock resource:

LUW
The ID of the holder's or waiter's logical unit of work. If the reason for the suspension is a retained lock, this field contains the word SYSTEM.

MEMBER
The holder's or waiter's DB2 member name. In a non-data-sharing environment, N/P is printed.

CONNECT
The holder's or waiter's connection name. If the reason for the suspension is a retained lock, this field contains the word SYSTEM.

PLANNAME
The holder's or waiter's plan name. If the reason for the suspension is a retained lock, this field contains the word SYSTEM.

CORRID
The holder's or waiter's correlation identifier. If the reason for the suspension is a retained lock, this field contains the word SYSTEM.

DURATION
The lock duration of the timeout holder or waiter. Valid values are shown in Table 8 on page 351.

PRIMAUTH
The primary authorization ID.

STATE
The holder's or waiter's state or mode of the lock applied to the resource. Valid values are shown in Table 7 on page 345.

STMTINFO
The holder's statement information. Possible values are:

STATIC
The statement is of type static.

DYNAMIC
The statement is of type dynamic.

STMTID
The cached statement ID for the statement holding the resource. A value of zero indicates that the client did not supply this information.

Timeout Trace Example

"Timeout trace example" on page 352 shows a sample Timeout trace, produced by the following command:

```
LOCKING
     TRACE
        LEVEL (TIMEOUT)
```

Timeout trace example

This is a sample Timeout trace:

```
   LOCATION: STLEC1                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-1
      GROUP: N/P                              LOCKING TRACE - TIMEOUT                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: VA1A                                                                          ACTUAL FROM: 06/04/15 00:15:44.20
DB2 VERSION: V10                                  SCOPE: MEMBER                             PAGE DATE: 06/04/15

PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------
SYSADM   L829UTT2 TSO          00:15:44.20054922 TIMEOUT  SKPT                              REQUEST =LOCK      UNCONDITIONAL
SYSADM   'BLANK'  C448AF2328DD N/P                                                          STATE   =U         ZPARM INTERVAL=   60
DSNTEP3  BATCH                                                 CTKN=0000000000000000      DURATION=MANUAL    INTERV.COUNTER=    1
                                                                                           HASH    =X'0804B402'
                                                                                           STMTINFO=DYNAMIC
                                                                                           STMTID  =X'0000000000000001'
                                                               COLL(HEX)=                  X'1122334455667788990011223344556677 88'
                                                               PKID(HEX=                   X'1122334455667788'
                                                                                           ------------ HOLDERS/WAITERS -----------
                                                                                           HOLDER
                                                                                           LUW=USIBMSY.SYEC1DB2.C448AF1E53C6
                                                                                           MEMBER  =N/P       CONNECT =BATCH
                                                                                           PLANNAME=DSNTEP3   CORRID  =L829UTT1
                                                                                           DURATION=COMMIT    PRIMAUTH=SYSADM
                                                                                           STATE   =X         STMTINFO=DYNAMIC
                                                                                           STMTID  =X'0000000000000001'



LOCKING TRACE COMPLETE
```

Lockout Trace

The lockout trace contains details of timeout and deadlock events.

You generate it by using the following command:

```
LOCKING
     TRACE
        LEVEL (LOCKOUT)
```

For information on the layout of a lockout trace, refer to “Deadlock Trace” on page 343 and “Timeout Trace” on page 350.

Lockout Trace

Here is an example of a lockout trace.

```
LOCATION: STLEC1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-1
       GROUP: DSNCAT                           LOCKING TRACE - LOCKOUT                 REQUESTED FROM: NOT SPECIFIED
      MEMBER: DB2A                                                                                  TO: NOT SPECIFIED
   SUBSYSTEM: DB2A                                                                       ACTUAL FROM: 01/20/21 11:55:42.73
 DB2 VERSION: V12                                  SCOPE: MEMBER                          PAGE DATE: 01/20/21
0PRIMAUTH CORRNAME CONNTYPE
 ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
 PLANNAME CONNECT               RELATED TIMESTAMP EVENT   TYPE      NAME                    EVENT SPECIFIC DATA
 ------------------------------ ----------------- -------- --------- ----------------------- ----------------------------------------
 SYSADM   SFCRIX5E TSO          11:55:42.73818275 TIMEOUT  SKPT      COLL/PKID=X'42415254434F4C3100000000000000050524F4739'
     DM   'BLANK'  D9263E6C612C N/P                                   CTKN=1B24C58A0034567B
 DSNTEP3  BATCH                                                                            REQUEST =LOCK      UNCONDITIONAL
 ENDUSER :SYSADM                                                                           STATE   =X         ZPARM INTERVAL=   60
 WSNAME  :BATCH                                                                            DURATION=COMMIT    INTERV.COUNTER=    1
 TRANSACT:SFCRIX5E                                                                         HASH    =X'00001620'
                                                                                           STMTINFO=DYNAMIC
                                                                                           STMTID  =X'0000000000000001'
                                                                                           ------------ HOLDERS/WAITERS -----------
                                                                                           HOLDER
                                                                                           LUW=USIBMSY.SYEC1DB2.D9263E66EB70
                                                                                           MEMBER  =DB2A      CONNECT =BATCH
                                                                                           PLANNAME=BARTPRG9  CORRID  =SF00005C
                                                                                           DURATION=ALLOCATN  PRIMAUTH=SYSADM
                                                                                           STATE   =S         STMTINFO=N/P
                                                                                           ENDUSER =SYSADM
                                                                                           WSNAME  =BATCH
                                                                                           TRANSAC=SF00005C
                                                                                           STMTID  =X'0000000000000000'
```

Lock Suspension Trace

The lock suspension trace identifies applications that have been suspended after a lock was requested on a resource that is not available.

The trace shows an entry for the suspension of each of the following:

- An IRLM request (except when the resource type is a drain lock).
- An IRLM request where the resource type is a drain lock.
- A drain request where the claim count is not zero.

  This suspension occurs when the agent making the drain request has to wait for the claim count on the particular resource to become zero.

- A page latch request.

  This suspension occurs when the agent making the page latch request has to wait for a page that is currently being held by another agent.

The lock suspension trace is produced if level SUSPENSION is specified in the TRACE subcommand and if there is at least one pair of IFCIDs 44/45, 213/214, 215/216, or 226/227 in the input data set satisfying the FROM and TO, and INCLUDE or EXCLUDE criteria.

The following sections show the layout of a lock suspension trace and describe the various fields of the trace. At the end of this topic you find an example of a lock suspension trace.

Lock Suspension Trace Example

This topic shows an example of a Lock Suspension trace.

Enter the following command to produce a Lock Suspension trace:

```
LOCKING
     TRACE
        LEVEL (SUSPENSION)
```

Lock Suspension trace example

This is a sample layout of a Lock Suspension trace.

```
  LOCATION: OMPDA21                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
     GROUP: N/P                              LOCKING TRACE - SUSPENSION                    REQUESTED FROM: NOT SPECIFIED
    MEMBER: N/P                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                              ACTUAL FROM: 02/14/15 19:46:19.74
DB2 VERSION: V10                                    SCOPE: MEMBER                                PAGE DATE: 02/14/15

PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP           --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT    TYPE     NAME                        EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- --------------------------- ----------------------------------------
SKA      java     DRDA         19:46:19.74178259 LOCK     SKPT                                  DURATION=COMMIT   STATE=S
SKA      'BLANK'  110214171010                   SUSPEND                                         ORIG.RSN=LOCAL CONTENTION
DISTSERV SERVER                                                      CTKN=5359534C564C3031       HASH    =X'00003020'
REQLOC  :::FFFF:9.152.122                                            COLL(HEX)=                  X'1122334455667788990011223344556677 88'
ENDUSER :OMPE Testuser                                               PKID(HEX)=                  X'1122334455667788'
WSNAME  :monroe
TRANSACT:BPMWorkload


LOCKING TRACE COMPLETE
```

Lock Suspension Events - Lock, Unlock, Change, and Notify Suspend

This topic shows the format of data specific to Lock, Unlock, Change, and Notify Suspend for Lock Suspension events. It also describes the fields provided for this event.

Format of data specific to Lock, Unlock, Change, and Notify Suspend

This is the sample format for data specific to Lock, Unlock, Change, and Notify Suspend.

```
DURATION=xxxxxxxx STATE=xxxxx XES PROP=x
ORIG.RSN=xxxxx xxxxxxxxxx     XES FORC=x
aaaaaaaaaaaaaaaaaaaa          XES ASYN=x
PARENT  =xxxxxxxx
HASH    =X'hhhhhhhh'
```

Field description

DURATION
The length of time the lock is held. Valid values are shown in Table 9 on page 354.

Table 9. Lock Duration - IRLM SUSPEND

Duration	Description
INTEREST	Duration of P-Locks
MANUAL	Varies depending on the ISOLATION parameter

Table 9. Lock Duration - IRLM SUSPEND (continued)	
Duration	**Description**
MANUAL+1	Temporary change of consistency level from CS to RR during bind and DDL
COMMIT	Until commit
COMMIT+1	Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD
ALLOCATN	Until deallocation
PLAN	For the duration of the plan
UTILITY	For the duration of the utility execution
FREE ALL	Until all locks are freed
N/A	Not applicable to NOTIFY SUSPEND

STATE
The state or mode of the lock applied to the resource. Valid values are shown in Table 7 on page 345.

ORIG.RSN
The original reason for the suspension. The task remains suspended until all suspension causes are cleared. Valid values are shown in Table 10 on page 355.

Table 10. Reason for Suspension - IRLM SUSPEND	
Reason	**Description**
INTER SYSTEM	Intersystem communication required to resolve the lock request
IQ	Queued IRLM request
LOCAL CONTENTION	Local resource contention
LATCH CONT GENERIC	Generic IRLM latch contention
LATCH CONT MAIN	Main IRLM latch contention
LATCH CONT NOTIFY	IRLM notify latch contention
LATCH CONT RESOURCE	IRLM resource latch contention
LATCH CONT WORKUNIT	IRLM work unit latch contention
LS	Local storage cannot be exceeded in cross-memory mode
NOTIFY MSG SENT	Intersystem message sending
RETAINED LOCK	Contention with a retained lock

PARENT
The parent token for explicit hierarchical locking.

HASH
The lock hash value.

The following fields are printed if both of the following conditions are satisfied:

- The OMEGAMON for Db2 PE subsystem is a member of a data sharing group.
- It is an IRLM suspension.

aaaaaaaaaaaaaaaaaaaa
Stands for the lock attributes, which can be one or more of the following:

- MODIFY or NMODIFY

- GLOBAL or LOCAL
- P-LOCK or L-LOCK

XES PROP
An indicator whether or not IRLM propagated the request to XES. Possible values are Y(es) or N(o).

XES FORC
An indicator whether or not the lock was requested to be forced to XES. Possible values are Y(es) or N(o).

XES ASYN
An indicator whether or not IRLM sent the request asynchronously to XES. Possible values are Y(es) or N(o).

This field is only printed if XES PROP=Y.

Lock Suspension Events - Lock, Unlock, Change, and Notify Resume

The format of the data for these events depends on whether these events occurred in a data sharing or non-data-sharing environment.

"Format of data specific to Lock, Unlock, Change, and Notify Resume (Data Sharing)" on page 356 shows the format in a data sharing environment, "Format of data specific to Lock, Unlock, Change, and Notify Resume (Non-Data Sharing)" on page 356 in a non-data-sharing environment.

Format of data specific to Lock, Unlock, Change, and Notify Resume (Data Sharing)

This is the sample format for data specific to Lock, Unlock, Change, and Notify Resume in a data sharing environment.

```
09:05:44.38289840 CHANGE   N/P       N/P                  SUSP.TIME =0.000901  LOCAL CONTENTION=N
09:05:44.38199696 RESUME                                  DURATION  =COMMIT    LATCH CONTENTION=N
                                                          STATE     =X         IRLM QUEUED REQ =N
                                                          RESUME RSN=NORMAL    GLOBAL CONT.    =Y*
                                                          XES PROP  =Y         NOTIFY MSG SENT =N
                                                          XES FORC  =N         bbbbbbbbbbbbbbbbb
                                                          XES ASYN  =Y         RETAINED LOCK   =N
                                                          aaaaaaaaaaaaaaaaaaa
                                                          PARENT    =X'7F5E64E0'
                                                          HASH      =X'00113406'
```

Format of data specific to Lock, Unlock, Change, and Notify Resume (Non-Data Sharing)

This is the sample format for data specific to Lock, Unlock, Change, and Notify Resume in a non-data-sharing environment.

```
SUSP.TIME =ss.nnnnnn  LOCAL CONTENTION=Y
RESUME RSN=xxxxxxxx   LATCH CONTENTION=Y*
                      IRLM QUEUED REQ =N
```

Description of individual fields

The individual fields have the following meaning:

SUSP.TIME
The duration of the suspension.

DURATION
The length of time the lock is held. For a list of possible values, refer to Table 9 on page 354.

STATE
The state or mode of the lock applied to the resource. For a list of possible values, refer to Table 7 on page 345.

RESUME RSN
The reason for resumption. Valid values are shown in Table 11 on page 357.

Table 11. Reason for Resume - IRLM Requests	
Reason	**Description**
NORMAL	The suspended task resumed normally when the resource became available.
DEADLOCK	The suspended task resumed after a deadlock.
TIMEOUT	The suspended task resumed when a preset time interval expired.
IDENTIFY	The suspended task is resumed after an identify call to IRLM.

XES PROP
An indicator whether or not IRLM propagated the request to XES. Possible values are Y(es) or N(o).

XES FORC
An indicator whether or not the lock was requested to be forced to XES. Possible values are Y(es) or N(o).

XES ASYN
An indicator whether or not IRLM sent the request asynchronously to XES. Possible values are Y(es) or N(o).

This field is only printed if XES PROP=Y.

aaaaaaaaaaaaaaaaaaaa
Stands for the lock attributes. It can be one or more of the following:

- MODIFY or NMODIFY
- GLOBAL or LOCAL
- P-LOCK or L-LOCK

For example:

```
MODIFY  GLOBAL L-LOCK
```

PARENT
The parent token for explicit hierarchical locking.

HASH
The lock hash value.

Description of suspension fields

A request can be suspended for several reasons. For example, the original reason may have been an IRLM latch contention, then the request may first have hit local contention and, after it was resolved, global level contention. The fields in the right block show whether or not a particular reason for suspension was encountered, which is indicated by Y(es) or N(o). The original reason is marked with an asterisk (*).

LOCAL CONTENTION
The local resource contention.

LATCH CONTENTION
The IRLM latch contention.

IRLM QUEUED REQ
The IRLM queued request. This request is only valid for IRLM suspensions.

GLOBAL CONT.
The global contention. Intersystem communication is required to resolve the lock request. This reason applies to data sharing environments only.

NOTIFY MSG SENT
Intersystem message sending. This reason only applies to data sharing environments and IFCID 44 suspensions.

bbbbbbbbbbbbbbbbbb
Only applies if it is an IRLM suspension and the global contention is hit (GLOBAL CONT=Y). If these conditions are satisfied, it can be one of the following values:

IRLM GLOBAL CONT
The request hit IRLM global resource contention.

XES GLOBAL CONT
The request hit XES global resource contention.

FALSE/SYNC-ASYNC
This can be one of the following:

FALSE CONT
The request is a false contention (shown if QW0045W8 is ON)

SYNC-TO-ASYNC CONV
The request is a sync-to-async conversion (shown if QW0045W8 is OFF)

RETAINED LOCK
Indicates whether there was contention with a retained lock.

Lock Suspension Events - Query Suspend

This topic shows the format of data specific to Query Suspend for Lock Suspension events. It also describes the fields provided for this event.

Format of data specific to Query Suspend

This is an example of the format of the data for this event.

```
ORIG.RSN=xxxxx xxxxxxxxxx
```

Field description

This field shows the original reason for suspension. For a list of possible values, refer to Table 10 on page 355.

Lock Suspension Events - Query Resume

This topic shows the format of data specific to Query Resume for Lock Suspension events. It also describes the fields provided for this event.

Format of data specific to Query Resume

The data specific to this event is derived from the IFCIDs 44/45 and 213/214. This is the format of the data for this event:

```
SUSP.TIME =s.nnnnnn  LOCAL CONTENTION=Y
RESUME RSN=xxxxxxxx  LATCH CONTENTION=Y*
                     IRLM QUEUED REQ =N
```

Field description

This field shows the original reason for suspension. For a list of possible values, refer to “Format of data specific to Lock, Unlock, Change, and Notify Resume (Data Sharing)” on page 356.

Lock Suspension Events - Drain Suspend

This topic shows the format of data specific to Drain Suspend for Lock Suspension events. It also describes the fields provided for this event.

Format of data specific to Drain Suspend

This is the format of the data for this event:

```
CLAIM NO=nnnnn  CLASS=xxxxx
```

Field description

The individual fields have the following meaning:

CLAIM NO
The number of claims held on this resource.

CLASS
The claim class. Valid values are shown in Table 12 on page 359.

Table 12. Claim Classes - DRAIN SUSPEND

Class	Description
CS	Cursor stability read
RR	Repeatable read
WRITE	Write

Lock Suspension Events - Drain Resume

This topic shows the format of data specific to Drain Resume for Lock Suspension events. It also describes the fields provided for this event.

The data specific to this event is derived from the IFCIDs 215 and 216. The format of the data for this event is shown in “Format of data specific to Drain Resume” on page 359

Format of data specific to Drain Resume

This is the format of the data for this event:

```
SUS.TIME=s.nnnnnn  CLASS   =xxxxx
RESM.RSN=xxxxxxxx  CLAIM NO=nnnnn
```

Field description

The individual fields have the following meaning:

SUS.TIME
The duration of the suspension.

CLASS
The claim class. Valid values are shown in Table 12 on page 359.

RESM.RSN
The reason for resumption. Valid values are shown in the following table.

Table 13. Reason for Resume - DRAIN RESUME

Reason	Description
NORMAL	The suspended task resumed normally when the resource became available.
TIMEOUT	The suspended task resumed when a preset time interval expired.

CLAIM NO
The number of claims held on this resource.

Lock Suspension Events - Latch Suspend

This topic shows the format of data specific to Latch Suspend for Lock Suspension events. It also describes the fields provided for this event.

Format of data specific to Latch Suspend

This is the format of the data for this event:

```
TYPE=xxxxxxxxx
```

Field description

The field shown represents the type of the latch. It can have one of the following values:

Table 14. Latch Types - LATCH SUSPEND

Type	Description
SHARED	S latch
EXCLUSIVE	X latch

Lock Suspension Events - Latch Resume

This topic shows the format of data specific to Latch Resume for Lock Suspension events. It also describes the fields provided for this event.

Format of data specific to Latch Resume

This is the format of the data for this event:

```
SUS.TIME=s.nnnnnn   TYPE=xxxxxxxxx
STATUS  =xxxxxxxxx
```

Field description

The individual fields have the following meaning:

SUS.TIME
The duration of the suspension.

TYPE
The type of latch. Valid values are shown in Table 14 on page 360.

STATUS
The latch status. It can have one of the following values:

Table 15. Latch Status - LATCH RESUME

Status	Description
NORMAL	Normal completion of a page latch wait.
CANCELLED	The page latch wait was canceled before the latch was obtained. For example, the agent representing the latch was abnormally terminated during a page latch wait.

Lock Detail Trace Data

The lock detail trace describes all locking events in a DB2 system. It includes those that can be viewed in suspension, timeout, or deadlock traces. This trace gives you a global view of the entire locking activity in the system.

You determine which locking events you want to see in a lock detail trace. You do this in the TRACE command by specifying the TYPE identifier in the INCLUDE and EXCLUDE options.

The lock detail trace is produced if level DETAIL is specified on the TRACE command and if there is at least one IFCID in the input data set that satisfies the FROM and TO, and INCLUDE or EXCLUDE criteria.

The following sections show the sample layout of a Lock Detail trace and describe the various fields of the trace.

Example of a Lock Detail Trace

This topic shows an example of a Lock Detail trace.

"Lock Detail trace example" on page 361 shows a sample Lock Detail trace, produced by the following command:

```
LOCKING
     TRACE
        LEVEL (DETAIL)
```

Lock Detail trace example

This is the sample layout of a Lock Detail trace.

```
   LOCATION: OMPDA21                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 1-1
      GROUP: N/P                                 LOCKING TRACE - DETAIL                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                                  ACTUAL FROM: 02/14/16 19:45:51.41
DB2 VERSION: V10                                      SCOPE: MEMBER                                   PAGE DATE: 02/14/16

PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP            --- L O C K   R E S O U R C E ---
PLANNAME CONNECT               RELATED TIMESTAMP EVENT    TYPE      NAME                      EVENT SPECIFIC DATA
------------------------------ ----------------- -------- --------- ------------------------- ----------------------------------------
                               19:45:53.99629213 LOCK     SKPT                                DURATION=COMMIT   STATE=S
                                                 REQUEST                                      RSN CODE= 0       RTNCD= 0
                                                                       CTKN=18B61ACB02FABE19   HASH    =X'00003280'
                                                                       COLL(HEX)=              X'11223344556677889900112233445566778 8'
                                                                       PKID(HEX)=              X'1122334455667788'


LOCKING TRACE COMPLETE
```

Lock Detail Trace - Lock Summary

This section shows the event specific data for Lock Summary.

The format of Lock Summary data

The following sample shows the format of the data for this event.

```
MAX PAGE & ROW LOCKS= 11      LOCKAV=YES
SHARED ESCAL= 0     EXCLUS.ESCAL= 0

MAX PAGE & ROW LOCKS= 1       LOCKAV=NO
TABLESPACE TYPE=UNSEGMENTED   SIZE=PAGE
TABLES WITH ESCALATIONS=XXXXXX
MAX STATE=XXXXX    PRE-ESCAL.STATE=XXXXX
```

Field description

The individual fields have the following meaning:

MAX PAGE & ROW LOCKS
The maximum number of page or row locks across all table spaces held concurrently for the thread.

If IFCID 020 is not present, N/A is printed in this field.

LOCKAV
Indicates if lock avoidance techniques are used within this unit of work across all table spaces. Possible values are Y(es) or N(o).

If IFCID 218 is not present, N/A is printed in this field.

SHARED ESCAL
The number of escalations to shared mode for the thread:

- For segmented table spaces, the number of tables that have escalated
- For partitioned table spaces using selective partition locking (SPL), the number of partitions that have escalated
- For simple and partitioned table spaces, the number of table spaces that have escalated

If IFCID 020 is not present, N/A is printed in this field.

EXCLUS.ESCAL
The number of escalations to exclusive mode for the thread:

- For segmented table spaces, the number of tables that have escalated
- For partitioned table spaces using selective partition locking (SPL), the number of partitions that have escalated
- For simple and partitioned table spaces, the number of table spaces that have escalated

If IFCID 020 is not present, N/A is printed in this field.

Fields that are printed once for each table space

The following fields are printed once for each table space:

MAX PAGE & ROW LOCKS
The maximum number of page or row locks per table space held concurrently by the thread.

If IFCID 020 is not present, N/A is printed in this field.

LOCKAV
Indicates if lock avoidance techniques are used for this table space. Possible values are Y(es) or N(o).

If IFCID 218 is not present, N/A is printed in this field.

TABLE SPACE TYPE
The table space type:

SIMPLE
Simple table spaces

SEGMENTED
Segmented table spaces

PARTITIONED
Partitioned table spaces

PARTIT.-SPL
Partitioned table spaces using selective partition locking (SPL)

If IFCID 020 is not present, the table space type is not printed.

SIZE
The lock size used, which can be one of the following:

- PAGE
- ROW
- TABLE

TABLES WITH ESCALATIONS
The number of tables within the table space for which escalations occurred. This field is only printed for segmented table spaces or partitioned table spaces using SPL.

If IFCID 020 is not present, N/A is printed in this field.

MAX STATE
The highest lock state for the table space. This field is only printed for simple table spaces or partitioned table spaces not using SPL.

If IFCID 020 is not present, N/A is printed in this field.

Possible values are shown in Table 16 on page 363.

Table 16. Lock State

State	Description
IS	Intent share
IX	Intent exclusive
S	Share
U	Update
SIX	Share with intent exclusive

PRE-ESCAL.STATE
The lock state before escalations. A list of values is shown in Table 16 on page 363. If no escalation occurred, *NO ESCALATIONS* is printed.

This field is only printed for simple table spaces or partitioned table spaces not using SPL.

If IFCID 020 is not present, N/P is printed.

Lock Detail Trace - Lock, Unlock, and Change Requests

This section shows the event specific data for Lock, Unlock, and Change Requests.

Format of Lock, Unlock, and Change Requests

The following sample shows the format of the data for these events.

```
DURATION=xxxxxxxx STATE=xxxxx XES PROP=x
RSN CODE=xxxxxxxx RTNCD=xx    XES FORC=x
aaaaaaaaaaaaaaaaaaaa          XES ASYN=x
PARENT  =xxxxxxxx CACHE=xxx
OWNER   =xxxxxxxx HASH=X'hhhhhhhh'
```

Field description

The individual fields have the following meaning:

DURATION
The length of time the lock is held. Valid values are shown in Table 17 on page 363.

Table 17. Lock Duration-IRLM Requests

Duration	Description
INTEREST	Duration used for P-Locks
MANUAL	Varies depending on the ISOLATION parameter
MANUAL+1	Temporary change of consistency level from CS to RR during bind and DDL
COMMIT	Until commit

Table 17. Lock Duration-IRLM Requests (continued)	
Duration	**Description**
COMMIT+1	Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD
ALLOCATN	Until deallocation
PLAN	For the duration of the plan
UTILITY	For the duration of the utility execution
FREE ALL	Until all locks are freed
N/A	Not applicable for NOTIFY SUSPEND

The duration controls when locks are released. A lock is usually only released when an agent makes an unlock request with a duration longer, or equal to, the longest lock duration the agent specified for the resource.

You can increase lock durations using either a lock request or a change request.

STATE
The state or mode of the lock applied to the resource. Valid values are shown in Table 18 on page 364.

Table 18. Lock State-IRLM Requests	
State	**Description**
IS	Intent share
IX	Intent exclusive
S	Share
U	Update
SIX	Share with intent exclusive
NSU	Nonshared update
X	Exclusive
N/A	Not applicable for NOTIFY SUSPEND

RTNCD
The return code issued in response to the request. The possible return codes are shown in Table 19 on page 364.

Table 19. Return Codes-IRLM Requests	
Code	**Description**
0	Successful completion
4	Successful completion, lock state unchanged
8	Unsuccessful completion, system error
12	Unsuccessful completion, logic error in request
16	Unsuccessful completion, request specification not valid

RSN CODE
The reason code issued in response to the request. The reason code is not applicable for lock avoidance.

Fields that are only printed if the DB2 subsystem is a member of a data sharing group

The remaining fields are only printed if the DB2 subsystem is a member of a data sharing group.

aaaaaaaaaaaaaaaaaaaa
Stands for the lock attributes, which can be:

- MODIFY or NMODIFY
- GLOBAL or LOCAL
- P-LOCK or L-LOCK

PARENT
The parent lock token if one was specified for explicit hierarchical locking. The field is only printed for LOCK REQUESTs.

If this field is not 0, the request applies to a child of a parent that has already been locked.

CACHE
The cached state of a P-Lock. For the state values, refer to Table 18 on page 364.

This field is only applicable and printed for page set and partition P-Locks.

OWNER
The member name of the owner of a retained lock that caused this request to be denied and the owner of the lock that caused this request to time out. If neither of these conditions exist, this field is not printed.

HASH
The lock hash value.

XES PROP
An indicator whether or not IRLM propagated the request to XES. Possible values are Y(es) or N(o).

XES FORC
An indicator whether or not the lock was requested to be forced to XES. Possible values are Y(es) or N(o).

XES ASYN
An indicator whether or not IRLM sent the request asynchronously to XES. Possible values are Y(es) or N(o).

This field is only printed if XES PROP=Y.

Lock Detail - Query Requests

This section shows the event specific data for Query Requests.

Format of Query Requests

This is an example of the format of the data for this event.

```
 RSN CODE=xxxxxxxx RTNCD=xx
```

For an explanation of the individual fields refer to Table 19 on page 364.

Lock Detail - Claim Acquire, Change, and Release

This section shows the event specific data for Claim Acquire, Change, and Release.

Format of Claim Acquire, Change, and Release

This is an example of the format of the data for this event.

```
DURATION=xxxxxxxx  CLASS=xxxxx
 RSN CODE=xxxxxxxx  RTNCD=x
```

Field description

The individual fields have the following meaning:

DURATION

The duration of the claim. The values for this field are shown in Table 20 on page 366.

Table 20. Claim Duration-Claim Requests

Duration	Description
COMMIT	Until commit
COMMIT+1	Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD
ALLOCATN	Until deallocation

CLASS

The claim class of the claim request. The values for this field are shown in Table 21 on page 366.

Table 21. Claim Classes-Claim Requests

Class	Description
CS	Cursor stability read
RR	Repeatable read
WRITE	Write

RSN CODE

The reason code issued in response to the request. The values for this field are shown in Table 22 on page 366.

Table 22. Reason Codes-Claim Requests

Code	Description
0	Successful claim
00C90080	Unsuccessful claim, resource is started
00C90081	Unsuccessful claim, resource is stopped
00C90082	Unsuccessful claim, resource is used by a utility
00C90083	Unsuccessful claim, resource is used by a utility that allows R/O access only
00C90086	Unsuccessful claim, resource is started for utility-only access
00C90088	Unsuccessful claim, deadlock
00C9008E	Unsuccessful claim, timeout on drain lock
00C90092	Unsuccessful claim, IRLM out-of-storage condition
00C90093	Unsuccessful claim, IRLM error
00C90097	Unsuccessful claim, resource has an image copy pending
00C900A0	Unsuccessful claim, resource has recovery pending
00C900A3	Unsuccessful claim, resource has a check pending

RTNCD

The return code issued in response to the request. The values for this field are shown in Table 23 on page 367.

Table 23. Return Codes-Claim Requests	
Code	**Description**
0	Successful completion
4	Logical claim needed
8	Unsuccessful completion

Lock Detail - Drain Request, Pseudo, and Release

This section shows the event specific data for Drain Request, Pseudo, and Release.

Format of Drain Request, Pseudo, and Release

This is an example of the format of the data for this event.

```
STATE   =xxxxx     CLASS=xxxxx
RSN CODE=xxxxxxxx  RTNCD=x
```

Field description

The individual fields have the following meaning:

STATE
The lock state. It is only applicable to DRAIN REQUEST. Possible values are shown in Table 24 on page 367.

Table 24. Lock State-Drain Requests	
State	**Description**
IX	Intent exclusive
X	Exclusive

CLASS
The claim class of the drain request. The values for this field are shown in Table 25 on page 367.

Table 25. Claim Classes-Drain Requests	
Class	**Description**
CS	Cursor stability read
RR	Repeatable read
WRITE	Write

RSN CODE
The reason code issued in response to the request. The values for this field are shown in Table 26 on page 367.

Table 26. Reason Codes-Drain Requests	
Code	**Description**
0	Successful claim
00C90088	Unsuccessful claim, deadlock
00C9008E	Unsuccessful claim, timeout
00C90092	Unsuccessful claim, IRLM out-of-storage condition

Table 26. Reason Codes-Drain Requests (continued)	
Code	**Description**
00C90093	Unsuccessful claim, IRLM error

RTNCD
The return code issued in response to the request. The values for this field are shown in Table 27 on page 368.

Table 27. Return Codes-Drain Requests	
Code	**Description**
0	Successful completion
8	Unsuccessful completion

Lock Detail - Lock Avoidance

This section shows the event specific data for Lock Avoidance.

This event does not have event-specific data.

Lock Detail - P-Lock Requests

This section shows the event specific data for P-Lock requests.

P-Lock requests include the following events:

- ***Page set or partition P-Lock request or page set or partition P-Lock negotiation request***

  These P-Locks track inter-DB2 interest on a linear page set (table space or index) or a partition of a partitioned page set.

  The cached state of the page set or partition P-Lock tells DB2 which data sharing protocols must be used to maintain inter-DB2 buffer coherency for the page set or partition. For example, a cached state of IS tells DB2 that whenever a page belonging to that page set or partition is read into the buffer pool, the page must be registered to the coupling facility for cross-invalidation purposes. If the cached state were SIX, the coupling facility page registration would not be necessary.

  Normally the P-Lock is held by DB2 in the cached state. The P-Lock state determines whether or not the page set or partition is GBP-dependent:

  – If the page set or partition P-Lock is held in S or X, then the page set or partition is not GBP-dependent.
  – Otherwise, the page set or partition is GBP-dependent.

- ***Page P-Lock request or page P-Lock negotiation request***

  These P-Locks preserve the inter-DB2 cached page (buffer) coherency when row level locking is used and the page set or partition is actively R/W shared between two or more DB2 systems. The most common cases of subpage concurrency are row-level locking.

Note: Page P-Locking can add a significant overhead to data sharing if inter-DB2 workloads are not properly balanced. Class 21 is added to monitor these events without having to use the costly Class 7. However, page P-Lock events are recorded in Class 7 as well. Therefore, if Class 7 and 21 are both active, two records are reported for the same event.

The format of the data for these events is shown in "Format of Page Set or Partition P-Lock Requests" on page 368 and "Format of Page P-Lock Requests" on page 369.

Format of Page Set or Partition P-Lock Requests

The following example shows the format of the data for this event.

```
REQUEST=xxxxxx    OBJECT=xxxxxxxxxxx
MEMBER =xxxxxxxx  REQUESTED STATE =xxxxx
OLD STATE=xxxxx   OLD CACHED STATE=xxxxx
NEW STATE=xxxxx   NEW CACHED STATE=xxxxx
aaaaaaaaaaaaaaaaaaaaaaaa
```

Format of Page P-Lock Requests

The following example shows the format of the data for this event.

```
REQUEST=xxxxxx    OBJECT=xxxxxxxxxxxxxxx
MEMBER =xxxxxxxx  REQUESTED STATE=xxxxx
OLD STATE=xxxxx   NEW STATE=xxxxx
aaaaaaaaaaaaaaaaaaaaaaaa
```

Field description

Here is a description of the field labels shown in the previous examples:

REQUEST
The IRLM request type, which can be one of the following:

- LOCK
- UNLOCK
- CHANGE
- EXIT

OBJECT
The DB2 object type, which can be one of the following:

- TABLESPACE
- INDEXSPACE
- DATA PAGE
- HEADER PAGE
- INDEX PAGE
- SPACE MAP PAGE

MEMBER
A DB2 member name that depends on the request type:

- For exit requests, the name of the DB2 member in conflict with this member's currently held P-Lock state.
- For lock, unlock, and change requests, for which P-Lock is rejected, the name of the DB2 member in conflict with this request.

REQUESTED STATE
The requested lock state. It only applies to lock, change, and exit requests.

For exit requests, this is the P-Lock state requested by the member causing the P-Lock exit of this member. If the request from the other member was not in conflict with the state of this member, this field shows *NH*.

The values for this field are shown in Table 28 on page 369.

Table 28. Lock State

State	Description
NH	Not held

Table 28. Lock State (continued)	
State	**Description**
IS	This DB2 has R/O interest on the page set or partition and one or more other DB2s in the group have R/W interest
IX	This DB2 has R/W interest on the page set or partition, one or more other DB2s in the group have R/O interest, and one or more can also have R/O interest
S	This DB2 has R/O interest on the page set or partition and no other DB2 in the group has R/W interest but one or more can have R/O interest
SIX	This DB2 has R/W interest on the page set or partition and no other DB2 in the group has R/W interest but one or more can have R/O interest
NSU	Nonshared update
X	This DB2 has R/W interest on the page set or partition and no other DB2 in the group has any interest
RD	Request denied

OLD STATE
The previously held P-Lock state.

The values for this field are shown in Table 28 on page 369.

NEW STATE
The newly held P-Lock state.

The values for this field are shown in Table 28 on page 369.

OLD CACHED STATE
The previous P-Lock cached state.

The values for this field are shown in Table 28 on page 369.

NEW CACHED STATE
The new P-Lock cached state.

The values for this field are shown in Table 28 on page 369.

aaaaaaaaaaaaaaaaaaaaaaaa
Stands for the P-Lock attributes, which can be one or more of the following:

- UNCONDITIONAL or CONDITIONAL.
- RESTART or NONRESTART. Such a request instructs IRLM to convert a retained lock held by the DB2 system into an active lock. If the requested lock is not retained, IRLM grants the request as normal.
- MODIFY or NONMODIFY.

Lock Detail - Notify Request

This section shows the event specific data for Notify request.

In some cases, DB2 data sharing uses the IRLM notify request to maintain non-buffer pool cache coherency between DB2 systems in the group. Examples of a notify request usage are DBD coherency and High Used RBA (HURBA) for a data set.

Format of Data Specific to NOTIFY REQUEST

This is an example of the format of the data for this event.

```
TYPE=xxxxxxxx   STATE  =xxxxx
WAIT=xxx        HOLDERS=xxxxx
```

Field description

Here is a description of the field labels shown in the previous example:

TYPE
The type of notify operation. Possible values are SEND or RECEIVE.

STATE
The lock state. For a list of possible values, refer to Table 18 on page 364.

If this field contains one of the listed values, only those lock holders owning the lock in the specified state are notified.

N/A in this field means that the notify message is sent to all DB2 systems holder of the lock, regardless of the state they hold it in.

This field is not applicable or printed if TYPE=RECEIVE.

WAIT
Indicates if the request is synchronous, that is, suspended until all responses are received, in which case WAIT=YES is printed, or asynchronous, that is, WAIT=NO.

HOLDERS
The number of holders notified.

This field is not applicable or printed if TYPE=RECEIVE.

Lock Detail - Lock Escalatn

This section shows the event specific data for Lock Escalatn.

This trace shows details of a lock escalation. It is shown when data from IFCID 337 is present in the input data.

Format of the Lock Escalatn

This sample shows the format of the data specific to Lock Escalatn.

```
STATE   =IS         NUMLOCKS=       815
STMTNO  =      4711
STMTINFO=XXXXXXXXXXXXXXXXXXX
STMTID  =X'XXXXXXXXXXXXXXXX'
COLLID  =COLLECTIONXXXXXXXXX2XXXXXXXXX3
         XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6
         XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9
         XXXXXXXXX0XXXXXXXXX1XXXXXXXXX2
         XXXXXXXZ
PACKAGE =PACKAGEXX1XXXXXXXXX2XXXXXXXXX3
         XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6
         XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9
         XXXXXXXXX0XXXXXXXXX1XXXXXXXXX2
         XXXXXXXZ
```

Field description

STATE
The state or mode of the lock applied to the resource. Valid values:

IS
Intent share

IX
Intent exclusive

S
Share

U
Update

SIX
Shared intent exclusive

X
Exclusive

NUMLOCKS
Number of held lower level locks that were released by escalation.

STMTNO
Statement number.

STMTINFO
The waiter statement information. Possible values are:

STATIC
The statement is of type static

DYNAMIC
The statement is of type dynamic.

NONE
No statement ID, no type.

STMTID
The waiter statement ID.

COLLID
Collection ID.

PACKAGE
Package name.

The Locking File Data Set

The locking file data set creates a sequential data set of formatted DB2 locking detail records that can be loaded into the OMEGAMON for Db2 PE performance database using the DB2 load utility.

Use the performance database to produce tailored reports using a reporting facility such as Query Management Facility (QMF).

The locking file data set contains a record for each occurrence of the following events:

- A LOCK, UNLOCK, CHANGE, or QUERY request processed by DB2
- A request to acquire a claim, change a claim duration, or release a claim
- A request to release a drain on a claim class
- Whenever lock avoidance is successful

The output of the FILE command is a sequential variable blocked data set.

The content of the output data set is determined by the FILE command options you specify, and by the input SMF/GTF records processed.

Descriptions of the layouts of these records can be found in the RKO2SAMP library. The member name is DGOLDFIL.

Note: For an introduction to the Locking report set and general locking information refer to the *Reporting User's Guide*.

Chapter 8. Record Trace Report Set

These topics provide information about the record trace reports.

Note: For an introduction to the Record Trace report set and general Record Trace information refer to the *Reporting User's Guide*. It also provides information on input to Record Trace reports.

Record Headers

Records written in a record trace report are prefixed by a header. The header is rewritten if any of the header information changes.

```
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                        TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME              ID
-------- -------- ----------- ---------------- ------ --- --- -------------- ------------------------------------------------------
SOF      BATCH    B1BAA2A382C5 'ANDREW          'ANDREWS_PC'                  'BLANK'
SOF      ZSQLASA1 TSO         23:48:01.86220375     41   1   3 ACCOUNTING     NETWORKID:  Y61Y      LUNAME:  STM4Y61Y  LUWSEQ:     1
POCDRIV7 'BLANK'              N/P
-------------------------------------------------------------------------------------------------------------------------------------
```

Field description

The following information is reported in the trace header:

PRIMAUTH
The authorization ID under which the transaction is running. Derived from the DB2 field QWHCAID.

ORIGAUTH
The original authorization ID under which the transaction started. Derived from the DB2 field QWHCOPID.

PLANNAME
The DB2 plan name. Derived from the DB2 field QWHCPLAN.

CONNECT
The connection ID. Derived from the DB2 field QWHCCN.

CORRNAME
The correlation name. Derived from the DB2 field QWHCCV.

CORRNMBR
The correlation number. Derived from the DB2 field QWHCCV.

INSTANCE
The unique number assigned to a thread. Derived from the DB2 field QWHSLUUV.

CONNTYPE
The type of connection being used to interface with DB2. Derived from the DB2 field QWHATYP.

END_USER
User ID of the workstation end user. Derived from the DB2 field QWHCEUID.

RECORD TIME
The timestamp contained in the trace record. The format is hours, minutes, seconds, and hundred-millionths of a second. Derived from the DB2 field QWHSSTCK.

TCB CPU TIME
The CPU time stored in the trace record. The format is minutes, seconds, and hundred-millionths of a second. Derived from the DB2 field QWHUCPU.

WS_NAME
Name of the workstation. Derived from the DB2 field QWHCEUWN.

DEST SEQ NO
The destination sequence number. Derived from the DB2 field QWHSWSEQ.

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ACE
The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified. Derived from the DB2 field QWHSACE.

IFCID
The instrumentation facility component identification (DB2 trace record type). Derived from the DB2 field QWHSIID.

DESCRIPTION
A brief description of the IFCID record. The description indicates whether the record contains accounting, statistics, or performance data. For performance data, the description also indicates the event.

TRANSACT
Name of the workstation transaction. Derived from the DB2 field QWHCEUTX.

DATA
The data is printed in the standard hexadecimal dump format. The character format is on the right.

The Summary Record Trace

The summary record trace lists all records in the same sequence as an input data set.

You can use this listing to check which records are in the DB2 instrumentation trace data. The short trace and long traces are normally too bulky for this purpose.

The summary record trace can be used with all the selection options such as INCLUDE and EXCLUDE.

The following command produces the summary record trace shown in “Example of the Summary Record Trace” on page 374.

```
RECTRACE
     TRACE
        FROM  (,17:38:00)
        TO    (,17:40:00)
        LEVEL (SUMMARY)
```

Example of the Summary Record Trace

Here is an example of a Summary record trace.

```
    LOCATION: STLEC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
       GROUP: DSNCAT                          RECORD TRACE - SUMMARY                 REQUESTED FROM: ALL      17:38:00.00
      MEMBER: V71A                                                                              TO: DATES    17:40:00.00
   SUBSYSTEM: V71A                                                                    ACTUAL FROM: 01/30/15 17:38:00.83
 DB2 VERSION: V10                                                                       PAGE DATE: 01/30/15
0PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
 ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
 PLANNAME CORRNMBR                TCB CPU TIME             ID
 -------- --------- ---------- ---------------- ------ --- --- ------------ ------------------------------------------------------------
 USRT014  BATCH    B0A5B5E18F4B 'BLANK'          'BLANK'                      'BLANK'
 USRT014  T1240108 TSO          17:38:00.83013800   1090   1  62 DDL        --> NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
 DSNTEP3  'BLANK'                      0.06558954                 START
                                17:38:00.83614593   1091   1  16 INSERT     --> 'BLANK'
                                      0.06917288                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:00.83750325   1092   1  18 SCAN END   <-- 'BLANK'
                                      0.07052663                                NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:00.83769850   1093   1 141 AUDIT DDL     'BLANK'
                                      0.07072063                 GRANT         NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:00.83789881   1094   1  58 END SQL    <-- 'BLANK'
                                      0.07092088                                NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:00.93980206   1095   1   3 ACCOUNTING     'BLANK'
                                      0.08128632                                NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
 ADMF001  SERVER   960624184511 N/P            N/P                              N/P
 ADMF001  CSF3VB02 APPL-DIR     17:38:15.95171522   6907   1  22 MINIBIND      NETWORKID:  CAIBMOML  LUNAME:  OMXT4H0A  LUWSEQ:     1
 DISTSERV .EXE                  N/P                                           REQUESTING LOCATION:  9.112.10.146
                                                                              REQUESTING TIMESTAMP: N/P
                                                                              AR NAME: 'BLANK'                PRDID: CLNT/SER V7 R1 M0
                                                                              ACCTKN X'C3C1C9C2D4D6D4D34BD6D4E7E3F4C8F0C19606241845'
 USRT013  BATCH    B0A5B5F673C2 'BLANK'          'BLANK'                      'BLANK'
 USRT013  T1240109 TSO          17:38:23.09739218   1096   2 233 CALL STORED    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
 PLJP0147 'BLANK'                      0.06441099                 PROCEDURE -->
                                17:38:30.75605387   1097   2  16 INSERT     --> 'BLANK'
                                      0.05800369                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:31.25112743   1098   2 233 CALL STORED    'BLANK'
                                      0.07773494                 PROCEDURE --> NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:52.40182268   1099   2  16 INSERT     --> 'BLANK'
                                      0.05575259                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:55.09447712   1100   2  17 SEQ. SCAN  --> 'BLANK'
                                      0.08326543                 BEGIN         NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:55.29068537   1101   2  18 SCAN END   <-- 'BLANK'
                                      0.09006213                                NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:55.38712487   1102   2  16 INSERT     --> 'BLANK'
                                      0.09367793                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:55.41357343   1103   2  17 SEQ. SCAN  --> 'BLANK'
                                      0.11081268                 BEGIN         NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:55.41526831   1104   2  18 SCAN END   <-- 'BLANK'
                                      0.11159518                                NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:55.44928231   1105   2  16 INSERT     --> 'BLANK'
                                      0.11490438                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:56.70450237   1106   2  17 SEQ. SCAN  --> 'BLANK'
                                      0.13236778                 BEGIN         NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:56.72342318   1107   2  16 INSERT     --> 'BLANK'
                                      0.13788218                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:56.73690150   1108   2  16 INSERT     --> 'BLANK'
                                      0.13986363                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:56.92114768   1109   2 233 CALL STORED    'BLANK'
                                      0.07857034                 PROCEDURE <-- NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:56.92144693   1110   2  18 SCAN END   <-- 'BLANK'
                                      0.07886559                                NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:56.96434293   1111   2  16 INSERT     --> 'BLANK'
                                      0.09435964                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:56.98754043   1112   2  16 INSERT     --> 'BLANK'
                                      0.09626779                 SCAN BEGIN    NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
                                17:38:57.07396062   1113   2 233 CALL STORED    'BLANK'
                                      0.06625079                 PROCEDURE <-- NETWORKID:  USIBMSY   LUNAME:  SYEC1DB2  LUWSEQ:     1
```

```
    LOCATION: STLEC1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-5
       GROUP: DSNCAT                          RECORD TRACE - SUMMARY                 REQUESTED FROM: ALL      17:38:00.00
      MEMBER: V71A                                                                              TO: DATES    17:40:00.00
   SUBSYSTEM: V71A                                                                    ACTUAL FROM: 01/30/15 17:38:00.83
 DB2 VERSION: V10
0       ACE         ACE          ACE         ACE          ACE         ACE          ACE         ACE          ACE         ACE
       NUMBER     ADDRESS       NUMBER     ADDRESS       NUMBER     ADDRESS       NUMBER     ADDRESS       NUMBER     ADDRESS
       ------  ------------     ------  ------------     ------  ------------     ------  ------------     ------  ------------
            1  X'0583C8F8'           2  X'0583CE38'
 RECORD TRACE COMPLETE
```

ACE Cross-Reference Table

For every trace specified, an ACE cross-reference table is printed for each location.

The columns of the ACE cross-reference table are:

ACE NUMBER
The cross-reference number for the hexadecimal address of the agent control element. The lowest valid cross-reference number is 1. 0 indicates that the ACE address is not available.

ACE ADDRESS
The hexadecimal address of the agent control element. Derived from the DB2 field QWHSACE.

Data Fields

This topic describes the general format of the IFCID records presented in the summary record trace.

The records are presented in the requested sequence. There is one entry on the report for each record selected from the input data set, so the report can show more than one record of the same IFCID record type. Use the RECORD TIME field on the report to distinguish between records with the same IFCID record type.

Note:

1. An arrow (-->) pointing to the right on the trace indicates the beginning of an event.
2. An arrow (<--) pointing to the left on the trace indicates the end of an event.

Logical Unit of Work Identifiers

The logical unit of work identifiers are shown in the DATA column in front of the formatted data.

```
NETWORKID:  APCNET    LUNAME:  SYDAPC4   LUWSEQ:    1
```

Field description

NETWORKID
The network ID.

LUNAME
The name of the logical unit.

LUWSEQ
The sequence number of the logical unit of work.

DDF Data

DDF data is only printed if there is a DDF header.

The following is printed in the DATA column after the formatted record:

```
 REQUESTING LOCATION:  USIBMSYSTDB2
 REQUESTING TIMESTAMP: 01/30/14 18:54:53.90530718
 AR NAME: USIBMSYSTDB2         PRDID: DB2 11    M0
```

Field description

Here is a description of the field labels shown in the previous example:

REQUESTING LOCATION
The location requesting the work.

REQUESTING TIMESTAMP
The timestamp of the requester location.

AR NAME
The name of the application requester.

PRDID
The name, version, release, and modification level of the product making the request.

Accounting Token

All record trace reports show the value (in hexadecimal) of the accounting token in the DATA column when it contains a value other than blanks or binary zeros.

The Accounting token is used to correlate CICS records with DB2 records for the same task. If TOKENI=YES for TYPE=INIT, TOKENE=YES for TYPE=ENTRY, or both applies, in the resource control table, then the CICS logical unit of work ID (LUWID) minus the commit count (2 bytes) is passed to this field.

The first 8 bytes contain the network name, and the following 8 bytes contain the LU name. The final 6 bytes are the unique value.

```
ACCTKN X'00000000000000000000000000000000000000000000'
```

The Short and Long Record Traces

The short and long record traces are similar. The short record trace reports non-serviceability data from records which are used by other subcomponents of the batch component. Serviceability records and fields are not printed on the short record trace. Only the occurrence of large records such as statistics, accounting, and system parameters is shown.

The long record trace reports all instrumentation facility records including Statistics, Accounting, and Performance records. The DB2 field names of serviceability fields are printed, as well as the occurrence of the serviceability records.

Depending on the record layout, the records are presented in either the DATA column or the full width of the report page.

If there is no data present for an IFCID, NO DATA is printed. If any unexpected data is found, it is printed in dump format. The dump format is also used for IFCID 0.

The Short Record Trace

The short record trace lists selected records from an input data set. It selects and formats nonserviceability data from the user-selected records that appear on other OMEGAMON for Db2 PE reports.

Use the short record trace to access the DB2 nonserviceability data used by OMEGAMON for Db2 PE, and to access data not presented in other reports.

Some long records (for example, system statistics) are ignored by the short record trace and some records are shown in abbreviated form.

The short record trace can be used with all the selection options such as INCLUDE and EXCLUDE.

The following command produces the short record trace example shown in "Example of the Short Record Trace" on page 377.

```
RECTRACE
  TRACE
    FROM (,21:54:00)
    TO   (,21:56:00)
```

Example of the Short Record Trace

This is an example of a short record trace produced by the previous command:

```
LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
     GROUP: DBE1                                RECORD TRACE - SHORT                        REQUESTED FROM: ALL      21:54:00.00
    MEMBER: SE11                                                                                        TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                    ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                       PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                          TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION      DATA
PLANNAME CORRNMBR                TCB CPU TIME             ID
-------- -------- ------------ ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P                            N/P
N/P      N/P      'BLANK'      21:54:00.11351049  91109   1   1 SYSTEM STATS   NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
N/P      N/P                   N/P                                            SYSTEM SERVICES STATISTICS
                               21:54:03.28092609  91110   1   2 DB STATISTICS  N/P
                               N/P                                            NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
                                                                              DATABASE SERVICES STATISTICS
SYSOPR   SE11     CBA37B3FD9B8 N/P              N/P                            N/P
SYSOPR   016.WVSM 'BLANK'      21:54:03.28113166  91111   1 106 SYS PARAMETERS NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
'BLANK'  T 01                    75.80329233                                   SYSTEM PARAMETERS
N/P      N/P      CBA37B3FD9B8 N/P              N/P                            N/P
N/P      N/P      'BLANK'      21:55:00.30227750  91121   1   1 SYSTEM STATS   NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
N/P      N/P                   N/P                                            SYSTEM SERVICES STATISTICS
                               21:55:00.34404053  91122   1   2 DB STATISTICS  N/P
                               N/P                                            NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
                                                                              DATABASE SERVICES STATISTICS
...
RECORD TRACE COMPLETE
```

The Long Record Trace

The long record trace lists selected records from an input data set. It lists and formats all data from user-selected records.

Use the long record trace to produce a formatted report of all data in the selected trace records.

The long record trace can be used with all the selection options such as INCLUDE and EXCLUDE.

Note: A long record trace can show a great amount of data. Consider limiting the size of the report with the INCLUDE, EXCLUDE, FROM, and TO options of the TRACE subcommand.

The following command produces the long record trace example in “Example of a Long Record Trace” on page 378.

```
...
RECTRACE
  TRACE
    FROM (,21:54:00)
    TO   (,21:56:00)
   LEVEL(LONG)
...
```

Example of a Long Record Trace

This is an example of a long record trace produced by the previous command:

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: DBE1                                RECORD TRACE - LONG                          REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                       TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                  ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                     PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME             ID
-------- ------- ------------ ---------------- ----- --- --- ------------ ------------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P                        N/P
N/P      N/P      'BLANK'     21:54:00.11351049  91109   1   1 SYSTEM STATS   NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
N/P      N/P                  N/P
         ¦-------------------------------------------------------------------------------------------------------------------------
         ¦                                                CPU TIME DATA
         ¦PROCEDURE NAME: MSTR    TCB TIME:      4:06.414847   SRB TIME       :        35.720373   ADDR SPACE ASID: X'0092'
         ¦                                                    PREEMP SRB TIME:         0.326470   ASCB           : X'00F69A00'
         ¦PROCEDURE NAME: DBM1    TCB TIME:         4.842056   SRB TIME       :     41:41.996911   ADDR SPACE ASID: X'00AA'
         ¦                                                    PREEMP SRB TIME:     41:33.247165   ASCB           : X'00F67D00'
         ¦PROCEDURE NAME: DIST    TCB TIME:        26.028271   SRB TIME       :   4:28:33.950841   ADDR SPACE ASID: X'009A'
         ¦                                                    PREEMP SRB TIME:   4:28:31.650439   ASCB           : X'00F6B580'
         ¦PROCEDURE NAME: IRLM    TCB TIME:         0.071799   SRB TIME       :      1:17.115555   ADDR SPACE ASID: X'00AD'
         ¦                                                    PREEMP SRB TIME:              N/P   ASCB           : X'00F67E80'
         ¦.....................................................................................................................
         ¦                                          DESTINATION RELATED DATA
         ¦DEST NAME  SMF   SEQNO       91108  RECS WRITTEN       91108  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  RES   SEQNO           0  RECS WRITTEN           0  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  GTF   SEQNO           0  RECS WRITTEN           0  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  SRV   SEQNO           0  RECS WRITTEN           0  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  SR1   SEQNO           0  RECS WRITTEN      516259  RECS NOT WRITTEN          99  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS     99  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   4
         ¦
         ¦DEST NAME  SR2   SEQNO       24124  RECS WRITTEN       24124  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  OP1   SEQNO          45  RECS WRITTEN          45  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦-------------------------------------------------------------------------------------------------------------------------
...
...
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-3
      GROUP: DBE1                                   RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                          TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                   ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                      PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                     TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME           ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:00.11351049  91109   1   1 SYSTEM STATS
N/P      N/P                  N/P
         ¦-------------------------------------------------------------------------------------------------------------------
         ¦IFCID       2 IFCID SEQNO        7766  RECS WRITTEN           12550  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID       3 IFCID SEQNO        3159  RECS WRITTEN            1026  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID       4 IFCID SEQNO          73  RECS WRITTEN              73  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID       5 IFCID SEQNO          65  RECS WRITTEN              65  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     106 IFCID SEQNO        7971  RECS WRITTEN           12607  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     140 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     141 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     142 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     143 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     144 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     145 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-4
      GROUP: DBE1                                   RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                          TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                   ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                      PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                     TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME           ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:00.11351049  91109   1   1 SYSTEM STATS
N/P      N/P                  N/P
         ¦-------------------------------------------------------------------------------------------------------------------
         ¦IFCID     146 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     199 IFCID SEQNO           0  RECS WRITTEN               0  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     202 IFCID SEQNO       12551  RECS WRITTEN           12551  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦
         ¦IFCID     230 IFCID SEQNO       12550  RECS WRITTEN           12550  RECS NOT WRITTEN          0  RECS NOT DESIRED      0
         ¦                                       BUFFER NOT AVAILABLE       0  COLLECT FAILURES          0
         ¦                                       QWSCOTH1                   0  QWSCOTH2                  0
         ¦...................................................................................................................
         ¦                                      SUBSYSTEM SERVICES DATA
         ¦IDENTIFY        171  CREATE THREAD       2572  UR INDOUBT                0  COMMIT PH 2               0
         ¦ROLLBACK          8  SIGNON              2507  UR INDOUBT RESOLV         0  COMMIT PH 1               0
         ¦SSAM EOM          0  TERMIN.THREAD       2802  EXITS                   106  SYNCHS                   37
         ¦SSAM EOT         28  CRT.THRD QUED          0  SUBS.INT.CALLS          201  READ ONLY COMMIT        190
         ¦IDBACK*          14  IDFORE*                2  CTHREAD*                 11
         ¦* = HIGH WATER MARK
         ¦...................................................................................................................
         ¦                                        DB2 COMMAND DATA
         ¦DISPLAY DB          0   DISPLAY THRD         1   DISP UTIL           0   DISP TRACE         1   DISPL RLIMIT          0
         ¦START DB            0   START TRACE         84   START DB2           1   START RLIM         0   STOP DB               0
         ¦STOP TRACE         65   STOP DB2             0   STOP RLIM           0   RECOV BSDS         0   RECOV INDOUBT         0
         ¦MODIFY TRACE        0   TERM UTILITY         0   START DDF           0   STOP DDF           0   CANCEL THREAD         0
         ¦DISPL LOCATN        0   UNREC CMDS           1   ARCH LOG            0   SET ARCH           0   DISPL ARCH            0
         ¦RESET INDOUBT       0   ALTER BUFFER         0   DISP BUF            0   DISP GROUP      2440   DISP PROCEDURE        0
         ¦RESET GENERIC       0   ALTER GBPOOL         0   DISP GBPOOL         0   START PROC         0   STOP PROCEDURE        0
         ¦DISPLAY GROUP    2440   ALTER UTILITY        0   DISP FUNC           0   START FUNC         0   STOP FUNCTION         0
         ¦SET LOG             0   DISPLAY LOG          0   SET SYSPARM         0   DISPLAY DDF        0   ACCESS DB             0
         ¦START PROFILE       0   STOP PROFILE         0   DISP PROFILE        0   DISP ACCEL         0   START ACCEL           0
         ¦STOP ACCEL          0   MODIFY DDF           0
         ¦...................................................................................................................
         ¦                                      CHECKPOINT AND IFI DATA
         ¦CHECKPOINT COUNT:          1  REASON STATISTICS INVOKED: ACTIVATED BY TIMER
         ¦IFI ABENDS   :           0  IFI READA :        6035  DCAP.LOG REC.RETRIEVED:          0  DCAP.DATA ROWS RETURNED:          0
         ¦IFI UNRECOG. :           0  IFI READS :        5837  DCAP.LOG READS       :          0  DCAP.DATA DESC.RETURNED:          0
         ¦IFI COMMANDS :        2571  IFI WRITE :           0  DCAP.LOG REC.RETURNED :          0  DCAP.DESCRIBES        :          0
         ¦HIGH USED RBA: X'000000000001FF2A26F8'                                                   DCAP.TABLES RETURNED  :          0
         ¦NO ROLLUP ACC RECS-ROLLUP THRESHOLD EXCEEDED   :           6    NO ROLLUP ACC RECS-ROLLUP STORAGE THRESHOLD EXC:          0
         ¦NO ROLLUP ACC RECS-STALENESS THRESHOLD EXCEEDED:         569    NO RECS NOT QUALIFIED FOR ACC ROLLUP           :          1
         ¦-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-5
      GROUP: DBE1                                RECORD TRACE - LONG                          REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                       TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ------------ ---------------- ------ --- --- ------------ ----------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:00.11351049  91109   1   1 SYSTEM STATS
N/P      N/P                  N/P
         ¦-------------------------------------------------------------------------------------------------------------------------
         ¦QWSDVTB  (S) : X'00000000000000000000000000000000000000000000000000'
         ¦.....................................................................................................................
         ¦                                                 QVLS DATA
         ¦QVLSLC01          0 QVLSLC02          0 QVLSLC03          1 QVLSLC04          0 QVLSLC05          6 QVLSLC06          0
         ¦QVLSLC07          0 QVLSLC08          0 QVLSLC09          0 QVLSLC10         10 QVLSLC11          0 QVLSLC12          4
         ¦QVLSLC13          0 QVLSLC14     117183 QVLSLC15          0 QVLSLC16          0 QVLSLC17          0 QVLSLC18          0
         ¦QVLSLC19          0 QVLSLC20          0 QVLSLC21          6 QVLSLC22          0 QVLSLC23       8016 QVLSLC24      22674
         ¦QVLSLC25          5 QVLSLC26          0 QVLSLC27          0 QVLSLC28          0 QVLSLC29          6 QVLSLC30        340
         ¦QVLSLC31        476 QVLSLC32        397 QVLSLC254         0
         ¦.....................................................................................................................
         ¦                                                 QVAS DATA
         ¦QVASSUSP      812568   QVASXSUS       50741   QVASXSUT        2453   QVASXAUS         110   QVASXAUT        2634
         ¦QVASXSRS       13497   QVASXSRT        1477   QVASADUR           0   QVASADDL           0   QVASADIR           0
         ¦QVASCBOS           0   QVASCBOF           0   QVASMBOS           0   QVASMBOF           0
         ¦.....................................................................................................................
         ¦                                                 QSST DATA
         ¦QSSTGPLF          160  QSSTFPLF         130  QSSTFREF           10  QSSTEXPF          37938  QSSTCONF          636
         ¦QSSTGPLV         8298  QSSTFPLV        7998  QSSTFREV         5414  QSSTEXPV           7255  QSSTCONV         1682
         ¦QSSTGETM        10012  QSSTFREM        9851  QSSTRCNZ            0  QSSTCONT              0  QSSTCRIT            0
         ¦QSSTABND            0
         ¦QSSTSGETM                             1100  QSSTSGETR                                2370315
         ¦QSSTSGETEXT                          16427  QSSTSFREEM                                   150
         ¦QSSTSFREER                         2347925  QSSTD64POST                                    0
         ¦QSSTA64POST                              0  QSSTA64WAIT                                    0
         ¦QSSTM64DISNUM                            7  QSSTM64DISPGS                                211
         ¦QSSTSGETR64                              0  QSSTSGETEXT64                                  0
         ¦QSSTSGETDEXT64                           0  QSSTSFREER64                                   0
         ¦QSSTSFREEDEXT64                          0  QSSTDISCARDMODE64                              1
         ¦QSSTRSMAXWARN                            0  QSSTP64DISNUM                            52456
         ¦QSSTP64DISBLK                         1369  QSSTP64DISPGS                             1817
         ¦QSSTCONTSTORNUM                       3221
         ¦
         ¦.....................................................................................................................
         ¦                                        DDF DATA BY LOCATION
         ¦
         ¦LOCATION NAME (SHORT).....: DRDA REMOTE LOCS              PRDID REMOTE LOCATION .....: N/P
         ¦LOCATION NAME (LONG)......: DRDA REMOTE LOCS
         ¦
         ¦INITIATED CONVERSATIONS....:                   0          DEALLOCATED CONVERSATIONS..:                   0
         ¦INITIATED FROM REMOTE SITE.:                  21
         ¦MESSAGES SENT TO REMOTE....:               12287          MESSAGES RECV FR REMOTE....:               12283
         ¦SQL STMTS SENT TO REMOTE...:                   0          SQL STMTS RECV FR REMOTE...:               12223
         ¦BYTES SENT TO REMOTE.......:           402547183          BYTES RECV FR REMOTE...... :             1342311
         ¦ROWS SENT TO REMOTE........:              479367          ROWS RETRIEVED FR REMOTE...:                   0
         ¦BLOCKS TRANSMITTED.........:               12171          BLOCKS RECEIVED............:                   0
         ¦-------------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-6
      GROUP: DBE1                                RECORD TRACE - LONG                          REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                       TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ------------ ---------------- ------ --- --- ------------ ----------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:00.11351049  91109   1   1 SYSTEM STATS
N/P      N/P                  N/P
         ¦-------------------------------------------------------------------------------------------------------------------------
         ¦COMMIT REQUESTS SENT.......:                   0          COMMIT REQUESTS RECEIVED...:                  18
         ¦ABORT REQUESTS SENT........:                   0          ABORT REQUESTS RECEIVED....:                   0
         ¦INDOUBT THREADS............:                   0          CONV REQUESTS QUEUED.......:                   0
         ¦.....................................................................................................................
         ¦                                                 LOG MANAGER DATA
         ¦WRITE REQUEST-WAIT ...................:              0   READ FROM OUTPUT BUFFER .............:                   0
         ¦WRITE REQUEST-NO WAIT ................:          15642   READ FROM ACTIVE LOG ................:                 206
         ¦WRITE REQUEST-FORCE ..................:         120564   READ FROM ARCHIVE LOG ...............:                   0
         ¦WRITE LOG BUFFER .....................:         121971   READ DELAY-TAPE VOLUME CONTENTION ...:                   0
         ¦WRITE I/O REQUESTS ...................:         125305   READ DELAY-UNAVAILABLE RESOURCE .....:                   0
         ¦WRITE BUFFER SCHEDULED-THRESHOLD .....:              0   CI CREATED-ACTIVE LOG ...............:                3461
         ¦WRITE BUFFER PAGED IN ................:              0   CI OFFLOADED ........................:                   0
         ¦WAIT FOR UNAVAILABLE LOG BUFFER ......:              0   CI WRITTEN ..........................:              125428
         ¦TOTAL BSDS ACCESS REQUESTS ...........:             78   CI SERIAL WRITE .....................:                   0
         ¦ARCHIVE READ  ALLOCATIONS ............:              0   LOOK-AHEAD TAPE VOL MOUNTS ATTEMPTED :                   0
         ¦ARCHIVE WRITE ALLOCATIONS ............:              0   LOOK-AHEAD TAPE VOL MOUNTS SUCCEEDED :                   0
         ¦
         ¦QJSTLSUS .........:              121971  QJSTSPNN .........:                   0  QJSTSPNI ........:                   0
         ¦QJSTCLID .........:                   2  QJSTCL2 ..........:              X'0000'
         ¦QJSTCLSN .........: X'00CBAA42E8A91C045400'
         ¦QJSTAVAL .........:                X'00'
         ¦.....................................................................................................................
         ¦                                        GLOBAL DDF DATA
         ¦
         ¦DBAT/CONN QUEUED-MAX ACTIVE                    0          CONN REJECTED-MAX CONNECTED                        0
         ¦CONN CLOSED - MAX QUEUED                       0          QUEUED CLIENT CONNECTIONS                          0
         ¦
         ¦COLD START CONNECTIONS                         0          WARM START CONNECTIONS                             1
         ¦RESYNCHRONIZATION ATTEMPTED                    0          RESYNCHRONIZATION SUCCEEDED                        0
         ¦
         ¦CUR TYPE 1 INACTIVE DBATS                      0          HWM TYPE 1 INACTIVE DBATS                          1
         ¦TYPE 1 CONNECTIONS TERMINAT                    0
         ¦-------------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                         OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-7
      GROUP: DBE1                                   RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                        TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                  ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                     PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                     TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME             ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:00.11351049  91109   1   1 SYSTEM STATS
N/P      N/P                  N/P
         !-------------------------------------------------------------------------------------------------------------------
         !
         !CUR INACTIVE CONNS (TYPE 2)                      0         HWM INACTIVE CONNS (TYPE 2)                      1
         !CUR QU INACT CONNS (TYPE 2)                      0         ACC QU INACT CONNS (TYPE 2)                     28
         !   MIN QUEUE TIME                         0.000000         HWM QU INACT CONNS (TYPE 2)                      1
         !   MAX QUEUE TIME                         0.000000
         !   AVG QUEUE TIME                         0.000000
         !
         !CUR ACTIVE AND DISCON DBATS                       0         HWM ACTIVE AND DISCON DBATS                      2
         !HWM TOTL REMOTE CONNECTIONS                       2
         !
         !CUR DISCON DBATS NOT IN USE                       0         HWM DISCON DBATS NOT IN USE                      2
         !DBATS CREATED                                   15         DISCON (POOL) DBATS REUSED                      25
         !
         !CUR ACTIVE DBATS-BND DEALLC                       0         HWM ACTIVE DBATS-BND DEALLC                      0
         !.....................................................................................................................
         !                                                 Z/OS METRICS
         !LPAR CPS                          4
         !LPAR CPU UTILIZATION             91  DB2 SUBSYS CPU UTILIZATION              0
         !LPAR PAGE-IN RATE                 0  DB2 SUBSYS PAGE-IN RATE                 0
         !LPAR REAL STOR (MB)            1536  DB2 SUBSYS USED REAL STOR (MB)        119
         !LPAR VIRT STOR (MB)           15582  DB2 SUBSYS USED VIRT STOR (MB)        366
         !LPAR FREE REAL STOR (MB)         14  DB2 MSTR   CPU UTILIZATION              0
         !LPAR FREE VIRT STOR (MB)       9435  DB2 DBM1   CPU UTILIZATION              0
         !UNREFERENCED INTERVALS          201
         !
         !qwosflg : X'F1'       qwosrcde:          0       qwosrsnc:          0
         !-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                         OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-8
      GROUP: DBE1                                   RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                        TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                  ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                     PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                     TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME             ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P                         N/P
N/P      N/P      'BLANK'     21:54:03.28092609  91110   1   2 DB STATISTICS  NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
N/P      N/P                  N/P
         !-------------------------------------------------------------------------------------------------------------------
         !                                              SQL CALL DATA
         !SELECT ..........:                  143  INSERT ..........:                    0  UPDATE ..........:                    0
         !DELETE ..........:                    0  DESCRIBE ........:                   50  PREPARE .........:                   81
         !OPEN ............:                  124  CLOSE ...........:                   97  FETCH ...........:                32821
         !COMMENT ON ......:                    0  LOCK TABLE ......:                    0  GRANT ...........:                    0
         !REVOKE ..........:                    0  INCREMENTAL BINDS:                    0  LABEL ON ........:                    0
         !DESCRIBE TABLE ..:                    0  CONNECT TYPE 1 ..:                    0  CONNECT TYPE 2 ..:                    1
         !RELEASE .........:                    0  ASSOCIATE LOCATOR:                    0  ALLOCATE CURSOR .:                    0
         !RENAME TABLE ....:                    0  HOLD LOCATOR ....:                    0  FREE LOCATOR ....:                    0
         !MERGE ...........:                    0  TRUNCATE TABLE ..:                    0  RENAME INDEX ....:                    0
         !
         !CREATE DATABASE .:                    0  DROP DATABASE ...:                    0  ALTER DATABASE ..:                    0
         !CREATE STOGROUP .:                    0  DROP STOGROUP ...:                    0  ALTER STOGROUP ..:                    0
         !CREATE TABSPACE .:                    0  DROP TABSPACE ...:                    0  ALTER TABSPACE ..:                    0
         !CREATE TABLE ....:                    0  DROP TABLE .....:                    0  ALTER TABLE .....:                    0
         !CREATE AUX TABLE :                    0  CREATE TMP TABLE :                   0  DECLARE TMP TABLE:                    0
         !CREATE INDEX ....:                    0  DROP INDEX .....:                    0  ALTER INDEX .....:                    0
         !CREATE VIEW .....:                    0  DROP VIEW ......:                    0  ALTER VIEW ......:                    0
         !CREATE SYNONYM ..:                    0  DROP SYNONYM ....:                    0
         !CREATE ALIAS ....:                    0  DROP ALIAS .....:                    0
         !CREATE SEQUENCE .:                    0  DROP SEQUENCE ..:                    0  ALTER SEQUENCE ..:                    0
         !CREATE TRIGGER ..:                    0  DROP TRIGGER ...:                    0
         !CREATE DIST TYPE :                    0  DROP DIST TYPE ..:                    0
         !CREATE FUNCTION .:                    0  DROP FUNCTION ..:                    0  ALTER FUNCTION ..:                    0
         !CREATE PROCEDURE :                    0  DROP PROCEDURE .:                    0  ALTER PROCEDURE .:                    0
         !CREATE ROLE .....:                    0  DROP ROLE ......:                    0
         !CREATE TRUST CONT:                    0  DROP TRUST CONT :                    0  ALTER TRUST CONT :                    0
         !CREATE MASK/PERM :                    0  DROP MASK/PERM ..:                    0  ALTER MASK/PERM .:                    0
         !CREATE VARIABLE .:                    0  DROP VARIABLE ...:                    0
         !                                         DROP PACKAGE ....:                    0  ALTER JAR .......:                    0
         !
         !SET CUR SQL ID ..:                    0  SET HOST VAR ....:                   33  SET CONNECTION ..:                    0
         !SET CUR DEGREE ..:                    1  SET CUR RULES ...:                    0  SET CUR PATH ....:                    0
         !SET CUR PRECISION:                    0
         !
         !MULTI-ROW PROCESSING:
         !ROWS FETCHED ....:                500034  ROWS INSERTED ...:                    0  ROWS UPDATED ....:                    0
         !ROWS DELETED ....:                     0
         !.....................................................................................................................
         !                                            RID LIST PROCESSING
         !RL PROCESSING USED ...................:                0   RL PROCESSING NOT USED-NO STORAGE ...:                    0
         !RL PROCESSING NOT USED-LIMIT EXCEEDED:                    0   RL SKIPPED-INDEX KNOWN ..............:                    0
         !RL OVERFLOWN-NO STORAGE ..............:                    0   RL INTERRUPTED-NO STORAGE ...........:                    0
         !RL OVERFLOWN-MAX LIMIT ...............:                    0   RL INTERRUPTED-MAX LIMIT ............:                    0
         !.....................................................................................................................
         !-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-9
      GROUP: DBE1                                RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                     TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                   PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                        TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME              ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ---------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:03.28092609  91110   1   2 DB STATISTICS
N/P      N/P                  N/P
         !-------------------------------------------------------------------------------------------------------------------
         !                                                  QUERY PARALLELISM
         !MAX DEG ESTIMATED:                    8  MEMBERS SKIPPED .:                    0  PARALL. DISABLED :                 N/A
         !MAX DEG PLANNED .:                    8
         !MAX DEG EXECUTED :                    8
         !PARALLEL GROUPS:
         !FALL TO SEQ-CURSOR                    0  GROUPS EXECUTED .:                    1  ONE DB2-COORD=NO :                   0
         !FALL TO SEQ-NOESA:                    0  PARALL.GROUPS ...:                    0  ONE DB2-ISO LVL .:                   0
         !FALL TO SEQ-STOR :                    0  RAN REDUCED-STOR :                    0  ONE DB2-DCL TTAB :                   0
         !FALL TO SEQ-NEGOTN                    0  RAN REDUCED-NEGOTN                    0  REFORM PARAL-CFG :                   0
         !FALL TO SEQ-A.PROC                    0  RAN AS PLANNED ..:                    1  REFORM PARAL-BUF :                   0
         !FALL TO SEQ-ENCLV:                  N/A
         !
         !QXPAROPT .........:                   0
         !.......................................................................................................................
         !                                                  DYNAMIC SQL STMT
         !REOPTIMIZATION ..:                    0  FOUND IN CACHE ..:                   38  IMPLICIT PREPARES:                   0
         !STMT INVALID (MAX)                    0  NOT FOUND IN CACHE                   42  PREPARES AVOIDED :                   0
         !STMT INVALID (DDL)                    0
         !CSWL STMTS PARSED:                    0  CSWL LITS REPLACED                    0  CSWL MATCHES FOUND                   0
         !CSWL DUPLS CREATED                    0
         !.......................................................................................................................
         !                                                NESTED SQL ACTIVITY
         !MAX CASCAD LVL ..:                    1  CALL STATEMENTS .:                    2  PROCEDURE ABENDS :                   0
         !CALL TIMEOUTS ...:                    0  CALL REJECTS ....:                    0  UDF EXECUTED ....:                   0
         !UDF ABENDS ......:                    0  UDF TIMEOUTS ....:                    0  UDF REJECTS .....:                   0
         !STMT TRIGGER ....:                    0  ROW TRIGGER .....:                    0  SQL ERROR TRIGGER:                   0
         !.......................................................................................................................
         !                                                    ROWID
         !DIRECT ACCESS ...:                    0  INDEX USED ......:                    0  TBL SPC SCAN USED:                   0
         !.......................................................................................................................
         !                                                MISCELLANEOUS
         !MX ST LOB VAL (MB)                    0  MX ST XML VAL (MB)                    0  ARRAY EXPANSIONS :                   0
         !SPARSE IX DISABLED                    0  SPARSE IX BUILT WF                    0
         !
         !QXPFSLNUM ........:                   0  QXPFSENUM .......:                    0  QXPFSENUMG ......:                   0
         !QXPFMAXU .........:                   0  QXPFMAXUG .......:                    0  QXN1093A .........:                   0
         !QXN1093B .........:                   0
         !.......................................................................................................................
         !                                              SERVICE CONTROLLER DATA
         !PLAN ALLOC.ATTMP       2560  PACK.ALLOC.ATTMP        248  OPEN DATASETS - HWM          104  AUTHORIZ.ATTEMPTS       5239
         !PLAN ALLOC.SUCC.       2560  PACK.ALLOC.SUCC.        247  OPEN DATASETS - CURR.        104  AUTHORIZ.SUCCESS.       5239
         !PLANS BOUND               3  PACKAGES BOUND            3  DS NOUSE,NOCLOSE-HWM         104  AUTH.SUCC-NO CAT.       2528
         !BIND PLAN (ADD)           0  BIND PACK (ADD)           0  DS NOUSE,NOCLOSE-CURR.       104  AUTH.SUCC-PUBLIC          25
         !BIND PLAN (REPL)          3  BIND PACK (REPL)          3  DS CLOSED-THRESH.REACH         0  PKG-AUTH.SUCC             16
         !AUTOB.PLAN ATTMP          1  AUTOB.PACK ATTMP          0  R/W TO R/O CONVERSIONS      1628  PKG-AUTH.SUCC-PUB           6
         !-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-10
      GROUP: DBE1                                RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                   PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME             ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:03.28092609  91110   1   2 DB STATISTICS
N/P      N/P                  N/P
         !-------------------------------------------------------------------------------------------------------------------
         !AUTOB.PLAN SUCC.          1  AUTOB.PACK SUCC.         0                                PKG-AUTH.UNSUCC          38
         !REBIND PLAN COMM          0  REBIND PACK COMM         0                                PKG-AUTHID OWRTN          0
         !REBIND PLAN ATTM          0  REBIND PACK ATTM         0                                PKG-ENTRY OWRTN           0
         !PLANS REBOUND             0  PACKAGES REBOUND         0                                RTN-AUTH.SUCC             1
         !FREE PLAN COMMND          0  FREE PACKAGE COM         0                                RTN-AUTH.SUCC-PUB         1
         !FREE PLAN ATTMPT          0  FREE PACK ATTMPT         0                                RTN-AUTH.UNSUCC           1
         !PLANS FREED               0  PACKAGES FREED          0                                RTN-AUTHID OWRTN          0
         !TEST BINDS                0  AUTOB.INV.RES.ID         0                                RTN-ENTRY OWRTN           0
         !QTREOPN                9783                                                           RTN-CACHE NO ADD          0
         !.....................................................................................................................
         !                                                BUFFER POOL ACTIVITY
         !BUFFER POOL ID                       :                  0   FLAGS                                :          X'80'
         !CURRENT ACTIVE BUFFERS               :                 64   GETPAGE REQUESTS                    :     1178669465
         !BUFFER UPDATES                       :               6237   UNAVAILABLE BUFFER-VPOOL FULL        :              0
         !GETPAGE REQUESTS-SEQUENTIAL          :          884022605   PAGES WRITTEN                        :           1359
         !NUMBER OF DATA SET OPENS             :                 99   SYNCHRONOUS READS                    :           8009
         !SYNCHRONOUS WRITES                   :               1359   BUFFERS ALLOCATED-VPOOL              :           5000
         !SYNCHRONOUS READS-SEQUENTIAL         :                191   ASYNCHRONOUS WRITES                  :              0
         !DFHSM MIGRATED DATA SETS             :                  0   SEQUENTIAL PREFETCH REQUESTS         :             10
         !HORIZONTAL DEFERRED WRITE THRESHOLD  :                  0   DFHSM RECALL TIMEOUTS                :              0
         !SEQUENTIAL PREFETCH READS            :                  9   VERTICAL DEFERRED WRITE THRESHOLD    :              0
         !VPOOL EXPANSION OR CONTRACT          :                  0   PAGES READ VIA SEQUENTIAL PREFETCH   :            269
         !DATA MANAGER BUF CRITICAL THRESHOLD  :                  0   VPOOL EXPANSION FAILURE              :              0
         !LIST PREFETCH REQUESTS               :                 23   CONCURRENT PREFETCH I/O STREAMS-HWM  :             56
         !LIST PREFETCH READS                  :                 19   PAGE-INS REQUIRED FOR WRITE          :              0
         !PREFETCH I/O STREAMS REDUCTION       :                  0   PAGES READ VIA LIST PREFETCH         :            147
         !MAX WORKFILES CONCURRENTLY USED      :                  0   PARALLEL QUERY REQUESTS              :              1
         !DYNAMIC PREFETCH REQUESTS            :              57796   MERGE PASSES REQUESTED               :              0
         !DYNAMIC PREFETCH READS               :                127   MERGE PASS DEGRADED-LOW BUFFER       :              0
         !PAGES READ VIA DYNAMIC PREFETCH      :               1156   WORKFILE REQUEST REJECTED-LOW BUFFER :              0
         !WORKFILE REQUESTED-ALL MERGE PASS    :                  0   WORKFILE NOT CREATED-NO BUFFER       :              0
         !PREFETCH QUANTITY REDUCED TO HALF    :              56914   PREFETCH DISABLED-NO BUFFER          :              0
         !WORKFILE PREFETCH NOT SCHEDULED      :                  0   PREFETCH QUANTITY REDUCED TO QUARTER :              0
         !PREFETCH DISABLED-NO READ ENGINE     :                  0   WORKFILE PAGES TO DESTRUCT           :              0
         !FAILED COND SEQ&RDM GETPAGE REQUEST  :                  0   PAGE-INS REQUIRED FOR READ           :           2957
         !WORKFILE PAGES NOT WRITTEN           :                  0   FAILED COND SEQ GETPAGE REQUEST      :              0
         !MINIMUM BUFFERS ON SLRU (LWM)        :               1012   PAGES ADDED TO LPL                   :              0
         !MAXIMUM BUFFERS ON SLRU (HWM)        :               1012   LENGTH OF SLRU = VPSEQT              :              0
         !RANDOM GETPAGE BUFFER HIT            :                169
...
...
         !.....................................................................................................................
         !                                                DATA MANAGER DATA
         !CUR RIDLIST BLOCKS ...................:                  0   CUR RIDLIST BLOCKS OVERFLOWED .......:                  0
         !MAX RIDLIST BLOCKS ...................:                  0   MAX RIDLIST BLOCKS OVERFLOWED .......:                  0
         !RIDLIST TERMINATED-RDS LIMIT .........:                  0   RIDLIST TERMINATED-DM LIMIT .........:                  0
         !RIDLIST TERMINATED-NO STORAGE ........:                  0   RIDLIST TERMINATED-PROC.LIMIT .......:                  0
         !COLUMNS BYPASSED .....................:                  0
         !-> DB2 VERSION 9 SECTION:
         !TOTAL WHOLE STORAGE    (MB) .........:                N/A   TOTAL FRACT STORAGE     (KB) ........:                N/A
         !MAX TOTAL STORAGE      (MB) .........:                N/A   AGENT MAX STORAGE       (MB) ........:                N/A
         !TOTAL WHOLE 4K STORAGE (MB) .........:                N/A   TOTAL WHOLE 32K STORAGE (MB) ........:                N/A
         !TOTAL FRACT 4K STORAGE (KB) .........:                N/A   TOTAL FRACT 32K STORAGE (KB) ........:                N/A
         !-> DB2 VERSION 10 OR HIGHER SECTION:
         !CUR TOTAL        STORAGE USED (KB) ..:                  0   MAX AGENT STORAGE LIMIT       (KB) ..:                  0
         !MAX TOTAL        STORAGE USED (KB) ..:                  0   MAX STORAGE USAGE LIMIT EXCEEDED ....:                  0
         !CUR 4K TABSPACE  STORAGE USED (KB) ..:                  0   CUR 32K TABSPACE STORAGE USED (KB) ..:                  0
         !4K INSTEAD OF 32K TABSPACE USED .....:                  0   32K INSTEAD OF 4K TABSPACE USED .....:                  0
         !CUR ACTIVE (DM)      IN-MEMORY ......:                  0   CUR STORAGE (DM)   IN-MEMORY  (KB) ..:                  0
         !MAX ACTIVE (DM)      IN-MEMORY ......:                  0   MAX STORAGE (DM)   IN-MEMORY  (KB) ..:                  0
         !CUR ACTIVE (SORT)    IN-MEMORY ......:                  0   CUR STORAGE (SORT) IN-MEMORY  (KB) ..:                  0
         !-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-14
      GROUP: DBE1                                 RECORD TRACE - LONG                          REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                        TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                  ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                     PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:03.28092609  91110   1   2 DB STATISTICS
N/P      N/P                  N/P
         !-------------------------------------------------------------------------------------------------------------------
         !MAX ACTIVE (SORT)    IN-MEMORY .....:                  0   MAX STORAGE (SORT) IN-MEMORY  (KB) ..:                  0
         !CUR ACTIVE (NONSORT) IN-MEMORY .....:                  0   CUR DGTT STORAGE USED         (KB) ..:                  0
         !MAX ACTIVE (NONSORT) IN-MEMORY .....:                  0   MAX DGTT STORAGE USED         (KB) ..:                  0
         !IN-MEMORY  (NONSORT) OVERFLOWED ....:                  0   CUR WORKFILE STORAGE USED     (KB) ..:                  0
         !IN-MEMORY WORKFILE NOT CREATED .....:                  0   MAX WORKFILE STORAGE USED     (KB) ..:                  0
         !TOTAL          STORAGE CONFIG (KB) ..:          134258688   MAX AGENT STORAGE USED        (KB) ..:                  0
         !TOTAL DGTT     STORAGE CONFIG (KB) ..:          134217728   AGENT STORAGE THRESHOLD        (%) ..:                  0
         !TOTAL WORKFILE STORAGE CONFIG (KB) ..:              40960   TOTAL STORAGE THRESHOLD        (%) ..:                 90
         !USE CURRENTLY COMMITTED:
         !INSERT ROWS SKIPPED ................:                  0   DELETE ROWS ACCESSED .................:                  0
         !UPDATE ROWS ACCESSED ................:                  0
         !-------------------------------------------------------------------------------------------------------------------
         !                                                  LOCKING DATA
         !DEADLOCKS                 0  LOCK REQUEST       515403  LOCK SUSPENSIONS            31  CLAIM REQUESTS             14322
         !TIMEOUTS                  0  UNLOCK REQUEST     589055  IRLM LATCH SUSPENS.        175  CLAIM REQ. FAILED              0
         !ESCALATIONS(SHR)          0  QUERY REQUEST        2114  OTHER SUSPENSIONS         2185  DRAIN REQUESTS              1628
         !ESCALATIONS(EXC)          0  CHANGE REQUEST       6017                                  DRAIN REQ. FAILED              0
         !MAXIMUM PAGE/ROW LOCKS HELD                        N/A  OTHER REQUEST               2
         !-------------------------------------------------------------------------------------------------------------------
         !                                                EDM POOL DATA
         !PAGES IN POOL   :          0   CT PAGES        :          0   PT PAGES       :          0
         !FREE PAGES      :          0   CT REQUESTS     :       2540   PT REQUESTS    :        514   DBD REQUESTS    :       5598
         !EDM POOL FULL   :          0   CT NOT IN POOL  :          6   PT NOT IN POOL :         43   DBD NOT IN POOL :          5
         !CACHE INSERTS   :         11   CACHE REQUESTS  :         80
         !
         !PKG SEARCH NOT FOUND:          0        PKG SEARCH NOT FOUND INSERT:         1    PKG SEARCH NOT FOUND DELETE:         0
         !
         !STATEMENTS IN GLOBAL CACHE         :         11
         !PAGES IN STMT POOL (ABOVE)         :      28346              PAGES IN DBD POOL (ABOVE)          :      25600
         !  HELD BY STATEMENTS                :         80                HELD BY DBD                     :         97
         !  FREE PAGES                        :      28266                  STEALABLE PAGES               :          3
         !FAILS DUE TO STMT POOL FULL         :          0                FREE PAGES                      :      25503
         !                                                               FAILS DUE TO DBD POOL FULL         :          0
         !PAGES IN RDS POOL (ABOVE)          :          0              PAGES IN SKEL POOL (ABOVE)         :      25600
         !  HELD BY CT                        :          0                HELD BY SKCT                    :         10
         !  HELD BY PT                        :          0                HELD BY SKPT                    :        135
         !  FREE PAGES                        :          0                  STEALABLE PAGES               :        145
         !FAILS DUE TO RDS POOL FULL          :          0                FREE PAGES                      :      25455
         !                                                               FAILS DUE TO SKEL POOL FULL        :          0
         !
         !XPROC REQUESTS                     :         22              XPROC ALLOC STOR                   :        N/A
         !PLAN BTB STORAGE                   :          0              PKG BTB STORAGE                    :          0
         !PLAN ATB STORAGE         :                29568              PKG ATB STORAGE          :         0
         !REQ STOR FOR STATIC STMTS:                42616
         !-------------------------------------------------------------------------------------------------------------------
         !-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-15
      GROUP: DBE1                                 RECORD TRACE - LONG                          REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                        TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                  ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                     PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:03.28092609  91110   1   2 DB STATISTICS
N/P      N/P                  N/P
         !-------------------------------------------------------------------------------------------------------------------
         !                                      GROUP BUFFER POOLS ACTIVITY DATA
         !GROUP BUFFER POOL ID ...................:       0        FLAGS ..........................:               X'80'
         !SYN.READS(XI)-DATA RETURNED .:                2609        SYN.READS(NF)-DATA RETURNED .:                 21
         !SYN.READS(XI)-NO DATA RET ...:                5792        SYN.READS(NF)-NO DATA RET ...:                201
         !READ FOR CASTOUT MULT .......:                  52        WRITE AND REGISTER MULT .....:                363
         !READ FOR CASTOUT ............:                 358        WRITE AND REGISTER ..........:               2810
         !CLEAN PAGES WRITTEN .........:                   0        PAGES WRITE & REG MULT ......:                967
         !CHANGED PAGES SYNC.WRITTEN ..:                3722        PAGES CASTOUT ...............:                581
         !CHANGED PAGES ASYNC.WRITTEN .:                  55        CASTOUT CLASS THRESHOLD .....:                  4
         !WRITE FAILED-NO STORAGE .....:                   0        GROUP BP CASTOUT THRESHOLD ..:                  0
         !REG.PAGE LIST (RPL) REQ .....:                  58        DELETE NAME LIST SEC-GBP ....:                  0
         !GBP CHECKPOINTS TRIGGERED ...:                   0        DELETE PAGE FROM SEC-GBP ....:                  0
         !PAGES RETRIEVED FROM GBP ....:                   6        READ CASTOUT STATS SEC-GBP ..:                  0
         !READ STORAGE STATS ..........:               12550        UNLOCK CASTOUT ..............:                406
         !DELETE NAME .................:                1361        READ CASTOUT CLASS ..........:               3036
         !UNREGISTER PAGE .............:                   0        NR.OF READ FOR CASTOUT REQ ..:               1942
         !REGISTER PAGE ...............:                  27        READ DIRECTORY INFO .........:                  0
         !EXPLICIT X-INVALID ..........:                   0        GBP-DEPENDENT GETPAGES ......:               9074
         !PG P-LOCK UNLOCK REQ ........:                5369        ASYNCH GBP REQUESTS .........:               5917
         !PG P-LOCK LOCK REQ SP MAP PG :                  45        ASYNCH SEC-GBP REQUESTS .....:                  0
         !PG P-LOCK LOCK SUSP SP MAP PG:                   6        WRITE SEC-GBP FAILED ........:                  0
         !PG P-LOCK LOCK NEG SP MAP PG :                   0        PG P-LOCK LOCK REQ DATA PG ..:               3222
         !PG P-LOCK LOCK REQ IX LEAF PG:                1483        PG P-LOCK LOCK SUSP DATA PG  :                135
         !PG P-LOCK LOCK SUSP IX LEAF PG                  36        PG P-LOCK LOCK NEG DATA PG ..:                  0
         !PG P-LOCK LOCK NEG IX LEAF PG:                   0
...
...
         !-------------------------------------------------------------------------------------------------------------------
         !                                       DATA SHARING LOCKING DATA
         !LOCK REQ (P-LOCKS)       :      10694   SYNCH.XES - LOCK REQ     :     456679   SUSPENDS - IRLM GLBL CONT:      11048
         !UNLOCK REQ (P-LOCKS)     :       7033   SYNCH.XES - CHANGE REQ   :       2245   SUSPENDS - XES GLBL CONT :          0
         !CHANGE REQ (P-LOCKS)     :       3519   SYNCH.XES - UNLOCK REQ   :     502976   SUSP SYNC/ASYNC CONV (V8):        N/A
         !NOTIFY MESSAGES SENT     :         76   ASYNCH.XES - RESOURCES   :        803   INCOMPAT RETAINED LOCK   :          0
         !NOTIFY MESSAGES RECEIVED :      15008   P-LOCK/NFY EXITS ENGINES :        500   P-LOCK/NFY EX.ENGINE N/A :          0
         !PSET/PART P-LOCK NEGOTIAT:       3223   PAGE P-LOCK NEGOTIATION  :          0   OTHER P-LOCK NEGOTIATION :       1800
         !P-LOCK CHANGE DURING NEG.:       4757   FALSE CONTENTIONS        :        248
         !SYNC-ASYNC XES CONV      :      44838   FLMG COUNTS PER          :     SUBSYS   NO DELAY LOCK REQ REJECTS:          0
         !-------------------------------------------------------------------------------------------------------------------
         !-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-18
```

```
     GROUP: DBE1                                RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
    MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                   PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME             ID
-------- -------- ------------ ---------------- ------ --- --- ------------ ----------------------------------------------------------------
SYSOPR   SE11     CBA37B3FD9B8 N/P              N/P                          N/P
SYSOPR   016.WVSM 'BLANK'     21:54:03.28113166  91111   1 106 SYS PARAMETERS NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
'BLANK'  T 01                      75.80329233
         !-------------------------------------------------------------------------------------------------------------------------
         !                                    SYSTEM INITIALIZATION PARAMETERS
         !CHECKPOINT FREQUENCY    500000  TRACE TABLE SIZE (4K)       16  GLOBAL CLASSES      X'00000000'  WTO ROUTE CODES  X'8000'
         !MONITOR BUFFER SIZE    1048576  BACKGROUND IDS              200  STATISTICS CLASSES  X'BC000000'  RLIMIT TABLE ID      01
         !SERVICE UNIT LIMIT           0  FOREGROUND IDS              200  ACCOUNTING CLASSES  X'80000000'  RLIMIT FLAGS      X'40'
         !STATS INTERVAL               1  CONCURRENT THREADS          400  AUDIT CLASSES       X'00000000'  EXT. SECURITY       YES
         !PSEUDOCLOSE CHECKPOINTS     10  REMOTE THREADS(ACTIVE)      200  MONITOR CLASSES     X'80000000'  LIMIT BACKOUT      AUTO
         !PSEUDOCLOSE MINUTES         10  REMOTE THREADS(CONNECT)   10000  RLIMIT TABLE AUTHID    SYSIBM    BACKOUT DURATION     5
         !LEVEL ID CHECKPOINTS         5  UR CHECK FREQUENCY            0  WLM ENVIRONMENT     WLMENV       DATABASE PROTOCOL   N/A
         !ROLL UP PARALLEL THREAD     NO  LOCAL TRACE TAB SIZE         16  DEF 4K BP USER DATA      BP2
         !USER LOB VALUE STOR      10240  SYS LOB VALUE STOR         4096  DEF BPOOL USER INDEX     BP1      DBM1 ST FAST LOG    N/A
         !EXTRA BLOCKS REQ           100  EXTRA BLOCKS SRV            100  INTERVAL SYNCHR W/IN HOUR   N/A  SYNCHR FLAG          NO
         !ONL DSET STATS INTERVAL      5  DDF/RRSAF ACCUM              10  TS ALLOCATION                0  IX ALLOCATION         0
         !UR LOG THRESHOLD             0  UNICODE IFCIDS              YES  AGGREGATION FIELDS           0  VARY DS CONTR INTVAL YES
         !OPTIMIZE EXTENT SIZING      NO  DEFINE DATA SETS            YES  USE DATA COMPRESSION         NO  DEL CF STRUCTS        NO
         !MAX OPEN DS FOR LOB        100  LOB INLINE LENGTH             0  COMPRESS SMF RECS         OFF  RANDOMIZE XML DOCID   NO
         !DEF 8K BP USER DATA    BP8K0    DEF 16K BP USER DATA   BP16K0   DEF 32K BP USER DATA   BP32K
         !USER XML VALUES (KB)                                     204800  SYSTEM XML VALUES (MB)                      10240
         !DEF PART SEGSIZE            32  USE TRACKMOD (IMPLICIT TS) YES  DSSIZE (IMPLICIT TS)         4
         !CHECKPOINT TYPE         SINGLE  RECORDS/CHECKPOINT           N/P  MINUTES/CHECKPOINT        N/P
         !PARAMETER MODULE      DSNZPARM  ACCESS CONTROL        DSNX XAC  IDENTIFY/AUTH          DSN3 ATH  SIGNON          DSN3 SGN
         !
         !QWP1DB1M:      40960            QWP1CRIT:   39387136            QWP1SOS :   39387136             QWP1LVL :         99
         !QWP1FLAG: X'38'
         !.........................................................................................................................
         !                                    STORED PROCEDURES PARAMETERS
         !MVS PROCEDURE NAME: 'BLANK'     ALLOWABLE ABENDS:          0    TIMEOUT VALUE:       180
         !.........................................................................................................................
         !                                 LOG INITIALIZATION PARAMETERS (PART 1)
         !LOG OUTPUT BUFFER :       4000  MAX ARCHIVE INPUT UNITS:      2  INITIAL OPTIONS: X'60'  DEALLOC TIME(MIN):     0
         !READ COPY2 ARCHIVE:  NO        MAX ARCHIVE IN BSDS:      10000  ARCHIVE OPTIONS: X'00'  DEALLOC TIME(SEC):     0
         !QWP2LVL:   X'C4E2D5F1F1F1F040'  QWP2WRTH:                   20  QWP2OPT3:        X'40'  QWP2LLBS:            NO
         !QWP2LBPF:                   YES
         !.........................................................................................................................
         !                                 LOG INITIALIZATION PARAMETERS (PART 2)
         !DATASET BLOCKSIZE:                24576  COPY1 DEVICE TYPE: DASD                 MSS GROUP NAME 1 : 'BLANK'
         !PRIMARY ALLOC ...:                  100  COPY2 DEVICE TYPE: 'BLANK'              MSS GROUP NAME 2 : 'BLANK'
         !SECONDARY ALLOC .:                   10  COPY1 PREFIX ....: DBE1.SE11.ARCHLOG1
         !RETENTION PERIOD :                   30  COPY2 PREFIX ....: DBE1.SE11.ARCHLOG2
         !SINGLE VOLUME ...:                   NO  QUIESCE PERIOD ..:                  5  CATALOG ARCH DS .:                YES
         !SPACE ALLOC METHD:             CYLINDER  ARCHLOG RACF PROT:                 NO  WTOR BEF ARCH MNT:                YES
         !COMPACT DATA ....:                   NO  TS ARCHLOG DS ...:                YES
         !
         !QWP3LVL .........:  X'C4E2D5F1F1F1F040'
         !QWP3WLST ........:
         !0000  00000000  00000000  017E8000  60606060   60606060  60606060  60606060  60606060  ! .........=..--------------------
         !-------------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-19
     GROUP: DBE1                                RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
    MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                   PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME             ID
-------- -------- ------------ ---------------- ------ --- --- ------------ ----------------------------------------------------------------
SYSOPR   SE11     CBA37B3FD9B8 N/P              N/P
SYSOPR   016.WVSM 'BLANK'     21:54:03.28113166  91111   1 106 SYS PARAMETERS
'BLANK'  T 01                      75.80329233
         !-------------------------------------------------------------------------------------------------------------------------
         !0020  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  ! --------------------------------
         !0040  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  ! --------------------------------
         !0060  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  ! --------------------------------
         !0080  60606060  60600000  B000                                                          ! -----....
         !.........................................................................................................................
         !.........................................................................................................................
         !                                 MISCELLANEOUS INSTALLATION PARAMETERS
         !EDM POOL SIZE ...:                    0  MVS ENVIRONMENT ..:                N/A  IRLM START TIME .:                  120
         !DDL REGISTR FLAG :                X'30'  IRLM PROCEDURE ..: SE11IRLM             TAB OWNER .......: DSNRGCOL
         !IRLM MODULE NAME : IE11                  APPL TABLE ......: DSN_REGISTER_APPL    MAXIMUM DATASETS :         20000
         !INSTALL SYSADM ..: HELM                  IRLM INIT TIME ..:                   1  OBJ TABLE .......: DSN_REGISTER_OBJT
         !ASYNC DRAIN START:                    1  DEFAULT USERID ..: IBMUSER             IRLM AUTOSTART ..:                 YES
         !DATABASE NAME ...: DSNRGFDB              ASYNC DRAIN STOP :                   3  SYSADM ID 2 .....: SYSADM
         !IRLM TIMEOUT ....:                   30  SITE TYPE .......:               LOCAL  ENABLE DATA CAPT :                  NO
         !SYSOPER ID ......: HELM                  UTILITY FACTOR ..:                   6  DDCS ESCAPE CHAR : 'BLANK'
         !ENFORCE DPROP ...:                   NO  SYSOPER ID 2 ....: EMIL             MAX TSPACE LOCK .:                2000
         !WAIT RETAIN LOCKS:                   NO  AUTO BIND .......:                 YES  ENABLE DB2 AUTH .:                  YES
         !MAX APPL LOCKS ..:                10000  CACHE DYNAMIC SQL:                 YES  EXPL AT AUTOBIND :                  YES
         !AUTH CACHE SIZE .:                 3072  REP READ U LOCK .:                 YES  MAX KEPT DYN STMT:                 5000
         !HOP SITE AUTHORIZ:                  N/A  BIND NEW PACKAGE : BINDADD              CURRENT DEGREE ..: 1
         !IMS/BMP TIMEOUT .:                    4  TRACKER SITE ....:                  NO  SORT POOL SIZE ..:             10240000
         !STATIC DESCRIBE .:                  YES  IMS/DLI TIMEOUT :                   6  OPT HINTS ALLOWED:                    NO
         !RIDPOOL SIZE (KB):               400000  PACK AUTH CACHE .:             5242880  CONTR THREAD STOR:                   YES
         !MAX DEG OF PARALL:                    0  RTN AUTH W/O CAT :             5242880  UPD PART KEY COLS:                   N/A
         !USE X LOCK ......:                   NO  EDM BEST FIT ....:                 N/A  STAR JOIN ENABL .:                DISABLE
         !NPAGES THRESHOLD :                    0  DBADM CREATE VIEW:                  NO  MAX # LE TOKENS .:                    20
         !MAX EXT SERV TASK:                   20  CTR PCK HSH TBLE5:                 N/A  PROJ Z INS THRESH:                     2
         !MAX NOT FOUND-HSH:                  100  FIELD PROCS T BLK:                   5  MANAGE THREAD STO:                   NO
         !EVAL UNCOMMITTED :                   NO  STATISTICS ROLLUP:                 YES  STATISTICS HIST .:                 NONE
         !SUPPRESS SOFT ERR:                  YES  REAL TIME STATS ..:                  30  EDM STATMNT CACHE:              116107264
         !EDM DBD CACHE ...:            104857600  STAR JOIN THRESH :                  10  ZOSMETRICS ......:                   YES
         !LONG RUNNING READ:                   10  TEMP UNIT NAME ..: SYSDA                MIN DIVIDE SCALE :                  NONE
         !CUR MAINT TYPE ..:               SYSTEM  PAD IDX BY DEFLT :                  NO  CUR REFRESH AGE .:                     0
         !FREE CACHED STMTS:                    1  MAX OPEN CURSORS :                 500  MAX STORED PROCS :                  2000
         !MAX DATA CACHING :                   20  ONL ZPARM TYPE ..: 'BLANK'              ONL ZPARM USER ID: 'BLANK'
         !ONL ZPARM CORID .: 'BLANK'               ONL ZPARM TIME ..:                  N/P
         !MAX TEMP STORAGE :                    0  MAX CONC AUTOBIND:                   10  EDM SKEL POOLSIZE:             104857600
         !ADM SCHED JCLPROC: 'BLANK'               SYS-LEVEL BACKUP :                  NO  RESTORE/RECOVER .:                   NO
         !DUMP CLASS NAME .: 'BLANK'               MAX TAPE UNITS ..:                   0  INDEX I/O PARALL :                  YES
         !PLANMGMT ........:             EXTENDED  PLANMGMTSCOPE ...:              STATIC  REVOKE DEP PRIVIL:                SQLSTMT
         !SEPARATE SECURITY:                   NO  SECADM1 TYPE ....:              AUTHID  SECADM2 TYPE ....:                AUTHID
         !MAX TEMP RID ....:             NOLIMIT  SECADM1 ID .....: SECADM               SECADM2 ID .....: SECADM
         !SKIP UNCOMM INS .:                   NO  GET ACCEL ARCHIVE:                  NO  QUERY ACCEL OPT .:                  NONE
         !CUR QUERY ACCEL .:                 NONE  DDL TIMEOUT FACT :                   1  LMT CONV PART TAB:                    NO
         !MAX UTIL PARALL .:                   99  ACCEL STARTUP OPT:                  NO  REORG IGN FREESPC:                   NO
         !-------------------------------------------------------------------------------------------------------------------------
```

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   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-20
      GROUP: DBE1                                 RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
SYSOPR   SE11     CBA37B3FD9B8 N/P              N/P
SYSOPR   016.WVSM 'BLANK'     21:54:03.28113166  91111   1 106 SYS PARAMETERS
'BLANK'  T 01                      75.80329233
         !-------------------------------------------------------------------------------------------------------------------
         !MULT INDEX ACCESS:                  YES  REORG SORT NPSI .:                AUTO  REORG TABSPC LIST:             PARALLEL
         !OPT 1 ROW-NO SORT:                   NO  AUTH EXIT CHECK .:             PRIMARY  OBJ CREATE FORMAT:            EXTENDED
         !UTIL OBJ CONVERS :                 NONE  PKG RLEASE COMMIT:                YES  REORG DROP PARTS :                NO
         !TEMPLATE TIME ...:                  UTC  AUTHEX CACHE REF :               NONE  SPT01 MAX LENGTH :             32138
         !REORG MAPPING DB : 'BLANK'               MAX IN-MEM SORT .:               1000  IDX CLEANUP THRDS:                10
         !MAX PARA DEG DPSI:                    0  APPL COMPAT ....: V11R1               STATIST FEEDBACK :               ALL
         !LIKE BLANK INSIGN:                   NO  PCTFREE UPDATE ...:                  0  WF DB AGNT THRESH:                 0
         !WF DB SYS THRESH :                   90  D.STMT CACHE STOR:                    0
         !.....................
         !LIST OF LONG NAMES
         !FCOPY DEFLT TEMPL: DBE1.&DB..&SN..N&DSNUM..&UQ.
         !
         !QWP4MMRB ........:                  408  QWP4WREN ........:                  300  QWP4BPOF ........:          X'00000000'
         !QWP4CNTL ........:  B'0000000000000000'  QWP4BMCK ........:                  OFF  QWP4WIOL ........:                   ON
         !QWP4LRNG ........:                  OFF  QWP4SLDB ........:                  OFF  QWP4BYCK ........:                  OFF
         !QWP4SLIX ........:                  OFF  QWP4NAPF ........:                  OFF  QWP4CTUP ........:                  OFF
         !QWP4DIV3 ........:                  OFF  QWP4EXPL ........:                  OFF  QWP4NHJM ........:                  OFF
         !QWP4STOO ........:                  OFF  QWP4MISZ ........:                X'97'  QWP4VCOF ........:                 2576
         !QWP4DBOF ........:                 2564  QWP4SWFN ........:                  140  QWP4SMXN ........:                64000
         !QWP4BMC1 ........:                   10  QWP4BMC2 ........:                   20  QWP4SWT1 ........:                    5
         !QWP4SWT2 ........:                   40  QWP4DWF1 ........:                   14  QWP4DWU1 ........:                    8
         !QWP4DWU2 ........:                    8  QWP4VDWT ........:                   64  QWP4KDSA ........:                 1300
         !QWP4KDSB ........:                 1000  QWP4RDEU ........:                  600  QWP4LRUT ........:                 4000
         !QWP4PF32 ........:                    0  QWP4PFT1 ........:                   14  QWP4PFT2 ........:                   10
         !QWP4BBTR ........:                  500  QWP4PSID ........:          X'00000000'  QWP4DSPM ........:                   50
         !QWP4CHKL ........:                   10  QWP4PDQ .........:                  128  QWP4PCBS ........:                   20
         !QWP4HRCL ........:                   ON  QWP4PCWH ........:                    1  QWP4PCRB ........:                   20
         !QWP4MXRB ........:                20000  QWP4HRCD ........:                  120  QWP4RCST ........:                    8
         !QWP4TRWT ........:                   10  QWP4WPFQ ........:                    4  QWP4WPFS ........:                    4
         !QWP4SQTM ........:                    4  QWP4SQTD ........:                    5  QWP4VDTM ........:                    1
         !QWP4MPFQ ........:                    2  QWP4SWFU ........:                    5  QWP4TISP ........:                24576
         !QWP4DRBS ........:                30720  QWP4RMIN ........:                    1  QWP4NCPU ........:                    0
         !QWP4RNLP ........:                    8  QWP4RHTI ........:                    4  QWP4INTV ........:                  120
         !QWP4QCTM ........:                  120  QWP4TXS .........:                24576  QWP4SRBT ........:                   10
         !QWP4AND .........:                   32  QWP4OR ..........:                   25  QWP4CPUM ........:                    0
         !QWP4CUT .........:                  100  QWP4SPC .........:                  100  QWP4SPS .........:                  N/A
         !QWP4MDE .........:                 4096  QWP4AST .........:                   99  QWP4SCTM ........:                   10
         !QWP4ZUT .........:                    2  QWP4ULBZ ........:                10240  QWP4DSFL ........:                X'07'
         !QWP4COC1 ........:                  128  QWP4COC2 ........:                   10  QWP4ULFR ........:                    1
         !QWP4IOP .........:                   ON  QWP4DBCK ........:                  OFF  QWP4GOP .........:                  OFF
         !QWP4FFB .........:                   NO  QWP4XCTH ........:                    0  QWP4UBS .........:                  128
         !QWP4DATE ........:  X'F0F361F1F861F1F3'  QWP4MIS2 ........:                X'D0'  QWP4DXTP ........:                    2
         !QWP4MXTB ........:                  225  QWP4CTHR ........:                   10  QWP4STHR ........:              1048576
         !QWP4SREC ........:              X'8000'  QWP4SIT .........:                X'89'  QWP4MXCE ........:                 1023
         !QWP4INTE ........:                   30  QWP4SJTB ........:                   10  QWP4MQTH ........:                  120
         !-------------------------------------------------------------------------------------------------------------------
```

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   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-21
      GROUP: DBE1                                 RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
SYSOPR   SE11     CBA37B3FD9B8 N/P              N/P
SYSOPR   016.WVSM 'BLANK'     21:54:03.28113166  91111   1 106 SYS PARAMETERS
'BLANK'  T 01                      75.80329233
         !-------------------------------------------------------------------------------------------------------------------
         !QWP4TTRS ........:                    1  QWP4MXOS ........:                   40  QWP4MXOC ........:                  100
         !QWP4LTDM ........:                   10  QWP4MIS3 ........:                X'04'  QWP4MIS4 ........:                X'80'
         !QWP4SCLC ........:                  255  QWP4MS4A ........:                X'00'  QWP4MIS5 ........:                X'26'
         !QWP4JRCS ........:                   NO  QWP4LRCS ........:                   NO  QWP4IRCS ........:                   NO
         !QWP4DMTR ........:                  500  QWP4BXTR ........:                  500  QWP4LBTR ........:                  500
         !QWP4SCAC ........:                  YES  QWP4PST .........:                  YES  QWP4VCFK ........:                   NO
         !QWP4DSCM ........:                   NO  QWP4CDIO ........:                   NO  QWP4OPSE ........:                  YES
         !QWP4OJEH ........:                  YES  QWP4DCFS ........: 'BLANK'               QWP4DCIX ........: 'BLANK'
         !QWP4COMC ........:                   NO  QWP4IXIO ........:                  YES  QWP4STCL ........:                  YES
         !QWP4QA98 ........:                   NO  QWP4QA99 ........:                   NO  QWP4N4504 ........:                   NO
         !QWP4ATRC ........:                  500  QWP4MUSE ........: N/P                 QWP4N2645_1.....:                   NO
         !QWP4QRWD ........:                    1  QWP4N0193A ......:                 1024  QWP4N0193B ......:                  100
         !-------------------------------------------------------------------------------------------------------------------
         !                                          IRLM PROCESSING PARAMETERS
         !PC SPECIFIED ....:                  YES  DEADLOCK WAIT ...:                 5000  LOCAL/GLOBAL CYCL:                    1
         !TIMEOUT INTERVAL :                   30  MAX CSA USAGE ...:                    0  LOCKTAB HASH ENTR:              1048576
         !MAX 31-BIT STOR .:                    0  PENDING HASH ENTR:                    0  LOCKTAB LIST ENTR:                 8282
         !MAX 64-BIT STOR .:                    0
         !-------------------------------------------------------------------------------------------------------------------
         !                                        VSAM CATALOG NAME QUALIFIER
         !DBE1
         !-------------------------------------------------------------------------------------------------------------------
         !                                   DATABASES/SPACES  STARTED  AUTOMATICALLY
         !  ALL
         !-------------------------------------------------------------------------------------------------------------------
         !                                  DISTRIBUTED DATA FACILITY PARAMETERS
         !FACILITY NAME ...: DDF                RLF ERROR ACTION :              NOLIMIT  RESYNCH INTERVAL :                   2
         !TCP/IP VERIFIED .:                    NO  FACILITY START ..:                 AUTO  IDLE THR TIMEOUT :                120
         !DBAT STATUS .....: INACTIVE              TCP/IP KEEPALIVE :                  120  MAX T1 INACT THR :                   0
         !POOL THR TIMEOUT :                   120  CONN Q MAX DEPTH :                    0  CONN Q MAX WAIT .:                   0
         !DDF COMPATIBILITY:                    NO
         !-------------------------------------------------------------------------------------------------------------------
         !                                       DATA SHARING PARAMETERS
         !GROUP NAME ......: DBE1               MEMBER NAME .....: SE11                  DATA SHARING ENAB:                  YES
         !MAX # OF MEMBERS :                   248  IMMEDWRITE FLAG .:                   NO  CONVERSION FACTOR:                281
         !
         !QWPACOOR ........:                     N  QWPAASST ........:                    N
         !-------------------------------------------------------------------------------------------------------------------
         !                                    APPLICATION PROGRAMMING DEFAULTS
         !VERSION .........: 1110                  DEFAULT SUBSYSTEM: SE11              EBCDIC SBCS CCSID:                1148
         !DEFAULT HOST LANG: IBMCOB                DECIMAL POINT OPT:                PERIOD  EBCDIC MBCS CCSID:               65534
         !DECFLOAT RND MODE:            HALF EVEN  DEFLT ENC SCHEME :               EBCDIC  EBCDIC GBCS CCSID:               65534
         !DEFAULT DELIMITER:                APOST  DISTR SQL STR DEL:                APOST  ASCII SBCS CCSID :                 819
         !DEFLT SQL DELIMIT:                APOST  DEFLT DEC ARITHM :                   15  ASCII MBCS CCSID :               65534
         !LOCAL DATE LENGTH:                    0  DEFLT MIXED GRAPH:                   NO  ASCII GBCS CCSID :               65534
         !-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-22
      GROUP: DBE1                                 RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                   PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                        TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME              ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
SYSOPR   SE11     CBA37B3FD9B8 N/P              N/P
SYSOPR   016.WVSM 'BLANK'     21:54:03.28113166  91111   1 106 SYS PARAMETERS
'BLANK'  T 01                      75.80329233
         !-------------------------------------------------------------------------------------------------------------------
         !LOCAL TIME LENGTH:                    0  SQL LANG SUPP LVL:                   NO  UNICOD SBCS CCSID:                 367
         !DATE FORMAT .....: ISO                   USE FOR DYN RULES:                  YES  UNICOD MBCS CCSID:                1208
         !TIME FORMAT .....: ISO                   APPLIC ENCODING .: EBCDIC               UNICOD GBCS CCSID:                1200
         !INSTALL TYPE ....:                  YES  PAD NULL-TERMIN .:                  YES  DB2 DECP INDICAT :               X'D5'
         !IMP TIMEZONE(HEX):          X'9999999C'  DEFAULT LOCALE ..: 'BLANK'
         !IMP TIMEZONE ....:              CURRENT
         !
         !QWPBLVL .........:              V11R1M0  QWPBCHAR ........: ALPHANUM
         !-------------------------------------------------------------------------------------------------------------------
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-23
      GROUP: DBE1                                 RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                   PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                        TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME              ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P                            N/P
N/P      N/P      'BLANK'     21:54:03.28598995  91112   1 202 BUFFER POOL    NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
N/P      N/P                  N/P                                ATTRIBUTES
         !-------------------------------------------------------------------------------------------------------------------
         !BUFFERPOOL ID        : BP0                VPOOL SIZE          :       5000          VPOOL VDWT THRESH BUF:          0
         !PSTEAL METHOD        : LRU                VPOOL    SEQ THRESH  :         80          VPOOL VDWT THRESH (%):          5
         !PGFIX ATTRIB         :         NO         PARALLEL SEQ THRESH  :         50          VPOOL DWT THRESH     :         30
         !AUTOSIZE             :         NO         ASS PAR  SEQ THRESH  :          0
         !FRAMESIZE            :         4K         VPOOL SIZE MIN       :          0          VPOOL SIZE MAX       :          0
         !.......................................................................................................................
         !BUFFERPOOL ID        : BP1                VPOOL SIZE          :      10000          VPOOL VDWT THRESH BUF:          0
         !PSTEAL METHOD        : LRU                VPOOL    SEQ THRESH  :         80          VPOOL VDWT THRESH (%):          5
         !PGFIX ATTRIB         :         NO         PARALLEL SEQ THRESH  :         50          VPOOL DWT THRESH     :         30
         !AUTOSIZE             :         NO         ASS PAR  SEQ THRESH  :          0
         !FRAMESIZE            :         4K         VPOOL SIZE MIN       :          0          VPOOL SIZE MAX       :          0
         !.......................................................................................................................
         !BUFFERPOOL ID        : BP2                VPOOL SIZE          :      20000          VPOOL VDWT THRESH BUF:          0
         !PSTEAL METHOD        : LRU                VPOOL    SEQ THRESH  :         80          VPOOL VDWT THRESH (%):          5
         !PGFIX ATTRIB         :         NO         PARALLEL SEQ THRESH  :         50          VPOOL DWT THRESH     :         30
         !AUTOSIZE             :         NO         ASS PAR  SEQ THRESH  :          0
         !FRAMESIZE            :         4K         VPOOL SIZE MIN       :          0          VPOOL SIZE MAX       :          0
         !.......................................................................................................................
         !BUFFERPOOL ID        : BP3                VPOOL SIZE          :       5000          VPOOL VDWT THRESH BUF:          0
         !PSTEAL METHOD        : LRU                VPOOL    SEQ THRESH  :         80          VPOOL VDWT THRESH (%):          5
         !PGFIX ATTRIB         :         NO         PARALLEL SEQ THRESH  :         50          VPOOL DWT THRESH     :         30
         !AUTOSIZE             :         NO         ASS PAR  SEQ THRESH  :          0
         !FRAMESIZE            :         4K         VPOOL SIZE MIN       :          0          VPOOL SIZE MAX       :          0
         !.......................................................................................................................
...
...
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-28
      GROUP: DBE1                                RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME      ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ------------------------------------------------------------
SYSOPR   SE11     CBAA42ED794D N/P              N/P                          N/P
SYSOPR   020.CLST 'BLANK'     21:54:03.84100011  91118   2 105 DBID/OBID     NETWORKID:  DEIBMIPS  LUNAME:  IPSASE11  LUWSEQ:     1
'BLANK'  AT01                       0.00010481                TRANSLATION   DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     116       OBJECT NAME: DSNDCX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    2102       OBJECT NAME: DSNOVX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    2099       OBJECT NAME: SYSTSVAR
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     217       OBJECT NAME: DSNFCX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     240       OBJECT NAME: DSNFMX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     234       OBJECT NAME: DSNFLX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     236       OBJECT NAME: DSNFLX02
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:      95       OBJECT NAME: DSNDXX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    2231       OBJECT NAME: DSNSFX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    2228       OBJECT NAME: SYSTSSFB
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     873       OBJECT NAME: DSNRTX02
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    2208       OBJECT NAME: SYSTSISS
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     869       OBJECT NAME: DSNRTX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    2210       OBJECT NAME: SYSTSTSS
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     805       OBJECT NAME: DSNTDX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     178       OBJECT NAME: DSNTNX01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    1931       OBJECT NAME: DSNDTX05
                                                                            DBID:     327       DATABASE NAME: HONGLTBD
                                                                            OBID:       5       OBJECT NAME: HONGLTBX
                                                                            DBID:     327       DATABASE NAME: HONGLTBD
                                                                            OBID:       2       OBJECT NAME: HONGLTBS
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:     110       OBJECT NAME: DSNAGH01
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:      14       OBJECT NAME: SYSGPAUT
                                                                            DBID:       1       DATABASE NAME: DSNDB01
                                                                            OBID:      13       OBJECT NAME: DSNSPDXA
                                                                            DBID:       6       DATABASE NAME: DSNDB06
                                                                            OBID:    1943       OBJECT NAME: DSNAPX02
                                                                            DBID:       1       DATABASE NAME: DSNDB01
                                                                            OBID:       9       OBJECT NAME: SYSSPUXA
...
...
```

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   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-34
      GROUP: DBE1                                RECORD TRACE - LONG                        REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                      TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME      ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ------------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P                          N/P
N/P      N/P      'BLANK'     21:54:07.91536325  91120   1 225 STORAGE MGR    NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
N/P      N/P               N/P                              POOL SUMMARY
         !-------------------------------------------------------------------------------------------------------------------------
         !                                  ADDRESS SPACE SUMMARY - DBM1
         !
         !EXTENDED REGION SIZE (MAX)         :          1598029824     24-BIT LOW PRIVATE                :              229376
         !24-BIT HIGH PRIVATE                :              512000     31-BIT EXTENDED LOW PRIVATE       :            78024704
         !31-BIT EXTENDED HIGH PRIVATE       :            31485952     CURR HIGH ADDR 24-BIT PRIV REGION  :           X'0003E000'
         !
         !CURR HIGH ADDR 31-BIT PRIV REGION  :          X'26F0E000'    31-BIT RESERVED FOR MUST COMPLETE  :           159802982
         !31-BIT RESERVED FOR MVS            :            25905760     STORAGE CUSHION WARNING TO CONTRACT:           159802982
         !TOTAL 31-BIT GETMAINED STACK       :             6561792     TOTAL 31-BIT STACK IN USE          :             5332992
         !TOTAL 31-BIT VARIABLE POOL         :             1540096     TOTAL 31-BIT FIXED POOL            :               86016
         !TOTAL 31-BIT GETMAINED             :             1000844     AMOUNT OF AVAILABLE 31-BIT         :          1488515072
         !SYSTEM AGENT STACK STORAGE IN USE  :             4636672
         !
         !TOTAL 64-BIT VARIABLE POOL         :            33333248     TOTAL 64-BIT FIXED                 :             6483968
         !TOTAL 64-BIT GETMAINED             :           428835232     TOTAL 64-BIT PRIVATE FOR STOR MANAG:             1400832
         !
         !REAL 4K FRAMES IN USE              :               11151     AUXILIARY SLOTS IN USE             :               56391
         !
         !64-BIT REAL 4K FRAMES IN USE       :                9120     64-BIT 4K AUX SLOTS IN USE         :               38400
         !ABOVE VALUE W/O BP STORAGE         :                 408     ABOVE VALUE W/O BP STORAGE         :               32601
         !
         !HWM 64-BIT REAL 4K FRAMES IN USE   :               42818     HWM 64-BIT AUX SLOTS IN USE        :               38400
         !
         !QW0225CTLP (S)                     : OFF                     QW0225CTLS (S)                     : OFF
         !
         !                                  ADDRESS SPACE SUMMARY - DIST
         !
         !EXTENDED REGION SIZE (MAX)         :          1598029824     24-BIT LOW PRIVATE                 :              249856
         !24-BIT HIGH PRIVATE                :              270336     31-BIT EXTENDED LOW PRIVATE        :             6397952
         !31-BIT EXTENDED HIGH PRIVATE       :            14110720     CURR HIGH ADDR 24-BIT PRIV REGION  :           X'00043000'
         !
         !CURR HIGH ADDR 31-BIT PRIV REGION  :          X'2121A000'    31-BIT RESERVED FOR MUST COMPLETE  :           159802982
         !31-BIT RESERVED FOR MVS            :            26040960     STORAGE CUSHION WARNING TO CONTRACT:           159802982
         !TOTAL 31-BIT GETMAINED STACK       :             1212416     TOTAL 31-BIT STACK IN USE          :              933888
         !TOTAL 31-BIT VARIABLE POOL         :              286720     TOTAL 31-BIT FIXED POOL            :              106496
         !TOTAL 31-BIT GETMAINED             :                4464     AMOUNT OF AVAILABLE 31-BIT         :          1577517056
         !SYSTEM AGENT STACK STORAGE IN USE  :              802816
         !
         !TOTAL 64-BIT VARIABLE POOL         :               36864     TOTAL 64-BIT FIXED                 :               98304
         !TOTAL 64-BIT GETMAINED             :                   0     TOTAL 64-BIT PRIVATE FOR STOR MANAG:             1400832
         !
         !REAL 4K FRAMES IN USE              :                 314     AUXILIARY SLOTS IN USE             :                2133
         !
         !64-BIT REAL 4K FRAMES IN USE       :                   5     64-BIT 4K AUX SLOTS IN USE         :                 408
         !ABOVE VALUE W/O BP STORAGE         :                   5     ABOVE VALUE W/O BP STORAGE         :                 398
         !-------------------------------------------------------------------------------------------------------------------------
```

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   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-35
      GROUP: DBE1                                    RECORD TRACE - LONG                       REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                          TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:07.91536325  91120   1 225 STORAGE MGR
N/P      N/P                  N/P                           POOL SUMMARY
         ¦-------------------------------------------------------------------------------------------------------------------
         ¦
         ¦HWM 64-BIT REAL 4K FRAMES IN USE   :                412     HWM 64-BIT AUX SLOTS IN USE       :                 416
         ¦
         ¦QW0225CTLP (S)                    : OFF                    QW0225CTLS (S)                    : OFF
         ¦
         ¦.....................................................................................................................
         ¦
         ¦                                            THREAD INFORMATION
         ¦
         ¦ACTIVE THREADS                     :                  10    ACTIVE AND DISCONNECTED DBATS     :                   0
         ¦CASTOUT ENGINES                    :                  34    DEFERRED WRITE ENGINES            :                   0
         ¦GBP WRITE ENGINES                  :                   1    PREFETCH ENGINES                  :                   7
         ¦P-LOCK/NOTIFY EXIT ENGINES         :                   4    PARALLEL CHILD THREADS            :                   0
         ¦.....................................................................................................................
         ¦
         ¦                                        SHARED/COMMON STORAGE SUMMARY
         ¦
         ¦31-BIT COMMON FIXED POOL STORAGE     :             1036288   31-BIT COMMON VARIABLE POOL STORAGE  :              696320
         ¦31-BIT COMMON GETMAINED STORAGE      :              105917   EXTENDED CSA SIZE                    :           314601472
         ¦
         ¦64-BIT COMMON FIXED POOL STORAGE     :             5767168   64-BIT COMMON VARIABLE POOL STORAGE  :           203460608
         ¦64-BIT COMMON GETMAINED STORAGE      :              200512   64-BIT COMMON STORAGE-STOR MGR CTRL  :             1400832
         ¦
         ¦64-BIT SHARED VARIABLE POOL STORAGE  :            21352448   64-BIT SHARED FIXED POOL STORAGE     :             3559424
         ¦64-BIT SHARED GETMAINED STORAGE      :             6671568   64-BIT SHARED STORAGE-STOR MGR CTRL  :            11886592
         ¦64-BIT SHARED SYSTEM AGENT STACK (AS):           268435456   64-BIT SHARED SYSTEM AS IN USE       :            38797312
         ¦64-BIT SHARED NON-SYSTEM AS          :           805306368   64-BIT SHARED NON-SYSTEM AS IN USE   :             5242880
         ¦
         ¦SHARED MEMORY OBJECTS                :                  11
         ¦64-BIT SHARED MEMORY PAGES           :           721420288   HWM FOR 64-BIT SHARED BYTES          :       2954937499648
         ¦64-BIT SHARED PAGES BACKED IN REAL   :               13442   AUX SLOTS USED FOR 64-BIT SHARED STOR:               56295
         ¦64-BIT PAGES PAGED IN FROM AUX STOR  :              145124   64-BIT PAGES PAGED OUT TO AUX STOR   :              182103
         ¦
         ¦64-BIT SHARED STG REAL 4K FRMS IN USE:                 397   64-BIT SHARED STG 4K AUX SLOTS IN USE:                7089
         ¦64-BIT STACK  STG REAL 4K FRMS IN USE:                  65   64-BIT STACK  STG 4K AUX SLOTS IN USE:                3876
         ¦64-BIT COMMON STG REAL 4K FRMS IN USE:                  89   64-BIT COMMON STG 4K AUX SLOTS IN USE:                3770
         ¦
         ¦LOG MGR WRITE BUFFER FRAMES IN REAL  :                1004   LOG MANAGER CONTROL FRAMES IN REAL   :                   1
         ¦LOG MGR WRITE BUFFER FRAMES IN AUX   :                  30   LOG MANAGER CONTROL FRAMES IN AUX    :                   0
         ¦
         ¦QW0225_WARN                          :                   1   QW0225_REALAVAIL                     :                1244
         ¦QW0225_REALAVAILLO                   :                 400   QW0225_REALAVAILOK                   :                1180
         ¦QW0225_ESQAS                         :           146554880   QW0225_ESQA_Alloc                    :            23918144
         ¦QW0225_ESQA_HWM                      :            24973688   QW0225_ECSA_Alloc                    :           141291504
         ¦QW0225_ECSA_HWM                      :           149582360   QW0225_ECSA_Conv                     :                   0
         ¦-------------------------------------------------------------------------------------------------------------------
```

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   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-36
      GROUP: DBE1                                    RECORD TRACE - LONG                       REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                          TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                 ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                    PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:07.91536325  91120   1 225 STORAGE MGR
N/P      N/P                  N/P                           POOL SUMMARY
         ¦-------------------------------------------------------------------------------------------------------------------
         ¦QW0225CTGP                        :                 OFF   QW0225DISC                          :                 OFF
         ¦QW0225LFAREA                      :                 OFF   QW0225_RS                          :
1
         ¦
         ¦.....................................................................................................................
         ¦
         ¦                                        STATEMENT CACHE / xPROC Detail
         ¦
         ¦ALLOCATED STOR FOR DYN SQL STMTS     :              106496   REQUESTED STOR FOR DYN SQL STMTS     :                36032
         ¦ALLOCATED STOR FOR STATIC SQL STMTS  :              212992   HWM REQUESTED STOR FOR DYN SQL STMTS :                36032
         ¦
         ¦TOTAL 31-BIT XPROC DYNAMIC SQL               :        N/A   ALLOCATED 31-BIT XPROC DYNAMIC SQL            :        N/A
         ¦TOTAL 31-BIT XPROC STATIC SQL                :        N/A   HWM ALLOCATED 31-BIT XPROC DYNAMIC SQL         :        N/A
         ¦
         ¦STATEMENTS IN 64-BIT AGENT LOCAL POOLS (ALP)   :          0   HWM STMT COUNT IN 64-BIT ALP AT HIGH STOR TIME :          0
         ¦
         ¦ALLOCATED STMT CACHE IN 64-BIT ALP   :                    0   HWM ALLOCATED STMT CACHE 64-BIT ALP  :                0
         ¦TIMESTAMP OF HWM AFTER LAST 225 REC: 07/15/15 21:53:00.433538 TOTAL 64-BIT STMT CACHE BLKS 2G      :           167936
         ¦
         ¦QW0225F1:                    0                            QW0225F2:                    0
         ¦.....................................................................................................................
         ¦
         ¦                                          STORAGE POOL DETAILS
         ¦
         ¦31-BIT DBM1 PRIVATE VARIABLE POOLS:
         ¦AGENT LOCAL STORAGE                  :              516096   SYSTEM AGENT STORAGE                 :              339968
         ¦BUFFER MANAGER STORAGE BLOCKS        :              610304
         ¦
         ¦64-BIT POOLS:
         ¦SHARED AGENT LOCAL (VARIABLE POOL)   :            19644416   SHARED SYSTEM AGENT (VARIABLE POOL)  :             9232384
         ¦RID POOL STORAGE (FIXED POOL)        :                   0   COMPRESSION DICT (DBM1 PRIVATE)      :                   0
         ¦ARRAY VARIABLE STORAGE               :                   0
         ¦.....................................................................................................................
         ¦
         ¦                                          IRLM POOL STATISTICS
         ¦
         ¦ABOVE THE BAR VALUES:
         ¦ATB CSA CURRENT                    :                   0     ATB CSA HIGH WATER MARK            :                   0
         ¦ATB PRIVATE CURRENT                :                   0     ATB PRIVATE HIGH WATER MARK        :                   0
         ¦ATB PRIVATE MAX AVAILABILITY       :                   0
         ¦
         ¦BELOW THE BAR VALUES:
         ¦BTB PRIVATE CURRENT                :                   0     BTB PRIVATE HIGH WATER MARK        :                   0
         ¦BTB PRIVATE MAX AVAILABILITY       :                   0
         ¦
         ¦ECSA:
         ¦-------------------------------------------------------------------------------------------------------------------
```

```
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-37
      GROUP: DBE1                                RECORD TRACE - LONG                          REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                        TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                  ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                     PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME               ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P
N/P      N/P      'BLANK'     21:54:07.91536325  91120   1 225 STORAGE MGR
N/P      N/P                  N/P                            POOL SUMMARY
         ¦-------------------------------------------------------------------------------------------------------------------------------
         ¦ECSA CURRENT                     :             2036775     ECSA HIGH WATER MARK              :             2081831
         ¦
         ¦.............................................................................................................................
         ¦-------------------------------------------------------------------------------------------------------------------------------
   LOCATION: PMODBE1                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-38
      GROUP: DBE1                                RECORD TRACE - LONG                          REQUESTED FROM: ALL      21:54:00.00
     MEMBER: SE11                                                                                        TO: DATES    21:56:00.00
  SUBSYSTEM: SE11                                                                                  ACTUAL FROM: 07/15/15 21:54:00.11
DB2 VERSION: V11                                                                                     PAGE DATE: 07/15/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME               ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------------------
N/P      N/P      CBA37B3FD9B8 N/P              N/P                          N/P
N/P      N/P      'BLANK'     21:55:00.30227750  91121   1   1 SYSTEM STATS   NETWORKID:  SE11      LUNAME:  SE11      LUWSEQ:     1
N/P      N/P                  N/P
         ¦-------------------------------------------------------------------------------------------------------------------------------
         ¦                                                CPU TIME DATA
         ¦PROCEDURE NAME: MSTR    TCB TIME:      4:06.445032   SRB TIME       :        35.724014   ADDR SPACE ASID: X'0092'
         ¦                                                     PREEMP SRB TIME:         0.326470   ASCB           : X'00F69A00'
         ¦PROCEDURE NAME: DBM1    TCB TIME:         4.842484   SRB TIME       :     41:42.000022   ADDR SPACE ASID: X'00AA'
         ¦                                                     PREEMP SRB TIME:     41:33.249626   ASCB           : X'00F67D00'
         ¦PROCEDURE NAME: DIST    TCB TIME:        26.031102   SRB TIME       :   4:28:33.951086   ADDR SPACE ASID: X'009A'
         ¦                                                     PREEMP SRB TIME:   4:28:31.650439   ASCB           : X'00F6B580'
         ¦PROCEDURE NAME: IRLM    TCB TIME:         0.071801   SRB TIME       :      1:17.124450   ADDR SPACE ASID: X'00AD'
         ¦                                                     PREEMP SRB TIME:              N/P   ASCB           : X'00F67E80'
         ¦.....................................................................................................................
         ¦                                              DESTINATION RELATED DATA
         ¦DEST NAME  SMF   SEQNO       91120  RECS WRITTEN       91120  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  RES   SEQNO           0  RECS WRITTEN           0  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  GTF   SEQNO           0  RECS WRITTEN           0  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  SRV   SEQNO           0  RECS WRITTEN           0  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  SR1   SEQNO           0  RECS WRITTEN      516269  RECS NOT WRITTEN          99  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS     99  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   4
         ¦
         ¦DEST NAME  SR2   SEQNO       24128  RECS WRITTEN       24128  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦
         ¦DEST NAME  OP1   SEQNO          45  RECS WRITTEN          45  RECS NOT WRITTEN           0  BUFFER ERRORS        0
         ¦                                   NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
         ¦                                   QWSBOTH1               0  QWSBOTH2                   0
         ¦                                   QWSBOTH3               0  QWSBOTH4                   0
         ¦-------------------------------------------------------------------------------------------------------------------------------
...
...
....... ACE       ACE          ACE       ACE          ACE       ACE          ACE       ACE          ACE       ACE
        NUMBER    ADDRESS      NUMBER    ADDRESS      NUMBER    ADDRESS      NUMBER    ADDRESS      NUMBER    ADDRESS
        ------    ----------   ------    ----------   ------    ----------   ------    ----------   ------    ----------
             1    X'1B505060'       2    X'197A9BE0'
RECORD TRACE COMPLETE
```

Dump Record Trace

The dump record trace lists all data from selected records of an input data set in hexadecimal format.

The following command produces the dump record trace example shown in “Dump Record Trace Example” on page 390.

```
⋮
RECTRACE
  TRACE LEVEL (DUMP)
⋮
```

Dump Record Trace Example

Here is an example of a dump record trace for IFCID 225. The left-hand side of the trace shows a full hexadecimal dump of the record and the section on the right shows the same data in character format.

```
   LOCATION: DSNLW0A                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                 RECORD TRACE - DUMP                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: LW0A                                                                                ACTUAL FROM: 08/13/15 18:25:48.80
DB2 VERSION: V10                                                                                   PAGE DATE: 08/13/15
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- -------- ---------- ---------------- ------ --- --- -------------- ----------------------------------------------------------------
SYSOPR   LW0A     CBCE8722DD28 'BLANK'          'BLANK'                      'BLANK'
SYSOPR   016.WVSM 'BLANK'     18:25:48.80255592      7   1 225 STORAGE MGR    NETWORKID:  LW0A      LUNAME:  LW0A      LUWSEQ:     1
'BLANK'  T 01                 N/P                              POOL SUMMARY
         |-------------------------------------------------------------------------------------------------------------------------------
         !0000  06380000  C4D7D4B1  00000638  C4E2D5D3   E6F0C140  40404040  40404040  40404040  ! ....DPM.....DSNLW0A
         !0020  40404040  D3E6F0C1  40404040  40404040   CBCE8A77  AC1FBEC9  E2000000  07000100  !    LW0A        .......IS.......
         !0040  00000000  00000000  40000000  CBCE8A77   AC1FBEC9  F0F1F64B  E6E5E2D4  40404040  ! ........ .........I016.WVSM
         !0060  E340F0F1  40404040  40404040  40404040   00010000  00000000  00000000  00000000  ! T 01                  ................
         !0080  00010270  02A40000  00000014  00E106A1   1CA2A430  D3E6F0C1  CBCE8A77  AC1FBEC9  ! ... .u........ .$.su.LW0A.......I
         !00A0  00000001  00000007  00000001  C4E2D5D3   E6F0C140  40404040  40404040  D3E6F0C1  ! ............DSNLW0A          LW0A
         !00C0  40404040  D3E6F0C1  40404040  CBCE8722   DD280001  00000279  0003E2E8  C8F90000  !    LW0A    ..g........`..SYH9..
         !00E0  00000000  E2E8E2D6  D7D94040  F0F1F64B   E6E5E2D4  E340F0F1  D3E6F0C1  40404040  ! ....SYSOPR  016.WVSMT 01LW0A
         !0100  40404040  40404040  E2E8E2D6  D7D94040   00000000  00000000  00000000  00000000  !         SYSOPR  ................
         !0120  00000000  00000000  00000000  40404040   40404040  40404040  40404040  40404040  ! ............
         !0140  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  !
         !0160  40404040  40404040  40404040  40400282   028A0292  029C029E  02A002A2  00000000  !                .b...k.......s....
         !0180  00000000  02940296  00000000  00000000   00000000  00000000  00000000  00000000  ! .....m.o........................
         !01A0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !01C0  00000000  00000000  00000000  0298029A   00000000  00000000  00000000  00000000  ! ............q.................
         !01E0  000002A8  00C80002  00000438  00200001   00000458  01400001  00000598  00680001  ! ...y.H.............. .....q....
         !0200  00000600  00380001  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !0220  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !0240  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !0260  00000000  00000000  00000000  00000000   0007C4E2  D5D3E6F0  C10007C4  E2D5D3E6  ! ................DSNLW0A..DSNLW
         !0280  F0C10006  E2E8E2D6  D7D90006  E2E8E2D6   D7D90000  00000000  00000000  00000000  ! 0A..SYSOPR..SYSOPR.............
         !02A0  00000000  00000000  C4C2D4F1  60900000   00037000  00079000  0444D000  01916000  ! ........DBM1-..... .....".j-.
         !02C0  0003D000  247B9000  09A80000  00C6AC00   09A80000  003A4000  00384000  00047000  ! ..".#...y...F...y.... ... ... .
         !02E0  00015000  0014E100  5AB9C000  00374000   00000000  00543000  00000000  00209000  ! ..&...  .Ù.∑... ..........
         !0300  00000000  18CB7CE0  00000000  00156000   00000000  00014972  00000000  00000000  ! ......°π.......-..............
         !0320  00000000  00010703  00000000  00000000   00000000  00010703  00000000  00000000  ! ................................
         !0340  00000000  00006814  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................

         !0360  00000000  00000000  00000000  00000000   C4C9E2E3  60900000  0003C000  00042000  ! ................DIST-.....ä.....
         !0380  00547000  00D2E000  00042000  1FC47000   09A80000  00C6FD40  09A80000  000F0000  ! ..  ..Kπ......D ..y...F. .y.....
         !03A0  000DC000  00043000  00015000  00001170   5F68A000  000C4000  00000000  00006000  ! ..∑.......&.... ^..... .......-.
         !03C0  00000000  00000000  00000000  00000000   00000000  00156000  00000000  00000848  ! ......................-.........
         !03E0  00000000  00000000  00000000  0000012D   00000000  00000000  00000000  0000012D  ! ................................
         !0400  00000000  00000000  00000000  0000012B   00000000  00000000  00000000  00000000  ! ................................
         !0420  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !0440  00000000  00000000  00000000  00000001   00000000  00000000  19004000  0010B000  ! ................................ .....
         !0460  0009B000  00014F2D  00000000  000B9000   00000000  00000000  00000000  00025E80  ! ......!.....................;.
         !0480  00000000  00156000  00000000  0021E000   00000000  002E5000  00000000  003C9BD0  ! ......-.......π.......&........"
         !04A0  00000000  00156000  00000000  20000000   00000000  01480000  00000000  60000000  ! ......-.....................-...
         !04C0  00000000  00000000  00000000  00000003   00000000  04800000  00000048  00000000  ! ................................
         !04E0  00000000  00001C40  00000000  00000000   00000000  00000000  00000000  00000000  ! ....... ......................
         !0500  00000000  0000067A  00000000  00000000   00000000  000014CD  00000000  00000000  ! .......:......................
         !0520  00000000  00000223  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !0540  00000000  00000000  00000000  00000000   012BA247  00008C00  0001188C  015B7000  ! ..................s.........$ .
         !0560  01C498D8  01D329D0  02B4F3B8  02DAC670   009BC000  00000000  00000000  00000000  ! .DqQ.L."..3...F ..∑.............
         !0580  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !05A0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !05C0  00000000  00000000  00000000  00017000   00000000  00000000  00000000  00000000  ! ..............  .............
         !05E0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
         !0600  00009000  00006000  00000000  00152000   00000000  000FE000  00000000  00007000  ! ......-..............π....... .
         !0620  00000000  00000000  00000000  00000000   00000000  00000000                      ! ................................
         |-------------------------------------------------------------------------------------------------------------------------------
```

```
  ACE        ACE           ACE        ACE           ACE        ACE
 NUMBER    ADDRESS        NUMBER    ADDRESS        NUMBER    ADDRESS
 ------  ----------       ------  ----------       ------  ----------
      1  X'1CA2A430'
```

Note: This type of record trace is used for diagnostic purposes only. It is not explained in detail.

Column Descriptions of the Dump Record Trace

The column description of the Dump record trace.

The following columns are shown on the dump record trace:

PRIMAUTH
The authorization ID under which the transaction is running. Derived from the DB2 field QWHCAID.

ORIGAUTH
The original authorization ID under which the transaction started. Derived from the DB2 field QWHCOPID.

PLANNAME
The DB2 plan name. Derived from the DB2 field QWHCPLAN.

CONNECT
The connection ID. Derived from the DB2 field QWHCCN.

CORRNAME
The correlation name. Derived from the DB2 field QWHCCV.

CORRNMBR
The correlation number. Derived from the DB2 field QWHCCV.

CONNTYPE
The type of connection being used to interface with DB2. Derived from the DB2 field QWHCCST.

INSTANCE
The unique number assigned to a thread. Derived from the DB2 field QWHSUNIQ.

RECORD TIME
The timestamp contained in the trace record. The format is hours, minutes, seconds, and hundred-millionths of a second. Derived from the DB2 field QWHSSTCK.

TCB CPU TIME
The CPU time stored in the trace record. The format is minutes, seconds, and hundred-millionths of a second. Derived from the DB2 field QWHUCPU.

DEST SEQ NO
The destination sequence number. Derived from the DB2 field QWHSWSEQ.

ACE
The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified. Derived from the DB2 field QWHSACE.

IFCID
The instrumentation facility component identification (DB2 trace record type). Derived from the DB2 field QWHSIID.

DESCRIPTION
A brief description of the IFCID record. The description indicates whether the record contains accounting, statistics, or performance data. For performance data, the description also indicates the event.

DATA
The data is printed in the standard hexadecimal dump format. The character format is on the right.

ACE Cross-Reference Table

For every trace specified, an ACE cross-reference table is printed at the end of each location.

The columns of the ACE cross-reference table are:

ACE NUMBER
The cross-reference number for the hexadecimal address of the agent control element. The lowest valid cross-reference number is 1. 0 indicates that the ACE address is not available.

ACE ADDRESS
The hexadecimal address of the agent control element. Derived from the DB2 field QWHSACE.

IFCID Record Blocks

This topic describes the Instrumentation Facility Component Identifier (IFCID) record trace blocks. The description within each block is presented in alphabetical order.

IFCID 001 - System Statistics

System service statistics are written at regular intervals specified by the install parameter STATISTICS TIME on panel DSNTIPN. Most counters in this record are accumulated since Db2 was last started. Some counters can include values recorded prior to the report period covered. Values are reset to zero when Db2 is started.

IFCID 001 - Checkpoint and IFI Data

The IFCID 001 record block provides detailed information about checkpoint and IFI data.

Record trace - IFCID 001 - Checkpoint and IFI Data

```
CHECKPOINT AND IFI DATA
CHECKPOINT COUNT:          2  REASON STATISTICS INVOKED: ACTIVATED BY TIMER           HIGH USED RBA : X'00000000025056AE'
IFI ABENDS   :          0  IFI READA :          0  DCAP.LOG REC.RETRIEVED:          0  DCAP.DATA ROWS RETURNED:          0
IFI UNRECOG. :          0  IFI READS :          0  DCAP.LOG READS       :          0  DCAP.DATA DESC.RETURNED:          0
IFI COMMANDS :          0  IFI WRITE :          0  DCAP.LOG REC.RETURNED :          0  DCAP.DESCRIBES         :          0
DCAP.TABLES RETURNED   :          0
NO ROLLUP ACC RECS-ROLLUP THRESHOLD EXCEEDED   :          0    NO ROLLUP ACC RECS-ROLLUP STORAGE THRESHOLD EXC:          0
NO ROLLUP ACC RECS-STALENESS THRESHOLD EXCEEDED:          0    NO RECS NOT QUALIFIED FOR ACC ROLLUP           :          0
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

CHECKPOINT COUNT [QWSDCKPT]

(Exception field) The number of checkpoints Db2 has taken. A checkpoint is a point at which Db2 records internal status information to the Db2 log. This information is used in the recovery process if Db2 abends.

Background and tuning information

For statistics reports only

A checkpoint is taken when the specified number of log records have been written. A checkpoint is also taken each time Db2 switches to a new active log data set. If the statistics reporting period is 30 minutes and the value of this field is 15, then Db2 is taking checkpoints every 2 minutes. If the data sets are too small or the value for LOGLOAD is too low, checkpoints occur too frequently. As a result, database writes do not perform efficiently. The frequency of Db2 checkpoints can be decreased by increasing the value of the DSNZPARM LOGLOAD (CHECKPOINT FREQ on the tracing install panel).

Rule of thumb

In a production environment, Db2 should take checkpoints approximately once every 10 minutes. The default value for LOGLOAD is 50000. The value you choose depends on the volume and nature of the work performed by your Db2 subsystem. It is a trade-off between the performance efficiency of larger numbers and the longer time to restart Db2 when there is an abnormal termination.

REASON STATISTICS INVOKED [QWSDRINV]

The reason the statistics records were written.

HIGH USED RBA [QWSDLRG] [QWSDLR prior to Db2 11]

The high-used RBA address of the log.

IFI ABENDS [QWSDSCA]

The number of instrumentation facility interface (IFI) abends.

IFI READA [QWSDSCRA]

The number of calls made to IFI using the READA (read asynchronous data) function.

DCAP.LOG REC.RETRIEVED [QWSDCDLC]

The number of log records retrieved for which data capture processing was invoked.

DCAP.DATA ROWS RETURNED [QWSDCDDR]

The total number of data capture data rows returned.

IFI UNRECOG. [QWSDSCU]

The number of calls made to IFI using a function that is not recognized by the interface.

IFI READS [QWSDSCRS]

The number of calls made to IFI using the READS (read synchronous data) function.

DCAP.LOG READS [QWSDCDLR]

The total number of data capture log reads for processing IFI reads requests for IFCID 185.

DCAP.DATA DESC.RETURNED [QWSDCDDD]
The total number of data capture describes performed. A data capture describe is the process of getting descriptive information about a Db2 table from the catalog.

IFI COMMANDS [QWSDSCCO]
The number of calls made to IFI using the COMMAND function.

IFI WRITE [QWSDSCWR]
The number of calls made to IFI using the WRITE function.

DCAP.LOG REC.RETURNED [QWSDCDRR]
The total number of data capture log records returned.

DCAP.DESCRIBES [QWSDCDMB]
The total number of data capture describes performed. A data capture describe is the process of getting descriptive information about a Db2 table from the catalog.

DCAP.TABLES RETURNED [QWSDCDTB]
The total number of data capture tables returned to the caller of the IFI reads call for IFCID 185.

NO ROLLUP ACC RECS-ROLLUP THRESHOLD EXCEEDED [QWSDARTH]
The number of roll-up accounting records written due to roll-up threshold exceeded.

NO ROLLUP ACC RECS-ROLLUP STORAGE THRESHOLD EXC [QWSDARSG]
The number of roll-up accounting records written due to roll-up accounting storage threshold exceeded.

NO ROLLUP ACC RECS-STALENESS THRESHOLD EXCEEDED [QWSDARST]
The number of roll-up accounting records written due to staleness threshold exceeded.

NO RECS NOT QUALIFIED FOR ACC ROLLUP [QWSDARIR]
The number of records that failed to qualify for accounting roll-up because all roll-up key fields are equal to NULL or because of NULL values that are not permitted.

IFCID 001 - CPU Time Data

This topic shows detailed information about "Record Trace - IFCID 001 - CPU Time Data".

This section shows CPU timer values for each resource manager and control address space.

Record Trace - IFCID 001 - CPU Time Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - CPU Time Data" are described in the following section.

```
|                                        CPU TIME DATA
|PROCEDURE NAME: MSTR    TCB TIME:      7:19.188963   SRB TIME       :        58.390413   ADDR SPACE ASID: X'02A0'
|                        I/O TIME:        25.796208   PREEMP SRB TIME:        28.726333   ASCB           : X'00EE9E80'
|PROCEDURE NAME: DBM1    TCB TIME:     20:49.998197   SRB TIME       :      3:05.466508   ADDR SPACE ASID: X'02A2'
|                        I/O TIME:     10:25.732082   PREEMP SRB TIME:      2:34.607380   ASCB           : X'00EE9B80'
```

PROCEDURE NAME

The last 4 characters of the procedure used to start the address space, or a constant identifier.

Field Name: QWSAPROC

TCB TIME

The accumulated job step time (TCB) for the address space.

Field Name: QWSAEJST

SRB TIME

The accumulated SRB time for the address space. This value includes both, the preemptable and nonpreemptable SRB time. It does not include CPU time that is consumed on an IBM zIIP.

Field Name: QWSASRBT

ADDR SPACE ASID

The ASID of the address space.

Field Name: QWSAASID

I/O TIME

CPU time for I/O interrupt processing for the address space.

Field Name: QWSAIIPT

PREEMP SRB TIME

The preemptible SRB timer value for the address space. This value does not include the CPU time that is consumed on an IBM zIIP.

Field Name: QWSAPSRB

ASCB

The ASCB token.

Field Name: QWSAASCB

IFCID 001 - Db2 Command Data

The IFCID 001 record block provides detailed information about the Db2 command data.

Record trace - IFCID 001 - DB2 Command Data

```
                                    DB2 COMMAND DATA
DISPLAY DB          0   DISPLAY THRD        2   DISP UTIL          0   DISP TRACE        15   DISPL RLIMIT         0
START DB           10   START TRACE        33   START DB2          1   START RLIM         0   STOP DB              0
STOP TRACE          7   STOP DB2            0   STOP RLIM          0   RECOV BSDS         0   RECOV INDOUBT        0
MODIFY TRACE        0   TERM UTILITY        2   START DDF          0   STOP DDF           0   CANCEL THREAD        0
DISPL LOCATN        0   UNREC CMDS          5   ARCH LOG           0   SET ARCH           0   DISPL ARCH           0
RESET INDOUBT       0   ALTER BUFFER        0   DISP BUF           2   DISP GROUP         2   DISP PROCEDURE       0
RESET GENERIC       0   ALTER GBPOOL        0   DISP GBPOOL        0   START PROC         0   STOP PROCEDURE       0
DISPLAY GROUP       2   ALTER UTILITY       0   DISP FUNC          0   START FUNC         0   STOP FUNCTION        0
SET LOG             0   DISPLAY LOG         0   SET SYSPARM        0   DISPLAY DDF        2   ACCESS DB            0
START PROFILE       0   STOP PROFILE        0   DISP PROFILE       0   DISP ACCEL         0   START ACCEL          0
STOP ACCEL          0   MODIFY DDF          0   START DYNQRY       0   STOP DYNQRY        0   DISP DYNQRY          3
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

DISPLAY DB [Q9STCTR0]

The number of DB2 DISPLAY DATABASE commands issued to view objects within one or more Db2 databases. This includes normal and abnormal completion of the command.

DISPLAY THRD [Q9STCTR1]

The number of DB2 DISPLAY THREAD commands issued to view threads active within the Db2 subsystem. This includes normal and abnormal completion of the command.

DISP UTIL [Q9STCTR2]

The number of DB2 DISPLAY UTILITY commands issued to view the status of one or more Db2 utilities. This includes normal and abnormal completion of the command.

DISP TRACE [Q9STCTRC]

The number of DB2 DISPLAY TRACE commands issued to determine the currently active Db2 traces. This includes normal and abnormal completion of the command.

DISPL RLIMIT [Q9STCTRG]

The number of DB2 DISPLAY RLIMIT commands issued to view the current status of the Db2 resource limit facility. This includes normal and abnormal completion of the command.

START DB [Q9STCTR5]

The number of DB2 START DATABASE commands issued to make a database available for use. This includes normal and abnormal completion of the command.

START TRACE [Q9STCTR6]

The number of DB2 START TRACE commands issued to initiate a Db2 trace. This includes normal and abnormal completion of the command.

START DB2 [Q9STCTR7]

The number of DB2 START DB2 commands issued to bring up a Db2 subsystem. This includes normal and abnormal completion of the command.

START RLIM [Q9STCTRE]

The number of DB2 START RLIMIT commands issued to enable the Db2 resource limit facility. This includes normal and abnormal completion of the command.

STOP DB [Q9STCTR8]

The number of DB2 STOP DATABASE commands issued to prevent access to a Db2 database. This includes normal and abnormal completion of the command.

STOP TRACE [Q9STCTR9]

The number of DB2 STOP TRACE commands issued to terminate one or more active Db2 traces. This includes normal and abnormal completion of the command.

STOP DB2 [Q9STSCRA]

The number of STOP DB2 commands. This includes both normal and abnormal completions.

STOP RLIM [Q9STCTRF]

The number of DB2 STOP RLIMIT commands issued to disable the Db2 resource limit facility. This includes normal and abnormal completion of the command.

RECOV BSDS [Q9STCTR3]

The number of DB2 RECOVER BSDS commands issued to reestablish dual bootstrap data sets after one has been disabled by a data set error. This includes normal and abnormal completion of the command.

RECOV INDOUBT [Q9STCTR4]

The number of DB2 RECOVER INDOUBT commands issued to recover threads left indoubt because Db2 or a transaction manager could not automatically recover them. This includes normal and abnormal completion of the command.

MODIFY TRACE [Q9STCTRH]

The number of DB2 MODIFY TRACE commands issued to alter trace events (IFCIDs) for an active trace. This includes normal and abnormal completion of the command.

TERM UTILITY [Q9STCTRB]

The number of DB2 TERM UTILITY commands issued to stop execution of a Db2 utility. This includes normal and abnormal completion of the command.

START DDF [Q9STCTRI]

The number of DB2 START DDF commands issued to enable the Db2 distributed data facility. This includes normal and abnormal completion of the command.

STOP DDF [Q9STCTRJ]

The number of DB2 STOP DDF commands issued to disable the Db2 distributed data facility. This includes normal and abnormal completion of the command.

CANCEL THREAD [Q9STCTRK]

The number of DB2 CANCEL THREAD commands issued to cancel a thread. This includes normal and abnormal completion of the command.

DISPL LOCATN [Q9STCTRL]

The number of DB2 DISPLAY LOCATION commands issued to display statistics about threads with a distributed relationship. This includes normal and abnormal completion of the command.

UNREC CMDS [Q9STEROR]

The number of commands not recognized by DB2. The number is incremented if the command verb or primary keyword cannot be determined. For example:

- "-DISPLOX DATABASE(*)" is an unknown verb.
- "-DISPLAY FATAFASE(*)" is an unknown primary keyword.

ARCH LOG [Q9STCTRM]

The number of DB2 ARCHIVE LOG commands issued. This includes normal and abnormal completion of the command.

SET ARCH [Q9STCTRP]

The number of DB2 SET ARCHIVE commands issued. This includes normal and abnormal completion of the command.

DISPL ARCH [Q9STCTRQ]

The number of DB2 DISPLAY ARCHIVE commands issued. This includes normal and abnormal completion of the command.

RESET INDOUBT [Q9STCTRR]

The number of DB2 RESET INDOUBT commands issued. This includes normal and abnormal completion of the command.

ALTER BUFFER [Q9STCTRN]

The number of DB2 ALTER BUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

DISP BUF [Q9STCTRO]

The number of DB2 DISPLAY BUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

DISP GROUP [Q9STCTRX]

The number of DB2 DISPLAY GROUP commands issued. This includes normal and abnormal completion of the command.

DISP PROCEDURE [Q9STCTRU]

The number of DB2 DISPLAY PROCEDURE commands executed. This includes normal and abnormal completion of the command.

RESET GENERIC [Q9STCTRD]

The number of DB2 RESET GENERICLU commands issued. This includes normal and abnormal completion of the command.

ALTER GBPOOL [Q9STCTRS]

The number of DB2 ALTER GROUPBUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

DISP GBPOOL [Q9STCTRT]

The number of DB2 DISPLAY GROUPBUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

START PROC [Q9STCTRV]

The number of DB2 START PROCEDURE commands issued. This includes normal and abnormal completion of the command.

STOP PROCEDURE [Q9STCTRW]

The number of DB2 STOP PROCEDURE commands issued. This includes normal and abnormal completion of the command.

DISPLAY GROUP [Q9STCTRX]

The number of DB2 DISPLAY GROUP commands issued. This includes normal and abnormal completion of the command.

ALTER UTILITY [Q9STCTRY]

The number of DB2 ALTER UTILITY commands issued. This includes normal and abnormal completion of the command.

DISP FUNC [Q9STCTRZ]

The number of DB2 DISPLAY FUNCTION commands issued. This includes normal and abnormal completion of the command.

START FUNC [Q9STCTX0]

The number of DB2 START FUNCTION commands issued. This includes normal and abnormal completion of the command.

STOP FUNCTION [Q9STCTX1]

The number of DB2 STOP FUNCTION commands issued. This includes normal and abnormal completion of the command.

SET LOG [Q9STCTX2]

The number of DB2 SET LOG commands issued. This includes normal and abnormal completion of the command.

DISPLAY LOG [Q9STCTX3]

The number of DB2 DISPLAY LOG commands issued. This includes normal and abnormal completion of the command.

SET SYSPARM [Q9STCTX4]

The number of DB2 SET SYSPARM commands issued. This includes normal and abnormal completion of the command.

DISPLAY DDF [Q9STCTX5]

The number of DB2 DISPLAY DDF commands issued. This includes normal and abnormal completion of the command.

ACCESS DB [Q9STCTAD]

The number of DB2 ACCESS DATABASE commands issued. This includes normal and abnormal completion of the command.

START PROFILE [Q9STCTSS]

The number of DB2 START PROFILE commands issued. This includes normal and abnormal completion of the command.

STOP PROFILE [Q9STCTST]

The number of DB2 STOP PROFILE commands issued. This includes normal and abnormal completion of the command.

DISPLAY PROF [Q9STCTSD]

The number of DB2 DISPLAY PROFILE commands issued. This includes normal and abnormal completion of the command.

DISP PROFILE [Q9STCTSD]

The number of DB2 DISPLAY PROFILE commands issued. This includes normal and abnormal completion of the command.

DISP ACCEL [Q9STCTDA]

The number of DB2 DISPLAY ACCEL commands issued. This includes normal and abnormal completion of the command.

START ACCEL [Q9STCTSA]

The number of DB2 START ACCEL commands issued. This includes normal and abnormal completion of the command.

STOP ACCEL [Q9STCTXA]

The number of DB2 STOP ACCEL commands issued. This includes normal and abnormal completion of the command.

MODIFY DDF [Q9STCTMD]

The number of DB2 MODIFY DDF commands issued. This includes normal and abnormal completion of the command.

START DYNQRY [Q9STCTSQ]

The number of START DYNQUERYCAPTURE Db2 commands.

STOP DYNQRY [Q9STCTXQ]

The number of STOP DYNQUERYCAPTURE Db2 commands.

DISP DYNQRY [Q9STCTDQ]

The number of DISPLAY DYNQUERYCAPTURE Db2 commands.

IFCID 001 - DDF Data by Location

This topic shows detailed information about "Record Trace - IFCID 001 - DDF Data by Location".

Record trace - IFCID 001 - DDF Data by Location

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - DDF Data by Location" are described in the following section.

```
                                        DDF DATA BY LOCATION

LOCATION NAME (SHORT)......: DRDA REMOTE LOCS              PRDID REMOTE LOCATION .....: N/P
LOCATION NAME (LONG).......: DRDA REMOTE LOCS

INITIATED CONVERSATIONS....:                   0           DEALLOCATED CONVERSATIONS..:                   0
INITIATED FROM REMOTE SITE.:                  77
MESSAGES SENT TO REMOTE....:              126251           MESSAGES RECV FR REMOTE....:              126265
SQL STMTS SENT TO REMOTE...:                   0           SQL STMTS RECV FR REMOTE...:              117323
BYTES SENT TO REMOTE.......:           515642017           BYTES RECV FR REMOTE...... :            18433275
ROWS SENT TO REMOTE........:             2022554           ROWS RETRIEVED FR REMOTE...:                   0
BLOCKS TRANSMITTED.........:               16054           BLOCKS RECEIVED............:                   0
COMMIT REQUESTS SENT.......:                   0           COMMIT REQUESTS RECEIVED...:                7790
ABORT REQUESTS SENT........:                   0           ABORT REQUESTS RECEIVED....:                7556
INDOUBT THREADS............:                   0           CONV REQUESTS QUEUED.......:                   0
```

LOCATION NAME (SHORT)

The name of the remote location.

Field Name: QLSTLOCN

LOCATION NAME (LONG)

The name of the remote location.

Field Name: QLSTLOCN

INITIATED CONVERSATIONS

The number of conversations that were initiated from the requester location. This value is maintained at the requester location.

A conversation is a specific instance of using TCP/IP or SNA LU 6.2 to transfer information between a requester and a server. A conversation is a logical connection between a requester and a server.

Field Name: QLSTCNVS

INITIATED FROM REMOTE SITE

The number of conversations that were initiated from the requester to the server location. This value is updated at the server location.

Field Name: QLSTCNVR

MESSAGES SENT TO REMOTE

The number of messages sent to the remote location. A message is a group of characters and control bit sequences transferred on a single TCP/IP or SNA API call. This value is maintained at the location where the messages originated.

Field Name: QLSTMSGS

SQL STMTS SENT TO REMOTE

The number of SQL statements sent to the remote server. This value is updated at the requester location.

Field Name: QLSTSQLS

BYTES SENT TO REMOTE

The number of bytes of data sent to the requester location. This value is maintained at the server location.

Field Name: QLSTBYTS

ROWS SENT TO REMOTE

The number of data rows sent to the requester location (includes SQLDA). This value is updated at the server location.

Field Name: QLSTROWS

BLOCKS TRANSMITTED

The number of blocks transmitted using block fetch. This value is maintained at the server location.

Field Name: QLSTBTBF

COMMIT REQUESTS SENT

The number of commit requests sent to the server (single-phase commit protocol) and the committed requests sent to the participant (two-phase commit protocol).

Field Name: QLSTCOMS

INDOUBT THREADS

The number of threads that became indoubt with the remote location as the coordinator (two-phase commit operations only). A large value might indicate network problems.

Field Name: QLSTINDT

PRDID REMOTE LOCATION

The product ID and version of the remote location.

Field Name: QLSTPRID

DEALLOCATED CONVERSATIONS

The number of conversations that were deallocated from this site to the remote site.

Field Name: QLSTCNVT

MESSAGES RECV FR REMOTE

The number of messages received by VTAM from the remote location. This value is maintained at the location where the messages were received.

More messages might be sent from the server location than are received by the requester due to the manner in which distributed SQL statements are processed internally.

Field Name: QLSTMSGR

SQL STMTS RECV FR REMOTE

The number of SQL statements received from the requester location. This value is updated at the server location.

Field Name: QLSTSQLR

BYTES RECV FR REMOTE

The number of bytes of data received from the server location. This value is maintained at the requester location.

More bytes of data might be sent from the server location than are received by the requester due to the manner in which distributed SQL statements are processed internally.

Field Name: QLSTBYTR

ROWS RETRIEVED FR REMOTE

The number of data rows received from the server location. This value is maintained at the requester location.

Note:

- This value does not include any SQLDA or SQLCA transmitted.
- Block fetch can significantly affect the number of rows sent across the network. When used with nonupdate cursors, block fetch groups as many rows as possible into the message buffer, and transmits the buffer over the network without requiring a VTAM message. Consequently, more rows of data might be sent from the server location than are received by the requester location.

  This is especially true when DB2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages from the requester.

Field Name: QLSTROWR

BLOCKS RECEIVED

The number of blocks received from the remote location using block fetch. This value is maintained at the requester location.

Field Name: QLSTBRBF

COMMIT REQUESTS RECEIVED

The number of commit requests received from the requester (single-phase commit protocol) and committed requests received from the coordinator (two-phase commit protocol).

Field Name: QLSTCOMR

ABORT REQUESTS SENT

The number of abort requests sent to the server (single-phase commit protocol) and backout requests sent to the participant (two-phase commit protocol).

Field Name: QLSTABRS

ABORT REQUESTS RECEIVED

The number of abort requests received from the requester (single-phase commit protocol) and backout requests received from the coordinator (two-phase commit protocol).

Field Name: QLSTABRR

CONV REQUESTS QUEUED

The number of conversation requests queued by the distributed data facility and waiting for allocation. This value is maintained at the requester location.

Background and Tuning Information

When this value is high, increase the limit for the number of conversations.

Field Name: QLSTCNVQ

This is an *exception* field.

IFCID 001 - Destination Related Data

This topic shows detailed information about "Record Trace - IFCID 001 - Destination Related Data".

This record contains one data section for each destination.

Record trace - IFCID 001 - Destination Related Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - Destination Related Data" are described in the following section.

```
DESTINATION RELATED DATA
DEST NAME  SMF   SEQNO         310  RECS WRITTEN         310  RECS NOT WRITTEN          0  BUFFER ERRORS       0
NOT ACTIVE ERRORS      0  RECS NOT ACCEPTED          0  WRITER FAILURES      0
QWSBOTH1               0  QWSBOTH2                   0
QWSBOTH3               0  QWSBOTH4                   0
```

DEST NAME

The name of the external destination:

GTF
Generalized trace facility

SMF
System management facilities

RES
Resident trace table (not accumulated)

OPN
Special destination for IFI READA buffered records

All other values are shown in hexadecimal.

Field Name: QWSBNM

SEQNO

The unique destination sequence of the last record written to the destination.

Field Name: QWSBWSEQ

RECS WRITTEN

The number of records written to the destination.

Field Name: QWSBSRSW

RECS NOT WRITTEN

The number of records not written to the destination.

Field Name: QWSBSRNW

BUFFER ERRORS

The number of SMF buffer-overrun errors.

Field Name: QWSBSBUF

NOT ACTIVE ERRORS

The number of times SMF was not active.

Field Name: QWSBSACT

RECS NOT ACCEPTED

The number of records not accepted by the destination writer.

Field Name: QWSBSRNA

WRITER FAILURES

The number of write failures to the destination.

Field Name: QWSBSWF

IFCID 001 - Global DDF Data

This topic shows detailed information about "Record Trace - IFCID 001 - Global DDF Data".

Record Trace - IFCID 001 - Global DDF Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - Global DDF Data" are described in the following section.

```
                                  GLOBAL DDF DATA

DBAT/CONN QUEUED-MAX ACTIVE                  0       CONN REJECTED-MAX CONNECTED                  0
CONN CLOSED - MAX QUEUED                     0       QUEUED CLIENT CONNECTIONS                    0

COLD START CONNECTIONS                       0       WARM START CONNECTIONS                       0
RESYNCHRONIZATION ATTEMPTED                  0       RESYNCHRONIZATION SUCCEEDED                  0

CUR TYPE 1 INACTIVE DBATS                    0       HWM TYPE 1 INACTIVE DBATS                    0
TYPE 1 CONNECTIONS TERMINAT                  0

CUR INACTIVE CONNS (TYPE 2)                  0       HWM INACTIVE CONNS (TYPE 2)                  0
CUR QU INACT CONNS (TYPE 2)                  0       ACC QU INACT CONNS (TYPE 2)                  0
   MIN QUEUE TIME                     0.000000       HWM QU INACT CONNS (TYPE 2)                  0
   MAX QUEUE TIME                     0.000000
   AVG QUEUE TIME                     0.000000

CUR ACTIVE AND DISCON DBATS                  0       HWM ACTIVE AND DISCON DBATS                  0
HWM TOTL REMOTE CONNECTIONS                  0

CUR DISCON DBATS NOT IN USE                  0       HWM DISCON DBATS NOT IN USE                  0
DBATS CREATED                                0       DISCON (POOL) DBATS REUSED                   0
DBATS TERM SINCE DDF START                   0

CUR ACTIVE DBATS-BND DEALLC                  0       HWM ACTIVE DBATS-BND DEALLC                  0
CUR ACTIVE DBATS-BND KEEPDY                  0       HWM ACTIVE DBATS-BND KEEPDY                  0

ILOS CANCELS DECLINED                        0
```

DBAT/CONN QUEUED-MAX ACTIVE

The number of times a DBAT or connection was queued because it reached the ZPARM maximum for active remote threads (MAXDBAT).

Field Name: QDSTQDBT

CONN REJECTED-MAX CONNECTED

The number of connections that were rejected because the ZPARM limit for maximum remote connections (CONDBAT) was reached.

Field Name: QDSTQCRT

CONN CLOSED - MAX QUEUED

The number of queued client connections whose TCP/IP sockets were closed because the system parameter MAXCONQN was exceeded.

The socket close only occurs when the DB2 subsystem is a member of a data sharing group and DB2 was started with DDF THREADS set to INACTIVE.

Field Name: QDSTNCQC

QUEUED CLIENT CONNECTIONS

The number of queued client connections whose TCP/IP socket were closed due to system parameter MAXCONQW being exceeded.

The socket close only occurs when the DB2 subsystem is a member of a data sharing group and DB2 was started with DDF THREADS set to INACTIVE.

Field Name: QDSTNCCW

COLD START CONNECTIONS

The number of cold start connections with all remote locations (two-phase commit operations only).

Field Name: QDSTCSTR

WARM START CONNECTIONS

The number of warm start connections with all remote locations (two-phase commit operations only).

Field Name: QDSTWSTR

RESYNCHRONIZATION ATTEMPTED

The number of resynchronization connections attempted with all remote locations (two-phase commit operations only).

Background and Tuning Information

A large value can indicate network or system problems.

Field Name: QDSTRSAT

RESYNCHRONIZATION SUCCEEDED

The number of resynchronization connections that succeeded with all remote locations (two-phase commit operations only).

Background and Tuning Information

If the value of this field is much less than the number of resynchronizations attempted, network problems might exist.

Field Name: QDSTRSSU

CUR TYPE 1 INACTIVE DBATS

The current number of inactive DBATs type 1 (snapshot).

Field Name: QDSTQCIT

HWM TYPE 1 INACTIVE DBATS

The maximum number of inactive type 1 DBATs.

This value is a high-water mark.

Field Name: QDSTQMIT

TYPE 1 CONNECTIONS TERMINAT

The number of threads or connections that were terminated instead of being made type 1 inactive because the maximum number of type 1 inactive threads was reached (MAXTYPE1).

Field Name: QDSTNITC

CUR INACTIVE CONNS (TYPE 2)

The current number of type 2 inactive connections.

Field Name: QDSTCIN2

HWM INACTIVE CONNS (TYPE 2)

The maximum number of concurrent type 2 inactive connections that existed.

This value is a high-water mark for QDSTCIN2.

Field Name: QDSTMIN2

ACC QU INACT CONNS (TYPE 2)

The number of RECEIVE requests on type 2 inactive or new connections that are queued to be serviced by a disconnected (pooled) DBAT.

Field Name: QDSTQIN2

CUR QU INACT CONNS (TYPE 2)

The current number of type 2 inactive or new connections that are queued waiting for a database access thread (DBAT).

Field Name: QDSTNQR2

MIN QUEUE TIME

The minimum queue time of a type 2 inactive or new connection that was queued waiting for a database access thread (DBAT) in the last statistical period.

Field Name: QDSTNQMN

MAX QUEUE TIME

The maximum queue time of a type 2 inactive or new connection that was queued waiting for a database access thread (DBAT) in the last statistical period.

Field Name: QDSTNQMX

AVG QUEUE TIME

The average queue time of a type 2 inactive or new connection that was queued waiting for a database access thread (DBAT) in the last statistical period.

Field Name: QDSTNQAV

HWM QU INACT CONNS (TYPE 2)

The maximum number of type 2 inactive or new connections that are queued waiting for a database access thread.

This value is a high-water mark for QDSTNQR2.

Field Name: QDSTMQR2

CUR ACTIVE AND DISCON DBATS

The current number of active and disconnected (pooled) DBATs.

Field Name: QDSTCNAT

HWM ACTIVE AND DISCON DBATS

The maximum number of active and disconnected (pooled) DBATs that existed.

This value is a high-water mark for QDSTCNAT.

Field Name: QDSTHWAT

HWM TOTL REMOTE CONNECTIONS

The maximum number of active and remote connections. This value is a high-water mark.

Field Name: QDSTHWDT

CUR DISCON DBATS NOT IN USE

The current number of disconnected (pooled) DBATs that are available to process type 2 inactive or new connections.

Field Name: QDSTNADS

HWM DISCON DBATS NOT IN USE

The maximum number of disconnected (pooled) DBATs that are available to process type 2 inactive or new connections.

This value is a high-water mark for QDSTNADS.

Field Name: QDSTMADS

DBATS CREATED

The number of requests that required a database access thread (DBAT) to be created to process the request.

Note: This does not include database access threads created to replace disconnected (pooled) DBATs that terminated because they reached their reuse limit.

Field Name: QDSTNDBA

DISCON (POOL) DBATS REUSED

The number of requests that were satisfied by assigning a disconnected (pooled) DBAT to process the request.

Field Name: QDSTPOOL

DBATS TERM SINCE DDF START

The number of times that a DBAT has been terminated since DDF was started.

Field Name: QDSTNDBT

CUR ACTIVE DBATS-BND DEALLC

The current number of DBATs that are active because the associated packages were bound with RELEASE(DEALLOCATE).

Field Name: QDSTNARD

HWM ACTIVE DBATS-BND DEALLC

The maximum number of DBATs that are active because the associated packages were bound with RELEASE(DEALLOCATE).

Field Name: QDSTMARD

CUR ACTIVE DBATS-BND KEEPDY

The current number of DBATS that are active due to usage of packages bound with KEEPDYNAMIC YES.

Field Name: QDSTNAKD

HWM ACTIVE DBATS-BND KEEPDY

The maximum number of DBATS that are active due to usage of packages bound with KEEPDYNAMIC YES.

Field Name: QDSTMAKD

ILOS CANCELS DECLINED

The number of ILOS cancels declined due to CPU contention.

Field Name: QDSTNLSC

IFCID 001 - IFCID Data

This topic shows detailed information about "Record Trace - IFCID 001 - IFCID Data".

This record contains one data section for each active IFCID.

Record trace - IFCID 001 - IFCID Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - IFCID Data" are described in the following section.

```
IFCID DATA
IFCID       1 IFCID SEQNO         16  RECS WRITTEN             15  RECS NOT WRITTEN        15  RECS NOT DESIRED     0
BUFFER NOT AVAILABLE       0  COLLECT FAILURES         0
QWSCOTH1                   0  QWSCOTH2                 0
```

IFCID

The IFCID for the following statistics.

Field Name: QWSCIID

IFCID SEQNO

The last sequence number used for this IFCID.

Field Name: QWSCISEQ

RECS WRITTEN

The number of records successfully written for this IFCID.

Field Name: QWSCSRSW

RECS NOT WRITTEN

The number of records not written to this IFCID.

Field Name: QWSCSRNW

RECS NOT DESIRED

The number of records not desired.

Field Name: QWSCSRND

BUFFER NOT AVAILABLE

The number of errors due to the buffer not being available.

Field Name: QWSCSBNA

COLLECT FAILURES

The number of collection failures.

Field Name: QWSCSCF

IFCID 001 - Log Manager Data

This topic shows detailed information about "Record Trace - IFCID 001 - Log Manager Data".

Record trace - IFCID 001 - Log Manager Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - Log Manager Data" are described in the following section.

```
WRITE REQUEST-WAIT ..................:                  0   READ FROM OUTPUT BUFFER .............:                 17
WRITE REQUEST-NO WAIT ...............:             280321   READ FROM ACTIVE LOG ................:                236
WRITE REQUEST-FORCE .................:             136240   READ FROM ARCHIVE LOG ...............:                  0
WRITE LOG BUFFER ....................:             138532   READ DELAY-TAPE VOLUME CONTENTION ....:                  0
WRITE I/O REQUESTS ..................:             144663   READ DELAY-UNAVAILABLE RESOURCE .....:                  0
WRITE BUFFER SCHEDULED-THRESHOLD ....:                 30   CI CREATED-ACTIVE LOG ...............:              13074
WRITE BUFFER PAGED IN ...............:                  0   CI OFFLOADED ........................:                164
WAIT FOR UNAVAILABLE LOG BUFFER .....:                  0   CI WRITTEN ..........................:             151568
TOTAL BSDS ACCESS REQUESTS ..........:               8273   CI SERIAL WRITE .....................:                  0
ARCHIVE READ  ALLOCATIONS ...........:                  0   LOOK-AHEAD TAPE VOL MOUNTS ATTEMPTED :                  0
ARCHIVE WRITE ALLOCATIONS ...........:                  1   LOOK-AHEAD TAPE VOL MOUNTS SUCCEEDED :                  0

QJSTLSUS ........:              138502  QJSTSPNN ........:                  0  QJSTSPNI ........:                  0
QJSTCLID ........:                   1  QJSTCL2 .........:             X'0000'
QJSTCLSN ........: X'00CAF11AE9A68B3F5A00'
QJSTAVAL ........:               X'00'
```

WRITE REQUEST-WAIT

The number of wait log write requests. Wait indicates that the log record is first written to the log buffer and then to the log data set.

Field Name: QJSTWRW

READ FROM OUTPUT BUFFER

The number of log reads satisfied from the output buffer.

Background and Tuning Information

This field, together with the reads satisfied from active log and reads satisfied from archive log (QJSTRACT and QJSTRARH) fields indicate how efficiently DB2 retrieves log records. Use these numbers to adjust the number of output buffers and the total active log capacity to maximize DB2 performance.

Field Name: QJSTRBUF

This is an *exception* field.

WRITE REQUEST-NO WAIT

The number of log write requests.

The log record is written asynchronously to the log buffer. The application does not wait for the record to be written to the log data set and regains control immediately.

Buffered log records are written to DASD when the buffer threshold is exceeded.

Field Name: QJSTWRNW

This is an *exception* field.

READ FROM ACTIVE LOG

The number of log reads satisfied from the active log data set.

Background and Tuning Information

This field, together with the reads satisfied from archive log and reads satisfied from output buffer fields, indicate how efficiently DB2 retrieves log records. Use these numbers to adjust the number of output buffers and the total active log capacity to maximize DB2 performance. Ideally, this value should be 0 or very small.

Field Name: QJSTRACT

This is an *exception* field.

WRITE REQUEST-FORCE

The number of force log write requests. Force indicates that the log record is written to the log buffer, forcing the buffer to be written to the log data set on DASD.

Field Name: QJSTWRF

READ FROM ARCHIVE LOG

The number of log reads satisfied from archive log data sets.

Field Name: QJSTRARY

WRITE LOG BUFFER

The number of calls to the log write routine. This does not represent the number of physical log I/Os.

Field Name: QJSTBFWR

READ DELAY-TAPE VOLUME CONTENTION

The number of read accesses that were delayed because of a tape volume contention when only one reader per tape is possible.

Background and Tuning Information

This field shows the number of agents forced to wait because a tape volume was already in use by another. If this number is not 0, increase the read tape units on the archive log data set parameters panel DSNTIPA.

Field Name: QJSTTVC

This is an *exception* field.

WRITE I/O REQUESTS

The total number of log-write I/O requests (such as media manager calls). This is the sum of the IFCID 038/039 pairs and includes both copy1 and copy2 active log data set writes.

Background and Tuning Information

This value should correspond to the active log write I/O activity in an RMF report.

Field Name: QJSTLOGW

READ DELAY-UNAVAILABLE RESOURCE

The number of read accesses delayed due to unavailable resources.

Background and Tuning Information

Generally, this can be due to insufficient tape units allocated. If this is so, reissue the SET ARCHIVE command and use a higher value for the count parameter. Another (although unlikely) cause is insufficient archive log read service task availability.

Field Name: QJSTWUR

This is an *exception* field.

WRITE BUFFER SCHEDULED-THRESHOLD

The number asynchronous log write requests made because the log write threshold was reached.

Background and Tuning Information

This counter is provided primarily for an internal check. It is recommended to use the default write threshold of 20 buffers.

Field Name: QJSTTHRW

CI CREATED-ACTIVE LOG

The number of active log output control intervals created.

Background and Tuning Information

Log records are placed sequentially in output log buffers, which are formatted as VSAM control intervals. The control intervals are written to a set of predefined DASD active log data sets, which are used sequentially and recycled.

The ratio of this field to write output log buffers should be low.

Rules of thumb:

The lower the value, the better. A high value indicates that too many I/Os are required for the number of log buffers created.

It is possible that WRTTHRSH is set too low. It is also possible that transactions could be arriving so infrequently that at commit time force requests are not queued and each force request is individually triggering an I/O of its log buffers.

Field Name: QJSTBFFL

WRITE BUFFER PAGED IN

The number of times an output log buffer had to be paged in before it could be initialized. The log-write latch is held at this point.

Background and Tuning Information

A nonzero value could indicate that the output log buffer size is too large, or there is insufficient real storage to back up the output log buffer size.

Field Name: QJSTBPAG

CI OFFLOADED

The number of control intervals (CIs) offloaded from the active log to the archive log.

Field Name: QJSTCIOF

WAIT FOR UNAVAILABLE LOG BUFFER

The number of waits caused by an unavailable output log buffer.

When DB2 wants to write a log record and the log buffer is not available, DB2 and the application must wait for an available log buffer.

Background and Tuning Information

Another possible cause is that the size of the write threshold might be too close to the size of the output buffer.

If this field is not 0, increase the number in the output buffer field on installation panel DSNTIPL to increase the number of output buffers or increase the size of the buffer.

Field Name: QJSTWTB

This is an *exception* field.

CI WRITTEN

The total number of log control intervals (CIs) written. This includes CI rewrites and both copy1 and copy2 active log data set writes. If a given CI is rewritten 5 times, this counter is incremented by 5.

Field Name: QJSTCIWR

TOTAL BSDS ACCESS REQUESTS

The number of BSDS access requests.

Field Name: QJSTBSDS

CI SERIAL WRITE

The number of serial log write I/O requests. A serial log write I/O request occurs when DB2 rewrites a log CI that was previously written as a partial CI, in a dual logging environment. This value includes COPY1 and COPY2 active log data set writes. The difference between WRITE I/O REQ and CI SERIAL WRITE gives the number of parallel log write I/O requests. Typically, the first CI in a list of one start I/O is written serially, and the remaining to both COPY1 and COPY2 active log data sets. This value is meaningful only when DB2 runs in dual active log mode.

Field Name: QJSTSERW

ARCHIVE READ ALLOCATIONS

The number of archive log read allocations.

It indicates the frequency of archive log open and close activity.

Background and Tuning Information

A high number indicates a need for more or larger active log data sets. This value should be small, ideally 0.

Field Name: QJSTALR

LOOK-AHEAD TAPE VOL MOUNTS ATTEMPTED

The number of look ahead (tape volume) mounts attempted.

Background and Tuning Information

This field and field QJSTLAMS (label LOOK-AHEAD MOUNT SUCCESSFUL) show the efficiency of look ahead for tape mounts.

Field Name: QJSTLAMA

ARCHIVE WRITE ALLOCATIONS

The number of archive log write allocations.

It indicates the frequency of archive log open and close activity.

Background and Tuning Information

A high number indicates a need for more or larger active log data sets. This value should be small, ideally 0.

Field Name: QJSTALW

LOOK-AHEAD TAPE VOL MOUNTS SUCCEEDED

The number of successful look-ahead (tape volume) mounts. It indicates the look-ahead mounting performance gains.

Background and Tuning Information

For maximum performance, this field and field QJSTLAMA (label LOOK-AHEAD MOUNT ATTEMPTED) should be equal. To find the number of failed attempts, subtract the value in this field from LOOK-AHEAD MOUNT ATTEMPTED. Too many failed attempts negate potential performance gains. This can be caused by not having enough tape units available. Issue the DISPLAY ARCHIVE command and note the current count value. Then issue the SET ARCHIVE command using a higher value for the count parameter.

Field Name: QJSTLAMS

QJSTLSUS

This field is for IBM service use.

Field Name: QJSTLSUS

QJSTSPNN

This field is for IBM service.

Field Name: QJSTSPNN

QJSTSPNI

This field is for IBM service.

Field Name: QJSTSPNI

QJSTCLID

This field is for IBM service.

Field Name: QJSTCLID

QJSTCL2

This field is for IBM service.

Field Name: QJSTCL2

QJSTCLSN

This field is for IBM service.

Field Name: QJSTCLSN

QJSTAVAL

This field is for IBM service.

Field Name: QJSTAVAL

IFCID 001 - Subsystem Services Data

This topic shows detailed information about "Record Trace - IFCID 001 - Subsystem Services Data".

Record trace - IFCID 001 - Subsystem Services Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - Subsystem Services Data" are described in the following section.

```
SUBSYSTEM SERVICES DATA
IDENTIFY         66  CREATE THREAD       155  UR INDOUBT               0  COMMIT PH 2              0
ROLLBACK          0  SIGNON                0  UR INDOUBT RESOLV        0  COMMIT PH 1              0
SSAM EOM          0  TERMIN.THREAD       221  EXITS                   66  SYNCHS                 164
SSAM EOT          1  CRT.THRD QUED         0  SUBS.INT.CALLS          77  READ ONLY COMMIT         0
IDBACK*           1  IDFORE*               2  CTHREAD*                 2
* = HIGH WATER MARK
```

IDENTIFY

The number of successful connections to DB2 from an allied address space (TSO, BATCH, CICS, IMS, CAF, or UTILITY).

Field Name: Q3STIDEN

CREATE THREAD

The number of successful create thread requests. It does not include DBATs.

A thread is required before an application can use SQL. When established, a thread can have one or more secondary authorization IDs.

A thread is needed to perform any DB2 activity. For example, a thread is needed to run a DB2 utility to perform an IFI request such as READS, or to process a DB2 command such as -DISPLAY THREAD. However, a thread is not created if the command failed because of a syntax error.

Background and Tuning Information

Thread reuse can help improve performance.

The term *thread reuse* only applies to IMS and CICS attachments. In the case of the TSO attachment facility and the call attachment facility (CAF), threads cannot be reused, because the threads are allocated to the user address space.

Thread reuse should be considered in the following cases:

- If transaction volume is high:

  High volume transactions should achieve a high percentage of thread reuse. If threads are reused on low volume transactions, the number of threads needed increases because these threads are not automatically terminated by IMS when not being used. This may result in too many idle threads for the level of the DB2 workload. Under CICS, protected threads are terminated after about 45 seconds if no transaction eligible to reuse the thread has been received.
- If thread creation cost is significant:

  As a rule of thumb, more than 5% of the total CPU cost of transaction processing is considered significant.

The ACQUIRE and RELEASE parameters of BIND should be specified to minimize the thread creation cost, while providing the needed concurrency:

- If most of the application plan's SQL statements are executed, then ACQUIRE(ALLOCATE) is cheaper than ACQUIRE(USE).
- If only a small number of the SQL statements are executed, ACQUIRE(USE) becomes cheaper and improves concurrency, because the required resources are only acquired (locked) when the plan actually references (uses) them. An example would be a generalized plan used by many different transactions. It would contain multiple logic paths referencing different tables.

  Note that, when packages are involved, ACQUIRE(USE) is always implicitly used.
- Concurrency in thread reuse is based on page locking provided by the IS and IX intent locks, whose duration is governed by ACQUIRE and RELEASE of BIND.

  RELEASE(DEALLOCATE) is strongly recommended for thread-reuse transactions to reduce transaction CPU time.

When thread reuse is implemented, monitor the EDM pool. It should be sufficient in size to accommodate expanding plans where the next transaction requires additional plan sections over those that are already part of the plan.

Field Name: Q3STCTHD

This is an *exception* field.

UR INDOUBT

The number of indoubt units of recovery.

A unit of recovery is indoubt when a failure occurs after a successful prepare but before a successful commit. The failure can occur in the address space of the application, the transaction manager, DB2, or all of these. IMS and CICS applications use the prepare and commit sequence to commit work. Ideally, this value should be 0.

Field Name: Q3STINDT

This is an *exception* field.

COMMIT PH 2

The number of successful commit phase 2 in a two-phase environment such as CICS or IMS. It includes successfully committed agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF). It does not include successful single-phase commits or distributed two-phase commits.

Background and Tuning Information

IMS and CICS applications use the PREPARE and COMMIT sequence to commit work. A nonzero value for this field indicates that updates have occurred.

Field Name: Q3STCOMM

ROLLBACK

The number of times a unit of recovery was successfully rolled back. Some reasons for a rollback include:

- Application program abend
- Application rollback request
- Application deadlock on database records
- Application canceled by operator
- Thread abend due to resource shortage

This number also includes successfully aborted agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF).

Field Name: Q3STABRT

This is an *exception* field.

SIGNON

The number of signons that identified a new user of an existing thread for IMS and CICS.

This field is valid only for CICS and IMS (not valid for TSO, CAF, or UTILITY).

The initial signon does not perform an authorization check because the thread does not exist yet, but a resignon can.

Background and Tuning Information

If the number of signons is greater than the number of create thread occurrences, some threads have been reused. In the case of the TSO attachment facility and the call attachment facility (CAF), there is no sign-on, because the user is identified when the TSO address space is connected.

Field Name: Q3STSIGN

This is an *exception* field.

UR INDOUBT RESOLV

The number of indoubt units of recovery successfully resolved, either automatically or manually. It includes successful indoubt resolutions for agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF).

A unit of recovery is indoubt when a failure occurs after a successful prepare but before a successful commit. This number should equal the number of units of recovery gone indoubt. If it is less, then some indoubt units of recovery might still exist.

Field Name: Q3STRIUR

COMMIT PH 1

The number of successful requests for commit phase 1 in a two-phase commit environment such as CICS or IMS. It includes successfully prepared agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF). It does not include successful single-phase commits or distributed two-phase commits.

Background and Tuning Information

IMS and CICS applications use the PREPARE and COMMIT sequence to commit work.

Field Name: Q3STPREP

SSAM EOM

The number of times MVS deleted non-DB2 address space while connected to DB2.

Field Name: Q3STMEOM

TERMIN.THREAD

The number of time threads that terminated successfully.

This number does not agree with the create thread count because each level of a thread's access (IDENTIFY, SIGNON, and CREATE THREAD) must be terminated.

Background and Tuning Information

The value of this field is usually greater than the number of create thread occurrences, because it also includes the termination of connections to DB2 (IDENTIFY) and other internal counts.

Field Name: Q3STTERM

EXITS

The number of successful DSN3EXIT requests.

Field Name: Q3STEXIT

SYNCHS

The total number of commits in a single-phase commit environment such as TSO, CAF, or UTILITY. IMS applications use the prepare-and-commit sequence; CICS applications use both the synchronized commit request and the prepare-and-commit sequence to commit work.

Note that DBATs executed on this location are not included. For DBAT statistics, see SINGLE PHASE COMMITS received on the DDF activity block.

Field Name: Q3STSYNC

SSAM EOT

The number of times non-DB2 tasks abended while connected to DB2.

Field Name: Q3STMEOT

CRT.THRD QUED

The number of create thread requests queued (not including DBATs).

The total number of threads accessing data that can be allocated concurrently is the MAX USERS value on the installation panel DSNTIPE. Requests are queued when the MAX USERS value is exceeded. If no threads are queued during peak hours, the maximum number of threads might be set too high.

Background and Tuning Information

As a rule of thumb about 1% thread queuing is acceptable. When this is appreciably higher, increase the value of MAX USERS on the DB2 install panel DSNTIPE.

The combined maximum allowed for MAX USERS and MAX REMOTE ACTIVE cannot exceed 2000.

Field Name: Q3STCTHW

This is an *exception* field.

SUBS.INT.CALLS

The number of subsystem interface calls processed.

Field Name: Q3STSSSI

READ ONLY COMMIT

The number of read-only commits.

There are occasions when CICS or IMS invokes DB2 when no DB2 resource was altered since the completion of the last commit process. When this occurs, DB2 performs both phases of the two-phase commit during the first commit phase and records that the user or job is read-only in relation to its DB2 processing.

Field Name: Q3STRDON

IDBACK*

The maximum number of connections to a single instance from batch or TSO background tasks.

This is a high-water mark.

Field Name: Q3STHWIB

IDFORE*

The maximum number of connections to a single instance from TSO foreground tasks.

This is a high water-mark.

Field Name: Q3STHWIF

CTHREAD*

The highest number of batch CICS, IMS, and TSO tasks (CTHREAD) to a single instance.

This is a high-water mark.

Field Name: Q3STHWCT

IFCID 001 - QSST Data

This topic shows detailed information about "Record Trace - IFCID 001 - QSST Data".

This block contains DB2 serviceability fields. Most of these fields are for IBM service use.

Record trace - IFCID 001 - QSST Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - QSST Data" are described in the following section.

```
                                        QSST DATA
QSSTGPLF           97  QSSTFPLF          10  QSSTFREF            4  QSSTEXPF          1143  QSSTCONF           2
QSSTGPLV          227  QSSTFPLV          24  QSSTFREV           13  QSSTEXPV           159  QSSTCONV           6
QSSTGETM          708  QSSTFREM         607  QSSTRCNZ            0  QSSTCONT             0  QSSTCRIT           0
QSSTABND            0
QSSTSGETM                                435  QSSTSGETR                                91244
QSSTSGETEXT                                8  QSSTSFREEM                                   4
QSSTSFREER                             90807  QSSTD64POST                                  0
QSSTA64POST                                0  QSSTA64WAIT                                  0
QSSTM64DISNUM                              0  QSSTM64DISPGS                                0
QSSTSGETR64                                0  QSSTSGETEXT64                                0
QSSTSGETDEXT64                             0  QSSTSFREER64                                 0
QSSTSFREEDEXT64                            0  QSSTDISCARDMODE64                            0
QSSTRSMAXWARN                              0  QSSTP64DISNUM                             1985
QSSTP64DISBLK                             39  QSSTP64DISPGS                               39
QSSTCONTSTORNUM                            0
```

QSSTGPLF

This field is for IBM service use.

Field Name: QSSTGPLF

QSSTCONT

The number of full system contractions.

Field Name: QSSTCONT

QSSTCRIT

The number of critical storage shortages after contraction.

Field Name: QSSTCRIT

QSSTABND

The number of abends due to local storage shortage.

Field Name: QSSTABND

IFCID 001 - QVAS Data

This topic shows detailed information about "Record Trace - IFCID 001 - QVAS Data".

This block contains DB2 serviceability fields. These fields are for IBM service use.

Record trace - IFCID 001 - QVAS Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - QVAS Data" are described in the following section.

```
                                        QVAS DATA
QVASSUSP      589950   QVASXSUS      128501   QVASXSUT          17   QVASXAUS          42   QVASXAUT          49
QVASXSRS        1477   QVASXSRT        3704   QVASADUR         138   QVASADDL           0   QVASADIR           0
QVASCBOS           0   QVASCBOF           0   QVASMBOS           0   QVASMBOF           0

QVASBRPT                 896             QVASBRP                0
QVASACEB                   0             QVASACEF               0
```

QVASSUSP

This field is for IBM service use.

Field Name: QVASSUSP

IFCID 001 - QVLS Data

This topic shows detailed information about "Record Trace - IFCID 001 - QVLS Data".

The QVLS latch counters represent the number of suspends that were performed by agents that attempted to obtain a latch.

The DB2 latch contentions can be traced by running a performance trace for IFCID 51, 52, 56, and 57. The latch class counters may represent more than one contention because they are reported as modulo 32. For example, LC12 could be either due to latch class X'0C' or latch class X'4C'. The following paragraph shows the predominant latch contention for each latch class. The latch class contentions per second are reported in the Statistics report and trace.

If the latch class contentions per second are:

- Less than 1000, you can ignore them.
- Between 1000 and 10000, you need to start monitoring the issue.
- Greater than 10000 and if this has an impact on your performance, gather the performance trace for the IFCIDs 51,52,56,and 57. Then contact IBM support for assistance.

There is not a one-to-one relationship between the QVLS counters and IFCID 56 or 57, because an agent might suspend multiple times or not at all, while trying to obtain a latch. That is why the QVLS counters are not directly related to Accounting Class 3.

Record trace - IFCID 001 - QVLS Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - QVLS Data" are described in the following section.

```
QVLS DATA
QVLSLC01          0 QVLSLC02          0 QVLSLC03          0 QVLSLC04          0 QVLSLC05          0 QVLSLC06          0
QVLSLC07          0 QVLSLC08          0 QVLSLC09          0 QVLSLC10          8 QVLSLC11          0 QVLSLC12          0
QVLSLC13          0 QVLSLC14         58 QVLSLC15          0 QVLSLC16          0 QVLSLC17          0 QVLSLC18          0
QVLSLC19          3 QVLSLC20          0 QVLSLC21          6 QVLSLC22          0 QVLSLC23       1907 QVLSLC24        131
QVLSLC25          0 QVLSLC26          0 QVLSLC27         19 QVLSLC28          0 QVLSLC29          3 QVLSLC30         25
QVLSLC31          4 QVLSLC32        147 QVLSLC254         0
```

QVLSLC01

This field is infrequently used.

Field Name: QVLSLC01

QVLSLC02

The predominant latch usage is: Global authorization cache.

Field Name: QVLSLC02

QVLSLC03

The predominant latch usage is: DDF disconnect.

Field Name: QVLSLC03

QVLSLC04

The predominant latch usage is: SYSSTRING cache.

Field Name: QVLSLC04

QVLSLC05

The predominant latch usage is: IRLM data sharing exits or RLF.

Field Name: QVLSLC05

QVLSLC06

The predominant latch usage is: Data sharing index split.

Field Name: QVLSLC06

QVLSLC07

The predominant latch usage is: Index lotch and OBD allocation.

Field Name: QVLSLC07

QVLSLC08

The predominant latch usage is: Query parallelism.

Field Name: QVLSLC08

QVLSLC09

The predominant latch usage is: Utilities or stored procedure URIDs.

Field Name: QVLSLC09

QVLSLC10

The predominant latch usage is for Sequence objects (stand-alone and table-based Identity Column). DB2 12 latch contention can be significantly reduced for the Identity Column in a data-sharing environment because of the reduction in log force write.

Field Name: QVLSLC10

QVLSLC11

The predominant latch usage is for Sequence objects (stand-alone and table-based Identity Column) for concurrent transactions. DB2 12 latch contention can be significantly reduced for the Identity Column in a data-sharing environment because of the reduction in log force write.

Field Name: QVLSLC11

QVLSLC12

The predominant latch usage is database allocation control latch (latch class X'0C') or WebSphere® global transaction ID latch (latch class X'4C').

Field Name: QVLSLC12

QVLSLC13

The predominant latch usage is: Pageset operations.

Field Name: QVLSLC13

QVLSLC14

The predominant latch usage is represented by various buffer pool related activities, including buffer pool control block and pool serialization.

Field Name: QVLSLC14

QVLSLC15

The predominant latch usage is: ARCHIVE LOG MODE(QUIESCE).

Field Name: QVLSLC15

QVLSLC16

The predominant latch usage is: UR synonym chain.

Field Name: QVLSLC16

QVLSLC17

The predominant latch usage is: RURE chain.

Field Name: QVLSLC17

QVLSLC18

The predominant latch usage is: DDF resynch list.

Field Name: QVLSLC18

QVLSLC19

The predominant latch usage is logical log write (in contrast to physical log write).

Field Name: QVLSLC19

QVLSLC20

The predominant latch usage is: System checkpoint.

Field Name: QVLSLC20

QVLSLC21

The predominant latch usage is: Accounting rollup.

Field Name: QVLSLC21

QVLSLC22

The predominant latch usage is: Internal checkpoint.

Field Name: QVLSLC22

QVLSLC23

The predominant latch usage is Buffer Manager latch for page latch contention timer queue or deferred write latch. Both types of latches have latch class X'17'.

Field Name: QVLSLC23

QVLSLC24

The predominant latch usage is EDM LRU latch or Buffer Manager prefetch scheduling latch. EDM LRU latch can be identified by latch class X'18' while Buffer Manager prefetch scheduling latch can be identified by latch class X'38' in a latch contention trace.

Field Name: QVLSLC24

QVLSLC25

The predominant latch usage is: EDM hash latch.

Field Name: QVLSLC25

QVLSLC26

The predominant latch usage is: Dynamic statement cache.

Field Name: QVLSLC26

QVLSLC27

The predominant latch usage is: stored procedure queue latch and UDF.

Field Name: QVLSLC27

QVLSLC28

The predominant latch usage is: Stored procedures or authorization cache.

Field Name: QVLSLC28

QVLSLC29

The predominant latch usage is: Field procs and DDF transaction manager.

Field Name: QVLSLC29

QVLSLC30

The predominant latch usage is: Agent services.

Field Name: QVLSLC30

QVLSLC31

The predominant latch usage is: Storage manager.

Field Name: QVLSLC31

QVLSLC32

The predominant latch usage is shared storage pool latch.

Field Name: QVLSLC32

QVLSLC254

The predominant latch usage is: Index latch.

Field Name: QVLSLC254

IFCID 001 - z/OS Metrics

This topic shows detailed information about "Record Trace - IFCID 001 - z/OS Metrics".

Record trace - IFCID 001 - z/OS Metrics

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - z/OS Metrics" are described in the following section.

```
Z/OS METRICS
LPAR CPS                    0
LPAR CPU UTILIZATION        0   DB2 SUBSYS CPU UTILIZATION        0
LPAR PAGE-IN RATE           0   DB2 SUBSYS PAGE-IN RATE           0
LPAR REAL STOR (MB)         0   DB2 SUBSYS USED REAL STOR (MB)    0
LPAR VIRT STOR (MB)         0   DB2 SUBSYS USED VIRT STOR (MB)    0
LPAR FREE REAL STOR (MB)    0   DB2 MSTR   CPU UTILIZATION        0
LPAR FREE VIRT STOR (MB)    0   DB2 DBM1   CPU UTILIZATION        0
UNREFERENCED INTERVALS      0

QWOSFLG :    0    QWOSRCDE:    0   QWOSRSNC:    0
```

LPAR CPS

The number of standard central processors (CPs) on the logical partition (LPAR) at the end of the defined Monitor III gatherer time interval (called MINTIME). This value does not include ZIIPs. This value is from Resource Measurement Facility (RMF) field CPUG3_PRCON.

Field Name: QWOSLNCP

LPAR CPU UTILIZATION

The percentage of the MINTIME time interval during which RMF reported that the entire LPAR was in use, averaged for a single processor. This value is calculated using Resource Measurement Facility (RMF) field CPUG3_LOGITI.

Field Name: QWOSLPRU

DB2 SUBSYS CPU UTILIZATION

The percentage of the MINTIME time interval during which RMF reported that all DB2 address spaces were in use, calculated for a single processor.

Field Name: QWOSDB2U

LPAR PAGE-IN RATE

The PAGE-IN rate (%) for the LPAR. This value is always set to 0.

Field Name: QWOSLPIR

DB2 SUBSYS PAGE-IN RATE

The PAGE-IN rate (%) for the DB2 subsystem. This value is set to 0.

Field Name: QWOSDPIR

LPAR REAL STOR (MB)

The total real storage in the LPAR, in MB. This value is derived from RMF field GEIRPOOL_VE, which is the number of online real storage frames.

Field Name: QWOSLRST

DB2 SUBSYS USED REAL STOR (MB)

The real storage used by DB2 subsystems, in MB. This value is the sum of the following values for all DB2 address spaces in the LPAR, converted to MB:

- The number of frames for swapped-in users. This value is derived from RMF field ASIFMCT_VE.
- The number of frames for idle users. This value is derived from RMF field ASIFMCTI_VE.

Field Name: QWOSDRSU

LPAR VIRT STOR (MB)

The total virtual storage in the LPAR, in MB. This value is the sum of the following values for all address spaces in the LPAR:

- The number of frames for swapped-in users. This value is derived from RMF field ASIFMCT_VE.
- The number of frames for idle users. This value is derived from RMF field ASIFMCTI_VE.
- The number of auxiliary slots. This value is derived from RMF field ASIAUXSC_VE.

Field Name: QWOSLVST

DB2 SUBSYS USED VIRT STOR (MB)

The virtual storage used by DB2 subsystems, in MB. This value is the sum of the following values for all DB2 address spaces in the LPAR, converted to MB:

- The number of frames for swapped-in users. This value is derived from RMF field ASIFMCT_VE.
- The number of frames for idle users. This value is derived from RMF field ASIFMCTI_VE.

Field Name: QWOSDVSU

LPAR FREE REAL STOR (MB)

The free real storage in the LPAR, in MB. This value is derived from RMF field GEIRAFC, which is the number of available real storage frames.

Field Name: QWOSLRSF

DB2 MSTR CPU UTILIZATION

The percentage of the MINTIME time interval during which RMF reported that the DB2 MSTR address space was in use, calculated for a single processor.

Field Name: QWOSMSTU

LPAR FREE VIRT STOR (MB)

The free virtual storage in the LPAR, in MB. This value is the sum of the following values, converted to MB:

- The total real storage in the LPAR (QWOSLRST)
- The number of currently available slots (RMF field GEISLTA)

Field Name: QWOSLVSF

DB2 DBM1 CPU UTILIZATION

The percentage of the MINTIME time interval during which RMF reported that the DB2 DBM1 address space was in use, calculated for a single processor.

Field Name: QWOSDBMU

UNREFERENCED INTERVALS

The Unreferenced Interval Count (UIC). This value is RMF field GEIAHUIC_VE.

Field Name: QWOSLUIC

QWOSFLG

This field is for IBM service use.

Field Name: QWOSFLG

QWOSRCDE

This field is for IBM service use.

Field Name: QWOSRCDE

QWOSRSNC

This field is for IBM service use.

Field Name: QWOSRSNC

IFCID 002 - DB2 Statistics

Database 2 Statistics shows the data from IFCID 002.

IFCID 002 - Accelerator Data - Prior to V4

This topic shows detailed information about "Record Trace - IFCID 002 - Accelerator Data - Prior to V4" and refers only to IBM Db2 Analytics Accelerator for z/OS prior to version 4.

Note: The field descriptions of the fields QUERIES SUCCESSFULLY EXECUTED, QUERIES FAILED TO EXECUTE, CURRENTLY EXECUTING QUERIES, and MAXIMUM EXECUTING QUERIES refer to SQL statements passed to the accelerator. For product identifiers of IBM Db2 Analytics Accelerator for z/OS prior to AQT04015, the SQL statements are SELECT queries passed to the accelerator.

Record trace - IFCID 002 - Accelerator Data - Prior to V4

```
                                        ACCELERATOR DATA

PRODUCT ID .........: AQT03010
SERVER ID ..........: VMNPS14
STATE ..............: ONLINE

QUERIES SUCCESSFULLY EXECUTED .......:      2   AVG QUEUE LENGTH (LAST 3 HOURS) .....:            0
QUERIES FAILED TO EXECUTE ...........:      0   AVG QUEUE LENGTH (LAST 24 HOURS) ....:            0
  ACCELERATOR IN INVALID STATE ......:      0   MAXIMUM QUEUE LENGTH ................:            0
CURRENTLY EXECUTING QUERIES .........:      0   AVG QUEUE WAIT ELAPSED TIME .........:     0.039000
MAXIMUM EXECUTING QUERIES ...........:      4   MAX QUEUE WAIT ELAPSED ..............:     0.392000

CONNECTS TO ACCELERATOR .............:      1   WORKER NODES ........................:            2
REQUESTS SENT TO ACCELERATOR ........:      4   WORKER NODES AVG CPU UTILIZATION (%) :         0.00
   TIMED OUT ........................:      0   COORDINATOR AVG CPU UTILIZATION (%) .:        11.00
   FAILED ...........................:      0
BYTES SENT TO ACCELERATOR ...........:   2342   DISK STORAGE AVAILABLE (MB) .........:       195426
BYTES RECEIVED FROM ACCELERATOR .....:  99478      IN USE (%) .......................:        22.54
MESSAGES SENT TO ACCELERATOR ........:     13      IN USE FOR DATABASE (MB) .........:          353
MESSAGES RECEIVED FROM ACCELERATOR ..:     13   DATA SLICES .........................:            6
BLOCKS SENT TO ACCELERATOR ..........:      0   DATA SKEW ...........................:         0.43
BLOCKS RECEIVED FROM ACCELERATOR ....:      2
ROWS SENT TO ACCELERATOR ............:      0   PROCESSORS ..........................:            8
ROWS RECEIVED FROM ACCELERATOR ......:      0

TCP/IP SERVICES ELAPSED TIME ........:0.330595   ELAPSED TIME IN ACCELERATOR .........:     0.000000
WAIT TIME IN ACCELERATOR ............:0.000000   CPU TIME SPENT IN ACCELERATOR .......:     0.000000
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

PRODUCT ID [Q8STPRID]

The accelerator product identifier.

SERVER ID [Q8STNAME]

The accelerator server identifier.

STATE [Q8STTATE]

Shows the current accelerator state. The state depends on the version of IBM DB2 Analytics Accelerator for z/OS:

- Version 4:

  0
  = INITIALIZING

  1
  = ONLINE

  3
  = OFFLINE

  5
  = MAINTENANCE

  255
  = UNKNOWN

- Prior to Version 4:

  0
  = INITIALIZED

  1
  = ONLINE

  2
  = PAUSED

  3
  = OFFLINE

  4
  = STOPPED

  5
  = MAINTENANCE

  6
  = DOWN

  7
  = UNKNOWN

QUERIES SUCCESSFULLY EXECUTED [Q8STSREQ]

The number of SQL statements (sent by this Db2 system since accelerator start) that were successfully executed in the accelerator.

QUERIES FAILED TO EXECUTE [Q8STFREQ]

The number of SQL statements (sent by this Db2 system since accelerator start) that failed to be successfully executed for any reason.

QUERIES FAILED TO EXECUTE - ACCELERATOR IN INVALID STATE [Q8STFINV]

The number of queries (sent by this Db2 system since accelerator start) that failed to be successfully executed, for example, because the accelerator was in an invalid state.

CURRENTLY EXECUTING QUERIES [Q8STACTV]

The number of currently (actively) executing SQL statements in the accelerator on behalf of all Db2 systems (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STACTV_64).

MAXIMUM EXECUTING QUERIES [Q8STMAXA]

The maximum number of SQL statements actively executing in the accelerator concurrently at any time since accelerator start on behalf of all Db2 systems (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STMAXA_64).

CONNECTS TO ACCELERATOR [Q8STCONN]

The number of connects to the accelerator from this Db2 system.

REQUESTS SENT TO ACCELERATOR [Q8STREQ]

The number of Distributed Relational Database Architecture™ (DRDA) requests sent by this Db2 system to the accelerator.

REQUESTS SENT TO ACCELERATOR - TIMED OUT [Q8STTOUT]

The number of connections that were timed out when this Db2 system sent requests to the accelerator.

REQUESTS SENT TO ACCELERATOR - FAILED [Q8STFAIL]

The number of connections that failed when this Db2 system sent requests to the accelerator.

BYTES SENT TO ACCELERATOR [Q8STBYTS]

The total number of bytes sent to the accelerator.

BYTES RECEIVED FROM ACCELERATOR [Q8STBYTR]

The total number of bytes received from the accelerator.

MESSAGES SENT TO ACCELERATOR [Q8STMSGS]

The total number of messages sent to the accelerator.

MESSAGES RECEIVED FROM ACCELERATOR [Q8STMSGR]

The total number of messages received from the accelerator.

BLOCKS SENT TO ACCELERATOR [Q8STBLKS]

The total number of blocks sent to the accelerator.

BLOCKS RECEIVED FROM ACCELERATOR [Q8STBLKR]

The total number of blocks received from the accelerator.

ROWS SENT TO ACCELERATOR [Q8STROWS]

The total number of rows sent to the accelerator.

ROWS RECEIVED FROM ACCELERATOR [Q8STROWR]

The total number of rows received from the accelerator.

TCP/IP SERVICES ELAPSED TIME [Q8STTELA]

The accumulated accelerator services TCP/IP elapsed time measured in Db2. It starts when sending the requests to the accelerator and ends when receiving the results from the accelerator.

WAIT TIME IN ACCELERATOR [Q8STAWAT]

The wait time spent in the accelerator when executing requests from the Db2 subsystem.

AVG. QUEUE LENGTH (LAST 3 HOURS) [Q8STAVGQ03]

The average queue length during the last 3 hours at the accelerator.

AVG. QUEUE LENGTH (LAST 24 HOURS) [Q8STAVGQ24]

The average queue length during the last 24 hours at the accelerator.

MAXIMUM QUEUE LENGTH [Q8STMAXQ]

The high watermark of the queue length at the accelerator (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STMAXQ_64).

AVG QUEUE WAIT ELAPSED TIME [Q8STQUEW]

The average wait time at the accelerator queue.

MAX QUEUE WAIT ELAPSED TIME [Q8STQUEM]

The maximum wait time at the accelerator queue.

WORKER NODES [Q8STWNOD]

The number of active worker nodes (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STWNOD_64).

WORKER NODES AVG CPU UTILIZATION (%) [Q8STWCPU]

The current CPU utilization on the accelerator worker nodes. This is a snapshot, which is the average CPU utilization across all worker nodes (Field name for Db2 Analytics Accelerator for z/OS Version 4: Q8STWCPU_64).

COORDINATOR AVG CPU UTILIZATION (%) [Q8STCCPU]

The current CPU utilization on the accelerator coordinator node (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STCCPU_64).

DISK STORAGE AVAILABLE (MB) [Q8STDSKA]

The disk storage (MB) available at the accelerator.

DISK STORAGE AVAILABLE - IN USE (%) [Q8STDSKU]

The current disk utilization of the accelerator worker nodes, expressed as percentage of the used I/O channels/resources.

DISK STORAGE AVAILABLE - IN USE FOR DATABASE (MB) [Q8STDSKB]

The disk storage in-use for accelerator databases for this Db2 system.

DATA SLICES [Q8STNMDS]

The number of data slices at the accelerator. This equals the degree of parallel I/O channels.

DATA SKEW [Q8STSKEW]

When table data is loaded into the accelerator, it may be unevenly distributed across the different data slices on the disks. This disparity is called data skew. The counter represents the accumulated skew over all tables that belong to the Db2 subsystem. The skew of a table is the ratio that shows how uneven the data slices are, as calculated by ((maximum data slice size - minimum data slice size) / median data slice size).

A high value indicates, that data reorganization can improve disk utilization and query performance.

PROCESSORS [Q8STCORS]

The number of CPU cores available on all worker nodes.

ELAPSED TIME IN ACCELERATOR [Q8STAELA]

The accumulated elapsed time spent in the accelerator when executing requests from the Db2 subsystem.

CPU TIME SPENT IN ACCELERATOR [Q8STACPU]

The CPU time spent in the accelerator when executing requests from the Db2 subsystem.

IFCID 002 - Accelerator Data - Subsystem/Group Perspective V4 or later

This topic shows detailed information about "Record Trace - IFCID 002 - Accelerator Data - Subsystem/Group Perspective V4 or later".

Note: This topic only refers to IBM DB2 Analytics Accelerator for z/OS version 4 or later.

A value of -1 in the following fields indicates that the status of the acceleration or replication server is unknown:

- CPU TIME EXECUTING QUERIES
- CPU TIME LOAD/ARCHIVE/RESTORE
- WAIT TIME IN ACCELERATOR
- CPU TIME FOR REPLICATION
- REPLICATION LATENCY

Note: The descriptions of the fields labelled with SQL STMTS refer to SQL statements passed to the accelerator. For product identifiers of IBM DB2 Analytics Accelerator for z/OS prior to AQT04015, the SQL statements are SELECT queries passed to the accelerator and the fields INSERT STMTS to ROLLBACK STMTS are N/A.

Record Trace - IFCID 002 - Accelerator Data - Subsystem/Group Perspective V4 or later

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Accelerator Data - Subsystem/Group Perspective V4 or later" are described in the following section.

```
                                ACCELERATOR DATA - SUBSYSTEM/GROUP PERSPECTIVE

PRODUCT ID .........: AQT07052
SERVER ID ..........: IDAAZ59
STATE ..............: ONLINE

QUERIES SUCCESSFULLY EXECUTED .......:                  78   QUERIES FAILED TO EXECUTE ...........:                  21
CURRENTLY EXECUTING QUERIES .........:                   0   CPU TIME EXECUTING QUERIES ..........:            4.320000
MAXIMUM   EXECUTING QUERIES .........:                   1   CPU TIME LOAD/ARCHIVE/RESTORE .......:           58.810000
CURRENT QUEUE LENGTH ................:                   0

CONNECTS TO ACCELERATOR .............:                   2   BYTES    SENT TO ACCELERATOR ........:                4282
REQUESTS SENT TO ACCELERATOR ........:                   4   BYTES    RECEIVED FROM ACCELERATOR ..:                3852
REQUESTS TIMED OUT ..................:                   0   MESSAGES SENT TO ACCELERATOR ........:                  22
REQUESTS FAILED .....................:                   0   MESSAGES RECEIVED FROM ACCELERATOR ..:                  22
BLOCKS   SENT TO ACCELERATOR ........:                   0   ROWS     SENT TO ACCELERATOR ........:                   0
BLOCKS   RECEIVED FROM ACCELERATOR ..:                   1   ROWS     RECEIVED FROM ACCELERATOR ..:                  10

ELAPSED TIME IN TCP/IP SERVICES .....:            9.889521   ELAPSED TIME IN ACCELERATOR .........:            9.775866
CPU     TIME IN TCP/IP SERVICES .....:            0.001102   CPU     TIME IN ACCELERATOR .........:            0.000692
ELAPSED TIME IN ACCELERATOR SERVICES :            0.000000   WAIT    TIME IN ACCELERATOR .........:            9.762848
CPU     TIME IN ACCELERATOR SERVICES :            0.000000

CPU TIME FOR LOG READER TASK.........:            0.000000   ZIIP TIME FOR LOG READER TASK........:            0.000000
ZIIP ELIGIBLE TIME FOR LOG READ TASK.:            0.000000

LOG RECORDS READ ....................:               20458   INSERT ROWS FOR ACCELERATOR TABLES ..:                   4
LOG RECORDS FOR ACCELERATOR TABLES ..:               20397   UPDATE ROWS FOR ACCELERATOR TABLES ..:                   0
LOG RECORD BYTES PROCESSED ..........:             1349033   DELETE ROWS FOR ACCELERATOR TABLES ..:                   2
CPU TIME FOR REPLICATION ............:         4:57.779008   REPLICATION LATENCY .................:            1.000000
REPLICATION STATUS ..................:                   0   REPLICATION VELOCITY ................:            1.062799
REPLICATION STATUS CHANGE ...........: 09/28/20 17:52:29.264347

WAITFORDATA - SUCCESSFUL ............:                  10   WAITFORDATA - TIMED OUT .............:                  21
```

PRODUCT ID

The accelerator product identifier.

Field Name: Q8STPRID

SERVER ID

The accelerator server identifier.

Field Name: Q8STNAME

STATE

Shows the current accelerator state. The state depends on the version of IBM DB2 Analytics Accelerator for z/OS:

- Version 4 or higher, the accelerator state can be:

0
= Initializing: IDAA or the Accelerator backend is currently starting up; no processing can currently take place.

1
= Online: IDAA and the Accelerator backend are available and fully operational.

3
= Offline: IDAA is available, but the Accelerator backend is not. Note: It is very difficult to get the OFFLINE scenario with V7 because apstop will shut down the whole container which include the connection to Db2. So at the Db2 side, accelerator becomes FLATLINE. But the Q8STTATE in IFCID 2 still keeps the last state before it transitions into FLATLINE. APAR PH17726 set Q8STTATE into 255 for the above scenario.

5
= Maintenance: A maintenance operation is currently running; no query processing can occur.

255
= Unknown: IDAA or the Accelerator backend is in an unknown state.

- Prior to Version 4:

0
= INITIALIZED

1
= ONLINE

2
= PAUSED

3
= OFFLINE

4
= STOPPED

5
= MAINTENANCE

6
= DOWN

7
= UNKNOWN

Background and Tuning Information

Shows the current accelerator state. The state depends on the version of IBM DB2 Analytics Accelerator for z/OS:

- Version 4 or higher, the accelerator state can be:

0
= Initializing: IDAA or the Accelerator backend is currently starting up; no processing can currently take place.

1
= Online: IDAA and the Accelerator backend are available and fully operational.

3
= Offline: IDAA is available, but the Accelerator backend is not. Note: It is very difficult to get the OFFLINE scenario with V7 because apstop will shut down the whole container which include the connection to Db2. So at the Db2 side, accelerator becomes FLATLINE. But the Q8STTATE in IFCID 2 still keeps the last state before it transitions into FLATLINE. APAR PH17726 set Q8STTATE into 255 for the above scenario.

5
= Maintenance: A maintenance operation is currently running; no query processing can occur.

255
= Unknown: IDAA or the Accelerator backend is in an unknown state.

- Prior to Version 4:

0
= INITIALIZED

1
= ONLINE

2
= PAUSED

3
= OFFLINE

4
= STOPPED

5
= MAINTENANCE

6
= DOWN

7
= UNKNOWN

Field Name: Q8STTATE

SQL STMTS SUCCESSFULLY EXECUTED

The number of SQL statements (sent by this DB2 system since accelerator start) that were successfully executed in the accelerator.

Field Name: Q8STSREQ

CURRENTLY EXECUTING SQL STMTS

The number of currently executing SQL statements in the accelerator on behalf of this DB2 system.

Field Name: Q8STNQCS

MAXIMUM EXECUTING SQL STMTS

Shows the maximum number of SQL statements executing in the accelerator at any time since accelerator start on behalf of this DB2 system.

Field Name: Q8STMNQS

CONNECTS TO ACCELERATOR

The number of connects to the accelerator from this DB2 system.

Field Name: Q8STCONN

REQUESTS SENT TO ACCELERATOR

The number of Distributed Relational Database Architecture (DRDA) requests sent by this DB2 system to the accelerator.

Field Name: Q8STREQ

REQUESTS TIMED OUT

The number of connections that were timed out when this DB2 system sent requests to the accelerator.

Field Name: Q8STTOUT

REQUESTS FAILED

The number of connections that failed when this DB2 system sent requests to the accelerator.

Field Name: Q8STFAIL

BLOCKS SENT TO ACCELERATOR

The total number of blocks sent to the accelerator.

Field Name: Q8STBLKS

BLOCKS RECEIVED FROM ACCELERATOR

The total number of blocks received from the accelerator.

Field Name: Q8STBLKR

ELAPSED TIME IN TCP/IP SERVICES

The accumulated accelerator services TCP/IP elapsed time measured in DB2. It starts when sending the requests to the accelerator and ends when receiving the results from the accelerator.

Field Name: Q8STTELA

CPU TIME IN TCP/IP SERVICES

The accelerator services TCP/IP CPU time measured in DB2. It starts when sending the requests to the accelerator and ends when receiving the results from the accelerator.

Field Name: Q8STTCPU

ELAPSED TIME IN ACCELERATOR SERVICES

The accelerator services elapsed time.

Field Name: Q8STSELA

CPU TIME IN ACCELERATOR SERVICES

The CPU time of the accelerator services.

Field Name: Q8STSCPU

CPU TIME FOR LOG READER TASK

CPU time that was consumed by the asynchronous log reader task for this IDAA during the reporting interval. This value does not include CPU consumed on an IBM zIIP.

Field Name: Q8STLRCP

ZIIP ELIGIBLE TIME FOR LOG READ TASK

CPU time that was consumed by the asynchronous log reader task for this IDAA on standard processors during the reporting interval, and those tasks were eligible for execution on an IBM zIIP.

Field Name: Q8STLRZE

LOG RECORDS READ

The number of log records read by the replication capture agent for this DB2 system.

Field Name: Q8STNLRS

LOG RECORDS FOR ACCELERATOR TABLES

The number of log records (read by the replication capture agent for this DB2 system) that are applicable to tables in this accelerator.

Field Name: Q8STNLTS

LOG RECORD BYTES PROCESSED

The number of log record bytes processed by the replication capture agent for this DB2 system.

Field Name: Q8STNBS

CPU TIME FOR REPLICATION

The total CPU cost associated with the replication apply process for this DB2 system.

Field Name: Q8STTCCS

REPLICATION STATUS

The current replication state of the accelerator for this DB2 system:

0
STARTED: replication-enabled tables on this subsystem are currently being replicated.

1
STOPPED: replication on this subsystem is stopped, no error occurred.

2
ERROR: an error occurred in the replication components for this system.

3
STARTING: replication components for this subsystem are starting.

4
STOPPING: replication components are in the process of stopping (e.g. waiting until all in-progress work is done).

255
UNKNOWN: replication state could not be determined.

Background and Tuning Information

The current replication state of the accelerator for this DB2 system:

0
STARTED: replication-enabled tables on this subsystem are currently being replicated.

1
STOPPED: replication on this subsystem is stopped, no error occurred.

2
ERROR: an error occurred in the replication components for this system.

3
STARTING: replication components for this subsystem are starting.

4
STOPPING: replication components are in the process of stopping (e.g. waiting until all in-progress work is done).

255
UNKNOWN: replication state could not be determined.

Field Name: Q8STCSS

REPLICATION STATUS CHANGE

The timestamp when the last change of the accelerator replication state occurred for this DB2 system.

Field Name: Q8STTLSC

SQL STMTS FAILED TO EXECUTE

The number of SQL statements (sent by this DB2 system since accelerator start) that failed to be successfully executed for any reason.

Field Name: Q8STFREQ

CPU TIME EXECUTING SQL STMTS

The total CPU cost associated with executing SQL statements in the accelerator on behalf of this DB2 system.

Field Name: Q8STTCQS

CPU TIME LOAD/ARCHIVE/RESTORE

The total CPU cost spent in the accelerator for data maintenance operations from this DB2 system. Replication-related operations are not included.

Field Name: Q8STTCMS

BYTES SENT TO ACCELERATOR

The total number of bytes sent to the accelerator.

Field Name: Q8STBYTS

BYTES RECEIVED FROM ACCELERATOR

The total number of bytes received from the accelerator.

Field Name: Q8STBYTR

MESSAGES SENT TO ACCELERATOR

The total number of messages sent to the accelerator.

Field Name: Q8STMSGS

MESSAGES RECEIVED FROM ACCELERATOR

The total number of messages received from the accelerator.

Field Name: Q8STMSGR

ROWS SENT TO ACCELERATOR

The total number of rows sent to the accelerator.

Field Name: Q8STROWS

ROWS RECEIVED FROM ACCELERATOR

The total number of rows received from the accelerator.

Field Name: Q8STROWR

ELAPSED TIME IN ACCELERATOR

The accumulated elapsed time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8STAELA

CPU TIME IN ACCELERATOR

The CPU time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8STACPU

WAIT TIME IN ACCELERATOR

The wait time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8STAWAT

ZIIP TIME FOR LOG READER TASK

CPU time that was consumed on an IBM zIIP by the asynchronous log reade task for this IDAA during the reporting interval.

Field Name: Q8STLRZI

INSERT ROWS FOR ACCELERATOR TABLES

The number of INSERT rows applicable to accelerator tables that were processed by the replication capture agent for this DB2 system.

Field Name: Q8STNIS

UPDATE ROWS FOR ACCELERATOR TABLES

The number of UPDATE rows applicable to accelerator tables that were processed by the replication capture agent for this DB2 system.

Field Name: Q8STNUS

DELETE ROWS FOR ACCELERATOR TABLES

The number of DELETE rows applicable to accelerator tables that were processed by the replication capture agent for this DB2 system.

Field Name: Q8STNDS

REPLICATION LATENCY

The current replication latency for this DB2 system. Latency is defined as the time difference between the timestamp, when the last log record was applied to the target, compared to the current time.

Field Name: Q8STCRL

IFCID 002 - Accelerator Data - Accelerator Perspective V4 or later

This topic shows detailed information about "Record Trace - IFCID 002 - Accelerator Data - Accelerator Perspective V4 or later" and refers only to IBM Db2 Analytics Accelerator for z/OS version 4 or later.

A value of -1 in the following fields indicates that the status of the acceleration or replication server is unknown:

- CPU TIME EXECUTING QUERIES
- CPU TIME LOAD/ARCHIVE/RESTORE
- AVG QUEUE WAIT ELAPSED TIME
- MAX QUEUE WAIT ELAPSED TIME
- WORKER NODES DISK UTILIZATION (%)
- WORKER NODES AVG CPU UTILIZATION (%)
- COORDINATOR CPU UTILIZATION (%)
- CPU TIME FOR REPLICATION

Note: The descriptions of the fields labeled with QUERIES refer to SQL statements passed to the accelerator. For product identifiers of IBM Db2 Analytics Accelerator for z/OS prior to AQT04015, the SQL statements are SELECT queries passed to the accelerator and the fields INSERT STMTS to ROLLBACK STMTS are N/A.

Record trace - IFCID 002 - Accelerator Data - Accelerator Perspective V4 or later

```
                  ACCELERATOR DATA - ACCELERATOR PERSPECTIVE

QUERIES SUCCESSFULLY EXECUTED .....:               2   QUERIES FAILED TO EXECUTE ..............:         0
CURRENTLY EXECUTING QUERIES .......:               0   CPU TIME EXECUTING QUERIES..............: 43.440000
MAXIMUM   EXECUTING QUERIES .......:               1   CPU TIME LOAD/ARCHIVE/RESTORE ..........: 18.880000

ACCELERATOR SERVER START ............: 12/16/13 09:38:08.975827
ACCELERATOR STATUS CHANGE ...........: 12/16/13 09:38:14.665673

CURRENT QUEUE LENGTH ................:               0   DISK STORAGE AVAILABLE (MB) ..........:   8024544
MAXIMUM QUEUE LENGTH ................:               0   DISK STOR IN USE - THIS DB2 SYS (MB) .:       743
AVG QUEUE WAIT ELAPSED TIME .........:        0.005356   DISK STOR IN USE - ALL  DB2 SYS (MB) .:     15541
MAX QUEUE WAIT ELAPSED TIME .........:        0.518395   DISK STOR IN USE - TMP DAT ALL DB2(MB):         0
                                                       DISK STOR IN USE - LOG DAT ALL DB2(MB):         0

WORKER NODES DISK UTILIZATION (%) ...:            0.00   WORKER NODES ...........................:         3
WORKER NODES AVG CPU UTILIZATION (%) :            0.99   AVAILABLE CPU CORES ....................:        48
COORDINATOR CPU UTILIZATION (%) .....:           10.00   DATA SLICES ............................:        22

LOG RECORDS READ ....................:         4142180   INSERT ROWS FOR ACCELERATOR TABLES ...:         6
LOG RECORDS FOR ACCELERATOR TABLES ..:         2839302   UPDATE ROWS FOR ACCELERATOR TABLES ...:         0
LOG RECORD BYTES PROCESSED ..........:       187458080   DELETE ROWS FOR ACCELERATOR TABLES ...:         0
CPU TIME FOR REPLICATION ............:       15.616267
MEMORY AVAILABLE - USER DATA (MB) ...:               0   MEMORY AVAILABLE - USER REQS (MB) ....:         0
TRANSFER RATE - INBOUND (KB/SEC) ....:               0   TRANSFER RATE - OUTBOUND (KB/SEC) ....:         0
SORT OVERFLOWS ......................:               0   BUFFER POOL HIT RATIO (%) ............:      0.00
WAITFORDATA - SUCCESSFUL ............:             154   WAITFORDATA - TIMED OUT ..............:        40
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

QUERIES SUCCESSFULLY EXECUTED [Q8STNQSA]

The number of SQL statements (sent by all Db2 systems since accelerator start) that successfully executed in the accelerator.

CURRENTLY EXECUTING QUERIES [Q8STACTV]

The number of currently (actively) executing SQL statements in the accelerator on behalf of all Db2 systems (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STACTV_64).

MAXIMUM EXECUTING QUERIES [Q8STMAXA]

The maximum number of SQL statements actively executing in the accelerator concurrently at any time since accelerator start on behalf of all Db2 systems (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STMAXA_64).

ACCELERATOR SERVER START [Q8STTART]

The timestamp when the accelerator server process started last time.

ACCELERATOR STATUS CHANGE [Q8STTATC]

The timestamp when the last change of the accelerator occurred.

CURRENT QUEUE LENGTH [Q8STCQL]

The current queue length at the accelerator.

MAXIMUM QUEUE LENGTH [Q8STMAXQ]

The high watermark of the queue length at the accelerator (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STMAXQ_64).

AVG QUEUE WAIT ELAPSED TIME [Q8STQUEW]

The average wait time at the accelerator queue.

MAX QUEUE WAIT ELAPSED TIME [Q8STQUEM]

The maximum wait time at the accelerator queue.

WORKER NODES DISK UTILIZATION (%) [Q8STDSKU]

The current disk utilization of the accelerator worker nodes, expressed as percentage of the used I/O channels/resources.

WORKER NODES AVG CPU UTILIZATION (%) [Q8STWCPU]

The current CPU utilization on the accelerator worker nodes. This is a snapshot, which is the average CPU utilization across all worker nodes (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STWCPU_64).

COORDINATOR CPU UTILIZATION (%) [Q8STCCPU]

The current CPU utilization on the accelerator coordinator node (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STCCPU_64).

LOG RECORDS READ [Q8STNLRA]

The number of log records read by the replication capture agents for all Db2 systems.

LOG RECORDS FOR ACCELERATOR TABLES [Q8STNLTA]

The number of log records read by the replication capture agents for all Db2 systems that are applicable to tables in this accelerator.

LOG RECORD BYTES PROCESSED [Q8STNBA]

The number of log record bytes processed by the replication capture agents for all Db2 systems.

CPU TIME FOR REPLICATION [Q8STTCCA]

The total CPU cost associated with the replication apply process for all Db2 systems.

MEMORY AVAILABLE - USER DATA (MB) [Q8STTMUD]

The total memory available on the accelerator for user data.

TRANSFER RATE - INBOUND (KB/SEC) [Q8STANUI]

The current inbound network data transfer rate in kilobytes per second.

SORT OVERFLOWS [Q8STOFLW]

The number of sort overflows in the accelerator. A sort overflow means that the SQL statement could not be processed entirely in memory.

WAITFORDATA - SUCCESSFUL [Q8STTDPA]

The number of queries using the wait for data delay protocol that were successfully sent to the accelerator.

QUERIES FAILED TO EXECUTE [Q8STNQFA]

Shows the number of SQL statements (sent by all Db2 systems since accelerator start) that were not successfully executed for any reason.

CPU TIME EXECUTING QUERIES [Q8STTCQA]

The total CPU cost associated with executing SQL statements in the accelerator on behalf of all Db2 systems.

CPU TIME LOAD/ARCHIVE/RESTORE [Q8STTCMA]

The total CPU cost spent in the accelerator for data maintenance operations from all Db2 systems. Replication-related operations are not included.

DISK STORAGE AVAILABLE (MB) [Q8STDSKA]

The disk storage (MB) available at the accelerator.

DISK STOR IN USE - THIS DB2 SYS (MB) [Q8STDSKB]

The disk storage in-use for accelerator databases for this Db2 system.

DISK STOR IN USE - ALL DB2 SYS (MB) [Q8STDSA]

The disk storage (MB) in-use for accelerator databases for all Db2 systems.

DISK STOR IN USE - TMP DAT ALL DB2 (MB) [Q8STTSA]

The amount of disk space used by all paired Db2 subsystems for temporary data.

DISK STOR IN USE - LOG DAT ALL DB2 (MB) [Q8STLSA]

The amount of disk space used by all paired Db2 subsystems for log data.

WORKER NODES [Q8STWNOD]

The number of active worker nodes (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STWNOD_64).

AVAILABLE CPU CORES [Q8STCORS]

The number of CPU cores available on all worker nodes.

DATA SLICES [Q8STNMDS]

The number of data slices at the accelerator. This equals the degree of parallel I/O channels.

INSERT ROWS FOR ACCELERATOR TABLES [Q8STNIA]

The number of INSERT rows applicable to accelerator tables that were processed by the replication capture agents for all Db2 systems.

UPDATE ROWS FOR ACCELERATOR TABLES [Q8STNUA]

The number of UPDATE rows applicable to accelerator tables that were processed by the replication capture agents for all Db2 systems.

DELETE ROWS FOR ACCELERATOR TABLES [Q8STNDA]

The number of DELETE rows applicable to accelerator tables that were processed by the replication capture agents for all Db2 systems.

MEMORY AVAILABLE - USER REQS (MB) [Q8STTMPS]

The total memory available on the accelerator for user requests.

TRANSFER RATE - OUTBOUND (KB/SEC) [Q8STANUO]

The current outbound network data transfer rate in kilobytes per second.

BUFFER POOL HIT RATIO (%) [Q8STABHR]

The buffer pool hit ratio in percentage for all requests processed by this accelerator.

WAITFORDATA - TIMED OUT [Q8STEDPA]

The number of queries using the wait for data delay protocol that had their wait time expire.

IFCID 002 - Accelerator SQL Call Data V4 or later

This topic shows detailed information about "Record Trace - IFCID 002 - Accelerator SQL Call Data V4 or later".

Record trace - IFCID 002 - Accelerator SQL Call Data V4 or later

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Accelerator SQL Call Data V4 or later" are described in the following section.

```
                                    ACCELERATOR SQL CALL DATA

INSERT STMTS SENT TO ACCELERATOR ....:                3   UPDATE STMTS SENT TO ACCELERATOR ....:                 7
DELETE STMTS SENT TO ACCELERATOR ....:                4   DROP STMTS SENT TO ACCELERATOR ......:                 8
CREATE STMTS SENT TO ACCELERATOR ....:                5   COMMIT STMTS SENT TO ACCELERATOR ....:                 9
ROLLBACK STMTS SENT TO ACCELERATOR ..:                6   OPEN STMTS SENT TO ACCELERATOR ......:                10
```

INSERT STMTS SENT TO ACCELERATOR

The number of INSERT statements sent by the DB2 system to the accelerator.

Field Name: Q8STINSC

DELETE STMTS SENT TO ACCELERATOR

The number of DELETE statements sent by the DB2 system to the accelerator.

Field Name: Q8STDELC

CREATE STMTS SENT TO ACCELERATOR

The number of CREATE statements sent by the DB2 system to the accelerator.

Field Name: Q8STCRTC

ROLLBACK STMTS SENT TO ACCELERATOR

The number of ROLLBACK statements sent by the DB2 system to the accelerator.

Field Name: Q8STRBKC

UPDATE STMTS SENT TO ACCELERATOR

The number of UPDATE statements sent by the DB2 system to the accelerator.

Field Name: Q8STUPDC

DROP STMTS SENT TO ACCELERATOR

The number of DROP statements sent by the DB2 system to the accelerator.

Field Name: Q8STDRPC

COMMIT STMTS SENT TO ACCELERATOR

The number of COMMIT statements sent by the DB2 system to the accelerator.

Field Name: Q8STCMTC

OPEN STMTS SENT TO ACCELERATOR

The number of OPEN statements sent by the DB2 system to the accelerator.

Field Name: Q8STOPNC

IFCID 002 - Buffer pool activity

This topic shows detailed information about "Record Trace - IFCID 002 - Buffer Pool Activity".

This block shows buffer pool activity at thread level.

For details on buffer pool activities, refer to the documentation of Performance Expert Buffer Pool Analyzer.

This report has the same layout as “ IFCID 002 - Miscellaneous ” on page 476.

Record trace - IFCID 002 - Buffer Pool Activity

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Buffer Pool Activity" are described in the following section.

```
                                                  BUFFER POOL ACTIVITY
BUFFER POOL ID                        :                   0   FLAGS                                :               X'80'
CURRENT ACTIVE BUFFERS                :                  96   GETPAGE REQUESTS                     :             4741296
BUFFER UPDATES                        :             1512283   UNAVAILABLE BUFFER-VPOOL FULL        :                   0
GETPAGE REQUESTS-SEQUENTIAL           :             1565136   PAGES WRITTEN                        :              740136
NUMBER OF DATA SET OPENS              :                 334   SYNCHRONOUS READS                    :               12483
SYNCHRONOUS WRITES                    :                 579   BUFFERS ALLOCATED-VPOOL              :                2000
SYNCHRONOUS READS-SEQUENTIAL          :                7085   ASYNCHRONOUS WRITES                  :               31378
DFHSM MIGRATED DATA SETS              :                   0   SEQUENTIAL PREFETCH REQUESTS         :               69424
HORIZONTAL DEFERRED WRITE THRESHOLD   :                   0   DFHSM RECALL TIMEOUTS                :                   0
SEQUENTIAL PREFETCH READS             :               66736   VERTICAL DEFERRED WRITE THRESHOLD    :                7035
VPOOL EXPANSION OR CONTRACT           :                   0   PAGES READ VIA SEQUENTIAL PREFETCH   :             1403450
DATA MANAGER BUF CRITICAL THRESHOLD   :                   0   VPOOL OR HPOOL EXPANSION FAILURE     :                   0
LIST PREFETCH REQUESTS                :                 214   CONCURRENT PREFETCH I/O STREAMS-HWM  :                  19
LIST PREFETCH READS                   :                  57   PAGE-INS REQUIRED FOR WRITE          :                   0
PREFETCH I/O STREAMS REDUCTION        :                   0   PAGES READ VIA LIST PREFETCH         :                 282
MAX WORKFILES CONCURRENTLY USED       :                   0   PARALLEL QUERY REQUESTS              :                 384
DYNAMIC PREFETCH REQUESTS             :               13266   MERGE PASSES REQUESTED               :                   0
DYNAMIC PREFETCH READS                :                 237   MERGE PASS DEGRADED-LOW BUFFER       :                   0
PAGES READ VIA DYNAMIC PREFETCH       :                3011   WORKFILE REQUEST REJECTED-LOW BUFFER :                   0
WORKFILE REQUESTED-ALL MERGE PASS     :                   0   WORKFILE NOT CREATED-NO BUFFER       :                   0
PREFETCH QUANTITY REDUCED TO HALF     :               46172   PREFETCH DISABLED-NO BUFFER          :                   0
WORKFILE PREFETCH NOT SCHEDULED       :                   0   PREFETCH QUANTITY REDUCED TO QUARTER :                   0
PREFETCH DISABLED-NO READ ENGINE      :                   0   WORKFILE PAGES TO DESTRUCT           :                   0
FAILED COND SEQ&RDM GETPAGE REQUEST   :                   0   PAGE-INS REQUIRED FOR READ           :                1396
WORKFILE PAGES NOT WRITTEN            :                   0   FAILED COND SEQ GETPAGE REQUEST      :                   0
MINIMUM BUFFERS ON SLRU (LWM)         :                1720   PAGES ADDED TO LPL                   :                   0
MAXIMUM BUFFERS ON SLRU (HWM)         :                1721   LENGTH OF SLRU = VPSEQT              :                 245
IN-MEM OVL RND REQUESTS               :                   0   IN-MEM OVL SEQ REQUESTS              :                   0
IN-MEM OVL RND SYNC READS             :                   0   IN-MEM OVL SEQ SYNC READS            :                   0
RANDOM GETPAGE BUFFER HIT             :               10226   DASD CACHE READ HITS                 :                8347
SUCCESSFUL ZHYPERLINK READS           :                3486
```

BUFFER POOL ID

The buffer pool ID.

Field Name: QBSTPID

FLAGS

The flag byte shows if more QBST data is following or if this is the last of the QBST repeating groups.

Field Name: QBSTFLG

CURRENT ACTIVE BUFFERS

The total number of currently active (nonstealable) buffers. This field is an instantaneous sample of the number of buffers in the buffer pool that were updated or in use at the time this monitor data was requested. Because this field gives a snapshot value at statistics collection time, it only shows a problem if it happens at this time.

Background and Tuning Information

The buffer pool might be too small if the percentage of active pages in the buffer pool is beyond the deferred write threshold (DWQT).

Field Name: QBSTCBA

GETPAGE REQUESTS

The number of Getpage requests including conditional and unconditional requests.

Field Name: QBSTGET

BUFFER UPDATES

The number of times buffer updates were requested against pages in the buffer pool.

Background and Tuning Information

The ratio of Buffer Updates to Pages Written (QBSTPWS) suggests a high level of efficiency as it increases, because more updates are being externalized per physical write.

Buffer updates per pages written depends strongly on the type of application. For example, a batch program that processes a table in skip sequential mode with a high row update frequency in a dedicated environment can achieve very good update efficiency. In contrast, update efficiency tends to be lower for transaction processing applications, because transaction processing tends to be random.

The following can influence the number of updates per page:

Number of rows per page
A small PCTFREE value gathers more rows on the same page. However, at the same time this can impact concurrency.

Buffer pool size and deferred write thresholds
Increase DWQT and VDWQT or the size of the buffer pool. This causes DB2 to let page updates accumulate in the buffer pool. Therefore, the probability that more updates per page get captured increases. This effect is less significant if the buffer pool is concurrently used by several transactions, it also depends on the type of transaction.

Field Name: QBSTSWS

This is an *exception* field.

UNAVAILABLE BUFFER-VPOOL FULL

The number of times a usable buffer could not be located in the virtual buffer pool because the virtual buffer pool was full.

Background and Tuning Information

Ideally, this value should be 0. Any other value indicates that the buffer pool is underallocated. In this case, use the ALTER BUFFERPOOL command to increase the virtual buffer pool size until this value remains at 0.

Field Name: QBSTXFL

This is an *exception* field.

GETPAGE REQUESTS-SEQUENTIAL

The number of Getpage requests issued by sequential access requesters.

Field Name: QBSTSGT

PAGES WRITTEN

The number of pages in the buffer pool written to DASD.

Background and Tuning Information

Consider the ratio of Pages Written per write I/O. The number of write I/O operations includes Asynchronous Writes (QBSTWIO) and Synchronous Writes (QBSTIMW).

The ratio of pages per write I/O suggests a high level of efficiency as the ratio increases, because more pages are being externalized per physical write.

The following factors impact the ratio of pages written per write I/O:

Checkpoint frequency
At checkpoint time, I/Os are scheduled to write all updated pages on the deferred write queue to DASD. If this occurs too frequently, the deferred write queue does not grow large enough to achieve a high ratio of pages written per write I/O.

The checkpoint frequency depends on the number of logs written between two consecutive checkpoints. This number is set at installation time; see the field CHECKPOINT FREQ of installation panel DSNTIPN.

Frequency of active log switch
DB2 takes a system checkpoint each time the active log is switched. High frequency of active log switches causes the problem described under checkpoint frequency.

Buffer pool size and deferred write thresholds
The deferred write thresholds (VDWQT and DWQT) are a function of buffer pool size. If the buffer pool size is decreased, these thresholds are reached more frequently, causing I/Os to be scheduled more often to write some of the pages on the deferred write queue to DASD. This prevents the deferred write queue from growing large enough to achieve a high ratio of pages written per write I/O.

Number of data sets, and the spread of updated pages across them
The efficiency of write I/O also depends on the number of data sets associated with the buffer pool and spread of updated pages across them. Because of the nature of batch processing, the ratio of pages written to write I/Os can be expected to be higher than that expected for transaction type workloads.

To determine update efficiency, use also the value in the Buffer Updates field (QBSTSWS) to check the number of buffer updates per page written.

Field Name: QBSTPWS

This is an *exception* field.

NUMBER OF DATA SET OPENS

The number of data sets physically opened successfully. This value is cumulative from the start of the DB2 statistics interval.

Field Name: QBSTDSO

This is an *exception* field.

SYNCHRONOUS READS

The number of synchronous read I/O operations performed by DB2 for applications and utilities.

Background and Tuning Information

This number includes both Synchronous Reads Sequential Access Only (QBSTSIO) and synchronous read operations for non-sequential access.

You can use this value and the value of Synchronous Reads Sequential Access Only to calculate the number of Non-Sequential Synchronous Reads.

Check the buffer pool hit ratio if the number of non-sequential synchronous reads is larger than expected.

Field Name: QBSTRIO

This is an *exception* field.

SYNCHRONOUS WRITES

The total number of immediate writes.

Immediate writes occur when:

- An immediate write threshold (IWTH) is reached
- No deferred write engines are available
- More than two checkpoints pass without a page being written.

Sometimes DB2 uses synchronous writes even when the IWTH is not exceeded. As an example, when more than two checkpoints pass without a page being written. This type of situation does not indicate a buffer shortage.

Background and Tuning Information

A small number of immediate writes can be expected. Synchronous writes occur if there are too many checkpoints and/or the buffer pool is too small.

If a large number of synchronous writes occur, monitor the DM Critical Threshold Reached (QBSTDMC) field. Reaching Immediate Write Threshold (IWTH-97.5%) implies that the Data Management Threshold (DMTH-95%) has been crossed. You can ignore the value in the immediate write field when DM Critical Threshold Reached is zero. Otherwise consider increasing the size of the buffer pool. You can use the ALTER BUFFERPOOL command.

Check also the System Event Checkpoint field (QWSDCKPT) in the Subsystem Services block to see whether the frequency of DB2 checkpoints should be reduced. To do this, increase the value of ZPARM LOGLOAD.

Field Name: QBSTIMW

This is an *exception* field.

BUFFERS ALLOCATED-VPOOL

The number of buffers allocated for a virtual buffer pool.

Note: In DB2 10, the buffer pool size can increase continuously by up to 25% for each DB2 restart. In DB2 11, the AUTOSIZE option of the ALTER BUFFERPOOL command can limit the range within VPSIZEMIN and VPSIZEMAX.

Background and Tuning Information

You should monitor the buffer pool hit ratio field to find the optimum size of the buffer pool. Usually the buffer pool hit ratio is improved by increasing the size of the buffer pool. However, paging the buffer pool storage impacts DB2 performance if the virtual buffer pool is too large.

Page-ins Required for Read I/O (QBSTRPI) and Page-ins Required for Write I/O (QBSTWPI) are useful when determining whether paging affects the performance of a certain buffer pool. The Resource Measurement Facility (RMF) also provides reports on MVS paging activity:

Storage Paging
When the virtual buffer pool is extended into expanded storage, MVS storage paging activity occurs. If a large buffer pool size results in excessive storage paging, consider allocating more real storage to the LPAR.

Paging to Auxiliary Storage
If the virtual buffer pool size requirements exceed the central storage and expanded storage available, the oldest buffer pool pages migrate to auxiliary paging storage. When these pages are accessed subsequently, I/O must bring them back into real storage. This should be avoided. You could have a smaller buffer pool and let DB2 do the I/O rather than use MVS paging with its I/O CPU overhead. This is a situation that you (as the system programmer) should monitor.

You can use the ALTER BUFFERPOOL command to alter the size of the virtual buffer pool.

Changing the size of the virtual buffer pool implicitly changes the buffer pool thresholds. See the Deferred Write Threshold Reached field (QBSTDWT).

Field Name: QBSTVPL

SYNCHRONOUS READS-SEQUENTIAL

The number of synchronous read I/O requests issued by sequential access requesters.

Background and Tuning Information

Sequential synchronous read I/Os can occur because:

- Prefetch is disabled (QBSTSPD).
- Prefetch pages could have been stolen from the buffer pool before the Getpage request is issued for those pages. Subsequently the pages are reread synchronously. A negative buffer pool hit ratio can indicate the same problem.
- The pages requested are not consecutive: DB2 estimated the selected range of pages to be so small that prefetch would make no sense. See also Sequential Prefetch Requested (QBSTSEQ).

It is normal to have a small value for SYNC READ I/O (SEQUENTIAL) because before the sequential prefetch is scheduled, the first page of a prefetch is read by SYNC READ I/O. However, if this number is large, consider increasing the size of the buffer pool or reviewing the sequential steal thresholds (VPSEQT and HPSEQT).

Field Name: QBSTSIO

This is an *exception* field.

ASYNCHRONOUS WRITES

The number of asynchronous write I/O operations performed by media manager to a direct access storage device.

Field Name: QBSTWIO

This is an *exception* field.

DFHSM MIGRATED DATA SETS

The number of times migrated data sets were encountered.

Field Name: QBSTMIG

This is an *exception* field.

SEQUENTIAL PREFETCH REQUESTS

The number of sequential prefetch requests. This counter is incremented for each PREFETCH request (which can result in an I/O read). If the prefetch results in an I/O read, up to 64 pages may be read for SQL, and up to 128 pages for utilities. A request does not result in an I/O read if all pages to be prefetched are already in the buffer pool.

This counter does not include sequential detection, which is recorded in the Dynamic Prefetch - Requested field.

Background and Tuning Information

Sequential prefetch reads a sequential set of pages. It allows CP and I/O operations to be overlapped. DB2 determines at BIND time whether sequential prefetch is used or not.

Sequential prefetch is generally used for a table space scan.

The number of prefetch requests by itself is not a good indicator for efficiency of prefetching:

- At run time not every prefetch request results in read I/O: the Sequential Prefetch Reads field (QBSTPIO) shows the number of read I/O operations caused by sequential prefetch. The Prefetch Disabled No Buffer (QBSTSPD) and Prefetch Disabled No Read Engine fields (QBSTREE) show the number of times prefetch was disabled because buffers and read engines had not been available.
- Check the value in the buffer pool hit ratio. A negative value indicates that prefetched pages are stolen from the buffer pool before they are read. The pages are subsequently reread synchronously. There will be also a large value in the Synchronous Reads Total (QBSTRIO) field.

- Decreasing the size of the buffer pool can reduce the prefetch quantity, leading to a larger number of prefetch requests. See also the Sequential Prefetch Pages Read field (QBSTSPP).

Field Name: QBSTSEQ

This is an *exception* field.

HORIZONTAL DEFERRED WRITE THRESHOLD

The number of times the deferred write threshold (DWTH) was reached.

This threshold is a percentage of the virtual buffer pool that might be occupied by unavailable pages, including both updated pages and pages in use. DB2 checks this threshold when an update to a page is completed. If the percentage of unavailable pages in the virtual buffer pool exceeds the threshold, write operations are scheduled for enough data sets (up to 128 pages per data set) to reduce the number of unavailable buffers to 10% below the threshold.

Background and Tuning Information

The default value for this threshold is 30%. You can change that to any value from 0% to 90% by using the DWQT option on the ALTER BUFFERPOOL command.

The deferred write thresholds, DWQT and VDWQT, are specified as a percentage, their absolute value depends on the size of the virtual buffer pool.

Consider the following aspects when changing the deferred write thresholds:

Optimize the ratio of pages written per write I/O
The ratio can be monitored using the Pages Written (QBSTPWS) field.

When the buffer pool is relatively small, the default thresholds could prevent the deferred write queue from growing large enough to achieve a high ratio of pages written per write I/O. Raising these thresholds will, in this instance, reduce the I/O write frequency, increasing the number of pages written per I/O.

Distribute I/O evenly over time
If a virtual buffer pool is very large, it is unlikely that the default values of either DWQT or VDWQT will ever be reached. In this case, write I/Os tend to occur in surges, triggered by DB2 checkpoints. Lowering the VDWQT and the DWQT could improve performance by distributing the write I/Os more evenly over time.

Impact on other buffer pool thresholds
Increasing DWQT and VDWQT allows updated pages to use a larger portion of the virtual buffer pool. Large DWQT and VDWQT can have a significant effect on the other thresholds. For example, in work load where pages are frequently updated, and the updated pages exceed the size of the virtual buffer pool, setting both DWQT and VDWQT to 90% would probably cause frequent threshold-reached events for sequential prefetch (and possibly the data management and immediate write).

Field Name: QBSTDWT

This is an *exception* field.

DFHSM RECALL TIMEOUTS

The number of recall timeouts.

Field Name: QBSTRTO

SEQUENTIAL PREFETCH READS

The number of asynchronous read I/O operations due to normal sequential prefetch (applications and utilities).

Background and Tuning Information

Prefetch Read I/O is not activated if one of the following conditions applies:

- All pages in the prefetch range are already in the buffer pool.

- Prefetch is disabled (QBSTSPD).

This means that the value in this field is usually smaller than the number of sequential prefetch requests (QBSTSEQ).

Field Name: QBSTPIO

This is an *exception* field.

VERTICAL DEFERRED WRITE THRESHOLD

The number of times the vertical deferred write threshold (VDWQT) was reached. This threshold is similar to the deferred write threshold but it applies to the number of updated pages for one single page set in the buffer pool. If the percentage or number of updated pages for the data set exceeds the threshold, writes up to 128 pages are scheduled for that data set.

Field Name: QBSTDWV

This is an *exception* field.

VPOOL EXPANSION OR CONTRACT

The number of successful virtual buffer pool expansions or contractions due to the ALTER BUFFERPOOL command. An increase in this counter indicates that buffer-pool-related system parameters have been changed.

Field Name: QBSTVPA

This is an *exception* field.

PAGES READ VIA SEQUENTIAL PREFETCH

The total number of pages read due to a normal sequential prefetch. A sequential prefetch request does not result in a read I/O if all the pages you want are found in the buffer pool.

Background and Tuning Information

For requests issued by application programs, the number of pages per READ I/O primarily depends on the page size and the size of the buffer pool. Normally sixty-four 4 KB pages (or eight 32 KB pages) is the maximum prefetch quantity for table space scans, whether data or index. Utilities use a prefetch quantity of up to 64 pages.

The number of pages per READ I/O can be lower because:

- Pages within the prefetch range may already be in the buffer pool.
- Not enough pages are available because of a buffer shortage.
- A prefetch quantity of 8 pages or less is used for work files.

A small value for this ratio can indicate:

- A good performing buffer pool being so large that most of the pages, which had otherwise to be prefetched, are cached in the buffer pool. In this case, the buffer pool hit ratio should be high.
- A buffer shortage condition, reducing the efficiency of sequential prefetch. This could mean, for example, work-file prefetch quantity reduction from 8 to 4 to 2, as the number of available buffers shrinks. In this case, you should consider tuning the buffer pool.

Field Name: QBSTSPP

This is an *exception* field.

DATA MANAGER BUF CRITICAL THRESHOLD

The number of times the data manager critical threshold (DMTH-95%) was reached.

This field shows how many times a page was immediately released because the data management threshold was reached.

The threshold is checked before a page is read or updated. If the threshold has not been exceeded, DB2 accesses the page in the virtual buffer pool once for each page, no matter how many rows

are retrieved or updated in that page. If the threshold has been exceeded, Getpage requests and RELEASEs apply to rows instead of pages. That is, if more than one row is retrieved or updated in a page, more than one Getpage request and RELEASE is performed on that page.

Background and Tuning Information

Avoid reaching this threshold wherever possible because it significantly affects CPU usage. Set virtual buffer pool sizes large enough or reduce the workload on the buffer pool.

Field Name: QBSTDMC

This is an *exception* field.

VPOOL EXPANSION FAILURE

The total number of virtual buffer pool expansion failures due to the lack of virtual storage space.

Background and Tuning Information

Ideally, this value should be 0. If it is not, check the virtual storage allocation of the DB2 database address space for areas that can be reduced. For example, you can reduce the size of other buffer pools.

Field Name: QBSTXFV

This is an *exception* field.

LIST PREFETCH REQUESTS

The number of list prefetch requests.

List prefetch allows DB2 to access data pages efficiently even when the required data pages are not contiguous. It allows CP and I/O operations to be overlapped.

Background and Tuning Information

DB2 determines at BIND time whether sequential prefetch is used. List prefetch is chosen as follows:

- Usually with a single index that has a cluster ratio lower than 80%.
- Sometimes on a single index with a high cluster ratio, if the estimated amount of data to be accessed is too small to make sequential prefetch efficient.
- Always to access data by multiple index access.
- Always to access data from the inner table during a hybrid join.

DB2 never chooses list prefetch if the estimated number of RIDs to be processed takes more than 50% of the RID pool. During execution time, list prefetch processing terminates if more than 25% of the rows (with a minimum of 4075) in the table must be accessed.

Data pages are read in quantities equal to the sequential prefetch quantity (QBSTSEQ), which depends on buffer pool size and is usually 64 pages.

Field Name: QBSTLPF

This is an *exception* field.

CONCURRENT PREFETCH I/O STREAMS-HWM

The highest number of concurrent prefetch I/O streams allocated to support a parallel I/O or CP query in this buffer pool. It reflects prefetch activities for non-workfile page sets.

This number only applies to query I/O and CP parallelism.

Field Name: QBSTXIS

This is an *exception* field.

LIST PREFETCH READS

The number of asynchronous read I/O operations caused by the list prefetch.

The number of pages read is shown by the List Prefetch Pages Read (QBSTLPP) field.

Background and Tuning Information

Prefetch Read I/O is not activated if one of the following conditions apply:

- All pages in the prefetch range are already in the buffer pool.
- Prefetch is disabled (Prefetch Disabled No Read Engine - QBSTREE).

This means that the value in this field is usually less than the number of list prefetch requests (QBSTLPF).

Field Name: QBSTLIO

This is an *exception* field.

PAGE-INS REQUIRED FOR WRITE

The number of page-ins required for a write I/O.

Field Name: QBSTWPI

PREFETCH I/O STREAMS REDUCTION

The total number of requested prefetch I/O streams that were denied because of a lack of buffer pool storage space.

It only applies to query I/O and CP parallelism.

For example, if 100 prefetch I/O streams are requested and only 80 are granted, then 20 is added to the number in this field.

Background and Tuning Information

Consider increasing the size of the buffer pool if this value is not 0.

The ratio of this field and the Reduced parallel query requests field gives the average degree of parallel query processing that was reduced because of insufficient buffer pool space. The Prefetch I/O streams - Concurrent streams - high-water mark field gives the highest degree of parallel query processing that was reduced for one or more queries processed in parallel.

The number in this field reflects the prefetch activities for non-workfile page sets.

Field Name: QBSTJIS

This is an *exception* field.

PAGES READ VIA LIST PREFETCH

The number of pages read via list prefetch.

Field Name: QBSTLPP

MAX WORKFILES CONCURRENTLY USED

The maximum number of work files concurrently used during merge processing within this statistics period.

Ideally, each work file needs 16 buffers to allow DB2 to perform a sequential prefetch for work files.

Field Name: QBSTWFM

This is an *exception* field.

PARALLEL QUERY REQUESTS

The total number of requests made for parallel query support in this buffer pool. This field only applies to non-workfile page sets in query I/O and CP parallelism.

Field Name: QBSTPQO

DYNAMIC PREFETCH REQUESTS

The number of dynamic prefetch requests. Dynamic prefetch is the process that is triggered because of sequential detection. If the prefetch request results in an I/O read, up to 32 advancing pages can be read at a time.

Background and Tuning Information

Dynamic prefetch reads a sequential set of pages. It allows CP and I/O operations to be overlapped. If DB2 does not choose prefetch at bind time it can sometimes use it at execution time. The method is called sequential detection.

The number of prefetch requests by itself is not a good indicator for efficiency of prefetching because:

- At run time not every prefetch request results in read I/O: the Dynamic Prefetch Reads field shows the number of read I/O operations caused by dynamic prefetch. The Prefetch Disabled No Buffer (QBSTSPD) and Prefetch Disabled No Read Engine (QBSTREE) fields show the number of times prefetch was disabled because buffers and read engines had not been available.
- Prefetch pages can be stolen from the buffer pool before they are read. This is indicated by a negative buffer pool hit ratio. The pages are subsequently reread synchronously. This will also cause an unexpectedly large value for total synchronous reads (QBSTRIO).

Decreasing the size of the buffer pool can reduce the prefetch quantity (QBSTDPP), leading to a larger number of prefetch requests.

Field Name: QBSTDPF

This is an *exception* field.

MERGE PASSES REQUESTED

The total number of merge passes for DB2 sort activities. This value reflects how many merge passes were requested for DB2 to determine the number of work files permitted to support each merge pass.

Field Name: QBSTWFR

DYNAMIC PREFETCH READS

The number of asynchronous read I/Os because of dynamic prefetch. The number of pages read is recorded in the Dynamic Prefetch Pages Read field.

Background and Tuning Information

A prefetch request does not result in an I/O if one of the following conditions apply:

- All pages to be prefetched are already in the buffer pool.
- The prefetch is canceled.

This means that the value in this field is usually smaller than the number of dynamic prefetch requests.

Field Name: QBSTDIO

This is an *exception* field.

MERGE PASS DEGRADED-LOW BUFFER

The number of times that a merge pass was not efficiently performed due to a shortage of space in the buffer pool. The number in this field is incremented for each merge pass where the maximum number of work files allowed is less than the number of work-files requested.

Background and Tuning Information

The maximum number of work files allowed is calculated as follows:

- Buffers consumed = 2 * (work files already allocated)
- Buffers available = (sequential steal threshold * buffer pool size - buffers consumed)
- Maximum work files allowed = buffers available / (2 * 8)

The default for the sequential steal threshold is 0.8.

Ideally, the number in this field should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are too many concurrent work files. For example, there could be a number of concurrently open cursors that require sorting. Consider increasing the buffer pool size using the ALTER BUFFERPOOL command.

Field Name: QBSTWFF

This is an *exception* field.

PAGES READ VIA DYNAMIC PREFETCH

The number of pages read because of dynamic prefetch. Dynamic prefetch is the process that is triggered by sequential detection.

Background and Tuning Information

The ratio of Dynamic Prefetch Pages Read to Dynamic Prefetch Reads is between 0 and 32.

DB2 can fetch up to 32 pages per prefetch.

The number of pages per READ I/O can be lower because:

- Pages within the prefetch range are already in the buffer pool.
- Not as many pages are available due to a buffer shortage.

A small value for this ratio can indicate:

- A good performing buffer pool being large enough to contain pages that would otherwise be prefetched. This is indicated by a high buffer pool hit ratio.
- A buffer shortage condition, which reduces the efficiency of dynamic prefetch. In this instance the buffer pool hit ratio will be low. Consider tuning the buffer pool.

Field Name: QBSTDPP

This is an *exception* field.

WORKFILE REQUEST REJECTED-LOW BUFFER

The total number of work files that were rejected during all merge passes because of insufficient buffer resources.

Background and Tuning Information

This field and the degraded low buffers field determine the average number of work files that cannot be honored at each merge pass because of insufficient buffer pool space.

Ideally, the number in this field should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are too many concurrent work files. For example, there could be a number of concurrently open cursors that require sorting. Consider increasing the size of the buffer pool using the ALTER BUFFERPOOL command.

Note that, when there are many concurrent sorts or large sorts, it is a good idea to dedicate a separate buffer pool for sort work files. This will greatly facilitate work-file performance tuning.

Field Name: QBSTWFD

This is an *exception* field.

WORKFILE REQUESTED-ALL MERGE PASS

The total number of work files requested for all merge passes.

This field and the Merge Passes Requested field determine the average number of work files requested in a single merge pass.

For DB2 to perform an efficient prefetch for work files, each workfile should have at least 16 dedicated buffers. Work files used during sort phase processing or other non-sort-related processing are not included in this number.

Field Name: QBSTWFT

WORKFILE NOT CREATED-NO BUFFER

This field is only applicable if DB2 is running under MVS/XA .

The number of times a work file could not be created due to insufficient buffer resources. It indicates that a sort is in progress and limited in regard to the number of work files it can use.

Background and Tuning Information

Ideally, this should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are many concurrent work files. For example, there could be a number of open cursors that require sorting.

Generally, sorts are performed more efficiently with additional work files, but there are internal DB2 limits on the number of work files a transaction can have. It is possible that at run time a transaction cannot use as many work files as it had planned. You can control this by increasing the buffer pool size (ALTER BUFFERPOOL), or changing the transaction so it requires fewer concurrent work files.

Field Name: QBSTMAX

This is an *exception* field.

PREFETCH QUANTITY REDUCED TO HALF

The total number of times prefetch quantity is reduced from normal to 50% of normal. The normal size depends on the page size of the buffer pool.

This field only applies to query I/O and CP parallelism.

Background and Tuning Information

The number in this field indicates when DB2 had to reduce the sequential prefetch quantity to continue executing concurrently with parallel queries in the system. If the number is small, it may be tolerable.

Field Name: QBSTPL1

This is an *exception* field.

PREFETCH DISABLED-NO BUFFER

The total number of times sequential prefetch was disabled because buffers were not available.

Field Name: QBSTSPD

This is an *exception* field.

WORKFILE PREFETCH NOT SCHEDULED

The number of times a sequential prefetch was not scheduled for a work file because the dynamic prefetch quantity is zero.

Background and Tuning Information

The work-file prefetch checks the dynamic prefetch quantity (normally 1 to 8 pages). When the quantity is zero, the value in this field is incremented. A high number in this field implies that the buffer pool is too small.

Ideally, the number in this field should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are many concurrent work files. For example, there could be a number of concurrently open cursors that require sorting.

Consider increasing the size of the buffer pool or allocating a buffer pool specifically for DSNDB07 usage. This can be especially effective with high-use query systems whose reports make extensive use of sort activity.

Field Name: QBSTWKPD

This is an *exception* field.

PREFETCH QUANTITY REDUCED TO QUARTER

The total number of times prefetch quantity is reduced from 50% to 25% of normal. The normal size depends on the page size of the buffer pool.

This field only applies to query I/O and CP parallelism.

Background and Tuning Information

The query response for parallel queries can be significantly degraded if the value in this field is not 0.

Field Name: QBSTPL2

This is an *exception* field.

PREFETCH DISABLED-NO READ ENGINE

The total number of times a prefetch is disabled because of an unavailable read engine.

Background and Tuning Information

Because there are 600 read engines, a maximum of 600 concurrent prefetch operations can be processed at a time. When this maximum is reached, prefetching is disabled and this count is incremented. The value in this field should be close to 0.

Field Name: QBSTREE

This is an *exception* field.

WORKFILE PAGES TO DESTRUCT

The number of pages for which destructive read was requested.

Field Name: QBSTWDRP

FAILED COND SEQ&RDM GETPAGE REQUEST

The number of sequential and random Getpage requests which failed because the page was not in the buffer pool. Failed conditional requests do not initiate I/O operations.

Field Name: QBSTNGT

PAGE-INS REQUIRED FOR READ

The number of page-ins required for a read I/O.

Note: A non-zero value can be accepted if a buffer pool expansion via ALTER BPSIZE occurs. In other situations, a non-zero value indicates a shortage of real storage relative to the buffer pool size.

Field Name: QBSTRPI

This is an *exception* field.

WORKFILE PAGES NOT WRITTEN

The number of pages dequeued from VDWQ for destructive read requests.

Field Name: QBSTWBVQ

FAILED COND SEQ GETPAGE REQUEST

The number of conditional sequential Getpage requests which failed because the page was not in the buffer pool. Failed conditional requests do not initiate I/O operations.

Field Name: QBSTNSG

MINIMUM BUFFERS ON SLRU (LWM)

The minimum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period. This is the low-water mark (LWM) within an interval.

Field Name: QBSTSMIN

PAGES ADDED TO LPL

The number of times that one or more pages were added to the logical page list (LPL).

Field Name: QBSTLPL

MAXIMUM BUFFERS ON SLRU (HWM)

The maximum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period. This is the high-water mark (HWM) within an interval.

Field Name: QBSTSMAX

LENGTH OF SLRU = VPSEQT

The number of times when the length of the sequential least-recently-used (SLRU) chain equals the sequential steal threshold VPSEQT.

Field Name: QBSTHST

IN-MEM OVL RND REQUESTS

The number of non-sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTAGET

This is an *exception* field.

IN-MEM OVL SEQ REQUESTS

The number of sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTASGE

This is an *exception* field.

IN-MEM OVL RND SYNC READS

The number of synchronous read I/O operations for non-sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTASYN

This is an *exception* field.

IN-MEM OVL SEQ SYNC READS

The number of synchronous read I/O operations for sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTASSE

This is an *exception* field.

RANDOM GETPAGE BUFFER HIT

The number of times that the random Getpage request has a buffer hit and the buffer is on the least-recently-used (SLRU) chain.

Field Name: QBSTRHS

DASD CACHE READ HITS

The number of I/Os where the requested pages were found in the DASD subsystem cache. These I/Os could have potentially been successful if zHyperLink was used.

Field Name: QBSTSYOC

SUCCESSFUL ZHYPERLINK READS

The number of DASD reads successfully completed using zHyperLink.

Field Name: QBSTSYIO

IFCID 002 - Data Manager Data

This topic shows detailed information about "Record Trace - IFCID 002 - Data Manager Data".

Record Trace - IFCID 002 - Data Manager Data

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Data Manager Data" are described in the following section.

```
                                        DATA MANAGER DATA
CUR RIDLIST BLOCKS ..................:                5   CUR RIDLIST BLOCKS OVERFLOWED .......:                    0
MAX RIDLIST BLOCKS ..................:                0   MAX RIDLIST BLOCKS OVERFLOWED .......:                    0
RL PROCESSING-RDS LIMIT EXCEEDED.....:           139660   RL PROCESSING-DM LIMIT EXCEEDED .....:                    0
RL PROCESSING-NO STORAGE ............:                0   RL PROCESSING-PROC.LIMIT EXCEEDED ...:                    0
COLUMNS BYPASSED ....................:                0
CUR TOTAL        STORAGE USED (KB) ..:                0   MAX AGENT STORAGE LIMIT       (KB) ..:                    0
MAX TOTAL        STORAGE USED (KB) ..:            87872   MAX STORAGE USAGE LIMIT EXCEEDED ....:                    0
CUR 4K TABSPACE  STORAGE USED (KB) ..:                0   CUR 32K TABSPACE STORAGE USED (KB) ...:                    0
4K INSTEAD OF 32K TABSPACE USED .....:                0   32K INSTEAD OF 4K TABSPACE USED .....:                    0
CUR ACTIVE (DM)      IN-MEMORY ......:                0   CUR STORAGE (DM)   IN-MEMORY  (KB) ..:                    0
MAX ACTIVE (DM)      IN-MEMORY ......:                0   MAX STORAGE (DM)   IN-MEMORY  (KB) ..:                    0
CUR ACTIVE (SORT)    IN-MEMORY ......:                0   CUR STORAGE (SORT) IN-MEMORY  (KB) ..:                    0
MAX ACTIVE (SORT)    IN-MEMORY ......:                1   MAX STORAGE (SORT) IN-MEMORY  (KB) ..:                   24
CUR ACTIVE (NONSORT) IN-MEMORY ......:                0   CUR DGTT STORAGE USED         (KB) ..:                    0
MAX ACTIVE (NONSORT) IN-MEMORY ......:                0   MAX DGTT STORAGE USED         (KB) ..:                 3648
IN-MEMORY  (NONSORT) OVERFLOWED .....:                0   CUR WORKFILE STORAGE USED     (KB) ..:                    0
IN-MEMORY WORKFILE NOT CREATED ......:                0   MAX WORKFILE STORAGE USED     (KB) ..:                 1024
TOTAL            STORAGE CONFIG (KB) ..:        134258688   MAX AGENT STORAGE USED        (KB) ..:                 4160
TOTAL DGTT       STORAGE CONFIG (KB) ..:        134217728   AGENT STORAGE THRESHOLD        (%) ..:                    0
TOTAL WORKFILE STORAGE CONFIG (KB) ..:            40960   TOTAL STORAGE THRESHOLD        (%) ..:                   90
USE CURRENTLY COMMITTED:
INSERT ROWS SKIPPED .................:                0   DELETE ROWS ACCESSED ................:                    0
UPDATE ROWS ACCESSED ................:                0
NUMBER OF FAST INSERT PIPES .........:                2   NUMBER OF FAST INSERT PIPES DISABLED :                    1
UNCONDITIONAL LOCK RETRIES ..........:             9999   CONDITIONAL LOCK FAILURES ...........:                 9999
INSRT ALG. 2 RE-ENABLE ATTEMPTED ....:                8   INSRT ALG. 2 RE-ENABLE SUCCESSFUL ...:                    3
FTB THRESHOLD .......................:             1000   FTB CRITERIA MEET ...................:                 2746
FTB TRAVERSE ABOVE THE THRESHOLD ....:                1   FTB TOTAL MEMORY ALLOCATION .........:                    0
FTB IN THE PREVIOUS OPTIMIZATION ....:                0   FTB IN THE CURRENT OPTIMIZATION .....:                    0
TOTAL INSYNC CPU TIME................:         0.000000   TOTAL INSYNC ZIIP TIME...............:             0.000000
TOTAL INSYNC ZIIP ELIGIBLE TIME......:         0.000000
```

CUR RIDLIST BLOCKS

The number of RID blocks currently in use (snapshot value).

Field Name: QISTRCUR

CUR RIDLIST BLOCKS OVERFLOWED

This field is currently not set by DB2.

Field Name: QISTWFRCUR

MAX RIDLIST BLOCKS

The highest number of RID blocks in use at any time since DB2 startup. This is a high-water mark.

Field Name: QISTRHIG

MAX RIDLIST BLOCKS OVERFLOWED

This field is currently not set by DB2.

Field Name: QISTWFRHIG

RL PROCESSING-RDS LIMIT EXCEEDED

The number of times when the number of RIDs that can fit into the guaranteed number of RID blocks was greater than the maximum limit (25% of table size).

Background and Tuning Information

Ideally, this value should be 0.

The matching index scan part of the RID list processing scanned more than 25% of the index. RID list processing is then terminated, the index scan is abandoned and normally replaced by a tablespace scan.

Reasons for this are:

- Inaccurate or incomplete RUNSTATS statistics. To avoid this, you should collect all statistics on a regular basis, especially simple and correlated column statistics. Using RUNSTATS with SHRLEVEL(CHANGE) does not prevent access to data.
- Optimizer error. In this instance, you could disable RID list processing by adding the clause OPTIMIZE FOR 1 ROW to the SQL statement, or force the access path to index only by adding the necessary columns to the index.

Field Name: QISTRLLM

RL PROCESSING-DM LIMIT EXCEEDED

The number of times when the number of RID entries was greater than the physical limit of approximately 26 million RIDs.

Field Name: QISTRPLM

RL PROCESSING-NO STORAGE

The number of times the DBM1 storage was exhausted during RID list processing.

Background and Tuning Information

This failure occurs when the DBM1 storage limit is reached.

Field Name: QISTRSTG

RL PROCESSING-PROC.LIMIT EXCEEDED

The number of times the maximum RID pool storage was exceeded.

The size is determined by the installation parameter RID POOL SIZE (DB2 install panel DSNTIPC). It can be 0, or between 128 KB and 10 GB. The general formula for calculating the RID pool size is:

(Number of concurrent RID processing activities) x (average number of RIDs) x 2 x (5 bytes per RID).

Field Name: QISTRMAX

COLUMNS BYPASSED

The total number of columns (rows x columns) for which an invalid select procedure was encountered.

DB2 bypasses invalid select procedures which can cause some degradation in performance.

Field Name: QISTCOLS

CUR TOTAL STORAGE USED (KB)

The total amount of storage (KB) currently used in the Workfile Database at system level.

Field Name: QISTWCTO

MAX AGENT STORAGE LIMIT (KB)

The maximum amount of storage (KB) in the Workfile Database that can be used by each agent (derived from ZPARM MAXTEMPS).

Field Name: QISTWMXA

MAX TOTAL STORAGE USED (KB)

The maximum total amount of storage (KB) ever used in the Workfile Database at system level since DB2 startup.

Field Name: QISTWMXU

MAX STORAGE USAGE LIMIT EXCEEDED

The number of times the maximum amount of storage that an agent can use in the Workfile database was exceeded.

Field Name: QISTWFNE

CUR 4K TABSPACE STORAGE USED (KB)

The total amount of storage (KB) currently used for 4 KB table spaces in the Workfile Database.

Field Name: QISTW4K

CUR 32K TABSPACE STORAGE USED (KB)

The total amount of storage (KB) currently used for 32 KB table spaces in the Workfile Database.

Field Name: QISTW32K

4K INSTEAD OF 32K TABSPACE USED

The number of times that space in a 4 KB page table space was used because space in a 32 KB page table space was preferred but not available in the Workfile Database.

Field Name: QISTWFP2

32K INSTEAD OF 4K TABSPACE USED

The number of times that space in a 32 KB page table space was used because space in a 4 KB page table space was preferred but not available in the Workfile Database.

Field Name: QISTWFP1

CUR ACTIVE (DM) IN-MEMORY

The number of currently active in-memory work files created by the Data Manager.

Field Name: QISTIMAC

CUR STORAGE (DM) IN-MEMORY (KB)

The total space used for currently active in-memory work files created by the Data Manager.

Field Name: QISTIMSC

MAX ACTIVE (DM) IN-MEMORY

The maximum number of in-memory work files (created by the Data Manager) that were active at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTIMAH

MAX STORAGE (DM) IN-MEMORY (KB)

The maximum space used for active in-memory work files created by the Data Manager at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTIMSH

CUR ACTIVE (SORT) IN-MEMORY

The number of currently active in-memory work files created by the SORT component.

Field Name: QISTSIAC

CUR STORAGE (SORT) IN-MEMORY (KB)

The total space used for currently active in-memory work files created by the SORT component.

Field Name: QISTSISC

MAX ACTIVE (SORT) IN-MEMORY

The maximum number of in-memory work files created by the SORT component that were active at any point in time since DB2 start. This is a high-water mark count.

Field Name: QISTSIAH

MAX STORAGE (SORT) IN-MEMORY (KB)

The maximum space used for active in-memory work files created by the SORT component at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTSISH

CUR ACTIVE (NONSORT) IN-MEMORY

The number of currently active non-SORT related in-memory work files created by the Data Manager.

Field Name: QISTI2AC

CUR DGTT STORAGE USED (KB)

The total amount of storage (KB) currently used for DGTTs in the Workfile Database by all agents on the system.

Field Name: QISTDGTTCTO

MAX ACTIVE (NONSORT) IN-MEMORY

The maximum number of non-SORT related in-memory work files created by the Data Manager that were active at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTI2AH

MAX DGTT STORAGE USED (KB)

The maximum total amount of storage (KB) ever used for DGTTs in the Workfile Database by all agents on the system since DB2 startup.

Field Name: QISTDGTTMXU

IN-MEMORY (NONSORT) OVERFLOWED

The number of times non-SORT related in-memory work files overflowed into a physical table space.

Field Name: QISTI2OF

CUR WORKFILE STORAGE USED (KB)

The total amount of storage (KB) currently used for non-DGTT work files in the Workfile Database by all agents on the system.

Field Name: QISTWFCTO

IN-MEMORY WORKFILE NOT CREATED

The number of times an in-memory work file was not created due to critical storage conditions.

Field Name: QISTIMNC

MAX WORKFILE STORAGE USED

The maximum total amount of storage (KB) ever used for non-DGTT work files in the Workfile Database by all agents on the system since DB2 startup.

Field Name: QISTWFMXU

TOTAL STORAGE CONFIG (KB)

The total storage (KB) configured for all table spaces in the Workfile Database.

Field Name: QISTWSTG

MAX AGENT STORAGE USED (KB)

The maximum amount of storage (KB) ever used in the Workfile Database by any thread since DB2 startup.

Field Name: QISTAMXU

TOTAL DGTT STORAGE CONFIG (KB)

The total preferred storage (KB) configured for DGTTs in the Workfile Database.

Field Name: QISTDGTTSTG

AGENT STORAGE THRESHOLD (%)

The alert threshold of high space-usage for DGTTs or non-DGTT work files in the Workfile Database by an agent (derived from ZPARM WFSTGUSE_AGENT_THRESHOLD).

Field Name: QISTASTH

TOTAL WORKFILE STORAGE CONFIG (KB)

The total preferred storage (KB) configured for non-DGTT work files in the Workfile Database.

Field Name: QISTWFSTG

TOTAL STORAGE THRESHOLD (%)

The alert threshold of high space-usage for DGTTs or non-DGTT work files in the Workfile Database (derived from zparm WFSTGUSE_SYSTEM_THRESHOLD).

Field Name: QISTSSTH

INSERT ROWS SKIPPED

The number of rows skipped by read transactions because of uncommitted INSERT operations (using currently committed semantic for FETCH).

Field Name: QISTRCCI

DELETE ROWS ACCESSED

The number of rows accessed by read transactions because of uncommitted DELETE operations (using currently committed semantic for FETCH).

Field Name: QISTRCCD

UPDATE ROWS ACCESSED

The number of rows accessed by read transactions because of uncommitted UPDATE operations (using currently committed semantic for FETCH).

Field Name: QISTRCCU

NUMBER OF FAST INSERT PIPES

The number of Data Manager (DM) fast insert pipes that were allocated since DB2 restart.

Field Name: QISTINPA

NUMBER OF FAST INSERT PIPES DISABLED

The number of DM fast insert pipes that have been disabled since DB2 restart.

Field Name: QISTINPD

CONDITIONAL LOCK FAILURE

Number of failed conditional lock request during insert operation.

Background and Tuning Information

Number of failed conditional lock request during insert operation.

Field Name: QISTCONDLKF

UNCONDITIONAL LOCK RETRIES

Number of times a failed conditional lock request has been retried with an unconditional lock request.

Background and Tuning Information

Number of times a failed conditional lock request has been retried with an unconditional lock request.

Field Name: QISTRETRYLK

INSRT ALG. 2 RE-ENABLE ATTEMPTED

Number of times IAG2 pipe re-enable was attempted.

Field Name: QISTINPR

INSRT ALG. 2 RE-ENABLE SUCCESSFUL

Number of times IAG2 pipe re-enable was successful.

Field Name: QISTINPE

FTB THRESHOLD

Minimum number of index traversals.

Field Name: QISTTRAVMIN

FTB CRITERIA MEET

Total number of indexes which meet FTB criteria.

Field Name: QISTFTBCANT

FTB TRAVERSE ABOVE THE THRESHOLD

Total number of indexes which meet FTB criteria and the traverse count is above the threshold.

Field Name: QISTFTBCAN

FTB TOTAL MEMORY ALLOCATION

Total memory allocation for all FTBs for this member.

Field Name: QISTFTBSIZE

FTB IN THE PREVIOUS OPTIMIZATION

Number of indexes for which FTB existed in the previous run of in-memory optimization.

Field Name: QISTFTBNUMP

FTB IN THE CURRENT OPTIMIZATION

Number of indexes for which FTB exists in the current run of in-memory optimization.

Field Name: QISTFTBNUMC

TOTAL INSYNC CPU TIME

CPU time that was consumed by all asynchronous log reader tasks during the reporting interval. This value does not include CPU consumed on an IBM zIIP.

Field Name: QISTLRCP

TOTAL INSYNC ZIIP TIME

CPU time that was consumed on an IBM zIIP by all asynchronous log reader tasks during the reporting interval.

Field Name: QISTLRZI

TOTAL INSYNC ZIIP ELIGIBLE TIME

CPU time that was consumed by asynchronous log reader tasks on standard processors during the reporting interval, and those tasks were eligible for execution on an IBM zIIP.

Field Name: QISTLRZE

IFCID 002 - Data Sharing Locking Data

This topic shows detailed information about "Record Trace - IFCID 002 - Data Sharing Locking Data".

Record trace - IFCID 002 - Data Sharing Locking Data

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Data Sharing Locking Data" are described in the following section.

```
                                DATA SHARING LOCKING DATA
LOCK REQ (P-LOCKS)              68965   SYNCH.XES - LOCK REQ            608641   SUSPENDS - IRLM GLBL CONT        5099
UNLOCK REQ (P-LOCKS)            65415   SYNCH.XES - CHANGE REQ           22225   SUSPENDS - XES GLBLL CONT         228
CHANGE REQ (P-LOCKS)             2288   SYNCH.XES - UNLOCK REQ          632660
NOTIFY MESSAGES SENT            18566   ASYNCH.XES - RESOURCES             662   INCOMPAT RETAINED LOCK              0
NOTIFY MESSAGES RECEIVED        36866   P-LOCK/NOTIFY EXITS ENGINES        500   P-LOCK/NFY EX.ENGINE N/A            0
PSET/PART P-LOCK NEGOTIAT.       2207   PAGE P-LOCK NEGOTIAT.                3   OTHER P-LOCK NEGOTIAT .          1321
P-LOCK CHANGE DURING NEG.        2433   FALSE CONTENTIONS                 2007
SYNC-ASYNC XES CONV             37563   FLMG COUNTS PER                 SUBSYS   NO DELAY LOCK REQ REJECTS           0
```

LOCK REQ (P-LOCKS)

The number of lock requests for P-locks.

Field Name: QTGSLPLK

SYNCH.XES - LOCK REQ

The number of P/L-lock requests propagated to z/OS XES synchronously.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGSLSLM

SUSPENDS - IRLM GLBL CONT

The number of suspensions due to IRLM global resource contention. All IRLM lock states were in conflict on the same resource.

Global contention requires intersystem communication to resolve the lock conflict whereas local contention does not.

Field Name: QTGSIGLO

UNLOCK REQ (P-LOCKS)

The number of unlock requests for P-locks.

Field Name: QTGSUPLK

SYNCH.XES - CHANGE REQ

The number of change requests propagated to z/OS XES synchronously, including logical and physical locks.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGSCSLM

SUSPENDS - XES GLBLL CONT

The number of suspensions due to z/OS XES global resource contention. The z/OS XES lock states were in conflict but the IRLM lock states were not.

IRLM has many lock states but XES is only aware of the exclusive and shared lock states.

Field Name: QTGSSGLO

CHANGE REQ (P-LOCKS)

The number of change requests for P-locks.

Field Name: QTGSCPLK

SYNCH.XES - UNLOCK REQ

The number of unlock requests propagated to z/OS XES synchronously, including logical and physical locks.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGSUSLM

NOTIFY MESSAGES SENT

The number of notify messages sent.

Field Name: QTGSNTFY

ASYNCH.XES - RESOURCES

The number of resources propagated by IRLM to z/OS XES asynchronously, including logical and physical locks.

This can happen when new inter-DB2 interest occurs on a parent resource or when a request completes after the requester's execution unit was suspended.

Field Name: QTGSKIDS

INCOMPAT RETAINED LOCK

The number of global lock or change requests denied or suspended due to an incompatible retained lock.

Field Name: QTGSDRTA

NOTIFY MESSAGES RECEIVED

The number of notify messages received.

Field Name: QTGSNTFR

P-LOCK/NOTIFY EXITS ENGINES

The maximum number of engines available for physical lock exit or notify exit requests.

Field Name: QTGSPEMX

P-LOCK/NFY EX.ENGINE N/A

The number of times an engine is not available for physical lock exit or notify exit requests.

Field Name: QTGSPEQW

PSET/PART P-LOCK NEGOTIAT.

The number of times this DB2 was driven to negotiate a partition or page set physical lock due to changing inter-DB2 interest levels on the partition or page set.

Field Name: QTGSPPPE

PAGE P-LOCK NEGOTIAT.

The number of times this DB2 negotiated a page physical lock because of physical lock contention within DB2.

Field Name: QTGSPGPE

OTHER P-LOCK NEGOTIAT .

The number of times this DB2 was driven to negotiate a physical lock type other than page set, partition, or page.

Field Name: QTGSOTPE

P-LOCK CHANGE DURING NEG.

The number of times a physical lock change request was issued during physical lock negotiation.

Field Name: QTGSCHNP

FALSE CONTENTIONS

The total number of false contentions for LOCK and UNLOCK requests. A false contention occurs when different resource names hash to the same entry in the coupling facility (CF) lock table. The CF detects contention within the hash entry, and XES uses intersystem messaging to determine that no actual resource contention exists.

Note: The QTGSFCON flag indicates whether the false contention is reported at subsystem(=1) or LPAR level (=0).

Field Name: QTGSFLMG

SYNC-ASYNC XES CONV

The number of synchronous to asynchronous heuristic conversions for LOCK requests in XES. This conversion is done when XES determines that it is more efficient to drive the request asynchronously to the coupling facility (CF).

Field Name: QTGSFLSE

FLMG COUNTS PER

Flags describing QTGS counters:

ON
QTGSFLMG counts per subsystem (SUBSYS)

OFF
QTGSFLMG counts per LPAR

Field Name: QTGSFLGS

NO DELAY LOCK REQ REJECTS

The total number of failed DB2 lock requests to XES to process without delay. XES rejects the lock request because it could not process it synchronously.

Field Name: QTGSCREJ

IFCID 002 - Dynamic SQL Statement

This topic shows detailed information about "Record Trace - IFCID 002 - Dynamic SQL Statement".

Record trace - IFCID 002 - Dynamic SQL Statement

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Dynamic SQL Statement" are described in the following section.

```
                                          DYNAMIC SQL STMT
REOPTIMIZATION    :                   0 FOUND IN CACHE    :                  10 IMPLICIT PREPARES :                   0
STMT INVALID (MAX):                   0 NOT FOUND IN CACHE:                   0 PREPARES AVOIDED  :                   0
STMT INVALID (DDL):                   0
CSWL STMTS PARSED :                   0 CSWL LITS REPLACED:                   0 CSWL MATCHES FOUND:                   0
CSWL DUPLS CREATED:                   0 LOAD FROM CATALOG :                   0
.....................................................................................................................
```

REOPTIMIZATION

The total number of times reoptimization occurs because the value of the host variable or parameter marker changes.

Field Name: QXSTREOP

FOUND IN CACHE

The number of times a PREPARE command was satisfied by copying a statement from the prepared statement cache.

Field Name: QXSTFND

IMPLICIT PREPARES

An implicit prepare occurs when the user copy of the prepared SQL statement no longer exists in the local dynamic SQL cache and the application plan or package is bound with KEEPDYNAMIC YES.

If the skeleton copy of the prepared SQL statement exists in the global dynamic SQL cache in the EDM pool, a short prepare is executed, otherwise a full prepare is executed.

Field Name: QXSTIPRP

STMT INVALID (MAX)

The number of times statements are invalidated in the local dynamic SQL cache because the MAXKEEPD limit has been reached and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDEXP

NOT FOUND IN CACHE

The number of times that DB2 searched the prepared statement cache but could not find a suitable prepared statement.

Field Name: QXSTNFND

PREPARES AVOIDED

This field indicates the number of times where no SQL PREPARE or EXECUTE IMMEDIATE was issued by the application and a copy of a prepared SQL statement was found in local dynamic SQL cache.

When an application plan or package is bound with KEEPDYNAMIC YES, a copy of each prepared SQL statement for the application thread is held in the local dynamic SQL cache and kept across a commit boundary.

An application thread can save the total cost of a prepare by using a copy of the prepared statement in the local dynamic SQL cache from an earlier prepare by the same thread. To do this, the application must be modified to avoid issuing repetitive SQL PREPAREs for the same SQL statement.

Field Name: QXSTNPRP

STMT INVALID (DDL)

The number of times statements are invalidated in the local dynamic SQL cache because of SQL DDL or updated RUNSTATS information and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDINV

CSWL STMTS PARSED

The number of times DB2 parsed dynamic statements because CONCENTRATE STATEMENTS WITH LITERALS behavior was used for the prepare of the statement for the dynamic statement cache.

Field Name: QXSTCWLP

CSWL LITS REPLACED

The number of times DB2 replaced at least one literal in a dynamic statement because CONCENTRATE STATEMENTS WITH LITERALS was used for the prepare of the statement for dynamic statement cache.

Field Name: QXSTCWLR

CSWL MATCHES FOUND

The number of times DB2 found a matching reusable copy of a dynamic statement in cache during prepare of a statement that had literals replaced because of CONCENTRATE STATEMENTS WITH LITERALS.

Field Name: QXSTCWLM

CSWL DUPLS CREATED

The number of times DB2 created a duplicate STMT instance in the statement cache for a dynamic statement that had literals replaced by CONCENTRATE STATEMENTS WITH LITERALS behavior. The duplicate STMT instance was needed because a cache match failed because the literal reusability criteria was not met.

Field Name: QXSTCWLD

LOAD FROM CATALOG

The number of loads from the catalog.

It shows the number of times a PREPARE request was satisfied by making a copy from the stabilized statement in the SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement was found in the prepared statement cache. This field should be identical to QISEDPSL, but it is reported from the QXST section (SQL Statement Execution).

Field Name: QXSTSFND

IFCID 002 - EDM Pool Data

This topic shows detailed information about "Record Trace - IFCID 002 - EDM Pool Data".

Record trace - IFCID 002 - EDM Pool Data

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - EDM Pool Data" are described in the following section.

```
                                        EDM POOL DATA
PAGES IN POOL   :          0   CT PAGES       :          0   PT PAGES       :          0
FREE PAGES      :          0   CT REQUESTS    :        116   PT REQUESTS    :      74898   DBD REQUESTS    :      42485
EDM POOL FULL   :          0   CT NOT IN POOL :          7   PT NOT IN POOL :       4545   DBD NOT IN POOL :        642
CACHE INSERTS   :        229   CACHE REQUESTS :       4774

LOAD FROM CATALOG               :                    0   LOOK-UP IN CATALOG              :                198671
POSSIBLE ROW FOUND              :                    0   MATCH THR TXT/BND OPT           :
0

PKG SEARCH NOT FOUND:          0        PKG SEARCH NOT FOUND INSERT:         0    PKG SEARCH NOT FOUND DELETE:         0

STATEMENTS IN GLOBAL CACHE      :        125
PAGES IN STMT POOL (ABOVE)      :      28346              PAGES IN DBD POOL (ABOVE)       :        N/A
  HELD BY STATEMENTS            :        710                HELD BY DBD                   :        177
  FREE PAGES                    :      27636                  STEALABLE PAGES           :         83
FAILS DUE TO STMT POOL FULL     :          0                FREE PAGES                    :        N/A
                                                           FAILS DUE TO DBD POOL FULL      :          0
PAGES IN RDS POOL (ABOVE)       :          0              PAGES IN SKEL POOL (ABOVE)      :        N/A
  HELD BY CT                    :          0                HELD BY SKCT                  :         11
  HELD BY PT                    :          0                HELD BY SKPT                  :       7523
  FREE PAGES                    :          0                  STEALABLE PAGES             :       7534
FAILS DUE TO RDS POOL FULL      :          0                FREE PAGES                    :        N/A
                                                           FAILS DUE TO SKEL POOL FULL     :          0

SHAREABLE STATIC SQL STMT REQUESTS :       4221            XPROC ALLOC STOR              :        N/A
PLAN BTB STORAGE                :          0              PKG BTB STORAGE               :          0
PLAN ATB STORAGE          :            29568              PKG ATB STORAGE         :             0
REQ STOR FOR STATIC STMTS:             0
```

PAGES IN POOL

This field shows the sum of the values for the following counters:

- HELD BY CT
- HELD BY PT
- FREE PAGES

Field Name: QISEPAGE

CT PAGES

The current number of pages used for the cursor tables (CTs). This is a snapshot value.

Field Name: QISECT

PT PAGES

The current number of pages used for package tables (PTs). This is a snapshot value.

Field Name: QISEKT

FREE PAGES

The number of pages currently not used by any object in the EDM pool, in the EDM pool (below), or in the RDS pool (below). This is a snapshot value.

Field Name: QISEFREE

CT REQUESTS

The number of requests for cursor table (CT) sections.

Field Name: QISECTG

PT REQUESTS

The number of requests for package table (PT) sections.

Field Name: QISEKTG

DBD REQUESTS

The number of requests for database descriptors (DBDs).

Field Name: QISEDBDG

EDM POOL FULL

The total number of failures because the EDM pool or EDM pool (below) was full.

Field Name: QISEFAIL

This is an *exception* field.

CT NOT IN POOL

The number of times a cursor table section was loaded from DASD.

To find the number of times the CT was found in the EDM pool, subtract this value from the value of the Requests for sections - CT field.

Field Name: QISECTL

This is an *exception* field.

PT NOT IN POOL

The number of times a package table section was loaded from DASD.

To find the number of times the PT was already in the EDM pool, subtract this value from the value of the Requests for sections - PT field.

Field Name: QISEKTL

This is an *exception* field.

DBD NOT IN POOL

The total number of times database descriptors were loaded from DASD.

To find the number of times the DBD was already in the EDM pool, subtract this value from the value of Requests for sections - DBD field.

Field Name: QISEDBDL

This is an *exception* field.

CACHE INSERTS

The number of full prepare requests.

A Full Prepare occurs for both Explicit Prepare and Implicit Prepare requests when the skeleton copy of the prepared SQL statement is not found in global dynamic SQL cache in the EDM pool.

Field Name: QISEDSI

This is an *exception* field.

CACHE REQUESTS

The number of requests for prepared statement cache sections.

Field Name: QISEDSG

LOAD FROM CATALOG

The number of times a dynamic SQL statement is found in a catalog.

Field Name: QISEDPSF

LOOK-UP IN CATALOG

The number of look-ups in a catalog to satisfy a dynamic SQL statement prepare request.

This field is updated when a statement is not found in the cache and the criteria is met to look for it in the catalog table. It is only incremented on the first look up and not if there are multiple rows that might be a match. This is a system level value so it will be the number of times it has been checked since DB2 was started. It is incremented even if no copies of the statement have been captured.

Field Name: QISEDPSL

POSSIBLE ROW FOUND

The number indicates duplicated statement hash (stmt hash) entries. It shows the number of times rows are read from the catalog before a match is found.

This field is incremented each time a row is read that might be a match. This is a serviceability field.

Field Name: QISEDPSC

MATCH THR TXT/BND OPT

The number of times a catalog match is found without checking the authentication ID (authid). This number indicates whether statements are monitored by multiple authids.

This field is incremented each time a row is read and everything is matched, but before the authids are checked. This is a serviceability field.

Field Name: QISEDPSM

PKG SEARCH NOT FOUND

When a package is bound with a wild card (*) for package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a cached record was located during package binding.

Field Name: QISEKNFM

PKG SEARCH NOT FOUND INSERT

When a package is bound with a wild card (*) for package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a record was added to the cache during package binding.

Field Name: QISEKNFA

PKG SEARCH NOT FOUND DELETE

When a package is bound with a wild card (*) for package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a record was removed from the cache during package binding.

Field Name: QISEKNFR

STATEMENTS IN GLOBAL CACHE

Number of statements in the global cache.

Field Name: QISESTMT

PAGES IN STMT POOL (ABOVE)

The current number of pages in the EDM Statement pool above the 2 GB bar. This is a snapshot value.

Field Name: QISECPGE

PAGES IN DBD POOL (ABOVE)

This field shows the number of pages in the DBD pool above the 2 GB bar.

Field Name: QISEDPGE

HELD BY STATEMENTS

The number of pages in the EDM Statement pool above the 2 GB bar that is used for cached dynamic SQL statements. This is a snapshot value.

Field Name: QISEDYNP

HELD BY DBD

The current number of pages used for database descriptors (DBDs). This is a snapshot value.

Field Name: QISEDBD

FREE PAGES (Prior to Db2 12)

This field shows the number of free pages in the DBD pool above the 2 GB bar.

Field Name: QISEDFRE

This is an *exception* field.

STEALABLE PAGES

The current number of stealable pages used for skeleton cursor and package tables.

Field Name: QISEKLRU

FAILS DUE TO STMT POOL FULL

The total number of failures because the EDM Statement pool above the 2 GB bar was full.

Field Name: QISECFAL

FREE PAGES

The number of pages currently not used by any object in the EDM Statement pool above the 2 GB bar. For DB2 12 this field shows N/A.

Field Name: QISECFRE

FAILS DUE TO DBD POOL FULL

This field shows the total number of failures because the DBD pool above the 2 GB bar was full.

Field Name: QISEDFAL

This is an *exception* field.

PAGES IN RDS POOL (ABOVE)

The number of pages in the RDS pool above the 2 GB bar.

Field Name: QISESPGE

PAGES IN SKEL POOL (ABOVE)

The current number of pages in the EDM skeleton pool above the 2 GB bar.

Field Name: QISEKPGE

HELD BY CT

The number of pages in the RDS pool above the 2 GB bar used for the cursor tables (CTs). This is a snapshot value.

Field Name: QISECTA

HELD BY SKCT

The current number of pages used for skeleton cursor tables (SKCTs). This is a snapshot value.

Field Name: QISESKCT

HELD BY PT

The number of pages in the RDS pool above the 2 GB bar used for the package tables (PTs). This is a snapshot value.

Field Name: QISEKTA

HELD BY SKPT

The current number of pages used for skeleton package tables (SKPTs). This is a snapshot value.

Field Name: QISESKPT

FREE PAGES (Prior to DB2 12)

The number of pages currently not used by any object in the EDM skeleton pool above the 2 GB bar.

Field Name: QISEKFRE

STEALABLE PAGES

The current number of stealable pages used for database descriptors (DBDs).

Field Name: QISEDLRU

FAILS DUE TO RDS POOL FULL

The number of failures because the RDS pool above the 2 GB bar was full.

Field Name: QISESFAL

FREE PAGES

The number of free pages in the RDS pool above the 2 GB bar.

Field Name: QISESFRE

FAILS DUE TO SKEL POOL FULL

The total number of failures because the EDM skeleton pool above the 2 GB bar was full.

Field Name: QISEKFAL

SHAREABLE STATIC SQL STMT REQUESTS

The number of shareable static SQL statement requests.

Field Name: QISEKSPG

XPROC ALLOC STOR

The total storage allocated to executable code sequences (xPROC).

Field Name: QISEKSPA

PLAN BTB STORAGE

The storage allocated to plans below the bar.

Field Name: QISESQCB

PKG BTB STORAGE

The storage allocated to packages below the bar.

Field Name: QISESQKB

PLAN ATB STORAGE

The storage allocated to plans above the bar

Field Name: QISESQCA

PKG ATB STORAGE

The storage allocated to packages above the bar.

Field Name: QISESQKA

REQ STOR FOR STATIC STMTS

The total storage requested for shareable static SQL statements.

Field Name: QISEKSPA8

IFCID 002 - Group Buffer Pools Activity Data

This topic shows detailed information about "Record Trace - IFCID 002 - Group Buffer Pools Activity Data".

Record trace - IFCID 002 - Group Buffer Pools Activity Data

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Group Buffer Pools Activity Data" are described in the following section.

```
                                          GROUP BUFFER POOLS ACTIVITY DATA
GROUP BUFFER POOL ID ..................:          0        FLAGS .......................:                X'80'
SYN.READS(XI)-DATA RETURNED .:              16941        SYN.READS(NF)-DATA RETURNED .:                 83
SYN.READS(XI)-NO DATA RET ...:              25589        SYN.READS(NF)-NO DATA RET ...:                111
READ FOR CASTOUT MULT .......:               1242        WRITE AND REGISTER MULT .....:               1179
READ FOR CASTOUT ............:               6688        WRITE AND REGISTER ..........:              10548
CLEAN PAGES WRITTEN .........:                  0        PAGES WRITE & REG MULT ......:               7409
CHANGED PAGES SYNC.WRITTEN ..:              17880        PAGES CASTOUT ...............:              11386
CHANGED PAGES ASYNC.WRITTEN .:                 77        CASTOUT CLASS THRESHOLD .....:                 65
WRITE FAILED-NO STORAGE .....:                  0        GROUP BP CASTOUT THRESHOLD ..:                  0
REG.PAGE LIST (RPL) REQ .....:                607        DELETE NAME LIST SEC-GBP ....:                  0
GBP CHECKPOINTS TRIGGERED ...:                  0        DELETE PAGE FROM SEC-GBP ....:                  0
PAGES RETRIEVED FROM GBP ....:                 78        READ CASTOUT STATS SEC-GBP ..:                  0
READ STORAGE STATS ..........:              66803        UNLOCK CASTOUT ..............:               7804
DELETE NAME .................:                333        READ CASTOUT CLASS ..........:               6150
UNREGISTER PAGE .............:                  0        NR.OF READ FOR CASTOUT REQ ..:               7343
REGISTER PAGE ...............:                 47        READ DIRECTORY INFO .........:                  0
EXPLICIT X-INVALID ..........:                  0        GBP-DEPENDENT GETPAGES ......:            2730629
PG P-LOCK UNLOCK REQ ........:            2095465        ASYNCH GBP REQUESTS .........:              63434
PG P-LOCK LOCK REQ SP MAP PG :            2078633        ASYNCH SEC-GBP REQUESTS .....:                  0
PG P-LOCK LOCK SUSP SP MAP PG:              39439        WRITE SEC-GBP FAILED ........:                  0
PG P-LOCK LOCK NEG SP MAP PG :                  0        PG P-LOCK LOCK REQ DATA PG ..:              10866
PG P-LOCK LOCK REQ IX LEAF PG:               3718        PG P-LOCK LOCK SUSP DATA PG  :                 67
PG P-LOCK LOCK SUSP IX LEAF PG                 15        PG P-LOCK LOCK NEG DATA PG ..:                  4
PG P-LOCK LOCK NEG IX LEAF PG:                  0        PAGES IN WRITE AROUND .......:                 16
IXLCACHE REQS WITH ASYNCH XI :             797523        IXLAXISN SYNCH-UP CALLS .....:             466599
IXLAXISN SUSPENDS WAITING XI :             203136
```

GROUP BUFFER POOL ID

The group buffer pool identifier.

Field Name: QBGLGN

FLAGS

The flag byte shows if more QBGL data is following or if this is the last of the QBGL repeating groups.

Field Name: QBGLFLG

SYN.READS(XI)-DATA RETURNED

The number of requests made to read a page from the group buffer pool because the page was invalidated in the member's buffer pool. The member found the required page in the group buffer pool.

Background and Tuning Information

When you increase the size of the group buffer pool (GBP), the number of pages returned from the GBP can increase. Conversely, decreasing the size of the GBP can cause DB2 to return fewer pages because the GBP cannot hold pages long enough to allow them to be retrieved again.

Field Name: QBGLXD

This is an *exception* field.

SYN.READS(NF)-DATA RETURNED

The number of requests made to read a page from the group buffer pool because the page was not in the buffer pool of the member. The member found the page in the group buffer pool.

Background and Tuning Information

The requesting member needs a page from a table space or index that is GBP-dependent or has GBPCACHE ALL defined. To get that page, the group buffer pool is checked before the page set on DASD.

If the group buffer pool is used to cache both clean and changed pages (GBPCACHE ALL is used for all data), you can try to get more pages returned from the group buffer pool by increasing the size of the group buffer pool. Do not tune the GBP based on this counter if it is used for caching changed pages only (GBPCACHE CHANGED).

Field Name: QBGLMD

This is an *exception* field.

SYN.READS(XI)-NO DATA RET.

The number of requests to read a page from the group buffer pool made because the page was invalidated in the member's buffer pool. The page was not found in the GBP and the page was recovered from DASD.

Field Name: QBGLGXR

SYN.READS(NF)-NO DATA RET.

The number of requests made to read a page from the group buffer pool because the page was not in the member's buffer pool. The member did not find the required data in the group buffer pool and had to retrieve the page from DASD.

Background and Tuning Information

The requesting member needs a page from a table space or index that is GBP-dependent or has GBPCACHE ALL defined. To get that page, the group buffer pool is checked before the page set on DASD.

You can compare the value in this counter with the number of pages that were returned from the group buffer pool, see Sync.Read (Not Found) - Data Returned. If the group buffer pool is used to cache both clean and changed pages (GBPCACHE ALL is used for all data), you can try to get more pages returned from the group buffer pool by increasing the size of the group buffer pool. Do not tune the GBP based on this counter if it is used for caching changed pages only (GBPCACHE CHANGED).

Field Name: QBGLMR

READ FOR CASTOUT MULT

The number of Read For Castout Multiple requests.

Field Name: QBGLCM

WRITE AND REGISTER MULT

The number of Write and Register Multiple requests.

Field Name: QBGLWM

READ FOR CASTOUT

The number of Read For Castout requests. One page read per request.

Field Name: QBGLCR

WRITE AND REGISTER

The number of Write and Register requests.

Field Name: QBGLWS

CLEAN PAGES WRITTEN

The number of clean pages that were synchronously written to the group buffer pool from the virtual pool.

Background and Tuning Information

Only GBPCACHE ALL causes clean (unchanged) pages to be written to the coupling facility. The pages are written to the coupling facility even if the page set is not GBP-dependent. If group buffer pool caching works effectively for prefetch, the value in this field should be much smaller than the value in Synchronous Read (Not Found) - Data Returned.

Field Name: QBGLWC

This is an *exception* field.

PAGES WRITE & REG MULT

The number of pages written using Write and Register Multiple (WARM) requests.

Field Name: QBGLWP

CHANGED PAGES SYNC.WRITTEN

The number of changed pages written synchronously to the group buffer pool.

Pages are written with Write and Register (WAR) requests or Write and Register Multiple (WARM) requests.

At commit time changed pages are forced from the virtual buffer pool of the member to the coupling facility.

Background and Tuning Information

In data sharing, changed pages must have been written to the group buffer pool by the time a transaction commits. The pages are written either synchronously (force at commit) or asynchronously, for example, when a local buffer pool threshold is reached or at a member's checkpoint. The number of pages that have to be forced out synchronously (in "burst mode") at commit time can be reduced if asynchronous writes are triggered more frequently.

You can use the vertical deferred write threshold (VDWQT) to reduce the number of pages that have to be forced out synchronously and to increase the number of pages that are asynchronously written before the transaction commits. For GBP-dependent page sets, writes triggered by the vertical deferred write threshold go to the coupling facility. You can cause changed pages to be written out quicker and in smaller increments, by reducing the vertical deferred write threshold (VDWQT).

Field Name: QBGLSW

This is an *exception* field.

PAGES CASTOUT

The number of data pages that were cast out of the group buffer pool of the member.

Castout to a page set or partition is done by the castout owner of the page set or partition. This is normally the DB2 subsystem that had the first update intent on the page set or partition.

Background and Tuning Information

The number of pages written per I/O is normally close to the value of this field divided by the value in Unlock Castout.

For example, if an average of four pages is written per castout write I/O, the number of pages cast out should be four times the number in this field.

Because DB2 usually includes more than one page in the request to write pages to DASD, the number in this field should always be significantly more than Unlock Castout. If it is not (for example, when "unlock castout" is more than half of "pages castout"), the castout write I/O is inefficient; probably because you have random update patterns on the DB2 data or a low castout threshold.

Field Name: QBGLRC

This is an *exception* field.

CHANGED PAGES ASYNC.WRITTEN

The number of changed pages written asynchronously to the group buffer pool.

Pages are written in response to Write and Register (WAR) and Write and Register Multiple (WARM) requests.

Changed pages can be written from the member's virtual buffer pool to the group coupling facility before the application commits. This happens when, for example, a local buffer pool threshold is reached, or when P-lock negotiation forces the pages on the vertical deferred write queue to be written to the group buffer pool.

Background and Tuning Information

In data sharing, changed pages must have been written to the group buffer pool before a transaction commits. The pages are written either synchronously during commit processing or asynchronously before the transaction commits when, for example, a local buffer pool threshold is reached or at a member's checkpoint. See Changed Pages - Written Synchronously for the number of changed pages synchronously written to the group buffer pool.

The vertical deferred write threshold (VDWQT) can be used to reduce the number of pages that have to be forced out synchronously and to increase the number of pages that are asynchronously written before the transaction commits. For GBP-dependent page sets, writes triggered by the vertical deferred write threshold go to the coupling facility. If you want changed pages to be written out quicker and in smaller increments, you can lower the vertical deferred write threshold (VDWQT).

Field Name: QBGLAW

This is an *exception* field.

CASTOUT CLASS THRESHOLD

The number of times group buffer pool castout was initiated because the group buffer pool class castout threshold was detected.

Background and Tuning Information

The class castout threshold is one of two group buffer pool thresholds. In most cases the default value for the class threshold (5 percent) is a good choice. Depending on your workload, altering this value can reduce DASD contention during castout.

Field Name: QBGLCT

This is an *exception* field.

WRITE FAILED-NO STORAGE

The number of coupling facility write requests that could not complete due to a lack of coupling facility storage resources.

Background and Tuning Information

A value greater than zero indicates that the data page resources of the coupling facility are being consumed faster than the DB2 castout processes can free them.

On write failure, the affected DB2 member initiates castout and retries several times, and finally, if it is a changed page, it will be added to the logical page list (LPL) requiring recovery.

If the problem is not simply due to a momentary surge in activity, you need either to decrease the group buffer pool castout thresholds, or to increase the number of data entries in the group buffer pool. To increase the number of data entries, you can do one of the following:

- Increase the total size of the group buffer pool.
- Adjust the ratio of directory entries to data entries in favor of data entries.

Field Name: QBGLWF

This is an *exception* field.

GROUP BP CASTOUT THRESHOLD

The number of times a group buffer pool castout was initiated because the group buffer pool castout threshold was detected.

Background and Tuning Information

The GBP castout threshold, GBP class castout threshold, and the length of the GBP checkpoint interval determine the castout characteristics of the group buffer pool.

You can consider this threshold a safety margin to protect the group buffer pool from being accidentally flooded by overactive applications.

In most situations, the default value for the group buffer pool castout threshold of 30 percent is a good choice. Use the ALTER GROUPBUFFERPOOL command to tune the group buffer pool thresholds.

Field Name: QBGLGT

This is an *exception* field.

REG.PAGE LIST (RPL) REQ.

The number of register page list (RPL) requests made by prefetch. The group buffer pool must be allocated in a group coupling facility with CFLEVEL=2 or higher.

Background and Tuning Information

Performance might be improved by enabling RPL.

Field Name: QBGLAX

This is an *exception* field.

DELETE NAME LIST SEC-GBP

The number of DELETE NAME LIST requests to delete pages from the secondary group buffer pool that have just been cast out from the primary.

Field Name: QBGL2D

This is an *exception* field.

GBP CHECKPOINTS TRIGGERED

The number of group buffer pool checkpoints triggered by this member.

Background and Tuning Information

The value of this counter depends on the length of the group buffer pool checkpoint interval.

Field Name: QBGLCK

DELETE PAGE FROM SEC-GBP

The number of group buffer pool requests to delete a page from the secondary group buffer pool. These requests are issued by the group buffer pool structure owner to delete orphaned data entries in the secondary GBP as part of the garbage collection logic.

Field Name: QBGL2N

PAGES RETRIEVED FROM GBP

The number of coupling facility reads performed by prefetch to retrieve a changed page from the group buffer pool.

Field Name: QBGLAY

This is an *exception* field.

READ CASTOUT STATS SEC-GBP

The number of coupling facility requests to read the castout statistics for the secondary group buffer pool. These requests are issued by the group buffer pool structure owner to check for orphaned data entries in the secondary group buffer pool.

Field Name: QBGL2R

This is an *exception* field.

READ STORAGE STATS

The number of times DB2 requested statistics information from the group buffer pool. It is issued by the group buffer pool structure owner at timed intervals to determine whether the group buffer pool castout threshold (GBPOOLT) has been reached.

Field Name: QBGLOS

UNLOCK CASTOUT

The number of times DB2 issued an unlock request to the coupling facility for completed castout I/Os.

When pages are cast out to DASD, they are locked for castout in the coupling facility. This castout lock is not an IRLM lock; it is to ensure that only one system can cast out a given page at a time.

Background and Tuning Information

The number of pages written per I/O is normally close to the value of pages castout divided by the value of this field.

For example, if an average of four pages is written per castout write I/O, the number of pages cast out should be four times the value in this field.

Because DB2 usually includes more than one page in a write request, the number in this field should always be significantly less than pages castout. If it is not (for example, when "unlock castout" is more than half of "pages castout"), the castout write I/O is inefficient; possibly because you have random update patterns on the DB2 data or a low castout threshold.

Field Name: QBGLUN

DELETE NAME

The number of requests made by DB2 to delete directory and data entries associated with a particular page set or partition from the group buffer pool.

DB2 issues this request when it changes a page set or partition from GBP-dependent to non GBP-dependent. DB2 also issues this request for objects that are defined with GBPCACHE ALL when those objects are first opened.

Background and Tuning Information

This counter is a measure of how often page sets or partitions change between being and not being dependent on the group buffer pool.

You can prevent DB2 going in and out of GBP dependency too often by tuning the following subsystem parameters that affect data sets when they are switched to a different state:

PCLOSEN
Pseudoclose frequency. The number of checkpoints required before a data set that was not updated can be a pseudoclose candidate.

If the PCLOSEN condition is met, the page set or partition is converted from read-write to read-only state. Depending on other concurrent users, this could raise the chance for the page set or partition to go out of GBP dependency.

PCLOSET
Pseudoclose time. The amount of time (in minutes) that must elapse before a data set can be a pseudoclose candidate.

If the PCLOSEN or PCLOSET condition is met, the page set or partition is converted from read-write to read-only state. Depending on other concurrent users, this could raise the chance for the page set or partition to go out of GBP dependency.

LOGLOAD
The number of log records that DB2 writes between successive checkpoints.

These parameters are specified in the CHECKPOINT FREQ field in panel DSNTIPN.

Field Name: QBGLDN

READ CASTOUT CLASS

The number of requests made to the group buffer pool to determine which pages, from a particular page set or partition, must be cast out because they are cached as changed pages.

This request is issued either by the page set or partition castout owner, or, when the group buffer pool castout threshold is reached, by the group buffer pool structure owner.

Field Name: QBGLCC

UNREGISTER PAGE

The number of times DB2 unregistered interest for a single page. This happens when DB2 steals pages from the member's buffer pool that belong to GBP-dependent page sets or partitions.

Background and Tuning Information

A large value here indicates that the local buffer pool contains a mixture of GBP-dependent data and non-GBP-dependent data.

The page stolen from the local buffer pool is replaced by a new one. This counter makes a distinction on whether the new page depends on the group buffer pool or not.

Usually a page of a GBP-dependent page set or partition is replaced by a page that is also GBP-dependent. In this instance, the unregister request for the page being stolen is combined with the read and register request for the new page. These combined requests do not contribute to this counter.

If, however, a page of a GBP-dependent page set or partition is replaced by a page that is not GBP-dependent, then only an unregister request is sent to the coupling facility. These separate requests are counted here.

Field Name: QBGLDG

NR.OF READ FOR CASTOUT REQ.

The number of requests issued by the group buffer pool structure owner to determine which castout classes have changed pages.

This request is made by the group buffer pool structure owner when the group buffer pool threshold is reached. Normally, you would expect only one or two requests each time the group buffer pool threshold is reached.

Field Name: QBGLCS

REGISTER PAGE

The number of times DB2 registered interest in a single page.

These are "register-only" requests, which means that DB2 is not requesting any data back from the request.

This request is made only to create a directory entry for the page to be used for cross-invalidation when the page set or partition P-lock is downgraded from S to IS mode, or from SIX to IX mode.

Field Name: QBGLRG

READ DIRECTORY INFO

The number of requests issued by the group buffer pool structure owner to read the directory entries of all changed pages in the group buffer pool.

This request is issued at group buffer pool checkpoints to record the oldest recovery log record sequence number (LRSN). It is used as a basis for recovery if the group buffer pool fails.

Such requests might have to be issued several times for each group buffer pool checkpoint to read the directory entries for all changed pages.

Background and Tuning Information

If the value of this counter appears to be abnormally high, consider upgrading the coupling facility to CFLEVEL=2 or higher to raise the number of directory entries that can be read with one request. You can also increase the group buffer pool checkpoint interval, but this can lengthen the recovery for the group buffer pool.

Field Name: QBGLRD

EXPLICIT X-INVALID

The number of times an explicit coupling facility cross-invalidation request was issued.

Field Name: QBGLEX

GBP-DEPENDENT GETPAGES

The number of Getpages made for GBP-dependent objects.

Field Name: QBGLGG

PG P-LOCK UNLOCK REQ

The number of page P-lock unlock requests.

Field Name: QBGLU1

ASYNCH GBP REQUESTS

The number of asynchronous IXLCACHE invocations for the primary group buffer pool.

Field Name: QBGAHS

PG P-LOCK LOCK REQ SP MAP PG

The number of page P-lock lock requests for space map pages.

Field Name: QBGLP1

ASYNCH SEC-GBP REQUESTS

The number of IXLCACHE invocations for the secondary group buffer pool.

Field Name: QBGA2H

PG P-LOCK LOCK SUSP SP MAP PG

The number of page P-lock suspensions for space map pages.

Field Name: QBGLS1

WRITE SEC-GBP FAILED

The number of coupling facility requests to write changed pages to the secondary group buffer pool for duplexing that failed because of a lack of storage in the coupling facility.

Field Name: QBGL2F

This is an *exception* field.

PG P-LOCK LOCK NEG SP MAP PG

The number of page P-lock negotiations for space map pages.

Field Name: QBGLN1

PG P-LOCK LOCK REQ DATA PG

The number of page P-lock requests for data pages.

Field Name: QBGLP2

PG P-LOCK LOCK REQ IX LEAF PG

The number of page P-lock requests for index leaf pages.

Field Name: QBGLP3

PG P-LOCK LOCK SUSP DATA PG

The number of page P-lock suspensions for data pages.

Field Name: QBGLS2

PG P-LOCK LOCK SUSP IX LEAF PG

The number of page P-lock suspensions for index leaf pages.

Field Name: QBGLS3

PG P-LOCK LOCK NEG DATA PG

The number of page P-lock negotiations for data pages.

Field Name: QBGLN2

PG P-LOCK LOCK NEG IX LEAF PG

The number of page P-lock negotiations for index leaf pages.

Field Name: QBGLN3

PAGES IN WRITE AROUND

The number of changed pages that were written to disk through group buffer pool write-around due to condition write failures to the group buffer pool.

Field Name: QBGLWA

IXLCACHE REQS WITH ASYNCH XI

Specifies the number of IXLCACHE requests with asynchronous cross- invalidation (XI).

Field Name: QBGLWX

IXLAXISN SYNCH-UP CALLS

Specifies the number of asynchronous XLAXISN synch-up calls to determine whether all outstanding cross- invalidation (XI) notifications have been delivered.

Field Name: QBGLSU

IXLAXISN SUSPENDS WAITING XI

Specifies the number of suspensions of IXLAXISN sync-up calls that occurred while waiting for asynchronous cross- invalidation (XI) to complete.

Field Name: QBGLAS

IFCID 002 - Locking Data

This topic shows detailed information about "Record Trace - IFCID 002 - Locking Data".

Record trace - IFCID 002 - Locking Data

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Locking Data" are described in the following section.

```
LOCKING DATA
DEADLOCKS                  0  LOCK REQUEST        96361  LOCK SUSPENSIONS            0  CLAIM REQUESTS             3220
TIMEOUTS                   0  UNLOCK REQUEST      37313  IRLM LATCH SUSPENS.        16  CLAIM REQ. FAILED             0
ESCALATIONS(SHR)           0  QUERY REQUEST           0  OTHER SUSPENSIONS           6  DRAIN REQUESTS              111
ESCALATIONS(EXC)           0  CHANGE REQUEST       3753                                 DRAIN REQ. FAILED             0
MAXIMUM PAGE/ROW LOCKS HELD                        N/A  OTHER REQUEST               3
```

DEADLOCKS

The number of times deadlocks were detected. This number should be low, ideally 0.

Background and Tuning Information

Deadlocks occur when two or more application processes each hold locks on resources that the others need, without which they cannot proceed. Ensure that all applications accessing the same tables access them in the same order.

To improve concurrency:

- Use row level locking instead of page level locking to minimize deadlocks.
- For small tables use page level locking with MAXROWS 1.

To minimize deadlocks:

- Delay updates to just before commit.
- Use SELECT with the FOR UPDATE clause to use U lock.
- Adjust the deadlock detection cycle parameter DEADLOK in the IRLM procedure.

This field is incremented once for each deadlock encountered. There is no correlation between this field and the deadlock events reported in the Locking report set or the number of IFCID 172 records written. This field reports all deadlocks, regardless of how they were resolved. The locking report and record trace IFCID 172 show only those deadlocks that were resolved by DB2.

Field Name: QTXADEA

This is an *exception* field.

LOCK REQUEST

The number of requests to lock a resource.

Field Name: QTXALOCK

This is an *exception* field.

LOCK SUSPENSIONS

The number of times a lock could not be obtained and the unit of work was suspended.

Background and Tuning Information

This number should be low, ideally 0.

The number of lock suspensions is a function of the lock requests. Lock suspensions (or conflicts) can happen on either LOCK REQUEST or CHANGE REQUEST.

Suspensions are highly dependent on the application and table space locking protocols.

Field Name: QTXASLOC

This is an *exception* field.

CLAIM REQUESTS

The number of claim requests.

Field Name: QTXACLNO

This is an *exception* field.

TIMEOUTS

The number of times a unit of work was suspended for a time exceeding the timeout value. This number should be low, ideally 0.

Field Name: QTXATIM

This is an *exception* field.

UNLOCK REQUEST

The number of requests to unlock a resource.

This value can be less than the number of lock requests because DB2 can release several locks with a single unlock request.

Field Name: QTXAUNLK

IRLM LATCH SUSPENS.

The number of latch suspensions.

Field Name: QTXASLAT

CLAIM REQ. FAILED

The number of unsuccessful claim requests.

Field Name: QTXACLUN

ESCALATIONS(SHR)

The number of times the maximum page locks per table space are exceeded, and the table space lock escalates from a page lock (IS) to a table space lock (S) for this thread. You can specify the number of locks allowed per table space with the LOCKS PER TABLE(SPACE) parameter on the DB2 install panel DSNTIPJ.

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than normal.

Field Name: QTXALES

This is an *exception* field.

QUERY REQUEST

The number of query requests.

Field Name: QTXAQRY

This is an *exception* field.

OTHER SUSPENSIONS

The number of suspensions caused by something other than lock or latch.

Field Name: QTXASOTH

This is an *exception* field.

DRAIN REQUESTS

The number of drain requests.

Field Name: QTXADRNO

This is an *exception* field.

ESCALATIONS(EXC)

The number of times the maximum page locks per table space are exceeded and the table space lock escalates from a page lock (IX) to a table space lock (X).

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than it normally does.

A useful rule of thumb is to compare the number of escalations (shared and exclusive) to the successful escalations (those that did not cause deadlocks and timeouts). If this value, or the number Lock escalations - shared and if the number of timeouts or deadlocks is also not 0, the timeout or deadlock is probably caused by the escalation.

If many escalations cause deadlocks and timeouts, the recommendation is to change the escalation threshold value. Use of ANY is extremely useful to prevent unnecessary and expensive page locks, for example locking all pages in a tablespace.

Lock escalations, shared or exclusive, should not be expected in a transaction environment.

Field Name: QTXALEX

This is an *exception* field.

CHANGE REQUEST

The number of change requests.

Field Name: QTXACHG

This is an *exception* field.

DRAIN REQ. FAILED

The number of unsuccessful drain requests.

Field Name: QTXADRUN

This is an *exception* field.

MAXIMUM PAGE/ROW LOCKS HELD

The maximum number of page or row locks concurrently held against all table spaces by a single application during its execution. This count is a high-water mark. It cannot exceed the LOCKS PER USER parameter on panel DSNTIPJ.

Field Name: QTXANPL

This is an *exception* field.

OTHER REQUEST

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

Field Name: QTXAIRLM

This is an *exception* field.

IFCID 002 - Miscellaneous

This topic shows detailed information about "Record Trace - IFCID 002 - Miscellaneous".

Record Trace - IFCID 002 - Miscellaneous

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Miscellaneous" are described in the following section.

```
                                    MISCELLANEOUS
MX ST LOB VAL (MB)                  0  MX ST XML VAL (MB)                0  ARRAY EXPANSIONS                   0
SPARSE IX DISABLED                  0  SPARSE IX BUILT WF                0  RE-FRESH TABLE                     0
TRANSFER OWNERSHIP                  0  NO DM CALL RID/LPF                0  FETCH 1 BLOCK ONLY                19
HISTORY LOST                        0  HV RECORDING LOST                 0  ZAI STABL. PREPARE                70
RDS SORT PERFORM.                   0  RDS SORTL USED                    0  ZAI SORT FEEDBACK                 80

QXPFSLNUM .......:                  0  QXPFSENUM .......:                0  QXPFSENUMG ......:                 0
QXPFMAXU ........:                  0  QXPFMAXUG .......:                0  QXPFSENUMG ......:                 0
QXN1093B ........:                  0
```

MX ST LOB VAL (MB)

Maximum storage used for LOB values.

Field Name: QXSTLOBV

MX ST XML VAL (MB)

Maximum storage used for XML values.

Field Name: QXSTXMLV

ARRAY EXPANSIONS

The number of times an array variable is expanded beyond 32 KB.

Field Name: QXSTARRAY_EXPANSIONS

SPARSE IX DISABLED

The number of times that sparse index was disabled because of insufficient storage.

Field Name: QXSISTOR

SPARSE IX BUILT WF

The number of times that sparse-index built a physical work file for probing.

Field Name: QXSIWF

REFRESH TABLE

The number of REFRESH TABLE statements.

Field Name: QXREFTBL

TRANSFER OWNERSHIP

The number of TRANSFER OWNERSHIP statements.

Field Name: QXTRNOWN

NO DM CALL RID/LPF

The number of times that RDS did not call data manager for RID list retrieval for multiple index access or list prefetch because runtime adaptive index processing was able to determine the outcome.

Background and Tuning Information

The number of times that RDS did not call data manager for RID list retrieval for multiple index access or list prefetch because runtime adaptive index processing was able to determine the outcome.

Field Name: QXRSDMAD

FETCH 1 BLOCK ONLY

The number of times that RDS fetched one block and made no subsequent requests for additional blocks.

Background and Tuning Information

The number of times that RDS fetched one block and made no subsequent requests for additional blocks.

Field Name: QXR1BOAD

HISTORY LOST

The number of times when execution history has been lost.

Background and Tuning Information

The number of times when execution history has been lost.

Field Name: QXSTEHLST

HV RECORDING LOST

The number of times when HV recording history has been lost.

Background and Tuning Information

The number of times when HV recording history has been lost.

Field Name: QXSTHVLST

ZAI STABL. PREPARE

The number of times when a PREPARE request was satisfied because db2zai stabilized the statement.

Background and Tuning Information

The number of times when a PREPARE request was satisfied because db2zai stabilized the statement.

Field Name: QXSTMLSFND

RDS SORT PERFORM

Number of times RDS Sort was performed.

Background and Tuning Information

Number of times RDS Sort was performed.

Field Name: QXSTSRT

RDS SORTL USED

Number of times RDS Sort used the IBM Integrate Accelerator for Z Sort.

Background and Tuning Information

Number of times RDS Sort used the IBM Integrate Accelerator for Z Sort.

Field Name: QXSTSRTL

ZAI SORT FEEDBACK

The number of times when db2zai sort feedback was used.

Background and Tuning Information

The number of times when db2zai sort feedback was used.

Field Name: QXSTMLSRT

QXPFSLNUM

This field is for IBM service use.

Field Name: QXPFSLNUM

QXPFSENUM

This field is for IBM service use.

Field Name: QXPFSENUM

QXPFSENUMG

This field is for IBM service use.

Field Name: QXPFSENUMG

QXPFMAXU

This field is for IBM service use.

Field Name: QXPFMAXU

QXPFMAXUG

This field is for IBM service use.

Field Name: QXPFMAXUG

QXN1093A

This field is for IBM service.

Field Name: QXN1093A

QXN1093B

This field is for IBM service.

Field Name: QXN1093B

IFCID 002 - Nested SQL Activity

This topic shows detailed information about "Record Trace - IFCID 002 - Nested SQL Activity".

Record trace - IFCID 002 - Nested SQL Activity

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Nested SQL Activity" are described in the following section.

```
NESTED SQL ACTIVITY
MAX CASCAD LVL          1
CALL STATEMENTS         1  PROCEDURE ABENDS           0  CALL TIMEOUTS             0  CALL REJECTS              0
UDF EXECUTED            0  UDF ABENDS                 0  UDF TIMEOUTS              0  UDF REJECTS               0
STMT TRIGGER            0  ROW TRIGGER                0  SQL ERROR TRIGGER         0
```

MAX CASCAD LVL

The maximum level of indirect SQL cascading. This includes cascading because of triggers, UDFs, or stored procedures.

Field Name: QXCASCDP

This is an *exception* field.

CALL STATEMENTS

The number of SQL CALL statements executed.

Field Name: QXCALL

This is an *exception* field.

PROCEDURE ABENDS

The number of times a stored procedure terminated abnormally.

Field Name: QXCALLAB

This is an *exception* field.

CALL TIMEOUTS

The number of times an SQL call timed out waiting to be scheduled.

Field Name: QXCALLTO

This is an *exception* field.

CALL REJECTS

The number of times an SQL CALL statement was rejected due to the procedure being in the STOP ACTION(REJECT) state.

Field Name: QXCALLRJ

This is an *exception* field.

UDF EXECUTED

The number of user-defined functions executed.

Field Name: QXCAUD

This is an *exception* field.

UDF ABENDS

The number of times a user-defined function abended.

Field Name: QXCAUDAB

This is an *exception* field.

UDF TIMEOUTS

The number of times a user-defined function timed out while waiting to be scheduled.

Field Name: QXCAUDTO

This is an *exception* field.

UDF REJECTS

The number of times a user-defined function was rejected.

Field Name: QXCAUDRJ

This is an *exception* field.

STMT TRIGGER

The number of times a statement trigger was activated.

Field Name: QXSTTRG

This is an *exception* field.

ROW TRIGGER

The number of times a row trigger was activated.

Field Name: QXROWTRG

This is an *exception* field.

SQL ERROR TRIGGER

The number of times an SQL error occurred during the execution of a triggered action. This includes errors that occur in user-defined functions or stored procedures that are called from triggers and that pass back a negative SQLCODE.

Field Name: QXTRGERR

This is an *exception* field.

IFCID 002 - Query Parallelism

This topic shows detailed information about "Record Trace - IFCID 002 - Query Parallelism".

Record trace - IFCID 002 - Query Parallelism

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Query Parallelism" are described in the following section.

```
                                        QUERY PARALLELISM
MAX DEG ESTIMATED:                  0  MEMBERS SKIPPED .:                  0  PARALL. DISABLED :                N/A
MAX DEG PLANNED .:                  0
MAX DEG EXECUTED :                  0

Parallel Groups:
FALL TO SEQ-CURSOR                  0  GROUPS EXECUTED .:                  0  ONE DB2-COORD=NO :                  0
FALL TO SEQ-NOESA:                  0  PARALL.GROUPS ...:                  0  ONE DB2-ISO LVL .:                  0
FALL TO SEQ-STOR :                  0  RAN REDUCED-STOR :                  0  ONE DB2-DCL TTAB :                  0
FALL TO SEQ-NEGOTN                  0  RAN REDUCED-NEGOTN                  0  REFORM PARAL-CFG :                  0
FALL TO SEQ-A.PROC                  0  RAN AS PLANNED ..:                  0  REFORM PARAL-BUF :                  0

QXPAROPT ........:                  0
```

MAX DEG ESTIMATED

The maximum degree of parallelism estimated for a parallel group at bind time based on the cost formula. If the parallel group contains a host variable or parameter marker, then bind time will estimate the parallel group degree based on a valid assumption value.

Field Name: QXMAXESTIDG

MEMBERS SKIPPED

The number of times the parallelism coordinator had to bypass a DB2 when distributing tasks because one or more DB2 members did not have enough buffer pool storage. The number in this field is only incremented at the parallelism coordinator once per parallel group, even though more than one DB2 might have lacked buffer pool storage for that parallel group. It is also only incremented when the buffer pool is defined to allow for parallelism. For example, if VPXPSEQT=0 on an assistant, DB2 does not send parallel work there and the number in this field is not incremented.

Field Name: QXXCSKIP

PARALL. DISABLED

Indicates whether query parallelism is disabled by the Resource Limit Facility for at least one dynamic select statement in this thread. A non-zero value means that query parallelism is disabled.

Field Name: QXRLFDPA

MAX DEG PLANNED

The maximum degree of parallelism planned for a parallel group. It is the ideal parallel group degree obtained at execution time after the host variable or parameter marker value is "plug-in" and before buffer pool negotiation and system negotiation are performed.

Field Name: QXMAXPLANDG

MAX DEG EXECUTED

The maximum degree of parallelism executed among all parallel groups to indicate the extent to which queries were processed in parallel.

Field Name: QXMAXDEG

FALL TO SEQ-CURSOR

The total number of parallel groups that fell back to sequential mode due to a cursor that can be used by UPDATE or DELETE.

Field Name: QXDEGCUR

GROUPS EXECUTED

The total number of parallel groups executed.

Field Name: QXTOTGRP

ONE DB2-COORD=NO

The total number of parallel groups executed on a single DB2 subsystem due to the COORDINATOR subsystem value being set to NO. When the statement was bound, the COORDINATOR subsystem value was set to YES. This situation can also occur when a package or plan is bound on a DB2 subsystem with COORDINATOR=YES, but is run on a DB2 subsystem with COORDINATOR=NO.

Field Name: QXCOORNO

FALL TO SEQ-NOESA

The total number of parallel groups that fell back to sequential mode due to a lack of ESA sort support.

Field Name: QXDEGESA

PARALL.GROUPS

The total number of parallel groups that DB2 intended to run across the data sharing group. This number is only incremented at the parallelism coordinator at run time.

Field Name: QXXCBPNX

ONE DB2-ISO LVL

The total number of parallel groups executed on a single DB2 subsystem due to repeatable-read or read-stability isolation.

Field Name: QXISORR

FALL TO SEQ-STOR

The total number of parallel groups that fell back to sequential mode due to a storage shortage or contention on the buffer pool.

The exception field name is QXDEGBUF.

Field Name: QXDEGBUF

RAN REDUCED-STOR

The total number of parallel groups that did not reach the planned parallel degree because of a lack of storage space or contention on the buffer pool.

The exception field name is QXREDGRP.

Background and Tuning Information

If this field is not 0, increase the size of the current buffer pool using the ALTER BUFFERPOOL command or use the ALTER TABLESPACE command to assign table spaces accessed by this query to a different buffer pool.

Field Name: QXREDGRP

This is an *exception* field.

ONE DB2-DCL TTAB

The number of parallel groups in a query block that were downgraded to CPU parallelism because they referenced a UDF and a declared temporary table was detected at execution time.

DB2 enforces execution on a single DB2 (CPU parallelism), in this instance, because it cannot determine at incremental bind time for the statement whether the UDF will reference the declared temporary table. Other parallel groups in the same statement are not necessarily downgraded.

Field Name: QXDEGDTT

FALL TO SEQ-NEGOTN

The total number of parallel groups that fell back to sequential mode due to system negotiation result of system stress level.

Field Name: QXSTODGNGRP

RAN REDUCED-NEGOTN

The total number of parallel groups that did not reach the planned parallel degree due to system negotiation result of system stress level.

Field Name: QXSTOREDGRP

REFORM PARAL-CFG

The total number of parallel groups where DB2 reformulated the parallel portion of the access path because of a change in the number of active members, or because of a change of processor models on which they run, from bind time to run time. This counter is incremented only on the parallelism coordinator at run time.

Field Name: QXREPOP1

FALL TO SEQ-A.PROC

The total number of parallel groups that fell back to sequential mode under an autonomous procedure.

Field Name: QXDEGAT

RAN AS PLANNED

The total number of parallel groups that executed in the planned parallel degree. This field is incremented by one for each parallel group that executed in the planned degree of parallelism (as determined by DB2).

Field Name: QXNORGRP

REFORM PARAL-BUF

The total number of parallel groups in which DB2 reformulated the parallel portion of the access path because there were insufficient buffer-pool resources. This counter is incremented only at the parallelism coordinator at run time.

Field Name: QXREPOP2

QXPAROPT

This field is for IBM service.

Field Name: QXPAROPT

IFCID 002 - RID List Processing

This topic shows detailed information about "Record Trace - IFCID 002 - RID List Processing".

Record trace - IFCID 002 - RID List Processing

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - RID List Processing" are described in the following section.

```
                                        RID LIST PROCESSING
RL PROCESSING USED ...................:  73361   RL PROCESSING NOT USED-NO STORAGE ...:          11610
RL PROCESSING NOT USED-LIMIT EXCEEDED:      0   RL SKIPPED-INDEX KNOWN ..............:          11610
RL OVERFLOWED-NO STORAGE .............:      0   RL INTERRUPTED (HJ)-NO STORAGE ......:          11610
RL OVERFLOWED-MAX LIMIT ..............:      0   RL INTERRUPTED (HJ)-MAX LIMIT .......:          11610
RL PROCESSING NOT USED-NOT CONSTRUCT.:      2
```

RL PROCESSING USED

The number of times RID list (also called RID pool) processing is used.

During RID (RECORD ID) list processing, DB2 uses an index to produce a list of candidate RIDs, which is called a RID list. The RID list can be sorted and intersected (ANDed) or unioned (ORed) with other RID lists before actually accessing the data pages. RID list processing is used for a single index (index access with list prefetch) or for multiple indexes (multiple index access), which is when the RID lists are ANDed and ORed.

This field is incremented once for a given table access when RID list processing is used for index access with list prefetch, for multiple index access, or for both. For multiple index access, if a final RID list is obtained through ANDing and ORing of RID lists, the counter is incremented once, even if not all indexes were used by the RIDs in the multiple index access.

Background and Tuning Information

A nonzero value in this field indicates that DB2 has used list prefetch. If this is the case, check the access path selection.

Field Name: QXMIAP

This is an *exception* field.

RL PROCESSING NOT USED-NO STORAGE

The number of times DB2 detected that no storage was available to hold a list of RIDs during a given RID list process involving one index (single index access with list prefetch) or multiple indexes (multiple index access).

This field can be incremented during retrieval, sorting, ANDing, and ORing of RID lists for index access with list prefetch (single index). For single index access, this field can only be incremented once per access. For multiple index access, it can be incremented for every index involved in the ANDing and ORing of RID lists.

Field Name: QXNSMIAP

This is an *exception* field.

RL PROCESSING NOT USED-LIMIT EXCEEDED

The number of times DB2 detected that a RID list exceeded one or more internal limits during a given RID list (or RID pool) process involving one index (single index access with list prefetch) or multiple indexes (multiple index access). The internal limits include the physical limitation of the number of RIDs a RID list can hold and threshold values for the retrieval, ORing, and ANDing of RIDs.

For index access with list prefetch (single index), this field can only be incremented during RID list retrieval. For multiple index access, this field can be incremented during RID list retrieval, ANDing, and ORing. This counter reflects the number of times internal limits or threshold values were exceeded for the RID lists obtained directly from an index as well as for RID lists derived during the ANDing and ORing process.

Background and Tuning Information

Before you increase the RID list storage size, investigate the cause of the failure using the statistics record or the performance trace. You can specify the size for the RID list on the DB2 installation panel DSNTIPC.

Field Name: QXMRMIAP

This is an *exception* field.

RL SKIPPED-INDEX KNOWN

The number of times a RID list retrieval for multiple index access was skipped because it was not necessary due to DB2 being able to predetermine the outcome of index ANDing or ORing.

Field Name: QXRSMIAP

RL OVERFLOWED-NO STORAGE

The number of times a RID list was overflowed to a work file because no RID pool storage was available to hold the list of RIDs.

Field Name: QXWFRIDS

RL INTERRUPTED (HJ)-NO STORAGE

The number of times a RID list append for a hybrid join was interrupted because no RID pool storage was available to hold the list of RIDs.

Field Name: QXHJINCS

RL OVERFLOWED-MAX LIMIT

The number of times a RID list was overflowed to a work file because the number of RIDs exceeded one or more internal limits.

Field Name: QXWFRIDT

RL INTERRUPTED (HJ)-MAX LIMIT

The number of times a RID list append for a hybrid join was interrupted because the number of RIDs exceeded one or more internal limits.

Field Name: QXHJINCT

RL PROCESSING NOT USED-NOT CONSTRUCT.

The number of times RID list processing was not used. This field is incremented once when RID list processing could not be used for a given table access for Index Access with list prefetch and/or for Multiple Index Access.

For example, RID list processing is used with multiple index access when performing ANDing. If the retrieved RID list of one leg exceeds a certain threshold and Db2 decides to not use this RID list, field QXMRMIAP is incremented by 1. But a final RID list can still be obtained based on the other legs of the ANDing. So, RID list processing is still used successfully.

This may cause some confusion. So, this counter QXRFMIAP show exactly how many times a final RID list could not be constructed and "RID list processing was not used".

Field Name: QXRFMIAP

IFCID 002 - ROWID

This topic shows detailed information about "Record Trace - IFCID 002 - ROWID".

Record trace - IFCID 002 - ROWID

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - ROWID" are described in the following section.

```
ROWID
DIRECT ACCESS               0   INDEX USED                          0    TABLE SPACE SCAN USED               0
```

DIRECT ACCESS

The number of times that direct row access was successful.

Field Name: QXROIMAT

INDEX USED

The number of times an index was used to find a record.

Field Name: QXROIINX

TABLE SPACE SCAN USED

The number of times that an attempt to use direct row access reverted to using a table-space scan because DB2 was unable to use a matching index scan.

Background and Tuning Information

Ideally, this value should be 0.

Table-space scans can happen, for example, when a REORG is performed between the read of the ROWID column and the use of the host variable in the WHERE clause of the SQL statement. This causes the RID value in the host variable to be incorrect. DB2 first tries a matching-index scan before using a table-space scan.

To avoid table space scans, you can force the access path of an unsuccessful direct row access to use a matching index scan on the primary-index key by adding PKCOL to the WHERE clause in the SQL statement. `.... WHERE ROWIDCOL=:HVROWID AND PKCOL=:HVPK .....`

Field Name: QXROITS

IFCID 002 - Service Controller Data

This topic shows detailed information about "Record Trace - IFCID 002 - Service Controller Data".

Record Trace - IFCID 002 - Service Controller Data

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Service Controller Data" are described in the following section.

```
SERVICE CONTROLLER DATA
PLAN ALLOC.ATTMP        142  PACK.ALLOC.ATTMP          6  OPEN DATASETS - HWM           102  AUTHORIZ.ATTEMPTS       1034
PLAN ALLOC.SUCC.        142  PACK.ALLOC.SUCC.          6  OPEN DATASETS - CURR.         101  AUTHORIZ.SUCCESS.       1034
PLANS BOUND              30  PACKAGES BOUND           67  DS NOUSE,NOCLOSE-HWM          101  AUTH.SUCC-NO CAT.         37
BIND PLAN (ADD)           0  BIND PACK (ADD)           0  DS NOUSE,NOCLOSE-CURR.        100  AUTH.SUCC-PUBLIC           0
BIND PLAN (REPL)         30  BIND PACK (REPL)         67  DS CLOSED-THRESH.REACH          0  PKG-AUTH.SUCC              0
AUTOB.PLAN ATTMP          1  AUTOB.PACK ATTMP          0  DS CLOSED-INFRQ ACCESS          2  PKG-AUTH.SUCC-PUB          0
AUTOB.PLAN SUCC.          1  AUTOB.PACK SUCC.          0  DS CLOSE-UTIL ACC ONLY          3  PKG-AUTH.UNSUCC            3
AUTOB.PLAN ATTMP          1  AUTOB.PACK ATTMP          0  R/W TO R/O CONVERSIONS         97  PKG-AUTH.SUCC-PUB          0
AUTOB.PLAN SUCC.          1  AUTOB.PACK SUCC.          0                                      PKG-AUTH.UNSUCC            3
REBIND PLAN COMM          0  REBIND PACK COMM          0                                      PKG-AUTHID OWRTN           0
REBIND PLAN ATTM          0  REBIND PACK ATTM          0                                      PKG-ENTRY OWRTN            0
PLANS REBOUND             0  PACKAGES REBOUND          0                                      RTN-AUTH.SUCC              2
FREE PLAN COMMND          0  FREE PACKAGE COM          0                                      RTN-AUTH.SUCC-PUB          0
FREE PLAN ATTMPT          0  FREE PACK ATTMPT          0                                      RTN-AUTH.UNSUCC            6
PLANS FREED               0  PACKAGES FREED            0                                      RTN-AUTHID OWRTN           0
TEST BINDS                0  AUTOB.INV.RES.ID          0                                      RTN-ENTRY OWRTN            0
QTREOPN                2346                                                                   RTN-CACHE NO ADD           0
```

PLAN ALLOC.ATTMP

The number of times a request was made to allocate a bound plan for an agent.

It represents the number of times DB2 was requested to create a thread by the attachment facility for the user. This does not include allocations for DB2 system agents.

Field Name: QTALLOCA

PACK.ALLOC.ATTMP

The number of attempts to allocate a package.

Field Name: QTPKALLA

OPEN DATASETS - HWM

The maximum number of data sets concurrently open since the last time DB2 was started. This is a high-water mark (HWM).

Background and Tuning Information

Monitor this field to see whether you are reaching the maximum number of open data sets permissible.

Note: The maximum number of open data sets is 200,000. The default is 20,000.

Field Name: QTMAXDS

AUTHORIZ.ATTEMPTS

The number of authorization checks performed for plans, packages, and stored procedures since DB2 was started. This includes successful and failed checks.

Field Name: QTAUCHK

PLAN ALLOC.SUCC.

The number of successful plan allocation attempts.

The cause of plan allocation failure could be plan unavailability or attempting to allocate a nonexistent plan.

Field Name: QTALLOC

PACK.ALLOC.SUCC.

The number of successful package allocation attempts.

Background and Tuning Information

Package allocation failure can occur when a package is unavailable or does not exist.

A high count of the number of packages unsuccessfully allocated (QTPKALLA - QTPKALL) typically occurs when a package list with multiple collections is used and frequently-used packages are found in the back end rather than in the front end of a package list. For example, when a package is found in the tenth collection, QTPKALLA is incremented by 10, one for each collection searched, but QTPKALL is incremented by 1.

A high number of packages unsuccessfully allocated can be accompanied by a high count of the number of unsuccessful checks for package execute authority made using the package authorization check because an application entry was not found in the cache (QTPACNOT). In this case, placing frequently used packages in the front end of a package list would reduce the number of Buffer Manager Getpages to the catalog/directory tablespaces.

Field Name: QTPKALL

OPEN DATASETS - CURR.

The number of data sets concurrently open (snapshot).

Field Name: QTDSOPN

AUTHORIZ.SUCCESS.

The number of successful authorization checks performed on plans, packages, and stored procedures, since DB2 was started.

Field Name: QTAUSUC

PLANS BOUND

The number of plans successfully bound and kept for future agent allocations.

This field represents the sum of successful BIND ADD (QTBINDA) and successful BIND REPLACE (QTBINDR) commands. This counter is not incremented for BIND subcommands with no plan ID specified, as identified by QTTESTB. Note that QTBINDA + QTBINDR is not necessarily equal to this field. It is equal only if all BIND ADD and BIND REPLACE subcommands issued are successful.

Field Name: QTPLNBD

PACKAGES BOUND

The number of packages bound and kept for future package allocations.

It is the sum of successful BIND ADD PACKAGE and BIND REPLACE PACKAGE subcommands, but only if all these commands are really issued successfully.

Field Name: QTPKGBD

DS NOUSE,NOCLOSE-HWM

The maximum number of data sets on the deferred close queue. It is a high-water mark representing the maximum number of data sets that are not in use but have not been physically closed yet.

Field Name: QTMAXPB

AUTH.SUCC-NO CAT.

The number of successful authorization checks that do not use the DB2 catalog (including plan cache checks and public checks).

Background and Tuning Information

For transaction level security, ENABLE and DISABLE on BIND PACKAGE should be used to ensure adequate security. Granting execute authority on the plan to public should be adequate.

Field Name: QTAUCCH

BIND PLAN (ADD)

The number of successful and unsuccessful BIND ADD subcommands issued.

The sum of QTBINDA, QTBINDR, and QTTESTB equals the total number of BIND subcommands.

Field Name: QTBINDA

BIND PACK (ADD)

The number of successful and unsuccessful BIND ADD PACKAGE subcommands issued.

Field Name: QTBINDPA

DS NOUSE,NOCLOSE-CURR.

The number of data sets that are not currently used, but are not closed due to a deferred close (snapshot).

Field Name: QTSLWDD

AUTH.SUCC-PUBLIC

The number of successful authorization checks based on EXECUTE authority granted to PUBLIC.

Field Name: QTAUPUB

BIND PLAN (REPL)

The number of successful and unsuccessful BIND REPLACE subcommands issued.

Field Name: QTBINDR

BIND PACK (REPL)

The number of successful and unsuccessful BIND REPLACE PACKAGE subcommands issued.

Field Name: QTBINDPR

DS CLOSED-THRESH.REACH

The number of data sets that were closed because the total number of open data sets reached the deferred close threshold value. The deferred close value is based on the value of DSMAX or the MVS DD limit (whichever is smaller).

Field Name: QTDSDRN

PKG-AUTH.SUCC

The number of successful package EXECUTE authorization checks without accessing the DB2 catalog.

Field Name: QTPACAUT

AUTOB.PLAN ATTMP

The number of attempts to autobind a plan. This occurs when the plan was invalidated by modifications to the declarations of the data referenced by the programs bound as part of the plan. For example, dropping an index when it is used in the plan results in automatic bind.

Field Name: QTABINDA

AUTOB.PACK ATTMP

The number of attempts to autobind a package.

Background and Tuning Information

If YES was specified, or defaulted, for autobind on DB2 install panel DSNTIPB, an autobind occurs when a plan or package:

- Is invalid because declarations of the data referenced by the program or package were modified. For example, when an index used in a package is dropped, an automatic bind occurs when the package is run for the first time after the index was dropped.
- Was bound in a later release and is used in a previous release for the first time.
- Was used in a previous release but is later remigrated and used in a later release for the first time.

Field Name: QTAUTOBA

DS CLOSED-INFRQ ACCESS

Number of infrequently accessed data sets that are physically closed.

Background and Tuning Information

Number of infrequently accessed data sets that are physically closed.

Field Name: QTPCGBP

R/W TO R/O CONVERSIONS

The number of infrequently updated data sets that are converted from R/W to R/O state. An updated data set is considered infrequently updated when it has not been updated for either 5 consecutive DB2 checkpoints or 60 minutes. For tablespace data sets, the switching from R/W to R/O state means the SYSLGRNG entry is closed.

Field Name: QTPCCT

PKG-AUTH.SUCC-PUB

The number of successful package EXECUTE authorization checks without accessing the DB2 catalog. Package EXECUTE authority was granted to PUBLIC in the package authorization cache.

Field Name: QTPACPUB

AUTOB.PLAN SUCC.

The number of plans successfully autobound.

Field Name: QTABIND

AUTOB.PACK SUCC.

The number of packages successfully autobound.

Field Name: QTPKABND

DS CLOSE-UTIL ACC ONLY

Number of utility-access-only data sets that are physically closed.

Background and Tuning Information

Number of utility-access-only data sets that are physically closed.

Field Name: QTPCUT

PKG-AUTH.UNSUCC

The number of unsuccessful package EXECUTE authorization checks in the package authorization cache. No applicable entry was found in the cache and DB2 catalog access was used.

Field Name: QTPACNOT

REBIND PLAN COMM

The number of REBIND subcommands issued. More than one plan can be rebound with a single REBIND subcommand. If the value in this field is 1, the number of plans you are attempting to rebind is shown in the Rebind - plan attempts field.

Field Name: QTREBIND

REBIND PACK COMM

The number of REBIND PACKAGE subcommands issued. More than one package can be rebound with a single subcommand. If the value in this field is 1, Rebind - package attempts shows the number of packages you are attempting to rebind.

Field Name: QTRBINDP

PKG-AUTHID OWRTN

The number of times an authorization ID was overwritten to add another one to the package authorization cache.

Field Name: QTPACOW1

REBIND PLAN ATTM

The number of attempts to rebind a plan. This number can be larger than the value shown in the Rebind - plan subcommands field because you can specify more than one plan in a single REBIND subcommand.

Field Name: QTRBINDA

REBIND PACK ATTM

The number of attempts to rebind a package. This can be larger than the value shown in Rebind package subcommands because you can rebind more than one package with a single command.

Field Name: QTRBNDPA

PKG-ENTRY OWRTN

The number of times an entry for a collection-ID or package-ID was overwritten to add another one to the package authorization cache.

Field Name: QTPACOW2

PLANS REBOUND

The number of rebind attempts that completed successfully. This field is equal to the Rebind - Plan attempts field if all specified plans rebound successfully.

Field Name: QTPLNRBD

PACKAGES REBOUND

The number of packages successfully rebound. If all specified packages were rebound successfully, this field is equal to Rebind package attempts.

Field Name: QTPKGRBD

RTN-AUTH.SUCC

The number of times the routine authorization cache was checked successfully of EXECUTE authority on a stored procedure or user-defined function. The DB2 catalog was not accessed. This counter includes the number of PUBLIC authorization checks.

Field Name: QTRACAUT

FREE PLAN COMMND

The number of FREE subcommands issued.

More than one plan can be freed with a single FREE subcommand. If this field is 1, then the number of plans you are trying to free is shown in ATTEMPTS TO FREE A PLAN.

Field Name: QTFREE

FREE PACKAGE COM

The number of FREE PACKAGE subcommands issued.

More than one package can be freed with a single FREE subcommand. If the value in this field is 1, then the number of packages you are attempting to free is shown in ATTEMPTS TO FREE A PACKAGE.

Field Name: QTFREEP

RTN-AUTH.SUCC-PUB

Number of successful authorization checks for user-defined function or stored procedure execution authority when that authority is held by PUBLIC. The DB2 catalog was not checked.

Field Name: QTRACPUB

FREE PLAN ATTMPT

The number of attempts to free a plan.

This value can be larger than FREE PLAN SUBCOMMANDS because multiple plan IDs can be specified in a single FREE subcommand.

Field Name: QTFREEA

FREE PACK ATTMPT

The number of attempts to free a package. This number can be larger than FREE PACKAGE SUBCOMMANDS because you can free several packages with a single command.

Field Name: QTFREEAP

RTN-AUTH.UNSUCC

Number of unsuccessful authorization checks for user-defined function or stored procedure EXECUTE authority because no applicable entry was found in the routine authorization cache.

Field Name: QTRACNOT

PLANS FREED

The number of times a plan was successfully freed.

Freeing a plan can fail if someone else is using the plan and holds a lock on it.

Field Name: QTPLNFRD

PACKAGES FREED

The number of times a package was successfully freed. If all the specified packages were freed successfully, the value of this field is equal to ATTEMPTS TO FREE A PACKAGE.

Field Name: QTPKGFRD

RTN-AUTHID OWRTN

Number of times an individual authorization ID was overwritten in an entry of the routine authorization cache.

Field Name: QTACOW1

TEST BINDS

The number of BIND subcommands issued without a plan ID.

Field Name: QTTESTB

AUTOB.INV.RES.ID

The number of requests to allocate a nonexistent plan or package. This is the number of all plan and package allocation attempts that failed because the resource was unavailable or the object did not exist.

Field Name: QTINVRID

RTN-ENTRY OWRTN

Number of times that DB2 overwrote a routine entry in the routine authorization cache.

An entry in the routine authorization cache can refer to a function or procedure or to all functions or procedures within a specific schema.

Field Name: QTRACOW2

RTN-CACHE NO ADD

Number of times that DB2 could not add an entry to the routine authorization cache.

An entry in the routine authorization cache can refer to a function or procedure or to all functions or procedures within a specific schema.

Field Name: QTRACNAC

IFCID 002 - Simulated Buffer Pool Activity

This topic shows detailed information about "Record Trace - IFCID 002 - Simulated Buffer Pool Activity".

This block is provided for each simulated buffer pool.

Record trace - IFCID 002 - Simulated Buffer Pool Activity

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - Simulated Buffer Pool Activity" are described in the following section.

```
                         SIMULATED BUFFER POOL ACTIVITY
BUFFER POOL ID                 :          8          FLAGS                          : X'80'
CURRENT PAGES IN USE           :            2077149  AVOIDABLE READ I/O:
MAX PAGES IN USE               :            2077152    SYNC  READ I/O (R)           :            25866384
CURRENT SEQ PAGES IN USE       :             109436    SYNC  READ I/O (S)           :              322891
MAX SEQ PAGES IN USE           :             113140    ASYNC READ I/O               :             3661730
PAGES MOVED INTO SIMULATED BP  :           34732432    SYNC  GBP READS (R)          :                   0
TOTAL AVOIDABLE SYNC I/O DELAY :      2:37:06.172028    SYNC  GBP READS (S)          :                   0
                                                        ASYNC GBP READS              :                   0
```

BUFFER POOL ID

The buffer pool ID.

Field Name: QBSPBPID

CURRENT PAGES IN USE

The number of simulated buffers currently in use in the simulated buffer pool.

Field Name: QBSPIUS

MAX PAGES IN USE

The highest number of simulated buffers that were in use in the simulated buffer pool.

Field Name: QBSPHUS

CURRENT SEQ PAGES IN USE

The number of simulated buffers currently in use for sequential pages in the simulated buffer pool.

Field Name: QBSPSUS

MAX SEQ PAGES IN USE

The highest number of simulated buffers that were in use for sequential pages in the simulated buffer pool.

Field Name: QBSPHSU

PAGES MOVED INTO SIMULATED BP

The number of pages logically moved into the simulated buffer pool from the virtual buffer pool.

Field Name: QBSPMVI

TOTAL AVOIDABLE SYNC I/O DELAY

The total time waiting for synchronous read I/O from disk for pages found in the simulated buffer pool.

Field Name: QBSPDTM

FLAGS

The flag byte shows if more QBSP data is following or if this is the last of the QBSP repeating groups.

Field Name: QBSPFLG

AVOIDABLE READ I/O - SYNC READ I/O (R)

The number of pages found in the simulated buffer pool for a random request that could have avoided a synchronous read I/O from disk.

Field Name: QBSPDRR

AVOIDABLE READ I/O - SYNC READ I/O (S)

The number of pages found in the simulated buffer pool for a sequential request that could have avoided a synchronous read I/O from disk.

Field Name: QBSPDRS

AVOIDABLE READ I/O - ASYNC READ I/O

The number of pages found in the simulated buffer pool for a prefetch request that could have avoided an asynchronous read I/O from disk.

Field Name: QBSPDRA

AVOIDABLE READ I/O - SYNC GBP READS (R)

The number of pages found in the simulated buffer pool for a random request that could have avoided a synchronous read from GBP.

Field Name: QBSPGRR

AVOIDABLE READ I/O - SYNC GBP READS (S)

The number of pages found in the simulated buffer pool for a sequential request that could have avoided a synchronous read from GBP.

Field Name: QBSPGRS

AVOIDABLE READ I/O - ASYNC GBP READS

The number of pages found in the simulated buffer pool for a prefetch request that could have avoided an asynchronous read from GBP.

Field Name: QBSPGRA

IFCID 002 - SQL Call Data

This topic shows detailed information about "Record Trace - IFCID 002 - SQL Call Data".

Record Trace - IFCID 002 - SQL Call Data

The field labels shown in the following sample layout of "Record Trace - IFCID 002 - SQL Call Data" are described in the following section.

```
                                                SQL CALL DATA
SELECT ..........:          12158358  INSERT ..........:           2317413  UPDATE ..........:           3308351
DELETE ..........:             34478  TYPE 1 INSRT ALG.:            248658  PREPARE .........:             30540
DESCRIBE ........:            356729  TYPE 2 INSRT ALG.:                 0
OPEN ............:            138162  CLOSE ...........:            126456  FETCH ...........:          74137826
COMMENT ON ......:                 0  LOCK TABLE ......:                 0  GRANT ...........:                 0
REVOKE ..........:                 0  INCREMENTAL BINDS:             46353  LABEL ON ........:                 0
DESCRIBE TABLE ..:                 0  CONNECT TYPE 1 ..:                 0  CONNECT TYPE 2 ..:                15
RELEASE .........:                 0  ASSOCIATE LOCATOR:                 5  ALLOCATE CURSOR .:                 5
RENAME TABLE ....:                 0  HOLD LOCATOR ....:                 0  FREE LOCATOR ....:                 0
MERGE ...........:                 0  TRUNCATE TABLE ..:                 0  RENAME INDEX ....:                12

CREATE DATABASE .:                 0  DROP DATABASE ...:                 0  ALTER DATABASE ..:                 0
CREATE STOGROUP ..:                0  DROP STOGROUP ...:                 0  ALTER STOGROUP ..:                 0
CREATE TABSPACE ..:                0  DROP TABSPACE ...:                 0  ALTER TABSPACE ..:                 0
CREATE TABLE ....:                30  DROP TABLE ......:             11614  ALTER TABLE .....:                 0
CREATE AUX TABLE :                 0  CREATE TMP TABLE :                 0  DECLARE TMP TABLE:             11600
CREATE INDEX ....:                 6  DROP INDEX ......:                 0  ALTER INDEX .....:                 0
CREATE VIEW .....:                12  DROP VIEW .......:                12  ALTER VIEW ......:                 6
CREATE SYNONYM ..:                 0  DROP SYNONYM ....:                 0
CREATE ALIAS ....:                 0  DROP ALIAS ......:                 0
CREATE SEQUENCE .:                 6  DROP SEQUENCE ...:                 6  ALTER SEQUENCE ..:                 6
CREATE TRIGGER ..:                 6  DROP TRIGGER ....:                 6
CREATE DIST TYPE :                 6  DROP DIST TYPE ..:                 6
CREATE FUNCTION ..:                6  DROP FUNCTION ...:                 6  ALTER FUNCTION ..:                 6
CREATE PROCEDURE .:                6  DROP PROCEDURE ..:                 6  ALTER PROCEDURE .:                 6
CREATE ROLE .....:                12  DROP ROLE .......:                12
CREATE TRUST CONT:                 6  DROP TRUST CONT .:                 6  ALTER TRUST CONT :                 6
CREATE MASK/PERM :                 0  DROP MASK/PERM ..:                 0  ALTER MASK/PERM .:                 0
CREATE VARIABLE .:                 0  DROP VARIABLE....:                 0
                                      DROP PACKAGE ....:                 0  ALTER JAR .......:                 0

SET CUR SQL ID ..:                25  SET HOST VAR ....:          34657212  SET CONNECTION ..:                 0
SET CUR DEGREE ..:                 0  SET CUR RULES ...:                 0  SET CUR PATH ....:                 0
SET CUR PRECISION:                 0

MULTI-ROW PROCESSING:
ROWS FETCHED ....:          75968806  ROWS INSERTED ...:           2915959 ROWS UPDATED ....:           3486197
ROWS DELETED ....:            490627
```

SELECT

The number of SQL SELECT statements executed.

Field Name: QXSELECT

INSERT

The number of INSERT statements executed.

Field Name: QXINSRT

UPDATE

The number of UPDATE statements executed.

Field Name: QXUPDTE

DELETE

The number of DELETE statements executed.

Field Name: QXDELET

TYPE 1 INSRT ALG

Inserts performed via algorithm type 1.

Background and Tuning Information

Inserts performed via algorithm type 1.

Field Name: QXRWSINSRTDALG1

PREPARE

The number of SQL PREPARE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXPREP

DESCRIBE

The number of DESCRIBE, DESCRIBE CURSOR, DESCRIBE INPUT, and DESCRIBE PROCEDURE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXDESC

TYPE 2 INSRT ALG

Inserts performed via algorithm type 2.

Background and Tuning Information

Inserts performed via algorithm type 2.

Field Name: QXRWSINSRTDALG2

OPEN

The number of OPEN statements executed.

Field Name: QXOPEN

CLOSE

The number of CLOSE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXCLOSE

FETCH

The number of FETCH statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXFETCH

COMMENT ON

The number of COMMENT ON statements executed.

Field Name: QXCMTON

LOCK TABLE

The number of LOCK TABLE statements executed.

Field Name: QXLOCK

GRANT

The number of GRANT statements executed.

Field Name: QXGRANT

REVOKE

The number of REVOKE statements executed.

Field Name: QXREVOK

INCREMENTAL BINDS

The number of incremental binds (excluding prepare). It is incremented by:

- SQL statements with BIND VALIDATE(RUN) that fail at bind time and are bound again at execution time
- Static DDL statements (such as CREATE TABLE, DROP TABLE, LOCK TABLE) that use DB2 private protocol

Background and Tuning Information

If a plan is bound with VALIDATE(RUN), DB2 performs validity checks at bind time and rechecks any failures at run time. This can result in catalog contention and degraded application performance, depending on the number of statements flagged and how many times they are executed. Avoid VALIDATE(RUN) if possible. Ensure that all objects are created and all privileges are granted before bind, and select the VALIDATE(BIND) option.

Field Name: QXINCRB

LABEL ON

The number of LABEL ON statements executed.

Field Name: QXLABON

DESCRIBE TABLE

The number of DESCRIBE TABLE statements executed.

Field Name: QXDSCRTB

CONNECT TYPE 1

The number of CONNECT type 1 statements executed.

Field Name: QXCON1

CONNECT TYPE 2

The number of CONNECT type 2 statements executed.

Field Name: QXCON2

RELEASE

The number of RELEASE statements executed.

Field Name: QXREL

ASSOCIATE LOCATOR

The number of SQL ASSOCIATE LOCATORS statements executed.

Field Name: QXALOCL

ALLOCATE CURSOR

The number of SQL ALLOCATE CURSOR statements executed.

Field Name: QXALOCC

RENAME TABLE

The number of RENAME TABLE statements executed.

Field Name: QXRNTAB

HOLD LOCATOR

The number of SQL HOLD LOCATOR statements executed.

Field Name: QXHOLDL

FREE LOCATOR

The number of SQL FREE LOCATOR statements executed.

Field Name: QXFREEL

MERGE

The number of times a MERGE statement was executed.

Field Name: QXMERGE

TRUNCATE TABLE

The number of TRUNCATE TABLE statements issued.

Field Name: QXTRTBL

RENAME INDEX

The number of RENAME INDEX statements issued.

Field Name: QXRNIX

CREATE DATABASE

The number of CREATE DATABASE statements executed.

Field Name: QXCRDAB

DROP DATABASE

The number of DROP DATABASE statements executed.

Field Name: QXDRPDB

ALTER DATABASE

The number of ALTER DATABASE statements executed.

Field Name: QXALDAB

CREATE STOGROUP

The number of CREATE STOGROUP statements executed.

Field Name: QXCRSTG

DROP STOGROUP

The number of DROP STOGROUP statements executed.

Field Name: QXDRPST

ALTER STOGROUP

The number of ALTER STOGROUP statements executed.

Field Name: QXALTST

CREATE TABSPACE

The number of CREATE TABLESPACE statements executed.

Field Name: QXCTABS

DROP TABSPACE

The number of DROP TABLESPACE statements executed.

Field Name: QXDRPTS

ALTER TABSPACE

The number of ALTER TABLESPACE statements executed.

Field Name: QXALTTS

CREATE TABLE

The number of CREATE TABLE statements executed.

Field Name: QXCRTAB

DROP TABLE

The number of DROP TABLE statements executed.

Field Name: QXDRPTA

ALTER TABLE

The number of ALTER TABLE statements executed.

Field Name: QXALTTA

CREATE AUX TABLE

The number of CREATE AUXILIARY TABLE statements executed.

Field Name: QXCRATB

CREATE TMP TABLE

The number of CREATE GLOBAL TEMPORARY TABLE statements executed.

Field Name: QXCRGTT

DECLARE TMP TABLE

The number of DECLARE GLOBAL TEMPORARY TABLE statements executed.

Field Name: QXDCLGTT

CREATE INDEX

The number of CREATE INDEX statements executed.

Field Name: QXCRINX

DROP INDEX

The number of DROP INDEX statements executed.

Field Name: QXDRPIX

ALTER INDEX

The number of ALTER INDEX statements executed.

Field Name: QXALTIX

CREATE VIEW

The number of CREATE VIEW statements executed.

Field Name: QXDEFVU

DROP VIEW

The number of DROP VIEW statements executed.

Field Name: QXDRPVU

ALTER VIEW

The number of ALTER VIEW statements issued.

Field Name: QXALTVW

CREATE SYNONYM

The number of CREATE SYNONYM statements executed.

Field Name: QXCRSYN

DROP SYNONYM

The number of DROP SYNONYM statements executed.

Field Name: QXDRPSY

CREATE ALIAS

The number of CREATE ALIAS statements executed.

Field Name: QXCRALS

DROP ALIAS

The number of SQL DROP ALIAS statements executed.

Field Name: QXDRPAL

CREATE SEQUENCE

The number of CREATE SEQUENCE statements.

Field Name: QXCRESEQ

DROP SEQUENCE

The number of ALTER SEQUENCE statements.

Field Name: QXALTSEQ

ALTER SEQUENCE

The number of DROP SEQUENCE statements.

Field Name: QXDROSEQ

CREATE TRIGGER

The number of SQL CREATE TRIGGER statements.

Field Name: QXCRTRIG

DROP TRIGGER

The number of DROP TRIGGER statements executed.

Field Name: QXDRPTR

CREATE DIST TYPE

The number of CREATE DISTINCT TYPE statements executed.

Field Name: QXCDIST

DROP DIST TYPE

The number of DROP DISTINCT TYPE statements executed.

Field Name: QXDDIST

CREATE FUNCTION

The number of CREATE FUNCTION statements executed.

Field Name: QXCRUDF

DROP FUNCTION

The number of DROP FUNCTION statements executed.

Field Name: QXDRPFN

ALTER FUNCTION

The number of DROP DISTINCT TYPE statements executed.

Field Name: QXDDIST

CREATE PROCEDURE

The number of CREATE PROCEDURE statements issued.

Field Name: QXCRPRO

DROP PROCEDURE

The number of DROP PROCEDURE statements executed.

Field Name: QXDRPPR

ALTER PROCEDURE

The number of ALTER PROCEDURE statements executed.

Field Name: QXALPRO

CREATE ROLE

The number of CREATE ROLE statements executed.

Field Name: QXCRROL

DROP ROLE

The number of DROP ROLE statements issued.

Field Name: QXDRPROL

CREATE TRUST CONT

The number of CREATE TRUSTED CONTEXT statements issued.

Field Name: QXCRCTX

DROP TRUST CONT

The number of DROP TRUSTED CONTEXT statements issued.

Field Name: QXDRPCTX

ALTER TRUST CONT

The number of ALTER TRUSTED CONTEXT statements issued.

Field Name: QXALTCTX

CREATE MASK/PERM

The number of CREATE MASK and CREATE PERMISSION statements executed.

Field Name: QXCREMP

DROP MASK/PERM

The number of DROP MASK and DROP PERMISSION statements executed.

Field Name: QXDRPMP

ALTER MASK/PERM

The number of ALTER MASK and ALTER PERMISSION statements executed.

Field Name: QXALTMP

CREATE VARIABLE

The number of CREATE VARIABLE statements.

Field Name: QXCRTSV

DROP VARIABLE

The number of DROP VARIABLE statements.

Field Name: QXDRPSV

DROP PACKAGE

The number of SQL DROP PACKAGE statements executed.

Field Name: QXDRPPKG

ALTER JAR

The number of ALTER JAR statements issued.

Field Name: QXALTJR

SET CUR SQL ID

The number of SET CURRENT SQLID statements executed.

Field Name: QXSETSQL

SET HOST VAR

The number of SET HOST VARIABLE statements executed. The special register that was retrieved is not tracked.

Field Name: QXSETHV

SET CONNECTION

The number of SET CONNECTION statements executed.

Field Name: QXSETCON

SET CUR DEGREE

The number of SET CURRENT DEGREE statements executed.

Field Name: QXSETCDG

SET CUR RULES

The number of SET CURRENT RULES statements executed.

Field Name: QXSETCRL

SET CUR PATH

The number of SET CURRENT PATH statements executed.

Field Name: QXSETPTH

SET CUR PRECISION

The number of SET CURRENT PRECISION statements executed.

Field Name: QXSETCPR

ROWS FETCHED

The number of rows fetched.

Field Name: QXRWSFETCHD

ROWS INSERTED

The number of rows inserted.

Field Name: QXRWSINSRTD

ROWS UPDATED

The number of rows updated.

Field Name: QXRWSUPDTD

ROWS DELETED

The number of rows deleted.

Field Name: QXRWSDELETD

IFCID 003 - Accounting

Accounting shows the data from IFCID 003.

IFCID 003 - Accelerator Data

This topic shows detailed information about "Record Trace - IFCID 003 - Accelerator Data".

Record Trace - IFCID 003 - Accelerator Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Accelerator Data" are described in the following section.

```
                                        ACCELERATOR DATA
SERVER ID:              IDAAS07
PRODUCT ID:                          AQT05016

CONNECTS TO ACCELERATOR                             1
REQUESTS SENT TO ACCELERATOR                        2
    TIMED OUT                                       0
    TIMED OUT - HTAP                                0
    FAILED                                          0
BYTES SENT TO ACCELERATOR                        2137      BYTES RECEIVED FROM ACCELERATOR                    849
MESSAGES SENT TO ACCELERATOR                       11      MESSAGES RECEIVED FROM ACCELERATOR                  11
BLOCKS SENT TO ACCELERATOR                          0      BLOCKS RECEIVED FROM ACCELERATOR                     0
ROWS SENT TO ACCELERATOR                            0      ROWS RECEIVED FROM ACCELERATOR                       0

ACCELERATOR SVCS TCPIP CPU TIME                0.000553     ACCELERATOR SVCS TCPIP ELAPSED TIME            0.074183
ACCUMULATED ACCELERATOR CPU TIME               0.000000     ACCUMULATED ACCELERATOR ELAPSED TIME           0.020431
ACCUMULATED ACCELERATOR WAIT TIME              0.020430     ACCUMULATED ACCEL. HTAP WAIT TIME              0.000083
```

SERVER ID

The accelerator server identifier.

Field Name: Q8ACNAME

PRODUCT ID

The accelerator product identifier.

Field Name: Q8ACPRID

CONNECTS TO ACCELERATOR

The number of accelerator connects.

Field Name: Q8ACCONN

REQUESTS SENT TO ACCELERATOR

The number of accelerator requests.

Field Name: Q8ACREQ

REQUESTS SENT TO ACCELERATOR - TIMED OUT

The number of timed out requests.

Field Name: Q8ACTOUT

REQUESTS SENT TO ACCELERATOR - TIMED OUT - HTAP

The number of requests where the replication of data to the accelerator needed to execute the query did not complete before the delay protocol time limit expired (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: Q8ACNWDP

REQUESTS SENT TO ACCELERATOR - FAILED

The number of failed requests.

Field Name: Q8ACFAIL

BYTES SENT TO ACCELERATOR

The number of bytes sent.

Field Name: Q8ACBYTS

MESSAGES SENT TO ACCELERATOR

The number of messages sent.

Field Name: Q8ACMSGS

BLOCKS SENT TO ACCELERATOR

The number of blocks sent.

Field Name: Q8ACBLKS

ROWS SENT TO ACCELERATOR

The number of rows sent.

Field Name: Q8ACROWS

BYTES RECEIVED FROM ACCELERATOR

The number of bytes returned.

Field Name: Q8ACBYTR

MESSAGES RECEIVED FROM ACCELERATOR

The number of messages returned.

Field Name: Q8ACMSGR

BLOCKS RECEIVED FROM ACCELERATOR

The number of blocks returned.

Field Name: Q8ACBLKR

ROWS RECEIVED FROM ACCELERATOR

The number of rows returned.

Field Name: Q8ACROWR

ACCELERATOR SVCS TCPIP CPU TIME

The accelerator services TCP/IP CPU time measured in DB2 for the amount of CPU consumed by the DDF service task to perform the SEND and RECEIVE to an accelerator service. It does not account for the TCP/IP address CPU to route the message on to the network and receive the reply into the DDF task.

Field Name: Q8ACTCPU

ACCUMULATED ACCELERATOR CPU TIME

The CPU time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8ACACPU

ACCUMULATED ACCELERATOR WAIT TIME

The wait time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8ACAWAT

ACCELERATOR SVCS TCPIP ELAPSED TIME

The accelerator services TCP/IP elapsed time measured in DB2. It starts when sending the requests to the accelerator and ends when receiving the results from the accelerator.

Field Name: Q8ACTELA

ACCUMULATED ACCELERATOR ELAPSED TIME

The elapsed time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8ACAELA

ACCUMULATED ACCEL. HTAP WAIT TIME

The amount of time spent waiting for completion of data replication to the accelerator using the delay protocol (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: Q8ACTWDP

IFCID 003 - Accelerator SQL Call Data V4 or later

This topic shows detailed information about "Record Trace - IFCID 003 - Accelerator SQL Call Data V4 or later".

Record trace - IFCID 003 - Accelerator SQL Call Data V4 or later

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Accelerator SQL Call Data V4 or later" are described in the following section.

```
                                      ACCELERATOR SQL CALL DATA

INSERT STMTS SENT TO ACCELERATOR .....:                   7  ROWS INSERTED .........................:            10800005
DELETE STMTS SENT TO ACCELERATOR .....:                   0  ROWS DELETED ..........................:                   0
UPDATE STMTS SENT TO ACCELERATOR .....:                   0  ROWS UPDATED ..........................:                   0
OPEN STMTS SENT TO ACCELERATOR .......:                   0  ROWS FETCHED ..........................:                   0
CREATE STMTS SENT TO ACCELERATOR .....:                   0  DROP STMTS SENT TO ACCELERATOR ........:                   0
COMMIT STMTS SENT TO ACCELERATOR .....:                   1  ROLLBACK STMTS SENT TO ACCELERATOR ...:                   0
```

INSERT STMTS SENT TO ACCELERATOR

The accumulated number of INSERT statements sent to the accelerator from DB2.

Field Name: Q8ACINSC

DELETE STMTS SENT TO ACCELERATOR

The accumulated number of DELETE statements sent to the accelerator from DB2.

Field Name: Q8ACDELC

UPDATE STMTS SENT TO ACCELERATOR

The accumulated number of UPDATE statements sent to the accelerator from DB2.

Field Name: Q8ACUPDC

OPEN STMTS SENT TO ACCELERATOR

The accumulated number of OPEN statements sent to the accelerator from DB2.

Field Name: Q8ACOPNC

CREATE STMTS SENT TO ACCELERATOR

The accumulated number of CREATE statements sent to the accelerator from DB2.

Field Name: Q8ACCRTC

COMMIT STMTS SENT TO ACCELERATOR

The accumulated number of COMMIT statements sent to the accelerator from DB2.

Field Name: Q8ACCMTC

ROWS INSERTED

The accumulated number of rows inserted to the accelerator by DB2.

Field Name: Q8ACROWI

ROWS DELETED

The accumulated number of rows deleted on the accelerator by DB2.

Field Name: Q8ACROWD

ROWS UPDATED

The accumulated number of rows updated on the accelerator by DB2.

Field Name: Q8ACROWU

ROWS FETCHED

The accumulated number of rows returned by the accelerator to DB2.

Note: For completed queries, this is the total number of rows returned to DB2. For in-process queries, this is the number of rows that have been sent so far (and more rows may still be coming).

Field Name: Q8ACROWC

DROP STMTS SENT TO ACCELERATOR

The accumulated number of DROP statements sent to the accelerator from DB2.

Field Name: Q8ACDRPC

ROLLBACK STMTS SENT TO ACCELERATOR

The accumulated number of ROLLBACK statements sent to the accelerator from DB2.

Field Name: Q8ACRBKC

IFCID 003 - Buffer Manager Accounting Data

This topic shows detailed information about "Record Trace - IFCID 003 - Buffer Manager Accounting Data".

Record trace - IFCID 003 - Buffer Manager Accounting Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Buffer Manager Accounting Data" are described in the following section.

```
                                        BUFFER MANAGER ACCOUNTING DATA
BUFFER POOL ID                     0  SYNCHRON. READ                    261
GETPAGES                       31016  SEQ. PREFETCH                    1913
GETPAGES FAILED                    0  LIST PREFETCH                       0
BUFFER UPDATES                     0  DYNAMIC PREFETCH                    0
SYNCHRON.WRITE                     0  PAGES READ ASYN-PAR             26991
ZHYPERLINK READ                  243  ZHYPERLINK CPU TIME             10167
DASD CACHE READ HITS              18
```

BUFFER POOL ID

The buffer pool ID used by this thread.

Field Name: QBACPID

SYNCHRON. READ

The number of synchronous read I/O operations. DB2 increments this counter for each media manager synchronous physical read. Asynchronous I/O requests are not counted.

Field Name: QBACRIO

GETPAGES

The number of Getpage requests. This counter is incremented by successful Getpage requests for queries processed in parallel for each thread and for all successful and unsuccessful Getpage requests for queries that are not processed in parallel.

Background and Tuning Information

Reducing the number of Getpages can improve DB2 performance by reducing the number of synchronous page reads. With fewer Getpages, the requested page is more likely to be returned from the buffer pool. CPU usage is also reduced.

Check the ratio of Getpages to SQL DML statements, as a rule of thumb, try and keep this ratio below six for a typical online transaction SQL.

You might need to modify the database and query design, for example:

- Add indexes to tables to reduce the number of pages scanned.
- Reassess the number of tables used and denormalize them, if necessary.

  As an example, a large table with many columns can result in several pages being fetched to satisfy a simple query requesting just a few columns. Splitting such a table into several tables with fewer columns, tailored to queries, will result in fewer pages returned for each query.
- Use correlated rather than non-correlated queries to force the use of an index.

Field Name: QBACGET

This is an *exception* field.

SEQ. PREFETCH

The number of SEQUENTIAL PREFETCH requests. This is incremented for each PREFETCH request. Each request can result in an I/O read. If it does, up to 64 pages can be read for SQL and up to 128 pages for utilities. For SQL, depending on the buffer pool size, a request does not result in an I/O if all the requested pages are already in the buffer pool.

DB2 can use sequential prefetch if the data is accessed in sequential order even though sequential prefetch was not requested at bind time. This is known as sequential detection and is not included in the sequential prefetch count. Sequential detection is included in dynamic prefetch requests field.

Background and Tuning Information

Table space scans and nonmatching index scans generally use sequential prefetch.

Field Name: QBACSEQ

This is an *exception* field.

GETPAGES FAILED

The number of times that a page requested for a query processed in parallel was unavailable because an I/O was in progress or the page was not found in the buffer pool. The agent does not wait, but control returns to the agent.

This counter is used only when queries are processed in parallel.

Background and Tuning Information

If this value is close to zero, most pages are already in the buffer pool, and wait time for synchronous I/O is small.

This counter can be high when, for example, there is a cluster index scan and the data is not truly clustered by the index key. In this instance, data pages are not accessed in their true order and the cluster ratio is not valid. Use the Runstats utility to update it.

The value of this field is also used to determine how many sequential prefetches of one page were scheduled.

Field Name: QBACNGT

LIST PREFETCH

The number of LIST PREFETCH requests.

Special Considerations:

1. List prefetch allows DB2 to access data pages efficiently even if the needed data pages are not contiguous. It can be used with single index access and is always used with multiple index access.
2. List prefetch is always used to access data from the inner table during a hybrid join.
3. Data pages are read in quantities equal to the sequential prefetch quantity, which depends on the buffer pool size and is usually 64 pages.
4. During bind time DB2 does not use list prefetch if the estimated number of RIDs to be processed would take more than 50% of the RID pool. During execution time, list prefetch processing terminates if DB2 detects that more than 25% of the rows in the table need to be accessed. If list prefetch is terminated, it is indicated in IFCID 125.

Field Name: QBACLPF

This is an *exception* field.

BUFFER UPDATES

The number of times a buffer update occurs. This is incremented every time a page is updated and is ready to be written to DASD. If the same page is updated twice, for example, the number is incremented by 2.

This number is kept for all types of pages including data pages and work-file pages.

Background and Tuning Information

A nonzero value indicates any of the following activities:

- SQL INSERT, UPDATE, or DELETE
- Merge scan join
- Internal sort activity on the work files

Check the access path to determine whether sort activity can be minimized or avoided.

Field Name: QBACSWS

This is an *exception* field.

DYNAMIC PREFETCH

The number of (dynamic) PREFETCH requests. This is triggered by sequential detection. This includes prefetches for segmented table spaces.

Background and Tuning Information

Dynamic prefetch is typically used for a SELECT or UPDATE that is run repeatedly, accessing the index for each access.

If sequential prefetch, list prefetch, and dynamic prefetch reads have large values, check whether the access path can be improved.

Field Name: QBACDPF

This is an *exception* field.

SYNCHRON. WRITE

The number of immediate (synchronous) write I/O operations.

Background and Tuning Information

Although an immediate write is rare, a small nonzero value is acceptable. A large value indicates that the system needs tuning.

Field Name: QBACIMW

This is an *exception* field.

PAGES READ ASYN-PAR

The number of asynchronous pages read by prefetch that the agent triggered.

Background and Tuning Information

This is used to determine the buffer pool hit ratio: (Getpage requests - Synchronous reads - Asynchronous pages read) / Getpage requests.

Field Name: QBACSIO

This is an *exception* field.

ZHYPERLINK CPU TIME
The amount of CPU time used for successful zHyperLink reads. zHyperLink I/O is synchronous with respect to the CPU, thus CPU time accumulates from the beginning of the I/O until it completes.

Field Name: QBACSYIT

ZHYPERLINK READ
The number of DASD reads done using zHyperLink.

Field Name: QBACSYI

DASD CACHE READ HITS
The number of I/Os where the requested pages were found in the DASD subsystem cache. These I/Os could have potentially been successful if zHyperLink was used to do the I/O.

Field Name: QBACIOC

IFCID 003 - Data Sharing Accounting Data

This topic shows detailed information about "Record Trace - IFCID 003 - Data Sharing Accounting Data".

Record trace - IFCID 003 - Data Sharing Accounting Data

This section is printed only for Db2 up to V10.

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Data Sharing Accounting Data" are described in the following section.

```
DATA SHARING ACCOUNTING DATA
MEMBER NAMES: N/P
```

MEMBER NAMES

For an assisting task, the name of the parallelism coordinator. For a coordinating task, the name of each assisting member.

Field Name: QWDAXCQO

IFCID 003 - Data Sharing Locking Data

This topic shows detailed information about "Record Trace - IFCID 003 - Data Sharing Locking Data".

Record trace - IFCID 003 - Data Sharing Locking Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Data Sharing Locking Data" are described in the following section.

```
DATA SHARING LOCKING DATA
LOCK REQUESTS                    5    LOCK - XES                      10   SUSPENSIONS - IRLM          1
UNLOCK REQUESTS                  5    UNLOCK - XES                     5   SUSPENSIONS - XES           0
CHANGE REQUESTS                  0    CHANGE - XES                     0   INCOMPATIBLE LOCKS          0
NOTIFY SENT                      0    SYNC-ASYNC XES CONV              0   FALSE CONTENTIONS           0
```

LOCK REQUESTS

The number of lock requests for P-locks.

Field Name: QTGALPLK

LOCK - XES

The number of P/L-lock requests propagated to z/OS XES synchronously.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGALSLM

SUSPENSIONS - IRLM

The number of suspensions due to IRLM global resource contention (IRLM lock states were in conflict).

Field Name: QTGAIGLO

UNLOCK REQUESTS

The number of unlock requests for P-locks.

Field Name: QTGAUPLK

UNLOCK - XES

The number of unlock requests propagated to z/OS XES.

Field Name: QTGAUSLM

SUSPENSIONS - XES

The number of suspensions due to z/OS XES global resource contention (z/OS XES lock states were in conflict whereas IRLM lock states were not).

Field Name: QTGASGLO

CHANGE REQUESTS

The number of change requests for P-locks.

Field Name: QTGACPLK

CHANGE - XES

The number of change requests propagated to z/OS XES.

Field Name: QTGACSLM

INCOMPATIBLE LOCKS

The number of global lock or change requests denied or suspended due to an incompatible retained lock.

Field Name: QTGADRTA

NOTIFY SENT

The number of notify messages sent.

Field Name: QTGANTFY

SYNC-ASYNC XES CONV

The total number of sync-to-async heuristic conversions for LOCK requests in XES. This conversion is done when XES determines that it is more efficient to drive the request asynchronously to the coupling facility (CF).

Field Name: QTGAFLSE

FALSE CONTENTIONS

The total number of false contentions for LOCK and UNLOCK requests. A false contention occurs when different resource names hash to the same entry in the coupling facility (CF) lock table. The CF detects contention within the hash entry, and XES uses intersystem messaging to determine that no actual resource contention exists.

Field Name: QTGAFCNT

IFCID 003 - DDF Data by Location

This topic shows detailed information about "Record Trace - IFCID 003 - DDF Data by Location".

Record trace - IFCID 003 - DDF Data by Location

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - DDF Data by Location" are described in the following section.

```
DDF DATA BY LOCATION

TYPE.....................: PACKAGE                    ROLLED NBR THREADS.........:         1
LOCATION NAME (LONG):       ::FFFF:9.65.12.94
LOCATION NAME (SHORT)......: ::FFFF:9.65.12.9        FLAGS......................: X'00'

ABORT REQUESTS RECEIVED....:                    0    ABORT REQUESTS SENT........:                    0
BLKS RECV USING BLK FETCH..:                    0    BLKS TRANS USING BLK FETCH.:                    2
BYTES RECV FROM REMOTE ....:                  819    BYTES SENT TO REMOTE.......:                  752
CONV REQS QUEUED BY DDF....:                    0    CONV INITIATED FR REMOTE...:                    1
CONV INITIATED FR LOCAL....:                    0    CONV TERMINATED FR LOCAL...:                    0
COMMIT REQS RECV FR REQ/COO:                    1    COMMIT REQS SENT TO SRV/PAR:                    0
MSGS RECV FR REMOTE........:                    8    MSGS SENT TO REMOTE........:                    8
ROWS OF DATA RETR FR REMOTE:                    0    ROWS OF DATA SENT TO REMOTE:                    1
SQL STMT RECEIVED FR REMOTE:                    3    SQL STMT SENT TO REMOTE....:                    0
LOCAL ELAPSED TIME.........:             0.000000    INDOUBT THREADS ...........:                    0
TYPE.....................: ROLLUP                     ROLLED NBR THREADS.........:         9
LOCATION NAME (LONG):       PMODA11
LOCATION NAME (SHORT)......: PMODA11                 FLAGS......................: X'10'
```

TYPE (Either ROLLUP, ROLSUM OR PACKAGE)

The flag byte:

X'20'
This value is shown if DRDA is used to communicate with the server.

X'40'
This value is shown if DB2 private protocol is used to communicate with the server.

All other values shown in this field are serviceability.

Field Name: QLACFLGS

LOCATION NAME (LONG)

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

LOCATION NAME (SHORT)

The name of the remote location with which this information is associated. If the local location is the requester, this field is a server location. If the local location is a server location, this field is the requester location. An allied thread is created at a DB2 requester, and a database access thread is created at a DB2 server. An accounting record is for either a requester or a server, but not for both.

This field is invalid if summary rollup data is present. In Accounting this field is set to *ROLSUM*.

Field Name: QLACLOCN

This is an *exception* field.

ABORT REQUESTS RECEIVED

The number of abort requests received from the requester (single-phase commit protocol) and backout requests received from the coordinator (two-phase commit protocol).

Field Name: QLACABRR

This is an *exception* field.

BLKS RECV USING BLK FETCH

The number of blocks received using block fetch. This value is maintained at the requester location.

Field Name: QLACBRBF

This is an *exception* field.

BYTES RECV FROM REMOTE

The number of bytes the server location received from the requester location.

More bytes of data might be sent from the server location than are received by the requester, because of the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTR

This is an *exception* field.

CONV REQS QUEUED BY DDF

A number of conversation requests queued by DDF that are waiting for allocation. This value is maintained at the requester location.

If the value is a large number, you might want to increase the limit for the number of conversations.

Field Name: QLACCNVQ

This is an *exception* field.

CONV INITIATED FR LOCAL

The number of conversations (both successful and unsuccessful) initiated by the requester location to be executed at the server location. This number is maintained at the requester.

Field Name: QLACCNVS

This is an *exception* field.

COMMIT REQS RECV FR REQ/COO

The number of commit requests received from the requester (single-phase commit protocol) and committed requests received from the coordinator (two-phase commit protocol).

Field Name: QLACCOMR

This is an *exception* field.

MSGS RECV FR REMOTE

The number of messages received from the location. This value is maintained at the location where the messages were received.

More messages might be sent from the server location than are received by the requester because of the way in which distributed SQL statements are processed internally.

Field Name: QLACMSGR

This is an *exception* field.

ROWS OF DATA RETR FR REMOTE

The number of rows of data retrieved from the server location. This value is maintained at the requester location.

Special Considerations:

1. The number of rows received from the server location does not include either the SQLDA or SQLCA.
2. Block fetch can significantly affect the number of rows sent across the network. When used with non-UPDATE cursors, block fetch puts as many rows as possible into the message buffer, and transmits the buffer across the network without requiring a VTAM message. Consequently, more

rows of data might be sent from the server location than are received by the reporting (requester) location. This is especially true when DB2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages sent by the requester.

Field Name: QLACROWR

This is an *exception* field.

SQL STMT RECEIVED FR REMOTE

The number of SQL statements received from the requester location.

Field Name: QLACSQLR

This is an *exception* field.

LOCAL ELAPSED TIME

The elapsed time at the requester location until the database access agent completed its work, including DB2 processing time and network time. This value is maintained at the requester location and is calculated by accumulating the difference between the store clock values obtained before and after each network request.

Field Name: QLACCPUL

ROLLED NBR THREADS

The number of threads to roll data into this QLAC data section. Non-rollup QLACs have a value of 1 and rollup QLACs have a value of 1 or more.

Field Name: QLACRLNU

FLAGS

The flag byte:

X'20'
This value is shown if DRDA is used to communicate with the server.

X'40'
This value is shown if DB2 private protocol is used to communicate with the server.

All other values shown in this field are serviceability.

Field Name: QLACFLGS

ABORT REQUESTS SENT

The number of abort requests sent to the server (single-phase commit protocol) and backout requests sent to the participant (two-phase commit protocol).

Field Name: QLACABRS

This is an *exception* field.

BLKS TRANS USING BLK FETCH

The number of blocks transmitted using block fetch. This value is maintained at the server location.

Field Name: QLACBTBF

This is an *exception* field.

BYTES SENT TO REMOTE

The number of bytes the server location sent to the requester location. This value is maintained at the server location.

More bytes of data might be sent from the server location than are received by the requester due to the way in which distributed SQL statements are processed internally.

Field Name: QLACBYTS

This is an *exception* field.

CONV INITIATED FR REMOTE

A count of conversations initiated by the requester.

This number is updated at the server location.

Field Name: QLACCNVR

This is an *exception* field.

CONV TERMINATED FR LOCAL

The number of terminated conversations in the server block (DB2 private protocol only). It is maintained at the requester location.

This number can be different from the number of successful conversation allocations, because some conversations might not have been terminated when the accounting record was written.

Field Name: QLACCNVT

This is an *exception* field.

COMMIT REQS SENT TO SRV/PAR

The number of commit requests sent to the server (single-phase commit protocol) and committed requests sent to the participant (two-phase commit protocol).

Field Name: QLACCOMS

This is an *exception* field.

MSGS SENT TO REMOTE

The number of messages sent to the location. It is maintained at the location where the messages originated.

Field Name: QLACMSGS

This is an *exception* field.

ROWS OF DATA SENT TO REMOTE

The number of rows sent from the server location to the requester location. The value includes SQLDA and is maintained at the server location.

Field Name: QLACROWS

This is an *exception* field.

SQL STMT SENT TO REMOTE

The number of SQL statements sent to the server location. This value is maintained at the requesting location.

Field Name: QLACSQLS

This is an *exception* field.

INDOUBT THREADS

The number of threads that went indoubt with the remote location as coordinator (two-phase commit operations only). It is maintained at the participant and indicates that the communication with the coordinator was lost.

Field Name: QLACINDT

This is an *exception* field.

PRID REMOTE SITE

The original DB2 field specifies the information in the following field names of the remote requester or server location:

PRODUCT ID

It consists of 3 characters and can have the following values:
Possible values of the PRODUCT ID.

Original ID from DB2	Shown as
DSN	DB2
ARI	SQL/DS
QSQ	DB2/400
SQL	COMMON SERV
JCC	JDBC DRIVER
'000000'X, '404040'X	N/P
Other	Original ID from DB2

Note:

- If the record is written at the application requester location, or if summary rollup data is available, N/P is shown in Accounting TRACE and REPORT.
- In Accounting FILE and SAVE DDF tables, BLANK is shown.

PRODUCT VERSION (PROD VERSION)

It consists of 5 digits and is shown as V*vv*R*rr*M*m* , where:

vv
Version level

rr
Release level

m
Modification level

Note: For DDF/RRSAF rollup records, the product ID and product version contain a value derived from the last thread to rollup. For query parallelism rollup threads, the value is derived from the parent record.

Field Name: QLACPRID

IFCID 003 - Dynamic SQL Statement

This topic shows detailed information about "Record Trace - IFCID 003 - Dynamic SQL Statement".

Record trace - IFCID 003 - Dynamic SQL Statement

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Dynamic SQL Statement" are described in the following section.

```
                                        DYNAMIC SQL STMT
REOPTIMIZATION    :                0 FOUND IN CACHE    :                10 IMPLICIT PREPARES :                    0
STMT INVALID (MAX):                0 NOT FOUND IN CACHE:                 0 PREPARES AVOIDED  :                    0
STMT INVALID (DDL):                0                   :
CSWL STMTS PARSED :                0 CSWL LITS REPLACED:                 0 CSWL MATCHES FOUND:                    0
CSWL DUPLS CREATED:                0 LOAD FROM CATALOG :                 0
.....................................................................................................................
```

REOPTIMIZATION

The total number of times reoptimization occurs because the value of the host variable or parameter marker changes.

Field Name: QXSTREOP

FOUND IN CACHE

The number of times a PREPARE command was satisfied by copying a statement from the prepared statement cache.

Field Name: QXSTFND

IMPLICIT PREPARES

An implicit prepare occurs when the user copy of the prepared SQL statement no longer exists in the local dynamic SQL cache and the application plan or package is bound with KEEPDYNAMIC YES.

If the skeleton copy of the prepared SQL statement exists in the global dynamic SQL cache in the EDM pool, a short prepare is executed, otherwise a full prepare is executed.

Field Name: QXSTIPRP

STMT INVALID (MAX)

The number of times statements are invalidated in the local dynamic SQL cache because the MAXKEEPD limit has been reached and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDEXP

NOT FOUND IN CACHE

The number of times that DB2 searched the prepared statement cache but could not find a suitable prepared statement.

Field Name: QXSTNFND

PREPARES AVOIDED

This field indicates the number of times where no SQL PREPARE or EXECUTE IMMEDIATE was issued by the application and a copy of a prepared SQL statement was found in local dynamic SQL cache.

When an application plan or package is bound with KEEPDYNAMIC YES, a copy of each prepared SQL statement for the application thread is held in the local dynamic SQL cache and kept across a commit boundary.

An application thread can save the total cost of a prepare by using a copy of the prepared statement in the local dynamic SQL cache from an earlier prepare by the same thread. To do this, the application must be modified to avoid issuing repetitive SQL PREPAREs for the same SQL statement.

Field Name: QXSTNPRP

STMT INVALID (DDL)

The number of times statements are invalidated in the local dynamic SQL cache because of SQL DDL or updated RUNSTATS information and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDINV

CSWL STMTS PARSED

The number of times DB2 parsed dynamic statements because CONCENTRATE STATEMENTS WITH LITERALS behavior was used for the prepare of the statement for the dynamic statement cache.

Field Name: QXSTCWLP

CSWL LITS REPLACED

The number of times DB2 replaced at least one literal in a dynamic statement because CONCENTRATE STATEMENTS WITH LITERALS was used for the prepare of the statement for dynamic statement cache.

Field Name: QXSTCWLR

CSWL MATCHES FOUND

The number of times DB2 found a matching reusable copy of a dynamic statement in cache during prepare of a statement that had literals replaced because of CONCENTRATE STATEMENTS WITH LITERALS.

Field Name: QXSTCWLM

CSWL DUPLS CREATED

The number of times DB2 created a duplicate STMT instance in the statement cache for a dynamic statement that had literals replaced by CONCENTRATE STATEMENTS WITH LITERALS behavior. The duplicate STMT instance was needed because a cache match failed because the literal reusability criteria was not met.

Field Name: QXSTCWLD

LOAD FROM CATALOG

The number of loads from the catalog.

It shows the number of times a PREPARE request was satisfied by making a copy from the stabilized statement in the SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement was found in the prepared statement cache. This field should be identical to QISEDPSL, but it is reported from the QXST section (SQL Statement Execution).

Field Name: QXSTSFND

IFCID 003 - Group Buffer Pools Activity Data

This topic shows detailed information about "Record Trace - IFCID 003 - Group Buffer Pools Activity Data".

Record trace - IFCID 003 - Group Buffer Pools Activity Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Group Buffer Pools Activity Data" are described in the following section.

```
                                GROUP BUFFER POOLS ACTIVITY DATA
GROUP BUFFER POOL ID           0  READ(NF)-DATA RETURNED          0  CLEAN PAGES WRITTEN            0
READ(XI)-DATA RETURNED         0  READ(NF)-NO DATA RET.           0  CHANGED PAGES WRITTEN          0
READ(XI)-NO DATA RET.          0  READ PREFETCH                   0  UNREGISTER PAGE                0
EXPLICIT X-INVALID             0
GBP-DEPENDENT GETPAGES         2  ASYNCH GBP REQUESTS             0  ASYNCH SEC-GBP REQUESTS        0
PG P-LOCK LOCK REQ SP M        0  PG P-LOCK LOCK REQ DATA         0  PG P-LOCK LOCK REQ IX L        0
PG P-LOCK LOCK SUSP SP         0  PG P-LOCK LOCK SUSP DAT         0  PG P-LOCK LOCK SUSP IX         0
PG P-LOCK UNLOCK REQ           0
WRITE & REGISTER MULT          0  WRITE AND REGISTER             0  IXLAXISN SUSPENDS WAIT         0
```

GROUP BUFFER POOL ID

The group buffer pool identifier.

Field Name: QBGAGN

READ(XI)-DATA RETURNED

The number of coupling facility read requests required because the buffer was marked invalid. Data is returned from the group buffer pool.

Field Name: QBGAXD

READ(XI)-NO DATA RET.

The number of group buffer pool read requests due to buffer XI where no data was returned.

Field Name: QBGAXR

EXPLICIT X-INVALID

The number of times an explicit coupling facility cross-invalidation request was issued.

Field Name: QBGAEX

GBP-DEPENDENT GETPAGES

The number of coupling facility READ requests required because the buffer was marked invalid. Data is returned from the group buffer pool.

Field Name: QBGAGG

PG P-LOCK LOCK REQ SP M

The number of page P-lock lock requests for space map pages.

Field Name: QBGAP1

PG P-LOCK LOCK SUSP SP

The number of page P-lock suspensions for space-map pages.

Field Name: QBGAS1

PG P-LOCK UNLOCK REQ

The number of page P-lock unlock requests.

Field Name: QBGAU1

WRITE & REGISTER MULT

The number of write and register multiple (warm) requests.

Field Name: QBGAWM

READ(NF)-DATA RETURNED

The number of coupling facility read requests necessary because the requested page was not found in the buffer pool. Data is returned from the coupling facility.

Field Name: QBGAMD

READ(NF)-NO DATA RET.

The number of group-buffer-pool reads due to local buffer-pool miss where no data was returned.

Field Name: QBGAMR

READ PREFETCH

The number of pages read from the group buffer pool due to prefetch under the control of the agent.

Field Name: QBGAMN

ASYNCH GBP REQUESTS

The number of asynchronous IXLCACHE invocations for the primary group buffer pool.

Field Name: QBGAHS

PG P-LOCK LOCK REQ DATA

The number of page P-lock lock requests for data pages.

Field Name: QBGAP2

PG P-LOCK LOCK SUSP DAT

The number of page P-lock lock suspensions for data pages.

Field Name: QBGAS2

This is an *exception* field.

WRITE AND REGISTER

The number of Write and Register (WAR) requests.

Field Name: QBGAWS

CLEAN PAGES WRITTEN

The number of clean pages written to the group buffer pool.

Field Name: QBGAWC

CHANGED PAGES WRITTEN

The number of changed pages written to the group buffer pool as a result of write and register (WAR), or write and register multiple (WARM) requests.

Field Name: QBGASW

This is an *exception* field.

UNREGISTER PAGE

The number of coupling facility requests to unregister a page.

Field Name: QBGADG

This is an *exception* field.

ASYNCH SEC-GBP REQUESTS

The number of IXLCACHE invocations for the secondary group buffer pool.

Field Name: QBGA2H

PG P-LOCK LOCK REQ IX L

The number of page P-lock lock requests for index-leaf pages.

Field Name: QBGAP3

PG P-LOCK LOCK SUSP IX

The number of page P-lock lock suspensions for index-leaf pages.

Field Name: QBGAS3

IXLAXISN SUSPENDS WAIT

Specifies the number of suspensions of IXLAXISN sync-up calls that occurred while waiting for asynchronous cross- invalidation (XI) to complete.

Field Name: QBGLAS

IFCID 003 - IFI Class 5 Times and Data Capture

This topic shows detailed information about "Record Trace - IFCID 003 - IFI Class 5 Times and Data Capture".

Record trace - IFCID 003 - IFI Class 5 Times and Data Capture

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - IFI Class 5 Times and Data Capture" are described in the following section.

```
IFI CLASS 5 TIMES AND DATA CAPTURE
IFI CALL ELAPSED TIME           0.000000           IFI CALL TCB CPU TIME          0.000000
DESCRIBES ELAPSED               0.000000           LOG EXTRACT ELAPSED            0.000000
IFI CALLS           0   LOG READS PERFORMED          0  LOG RECS CAPTURED           0  DATA DESCR. RETURNED          0
DESCRIBES           0   DATA ROWS RETURNED           0  LOG RECS RETURNED           0  TABLES RETURNED               0
```

IFI CALL ELAPSED TIME

The accumulated elapsed time for processing IFI calls. This field is only calculated if accounting class 5 is active.

Field Name: QIFAAIET

IFI CALL TCB CPU TIME

The accumulated CPU time spent processing IFI calls. This is the same as the TCB time (class 5).

This field is only calculated if accounting class 5 is active.

Field Name: QIFAAITT

This is an *exception* field.

DESCRIBES ELAPSED

The accumulated elapsed time for processing data capture describes. Data capture describes occur only during IFI read requests for IFCID 185. This time is a subset of the log extraction time.

Field Name: QIFAAMBT

This is an *exception* field.

LOG EXTRACT ELAPSED

The accumulated elapsed time for extracting log records for tables defined with DATA CAPTURE CHANGES. This time is a subset of the class 5 elapsed time.

Field Name: QIFAAMLT

This is an *exception* field.

IFI CALLS

The number of IFI calls.

Field Name: QIFAANIF

LOG READS PERFORMED

The number of log reads performed for processing IFI READS requests for IFCID 185.

Field Name: QIFAANLR

LOG RECS CAPTURED

The number of retrievable log records that were written for tables defined with DATA CAPTURE CHANGES. This number includes only those log records that can be retrieved by an IFI READS call for IFCID 185. Some records can be written but not retrieved, for example if monitor trace class 6 is not active.

Field Name: QIFAANRC

DATA DESCR. RETURNED

The number of data descriptions returned in IFCID 185. The data descriptions are mapped in IFCID 185.

Field Name: QIFAANDD

DESCRIBES

The number of data capture describes for processing READS requests for IFCID 185 data.

Field Name: QIFAANMB

DATA ROWS RETURNED

The number of data rows returned in IFCID 185. Two rows are returned for each row altered by an SQL UPDATE statement.

Field Name: QIFAANDR

LOG RECS RETURNED

The number of log records returned to the caller of the IFI READS call for IFCID 185.

Field Name: QIFAANRR

TABLES RETURNED

The total number of tables returned to the caller of IFI READS call for IFCID 185.

Field Name: QIFAANTB

IFCID 003 - Initial Client/Server Correlation Data

This topic shows detailed information about "Record Trace - IFCID 003 - Initial Client/Server Correlation Data".

This topic also shows detailed information about "Initial Other Requester Correlation Data".

Record trace - IFCID 003 - Initial Client/Server Correlation Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Initial Client/Server Correlation Data" are described in the following section.

```
                              INITIAL CLIENT/SERVER CORRELATION DATA
BYTES: 255                  PRODUCT ID: COMMON SERV                                PRODUCT VERSION: V10R05M0
CLIENT PLATFORM: NT 64BIT         CLIENT APPLICATION NAME: IS-255-0123456789012   CLIENT AUTHID : IS-128--
DDCS ACCOUNT SUFFIX: IS-255-012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789
                     012345678901234567890123456789IS-128--012345678901234567890123456789012345678901234567890123456789012345678
                     901234567890123456789012345678901234567890123456789012345-END
```

BYTES

The length of the product ID and accounting string.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAASLN

PRODUCT ID

Shows the product identifier (ID) of the requester. It can have the following values:

DB2
For DB2 UDB for z/OS

SQL/DS
For DB2 UDB for VSE and VM

JDBC DRIVER
For Universal JDBC driver

COMMON SERV
For DB2 UDB for Linux, UNIX, Windows

DB2/400
For DB2 UDB for iSeries

Otherwise, it shows the first 3 characters of the product ID, or N/P if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRID

PRODUCT VERSION

The version, release, and modification level of the product, which generated the accounting information. It has the following format: *vv rr m*, where:

vv
Version level

rr
Release level

m
Modification level

N/P is shown if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPMOD

CLIENT PLATFORM

The client platform, such as AIX. This is a 1 to 18 character field padded with blanks.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPLAT

CLIENT APPLICATION NAME

The name of the client application. This is a 1 to 20 character field padded with blanks. An example is "PAYROLL".

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAAPPL

CLIENT AUTHID

The client authorization ID of an application process. This is a 1 to 8 character field padded with blanks. An example is "SMITH".

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAATID

DDCS ACCOUNT SUFFIX

The account suffix. The maximum length of this field is 200 bytes. This field is the user-supplied portion (suffix) of the accounting string. An example is "DEFAULT_DRDA". A value of zero in QMDASFLN Indicates there is no account suffix.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDASUFX

ACCOUNTING STRING

The accounting string:

- For local DB2 threads, the format of the accounting string is shown in QMDAINFO.
- For database access threads, the accounting string contains the accounting string sent by the requester.
- The QMDAPRID value identifies which product generated the accounting string.
  - If the requester is DB2, the accounting string is defined in QMDAINFO.
  - If QMDAPTYP is DSN, QMDAINFO defines the format.
  - If QMDAPTYP is SQL or JCC, QMDASQLI defines the format.
  - Otherwise, the format is undefined.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAASTR

IFCID 003 - Initial DB2 Requester and MVS Correlation Data

This topic shows detailed information about "Record Trace - IFCID 003 - Initial DB2 Requester and MVS Correlation Data".

Record trace - IFCID 003 - Initial DB2 Requester and MVS Correlation Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Initial DB2 Requester and MVS Correlation Data" are described in the following section.

```
                          INITIAL DB2 REQUESTER AND MVS CORRELATION DATA
BYTES:   226              PRODUCT ID: DB2                    PRODUCT VERSION: V11R01M5
LOCATION: PMODB1H         NET ID    : DEIBMIPS       LU NAME : IPSAQB1H          CONNECT: DB2CALL
CONNTYPE: BATCH           CORRNAME  : BBEEXC1        CORRNMBR: 'BLANK'           AUTHID : BBE
PLANNAME: DB1HEXC1
MVS ACCOUNTING DATA: ACCOUNTING-ASTR0-1234567890ABCDEDGHIJKLMNOPQRSTUVWXYZACCOUNTING-ASTR1-1234567890ABCDEDGHIJKLMNOPQ
                     RSTUVWXYZACCOUNTING-ASTR2-1234567890ABCDEDGHI
*** Long name section:
LOCATION       : PMODB1H
*** End of long names
```

BYTES

The length of the product ID and accounting string.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAASLN

PRODUCT ID

Shows the product identifier (ID) of the requester. It can have the following values:

DB2
For DB2 UDB for z/OS

SQL/DS
For DB2 UDB for VSE and VM

JDBC DRIVER
For Universal JDBC driver

COMMON SERV
For DB2 UDB for Linux, UNIX, Windows

DB2/400
For DB2 UDB for iSeries

Otherwise, it shows the first 3 characters of the product ID, or N/P if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPRID

PRODUCT VERSION

The version, release, and modification level of the product, which generated the accounting information. It has the following format: *vv rr m*, where:

vv
Version level

rr
Release level

m
Modification level

N/P is shown if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPMOD

LOCATION

The location name for the DB2 subsystem that created the QMDAINFO values.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Field Name: QMDALOCN

NET ID

The NETID of the DB2 subsystem that created the QMDAINFO values.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDANETN

LU NAME

The SNA LU name of the DB2 subsystem that created the QMDAINFO values.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDALUNM

CONNECT

The connection name of the DB2 system that created the MVS and DDF accounting values.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDACNAM

CONNTYPE

The type of subsystem connection at the DB2 system where the SQL application is running. Possible values and their descriptions are:

BATCH
TSO or call attach

SASS
CICS

MASS
IMS

DIST
Distributed

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDACTYP

CORRNAME

The first 8 bytes of the correlation ID at the DB2 system running the SQL.

The last 4 bytes of the correlation ID at the DB2 system running the SQL.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDACORR

AUTHID

The DB2 authorization ID that the SQL application used before name translation and before driving the connection exit at the DB2 site where the SQL application is running.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAAUTH

PLANNAME

The DB2 plan used at the DB2 system running the SQL.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAPLAN

MVS ACCOUNTING DATA

The MVS accounting string associated with the MVS address space of the SQL application. It is filled if PROD_TYP=D; otherwise X'00' is used.

This information comes from the ACCT= parameter on the job statement. If the ACCT= parameter is blank, the information on the EXEC statement is used. TSO logon Accounting information is used only if there is a value in the account field on the TSO Logon panel. Do not confuse this field with the Accounting correlation token.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup.

Field Name: QMDAACCT

IFCID 003 - Instrumentation Accounting Data

This topic shows detailed information about "Record Trace - IFCID 003 - Instrumentation Accounting Data".

Note: IFCID 003 and IFCID 147 have the same layout.

Record trace - IFCID 003 - Instrumentation Accounting Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Instrumentation Accounting Data" are described in the following section.

```
                                        INSTRUMENTATION ACCOUNTING DATA
CLASS 1 BEGINNING STORE CLOCK TIME 10/20/08 08:36:54.206466   ENDING STORE CLOCK TIME  01/02/08 00:00:01.179628
        ELAPSED TIME                                  N/C     MVS TCB TIME                                0.05
        BEGINNING MVS TCB TIME                   0.000011     ENDING MVS TCB TIME                    0.053044
        STORED PROC ELAPSED TIME                 0.000000     CONVERSION FACTOR                           818
        STORED PROCEDURE TCB TIME                0.000000     PAR.TASKS:          10       PAR.TOKEN: X'1FB2AFD0'
        UDF ELAPSED TIME                         0.000000     COMMITS  :           6       SVPT REQ.:          0
        UDF TCB TIME                             0.000000     ROLLBACKS:           4       SVPT RLB.:          0
        NETWORK ID VALUE                 'BLANK'              PROGRAMS :           1       SVPT REL.:          0
        REASON ACCT INVOKED:       'ACCUM DATA FOR DDF/RRSAF AND THRESHOLD REACHED FOR END USER OCCURRENCES'
        SE CPU TIME                              0.000000
CLASS 1/2 STORED PROC SE TCB TIME                0.000000
          STORED PROC ELAPSED TIME               0.000000
          STORED PROC CP ELAPSED TIME            0.000000
          UDF NF SE CPU TIME                     0.000000
          UDF NF ELAPSED TIME                    0.000000
          UDF NF CP CPU TIME                     0.000000
CLASS 2 DB2 ELAPSED TIME                         5.757953   DB2 ENTRY/EXIT EVENTS                       2512
        TCB TIME                                 0.448220   NON-ZERO CLASS 2                             YES
        STORED PROC ELAPSED TIME                 0.000000   CLASS 2 DATA COLLECTED                       YES
        STORED PROCEDURE TCB TIME                0.000000   STORED PROC. ENTRY/EXITS                       0
        UDF ELAPSED TIME                         0.000000   UDF SQL ENTRY/EXITS EVENTS                     0
        CP CPU TIME UDF                          0.000000   SE CPU TIME                             1.548725
        TRIG ELAP TIME UNDER ENCLAVE             0.000000   SE ELIGIBLE CP CPU TIME                 0.000000
        TRIG TCB TIME UNDER ENCLAVE              0.000000   QWACTRTT_ZIIP                           0.000000
        TRIG ELAP TIME NOT UNDER ENCLAVE         0.000000   ELAPSED TIME ELIGIBLE FOR ACCEL         0.000000
        TRIG TCB TIME NOT UNDER ENCLAVE          0.000000   CP CPU TIME ELIGIBLE FOR ACCEL          0.000000
                                                            SE CPU TIME ELIGIBLE FOR ACCEL          0.000000
CLASS 3 ACCU LOCK ELAPSED TIME                   0.000000   WAIT TRACE EVENTS                              0
        DB2 LATCH SUSP TIME                      0.000381   LATCH WAIT TRACE EVENTS                       12
        SYNCHRONOUS I/O SUSP TIME                0.000000   SYNCHRONOUS I/O SUSP EVENTS                    0
        LOG WRITE I/O SUSP TIME                  0.015757   LOG WRITE I/O SUSP EVENTS                     12
        OTHER READ SUSP TIME                     0.000000   OTHER READ SUSP EVENTS                         0
        OTHER WRITE SUSP TIME                    0.000000   OTHER WRITE SUSP EVENTS                        0
        UPDATE COMMIT SUSP TIME                  0.001776   UPDATE COMMIT SUSP EVENTS                      8
        PAGE LATCH(DB2+IRLM) SUSP TIME           0.000000   PAGE LATCH(DB2+IRLM) SUSP EVENTS               0
        NOTIFY MESSAGES SUSP TIME                0.000000   NOTIFY MESSAGES EVENTS                         0
        GLOB CONT PARENT L-LOCK TIME             0.000000   GLOB CONT PARENT L-LOCK EVENTS                 0
        GLOB CONT CHILD L-LOCK TIME              0.000000   GLOB CONT CHILD L-LOCK EVENTS                  0
        GLOB CONT OTHER L-LOCK TIME              0.000000   GLOB CONT OTHER L-LOCK EVENTS                  0
        GLOB CONT PGSET/PART P-LOCK TIME         0.000000   GLOB CONT PGSET/PART P-LOCK EVENTS             0
        GLOB CONT PAGE P-LOCK TIME               0.000000   GLOB CONT PAGE P-LOCK EVENTS                   0
        GLOB CONT OTHER P-LOCK TIME              0.000000   GLOB CONT OTHER P-LOCK EVENTS                  0
        SCHED. STOR PROC SUSP TIME               0.000000   STORED PROCEDURE EVENTS                        0
        SCHED. UDF SUSP TIME                     0.000000   NON-ZERO CLASS 3                             YES
        TCP/IP LOB XML TIME                      0.000000   TCP/IP LOB XML EVENTS                          0
        ACCELERATOR SUSP TIME                    0.000000   ACCELERATOR EVENTS                             0
        AUTON PROC WAIT TIME                     0.000000   AUTON PROC EVENTS                              0
        PARALLEL QUERY SYNC WAIT TIME            0.000000   PARALLEL QUERY SYNC WAIT EVENTS                0
        SYNC READ DASD CACHE HIT WAIT TIME       3.553636   SYNC READ WAIT DASD CACHE HIT EVENTS       16601
        CLASS 3 DATA COLLECTED                       YES
CLASS 7 DATA COLLECTED                               YES   CLASS 8 DATA COLLECTED                       YES
MAX WORKFILE BLOCKS                                    0   CURR WORKFILE BLOCKS                           0
WLM SERVICE CLASS:                                   N/P   PARALLEL CHILDS ROLLED INTO RECORD:            0
ROLLUP DATA FOR PARALLEL CHILD TASKS                  NO   PARALLEL QUERY ROLLUP DATA:                  YES
AUTON PROC ROLLUP DATA:                              YES
```

CLASS 1: BEGINNING STORE CLOCK TIME

The beginning store clock value for the period covered by the accounting record. You can determine the elapsed time of the application by subtracting this field from the ending store clock value (QWACESC). Threads that do not terminate (such as CICS primed threads and IMS wait-for-input message regions) can have an ending clock value that includes the time during which the thread was inactive and waiting for work.

If a roll-up trace record is written with accumulated counter data, QWACBSC represents the earliest begin store clock value for a thread that has rolled data into the record. In this case, QWACESC shows the accumulated elapsed time.

Field Name: QWACBSC

CLASS 1: ENDING STORE CLOCK TIME

The ending store clock value. You can use this field with the beginning store clock value (QWACBSC) to determine the elapsed time of an application.

If a roll-up record is written with accumulated accounting data, QWACESC contains the accumulated elapsed time. In Accounting Trace reports, the elapsed time is shown under CLASS 1: NONNESTED ELAPSED TIME and the END TIME is reported as N/P, because QWACESC does not contain a timestamp. In the Accounting FILE GENERAL table, the accumulated elapsed time QWACESC is stored in column CLASS1_ELAPSED and column CLASS1_TIME_END contains a timestamp 1900-01-01-00.00.00.000000.

Field Name: QWACESC

CLASS 1: ELAPSED TIME

The time covered by this accounting record. If the time cannot be calculated or the value is negative, N/C is printed in this field. Calculated from the DB2 field QWACESC - QWACBSC.

Field Name: RT0003ET

CLASS 1: MVS TCB TIME

The amount of MVS CPU time used. If the time cannot be calculated or the value is negative, N/C is printed in this field. Calculated from the DB2 field QWACEJST - QWACBJST.

Field Name: RT0003TT

CLASS 1: BEGINNING MVS TCB TIME

The beginning MVS CPU time for all environments (such as: CICS, IMS, RRSAF, or TSO). This CPU time is not affected by an IBM specialty engine. Binary zero means that no time value is available.

Field Name: QWACBJST

CLASS 1: ENDING MVS TCB TIME

The ending MVS CPU time. This CPU time is not affected by an IBM specialty engine. Binary zero means that no time value is available.

Field Name: QWACEJST

CLASS 1: STORED PROC ELAPSED TIME

The total elapsed time spent by the allied agent in stored procedures.

A stored procedure may initiate a trigger or invoke a user-defined function. The time spent there is not included in this counter.

Note: This field is not normally shown in the short layouts but can be included with UTR.

Field Name: QWACSPEA

CLASS 1: CONVERSION FACTOR

The CPU service unit conversion factor allows for converting CPU time to a common unit, which is called *service unit (SU)* . The conversion factor depends on the machine being used. With the SU,

you can add up CPU execution times across multiple DB2 systems running on different machines. It is a raw value for RECORDTRACE and Accounting FILE data. For Accounting SAVE data it cannot be determined.

Field Name: QWACSUCV

CLASS 1: STORED PROCEDURE TCB TIME

The TCB time accumulated in DB2 for processing SQL CALL statements in the stored procedures or WLM address space. This time is only calculated if accounting class 1 is active.

SQL procedure times are included in this time if the SQL procedure was called on a nested task and was not invoked by the main application execution unit. This time does not include CPU time consumed on an IBM specialty engine.

Field Name: QWACSPCP

CLASS 1: PAR.TASKS

The number of parallel child agents, or Accounting intervals rolled up, or autonomous procedures rolled up. The value depends on the record type:

- For a non-rollup parent record, this value is the number of parallel child agents that were created.
- For a non-rollup child agent record, this value is 0.
- For a parallel query rollup record, this value is the number of parallel child agents rolled into the record.
- For a DDF/RRSAF rollup record, this value is the number of Accounting intervals that were rolled into the record for the corresponding end user.
- For an autonomous procedure rollup record, this value is the number of autonomous procedures rolled into the record.

Field Name: QWACPCNT

CLASS 1: PAR.TOKEN

Token used to correlate parallel task, utility task records, or autonomous procedure rollup records with the records of the originating task or main utility task.

Field Name: QWACPACE

CLASS 1: UDF ELAPSED TIME

The total elapsed time spent by the allied agent in UDF functions processed in a DB2 stored procedure or WLM address space. A user-defined function may initiate a trigger or invoke a stored procedure. Non-inline UDF times are included in this time if the native UDF was called on a nested task and was not invoked by the main application execution unit.

This time includes time executing SQL.

Note: With user-tailored reporting (UTR) you can include this field in the short layouts of Accounting.

Field Name: QWACUDEA

CLASS 1: COMMITS

The number of successful two-phase (units of recovery) or single-phase (syncs) commit requests. It indicates the number of units of recovery that are completed successfully, and for which the associated commit duration locks were released. It represents the total number of commit requests processed by the DB2 subsystem, whether the request was an explicit or implicit external request from an IMS or a CICS connection, or an implicit internal request within DB2 when DB2 was the commit coordinator or conducted read-only commit processing as a commit participant on phase-1 calls from an IMS or CICS connection.

For parallel queries, only the commits from the initiating (parent) thread are recorded by this counter.

Field Name: QWACCOMM

This is an *exception* field.

CLASS 1: SVPT REQ.

The number of named SAVEPOINTs set within a transaction.

Field Name: QWACSVPT

CLASS 1: UDF TCB TIME

The accumulated CPU time used to satisfy UDF requests processed in a DB2 stored procedure or WLM address space. Non-inline UDF times are included in this time if the native UDF was called on a nested task and was not invoked by the main application execution unit.

This time is only calculated if accounting class 1 is active.

This time does not include the CPU time consumed on an IBM specialty engine.

Field Name: QWACUDCP

CLASS 1: ROLLBACKS

The number of rollback requests. This is the number of units that were backed out, including rollbacks from attaches.

Special Considerations: This field contains the number of:

- Application program abends
- Application rollback requests
- Application deadlocks on database records
- Applications canceled by operator
- Thread abends due to resource shortage

Field Name: QWACABRT

This is an *exception* field.

CLASS 1: SVPT RLB.

The number of ROLLBACK TO SAVEPOINT statements executed.

Field Name: QWACRBSV

CLASS 1: NETWORK ID VALUE

The network ID. It is used with IMS and CICS.

Field Name: QWACNID

CLASS 1: PROGRAMS

The number of packages or DBRMs for which accounting data was collected.

Field Name: QWACPKGN

CLASS 1: SVPT REL.

The number of RELEASE SAVEPOINT statements executed.

Background and Tuning Information

Release savepoints as soon as possible. Outstanding savepoints block SQL operations that resolve remote locations. DB2 always releases outstanding savepoints when a transaction ends.

Field Name: QWACRLSV

This is an *exception* field.

CLASS 1: REASON ACCT INVOKED

The reason for termination, that is, for producing a DB2 accounting record.

Field Name: QWACRINV

This is an *exception* field.

CLASS 1: SE CPU TIME

The accumulated CPU time that is consumed while running on an IBM specialty engine in all environments. This value may be 0 when QWACRINV is greater than or equal to 20.

Field Name: QWACCLS1_ZIIP

CLASS 1/2 STORED PROC SE TCB TIME

The accumulated CPU time that is consumed while running stored procedure requests on the main application execution unit on an IBM specialty engine. As these SPs run entirely within DB2, this time represents class 1 and class 2 time.

Field Name: QWACSPNF_ZIIP

CLASS 1/2 STORED PROC ELAPSED TIME

The accumulated elapsed time that is consumed on an IBM specialty engine for executing stored procedure requests on the main application execution unit. As these stored procedures run entirely in DB2, this time represents class 1 and class 2 time.

Field Name: QWACSPNF_ELAP

CLASS 1/2 STORED PROC CP ELAPSED TIME

The accumulated CPU time that is used for executing stored procedure requests on the main application execution unit. This time does not include the time that is consumed on an IBM specialty engine. As these stored procedures run entirely in DB2, this time represents class 1 and class 2 time.

Field Name: QWACSPNF_CP

CLASS 1/2 UDF NF SE CPU TIME

Accumulated CPU time consumed executing user-defined functions on the main application execution unit on an IBM specialty engine. Since these UDFs run entirely within DB2, this time represents class 1 and class 2 time.

Field Name: QWACUDFNF_ZIIP

CLASS 1/2 UDF NF ELAPSED TIME

Accumulated elapsed time consumed executing user-defined functions on the main application execution unit. Since these UDFs run entirely within DB2, this time represents class 1 and class 2 time.

Field Name: QWACUDFNF_ELAP

CLASS 1/2 UDF NF CP CPU TIME

Accumulated CPU time consumed executing user-defined functions on the main application execution unit. This time does not include CPU consumed on an IBM specialty engine. Since these UDFs run entirely within DB2, this time represents class 1 and class 2 time.

Field Name: QWACUDFNF_CP

CLASS 2: DB2 ELAPSED TIME

The class 2 elapsed time for nonnested activity accumulated in DB2 for the allied agent. This time does not include the time spent in DB2 processing SQL statements issued by stored procedures, user-defined functions, or triggers.

Special Considerations

- The time for most thread allocation and certain abend conditions is not reflected in this time.
- The elapsed time for distributed processing is included in the elapsed time of allied-distributed threads.

- In query CP, sysplex query, or utility parallelism, this is the time shown in the originating record, which overlaps the elapsed times shown in the parallel records.

Note: This field is not normally shown in the short layouts but can be included with UTR.

Field Name: QWACASC

CLASS 2: DB2 ENTRY/EXIT EVENTS

The total number of DB2 entry and exit events processed by the allied address space to calculate the elapsed time in DB2 and the processor time.

This counter does not include the SQL entry and exit events processed by stored procedures.

Field Name: QWACARNA

This is an *exception* field.

CLASS 2: TCB TIME

The accumulated MVS CPU time that is spent in DB2. This CPU time does not include the:

- CPU time that is consumed on an IBM specialty engine
- CPU time that is consumed while processing SQL statements in a stored procedure

Field Name: QWACAJST

CLASS 2: NON-ZERO CLASS 2

This data section shows whether there is nonzero accounting class 2 data. Yes indicates that accounting class 2 or 7 was active during the life of the agent when a class 2 event occurred.

Field Name: QWACCLS2

CLASS 2: STORED PROC ELAPSED TIME

The total elapsed time that the allied agent spent executing SQL in the stored procedures or WLM address space.

A stored procedure may initiate a trigger or invoke a user-defined function this time is not included in this counter.

Note: This field is not normally shown in the short layouts but can be included with UTR.

Field Name: QWACSPEB

CLASS 2: DATA COLLECTED

The accounting class 2 data was being collected when this accounting record was written.

Field Name: QWACCL2O

CLASS 2: STORED PROCEDURE TCB TIME

The TCB time accumulated in DB2 for processing SQL statements issued by stored procedures. This time is only calculated if accounting class 2 is active.

Field Name: QWACSPTT

CLASS 2: STORED PROC. ENTRY/EXITS

The number of SQL entry or exit events performed by stored procedures. This number is only calculated if accounting class 2 is active.

Field Name: QWACSPNE

CLASS 2: UDF ELAPSED TIME

The total elapsed time spent by the allied agent executing SQL using UDF requests processed in a DB2 stored procedure or WLM address space. A user-defined function may initiate a trigger or invoke a stored procedure. Any time spent there is not included in this counter. This time includes time needed

to connect and disconnect the UDF task. Non-inline UDF times are included in this time if the native UDF was called on a nested task and was not invoked by the main application execution unit.

Note: With user-tailored reporting (UTR) you can include this field in the short layouts of Accounting.

Field Name: QWACUDEB

CLASS 2: UDF SQL ENTRY/EXITS EVENTS

The number of SQL entry/exit events performed by user-defined functions.

This is only calculated if accounting class 2 is active.

Field Name: QWACUDNE

CLASS 2: CP CPU TIME UDF

The accumulated CPU time consumed in DB2 when processing SQL statements that were issued by UDF(s) processed in a DB2 stored procedure or WLM address space.

This time also includes the DB2 time required to connect and disconnect the UDF task. Non-inline UDF times are included in this time if the native UDF was called on a nested task and was not invoked by the main application execution unit.

This time is a subset of QWACUDCP and is only calculated if accounting class 2 is active.

This time does not include CPU consumed on an IBM specialty engine.

Field Name: QWACUDTT

CLASS 2: SE CPU TIME

The accumulated and consumed class 2 time on an IBM specialty engine (SE) that consists of times for non-nested, stored procedures, user-defined functions, triggers, and parallel tasks.

Note: All CPU times of an IBM specialty engine that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: QWACCLS2_ZIIP

CLASS 2: TRIG ELAP TIME UNDER ENCLAVE

The accumulated elapsed time used for executing triggers under an enclave.

Field Name: QWACTREE

CLASS 2: SE ELIGIBLE CP CPU TIME

The accumulated CPU time that is consumed on a standard CP for work eligible on an IBM specialty engine.

For records for the parent tasks in parallel queries, this value reflects zIIP-eligible time for the parent and the child tasks. Child task records have a value of 0.

Field Name: QWACZIIP_ELIGIBLE

CLASS 2: TRIG TCB TIME UNDER ENCLAVE

The accumulated CPU time used for executing triggers on a nested task. This time does not include CPU consumed on an IBM specialty engine.

Field Name: QWACTRTE

CLASS 2: QWACTRTT_ZIIP

The accumulated CPU time consumed on an IBM specialty engine while running triggers on a nested task or on the main application execution unit.

Field Name: QWACTRTT_ZIIP

CLASS 2: TRIG ELAP TIME NOT UNDER ENCLAVE

The accumulated elapsed time used when executing under the control of a trigger. This does not include the time used while in user-defined functions or stored procedures that are called from the trigger.

Field Name: QWACTRET

CLASS 2: ELAPSED TIME ELIGIBLE FOR ACCEL

The accumulated elapsed time spent processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: QWAC_ACCEL_ELIG_ELA

CLASS 2: TRIG TCB TIME NOT UNDER ENCLAVE

The accumulated TCB time that is used when running under the control of a trigger. This does not include the time that is used while running in user-defined functions or stored procedures that are called from the trigger.

This CPU time does not include the CPU time that is consumed on an IBM specialty engine.

Field Name: QWACTRTT

This is an *exception* field.

CLASS 2: CP CPU TIME ELIGIBLE FOR ACCEL

The accumulated CPU time spent processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: QWAC_ACCEL_ELIG_CP

CLASS 2: SE CPU TIME ELIGIBLE FOR ACCEL

The accumulated CPU time consumed on an IBM specialty engine while processing SQL in DB2 that may be eligible for execution on an accelerator.

Field Name: QWAC_ACCEL_ELIG_SE

CLASS 2: TRIG TCB TIME NOT UNDER ENCLAVE

The accumulated TCB time that is used when running under the control of a trigger. This does not include the time that is used while running in user-defined functions or stored procedures that are called from the trigger.

This CPU time does not include the CPU time that is consumed on an IBM specialty engine.

Field Name: QWACTRTT

This is an *exception* field.

CLASS 3: ACCU LOCK ELAPSED TIME

The accumulated wait time because of local contention for locks. The term *local contention* is used to differentiate from *global contention* (which is reported in QWACAWTJ). Local contention does not require intersystem communication. The contention is detected and resolved entirely within this subsystem.

Field Name: QWACAWTL

This is an *exception* field.

CLASS 3: WAIT TRACE EVENTS

The number of wait trace events processed for waits for local contention for locks.

Field Name: QWACARNL

CLASS 3: DB2 LATCH SUSP TIME

The accumulated wait time because of latch contention.

Field Name: QWACAWLH

CLASS 3: LATCH WAIT TRACE EVENTS

The number of wait trace events processed for waits for latch contention.

Field Name: QWACARLH

CLASS 3: SYNCHRONOUS I/O SUSP TIME

The accumulated I/O elapsed wait time for database I/O done under this thread. This field is for synchronous I/O only. It includes synchronous read and write I/O. This value is an average.

Field Name: QWACAWTI

CLASS 3: SYNCHRONOUS I/O SUSP EVENTS

The number of wait trace events processed for I/O.

Field Name: QWACARNE

CLASS 3: LOG WRITE I/O SUSP TIME

The accumulated wait time for log write I/O.

This value is an average.

Field Name: QWACAWLG

CLASS 3: LOG WRITE I/O SUSP EVENTS

The number of log I/O suspensions.

Field Name: QWACARLG

CLASS 3: OTHER READ SUSP TIME

The accumulated waiting time due to a read I/O that performed under a thread other than the one being reported. The time does not represent the total duration of the subject read I/O. It includes:

- Sequential prefetch
- List prefetch
- Dynamic Prefetch
- Synchronous read I/O performed by a thread other than the one being reported

Field Name: QWACAWTR

This is an *exception* field.

CLASS 3: OTHER READ SUSP EVENTS

The number of suspensions due to read I/O.

Field Name: QWACARNR

CLASS 3: OTHER WRITE SUSP TIME

The accumulated waiting time due to a write I/O that performed under a thread other than the one being reported. This time does not represent the total duration of the subject write I/O. It includes:

- An asynchronous write I/O
- A synchronous write I/O performed by a thread other than the one being reported
- Frequent system checkpoints and low settings for deferred write thresholds
- When updating a page that is being written, the first thread wait is captured under Other Write I/O
- Other concurrent threads on the same DB2 subsystem will encounter Page latch suspension.

Field Name: QWACAWTW

This is an *exception* field.

CLASS 3: OTHER WRITE SUSP EVENTS

The number of suspensions due to write I/O.

Field Name: QWACARNW

CLASS 3: UPDATE COMMIT SUSP TIME

The accumulated wait time because of synchronous execution unit switch for DB2 Phase 2 commit, abort, or deallocation. This includes wait time for Phase 2 commit Log writes and database writes for LOB with LOG NO. For data sharing environment Page P-locks unlocks for updated pages and GBP writes.

Field Name: QWACAWTE

CLASS 3: UPDATE COMMIT SUSP EVENTS

The number of update commit suspensions.

Field Name: QWACARNS

CLASS 3: PAGE LATCH (DB2+IRLM) SUSP TIME

Page latch suspension could be due to concurrent threads that try to update a hot page that is frequently written because of a low deferred write threshold.

In the data sharing environment, within the same member, the first thread gets a P-lock (such as: Index leaf page P-Lock or P-Lock for Space map page or data page P-lock for Row level locking) during high INSERT activity. Performance trace for IFCID 226 and 227 provide more information for detailed analysis.

With a high number of concurrent threads, for subsequent threads in the same member for the same resource, contention is reported as encountering a page latch contention. Randomizing the Index key helps minimizing page latch contentions for the Index leaf page.

If the page latch is for a space map page and an incremental image copy is not used, use the DDL TRACKMOD NO option to avoid frequent updates to the space map page. The Member Cluster option reduces page latch contention for a space map page.

Field Name: QWACAWTP

CLASS 3: PAGE LATCH (DB2+IRLM) SUSP EVENTS

The number of page latch wait trace events processed.

Field Name: QWACARNH

CLASS 3: NOTIFY MESSAGES SUSP TIME

The accumulated elapsed waiting time due to suspensions caused by sending notify messages to other members in the data sharing group. Messages are sent, for example, when the database descriptors are changed due to DDL.

Field Name: QWACAWTG

CLASS 3: NOTIFY MESSAGES EVENTS

The number of wait trace events processed for sending notify messages to other members in the data sharing group.

Field Name: QWACARNG

CLASS 3: GLOB CONT PARENT L-LOCK TIME

The accumulated global contention wait time for parent L-locks.

A parent L-lock can be one of the following types:

- Database
- Tablespace

- Table
- Partition

Background and Tuning Information

Performance Expert might adjust this value if the thread was suspended when performance data was gathered.

Field Name: QWACAWTJ

CLASS 3: GLOB CONT PARENT L-LOCK EVENTS

The number of wait trace events processed for group-level contentions in a data sharing environment.

Field Name: QWACARNJ

CLASS 3: GLOB CONT CHILD L-LOCK TIME

The accumulated global contention wait time for child L-locks.

A child L-lock type can be:

- Page
- Row

Field Name: QWACAWTK

CLASS 3: GLOB CONT CHILD L-LOCK EVENTS

The number of wait trace events processed for waits due to global contention for child L-locks.

Field Name: QWACARNK

CLASS 3: GLOB CONT OTHER L-LOCK TIME

The accumulated global contention wait time for other L-locks. Global extend lock is acquired in exclusive mode by Inserters before an extend service task switch.

Field Name: QWACAWTM

CLASS 3: GLOB CONT OTHER L-LOCK EVENTS

The number of wait trace events processed for waits due to global contention for other L-locks.

Field Name: QWACARNM

CLASS 3: GLOB CONT PGSET/PART P-LOCK TIME

The accumulated global contention time for pageset and partition P-locks.

Field Name: QWACAWTN

CLASS 3: GLOB CONT PGSET/PART P-LOCK EVENTS

The number of wait trace events processed for waits due to global contention for page set or partition P-locks.

Field Name: QWACARNN

CLASS 3: GLOB CONT PAGE P-LOCK TIME

The accumulated global contention wait time for page P-locks.

Field Name: QWACAWTO

CLASS 3: GLOB CONT PAGE P-LOCK EVENTS

The number of wait trace events processed for waits due to global contention for page P-locks.

Field Name: QWACARNO

CLASS 3: GLOB CONT OTHER P-LOCK TIME

The accumulated global contention wait time for other P-locks. Includes suspension for Castout P-Locks and DBET locks. It could be because of Index Split processing which can be minimized if the Index key size is not large. If you can minimize the number of Index Keys in the Index, it will help to reduce the number of Index splits.

Field Name: QWACAWTQ

CLASS 3: GLOB CONT OTHER P-LOCK EVENTS

The number of wait trace events processed for waits due to global contention for other P-locks.

Field Name: QWACARNQ

CLASS 3: SCHED. STOR PROC SUSP TIME

The total elapsed waiting time for an available TCB before the stored procedure could be scheduled.

Field Name: QWACCAST

CLASS 3: STORED PROCEDURE EVENTS

The number of wait trace events processed for an unavailable TCB needed for a stored procedure.

Field Name: QWACCANM

CLASS 3: SCHED. UDF SUSP TIME

The total elapsed time spent waiting for an available TCB before the user-defined function could be scheduled.

Field Name: QWACUDST

CLASS 3: NON-ZERO CLASS 3
CLASS 3 DATA IN THIS RECORD:Y/N

Field Name: QWACCLS3

CLASS 3: TCP/IP LOB XML TIME

The accumulated wait time for TCP/IP LOB and XML (storing large object and XML) materialization.

Field Name: QWACALBW

CLASS 3: TCP/IP LOB XML EVENTS

The number of wait trace events that were processed for waits for TCP/IP LOB and XML materialization.

Field Name: QWACALBC

CLASS 3: ACCELERATOR SUSP TIME

The accumulated wait time for requests to an accelerator.

Field Name: QWACAACW

CLASS 3: ACCELERATOR EVENTS

The number of wait trace events processed for requests to an accelerator.

Field Name: QWACAACC

CLASS 3: AUTON PROC WAIT TIME

The accumulated time waiting for autonomous procedures to complete.

Field Name: QWAC_AT_WAIT

CLASS 3: AUTON PROC EVENTS

The number of autonomous procedures that were executed:

1. For non-rollup records, this value is the number of autonomous procedures that were executed.

2. For a parallel query rollup record, this value is 0.
3. For a DDF or RRSAF rollup record, this value is the number of autonomous procedures that were executed. These procedures are NOT counted in QWACPCNT.
4. For autonomous procedures rollup records, this value is 0.

Field Name: QWAC_AT_COUNT

CLASS 3: PARALLEL QUERY SYNC WAIT TIME

The accumulated time waiting for parallel queries to synchronize between parent and child tasks.

Field Name: QWAC_PQS_WAIT

CLASS 3: PARALLEL QUERY SYNC WAIT EVENTS

The number of times the parallel query processing had to suspend because it was waiting for the synchronization of parent or child.

Field Name: QWAC_PQS_COUNT

CLASS 3: SYNC READ DASD CACHE HIT WAIT TIME

The amount of time spent waiting for synchronous database reads where the requested pages were found in the DASD subsystem's cache.

Field Name: QWACAWTD

CLASS 3: SYNC READ WAIT DASD CACHE HIT EVENTS

The number of times the thread waited for synchronous database reads where the requested pages were found in the DASD subsystem's cache.

Field Name: QWACAWCD

CLASS 3: CLASS 3 DATA COLLECTED

The accounting class 3 data was being collected when this accounting record was written.

Field Name: QWACCL3O

CLASS 7: DATA COLLECTED

The accounting class 7 data was being collected when this accounting record was written.

Field Name: QWACCL7O

CLASS 8: DATA COLLECTED

The accounting class 8 data was being collected when this accounting record was written.

Field Name: QWACCL8O

MAX WORKFILE BLOCKS

The maximum number of work-file blocks that are used by this agent at any given point in time (traditional work-file blocks, declared global temporary tables (DGTT) and DGTT indexes) (DB2 field QWAC_WORKFILE_MAX).

Field Name: QWAC_WORKFILE_MAX

CURR WORKFILE BLOCKS

The current number of work-file blocks that are used by this agent (traditional workfile use, declared global temporary tables (DGTT) and DGTT indexes).

Field Name: QWAC_WORKFILE_CURR

WLM SERVICE CLASS

The MVS workload manager service class name. This field is used for database access threads on MVS 5.2 or later.

Field Name: QWACWLME

PARALLEL CHILDS ROLLED INTO RECORD

The number of parallel child agents rolled into this record. The value depends on the record type:

1. For all non-rollup records, this value is 0.
2. For a parallel query rollup record, this value is the number of parallel child agents rolled into this record.
3. For a DDF/RRSAF rollup record, this value is the number of parallel query child agents rolled into this record. These agents are NOT counted in QWACPCNT.
4. For an autonomous procedure rollup record, this value is 0.

Field Name: QWAC_PT_COUNT

ROLLUP DATA FOR PARALLEL CHILD TASKS

The field indicates whether to roll up accumulate query parallel task's accounting trace into originating task's accounting trace. Possible values are:

YES
Originating task cut an additional accounting trace record with all roll-up values from parallel tasks.

NO
Each parallel task will produce its own accounting trace record.

Field Name: QWACPARR

PARALLEL QUERY ROLLUP DATA

This record contains parallel query rollup data.

Field Name: QWAC_RU_PARQRY

AUTON PROC ROLLUP DATA

This record contains autonomous procedure rollup data.

Field Name: QWAC_RU_AT

IFCID 003 - Instrumentation Accounting Data Overflow

This topic shows detailed information about "Record Trace - IFCID 003 - Instrumentation Accounting Data Overflow".

Record trace - IFCID 003 - Instrumentation Accounting Data Overflow

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Instrumentation Accounting Data Overflow" are described in the following section.

```
                                INSTRUMENTATION ACCOUNTING DATA OVERFLOW

ARCH.LOG(QUIES) SUSP TIME                 0.000000   ARCH.LOG(QUIES) SUSP EVENTS                    0
ACCUM. READ SUSP TIME                     0.000000   WAIT TRACE READ EVENTS                         0
DRAIN LOCK SUSP TIME                      0.000000   DRAIN LOCK SUSP EVENTS                         0
CLAIM RELEASE SUSP TIME                   0.000000   CLAIM RELEASE SUSP EVENTS                      0
I/O SERVICE TASK SUSP TIME                0.000000   I/O SERVICE TASK SUSP EVENTS                   0
SYSLGRNG SUSP TIME                        0.000000   SYSLGRNG SUSP EVENTS                           0
DS MANAGER SUSP TIME                      0.000000   DS MANAGER SUSP EVENTS                         0
OTHER SERVICE SUSP TIME                   0.000000   OTHER SERVICE SUSP EVENTS                      0
COMMIT PH1 WRITE I/O TIME                 0.000000   COMMIT PH1 WRITE I/O EVENTS                    0
ASYNCH. IXL REQ. TIME                     0.000000   ASYNCH. IXL EVENTS                             0
LOB COMPRESSION SUSP TIME                 0.000000   LOB COMPRESSION SUSP EVENTS                    0
FAST INSERT PIPE WAIT TIME                0.000000   FAST INSERT PIPE WAIT EVENTS                   0
SYNC READ DASD CACHE HIT WAIT TIME        0.000000   SYNC READ WAIT DASD CACHE HIT EVENTS           0
```

ARCH.LOG(QUIES) SUSP TIME

The accumulated waiting time due to the processing of ARCHIVE LOG MODE(QUIESCE) commands.

This time does not represent the time required to perform the entire command.

Field Name: QWAXALOG

This is an *exception* field.

ARCH.LOG(QUIES) SUSP EVENTS

The number of ARCHIVE LOG MODE (QUIESCE) commands issued.

Field Name: QWAXALCT

ACCUM. READ SUSP TIME

The accumulated wait time for:

- Archive Log reads
- Active Log reads
- Active Log prefetch reads
- Fast Log apply log reads

Field Name: QWAXAWAR

WAIT TRACE READ EVENTS

DB2 V8: The number of wait trace events processed for archive reads, active reads, and active log prefetch reads.

Field Name: QWAXANAR

DRAIN LOCK SUSP TIME

The accumulated waiting time for a drain lock. This is the time the requester is suspended while waiting to acquire the drain lock.

Field Name: QWAXAWDR

This is an *exception* field.

DRAIN LOCK SUSP EVENTS

The number of wait trace events processed for waits for drain locks.

Field Name: QWAXARND

CLAIM RELEASE SUSP TIME

The accumulated waiting time for a drain waiting for claims to be released. After the drain lock is acquired, the drainer must wait for claim holders to release the object.

Field Name: QWAXAWCL

This is an *exception* field.

CLAIM RELEASE SUSP EVENTS

The number of wait trace events processed for waits for claims to be released.

Field Name: QWAXARNC

I/O SERVICE TASK SUSP TIME

Accumulated waiting time for a synchronous execution unit switch to the DB2 OPEN/CLOSE data set service for the HSM recall service.

This value is an average.

Field Name: QWAXOCSE

I/O SERVICE TASK SUSP EVENTS

Number of wait trace events processed of waits for synchronous execution unit switching to the Open/Close service.

Field Name: QWAXOCNS

SYSLGRNG SUSP TIME

Accumulated wait time for a synchronous execution unit switch to the DB2 SYSLGRNG recording service. This service is sometimes used for Level ID checking for downlevel detection.

This value is an average.

Field Name: QWAXSLSE

SYSLGRNG SUSP EVENTS

Number of wait trace events for a synchronous execution unit switch to the DB2 SYSLGRNG recording service.

Field Name: QWAXSLNS

DS MANAGER SUSP TIME

Accumulated wait time for a synchronous execution unit switch to the DB2 data space manager services. This includes DEFINE DATA SET, EXTEND DATA SET, DELETE DATA SET, RESET DATA SET, and VSAM CATALOG ACCESS.

This value is an average.

Field Name: QWAXDSSE

DS MANAGER SUSP EVENTS

Number of wait trace events for waits for synchronous execution unit switching to the DB2 data space manager services.

Field Name: QWAXDSNS

OTHER SERVICE SUSP TIME

Could be due to a VSAM catalog update. In the distributed environment, it includes the waiting time for the response from the server system. Performance trace for IFCID 46 to 50, 170, and 171 provide more detailed information for analysis.

Field Name: QWAXOTSE

OTHER SERVICE SUSP EVENTS

Number of wait trace events for a synchronous execution unit switch to other DB2 service tasks.

Field Name: QWAXOTNS

COMMIT PH1 WRITE I/O TIME

The accumulated time waiting for phase 1 commit write I/O. An example for this suspension is LOB Table Space with LOG NO Phase 1 commit database synchronous write I/O processing.

Field Name: QWAXAWFC

COMMIT PH1 WRITE I/O EVENTS

The total number of wait trace events for commit phase 1 I/O.

Field Name: ADFCSUSC

ASYNC. IXL REQ. TIME
The accumulated wait time for IXLCACHE and IXLFCOMP requests.

Field Name: QWAXIXLT

ASYNC. IXL EVENTS

Number of wait trace events processed for asynchronous IXLCACHE or IXLFCOMP invocations.

Field Name: QWAXIXLE

LOB COMPRESSION SUSP TIME

The accumulated time waiting for a compression of DB2 large objects (LOB) (DB2 field QWAX_LOBCOMP_WAIT).

Field Name: QWAX_LOBCOMP_WAIT

LOB COMPRESSION SUSP EVENTS

The number of wait trace events processed for DB2 large object (LOB) compressions.

Field Name: QWAX_LOBCOMP_COUNT

FAST INSERT PIPE WAIT TIME

The accumulated wait time for pipe wait (DB2 field QWAX_PIPE_WAIT).

Field Name: QWAX_PIPE_WAIT

FAST INSERT PIPE WAIT EVENTS

The number of wait trace events that were processed for pipe wait (DB2 field QWAX_PIPEWAIT_COUNT).

Field Name: QWAX_PIPEWAIT_COUNT

SYNC READ DASD CACHE HIT WAIT TIME

The amount of time spent waiting for synchronous database reads where the requested pages were found in the DASD subsystem's cache.

Field Name: QWACAWTD

SYNC READ WAIT DASD CACHE HIT EVENTS

The number of times the thread waited for synchronous database reads where the requested pages were found in the DASD subsystem's cache.

Field Name: QWACAWCD

IFCID 003 - Locking Data

This topic shows detailed information about "Record Trace - IFCID 003 - Locking Data".

Record trace - IFCID 003 - Locking Data

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Locking Data" are described in the following section.

```
LOCKING DATA
DEADLOCKS                 0  LOCK REQUEST          39  LOCK SUSPENSIONS           0  CLAIM REQUESTS               7
TIMEOUTS                  0  UNLOCK REQUEST        31  IRLM LATCH SUSPENS.        1  CLAIM REQ. FAILED            0
ESCALATIONS(SHR)          0  QUERY REQUEST          0  OTHER SUSPENSIONS          0  DRAIN REQUESTS               0
ESCALATIONS(EXC)          0  CHANGE REQUEST         0                                DRAIN REQ. FAILED            0
MAXIMUM PAGE/ROW LOCKS HELD                         1  OTHER REQUEST              0
```

DEADLOCKS

The number of times deadlocks were detected. This number should be low, ideally 0.

Background and Tuning Information

Deadlocks occur when two or more application processes each hold locks on resources that the others need, without which they cannot proceed. Ensure that all applications accessing the same tables access them in the same order.

To improve concurrency:

- Use row level locking instead of page level locking to minimize deadlocks.
- For small tables use page level locking with MAXROWS 1.

To minimize deadlocks:

- Delay updates to just before commit.

- Use SELECT with the FOR UPDATE clause to use U lock.
- Adjust the deadlock detection cycle parameter DEADLOK in the IRLM procedure.

This field is incremented once for each deadlock encountered. There is no correlation between this field and the deadlock events reported in the Locking report set or the number of IFCID 172 records written. This field reports all deadlocks, regardless of how they were resolved. The locking report and record trace IFCID 172 show only those deadlocks that were resolved by DB2.

Field Name: QTXADEA

This is an *exception* field.

LOCK REQUEST

The number of requests to lock a resource.

Field Name: QTXALOCK

This is an *exception* field.

LOCK SUSPENSIONS

The number of times a lock could not be obtained and the unit of work was suspended.

Background and Tuning Information

This number should be low, ideally 0.

The number of lock suspensions is a function of the lock requests. Lock suspensions (or conflicts) can happen on either LOCK REQUEST or CHANGE REQUEST.

Suspensions are highly dependent on the application and table space locking protocols.

Field Name: QTXASLOC

This is an *exception* field.

CLAIM REQUESTS

The number of claim requests.

Field Name: QTXACLNO

This is an *exception* field.

TIMEOUTS

The number of times a unit of work was suspended for a time exceeding the timeout value. This number should be low, ideally 0.

Field Name: QTXATIM

This is an *exception* field.

UNLOCK REQUEST

The number of requests to unlock a resource.

This value can be less than the number of lock requests because DB2 can release several locks with a single unlock request.

Field Name: QTXAUNLK

IRLM LATCH SUSPENS.

The number of latch suspensions.

Field Name: QTXASLAT

CLAIM REQ. FAILED

The number of unsuccessful claim requests.

Field Name: QTXACLUN

ESCALATIONS(SHR)

The number of times the maximum page locks per table space are exceeded, and the table space lock escalates from a page lock (IS) to a table space lock (S) for this thread. You can specify the number of locks allowed per table space with the LOCKS PER TABLE(SPACE) parameter on the DB2 install panel DSNTIPJ.

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than normal.

Field Name: QTXALES

This is an *exception* field.

QUERY REQUEST

The number of query requests.

Field Name: QTXAQRY

This is an *exception* field.

OTHER SUSPENSIONS

The number of suspensions caused by something other than lock or latch.

Field Name: QTXASOTH

This is an *exception* field.

DRAIN REQUESTS

The number of drain requests.

Field Name: QTXADRNO

This is an *exception* field.

ESCALATIONS(EXC)

The number of times the maximum page locks per table space are exceeded and the table space lock escalates from a page lock (IX) to a table space lock (X).

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than it normally does.

A useful rule of thumb is to compare the number of escalations (shared and exclusive) to the successful escalations (those that did not cause deadlocks and timeouts). If this value, or the number Lock escalations - shared and if the number of timeouts or deadlocks is also not 0, the timeout or deadlock is probably caused by the escalation.

If many escalations cause deadlocks and timeouts, the recommendation is to change the escalation threshold value. Use of ANY is extremely useful to prevent unnecessary and expensive page locks, for example locking all pages in a tablespace.

Lock escalations, shared or exclusive, should not be expected in a transaction environment.

Field Name: QTXALEX

This is an *exception* field.

CHANGE REQUEST

The number of change requests.

Field Name: QTXACHG

This is an *exception* field.

DRAIN REQ. FAILED

The number of unsuccessful drain requests.

Field Name: QTXADRUN

This is an *exception* field.

MAXIMUM PAGE/ROW LOCKS HELD

The maximum number of page or row locks concurrently held against all table spaces by a single application during its execution. This count is a high-water mark. It cannot exceed the LOCKS PER USER parameter on panel DSNTIPJ.

Field Name: QTXANPL

This is an *exception* field.

OTHER REQUEST

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

Field Name: QTXAIRLM

This is an *exception* field.

IFCID 003 - Logging

This topic shows detailed information about "Record Trace - IFCID 003 - Logging".

Record trace - IFCID 003 - Logging

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Logging" are described in the following section.

```
LOGGING
NUMBER OF LOG RECORDS WRITTEN                   0   TOTAL BYTES WRITTEN             X'000000000000'
```

NUMBER OF LOG RECORDS WRITTEN

The number of log records written.

Field Name: QWACLRN

TOTAL BYTES WRITTEN

The total number of log record bytes written.

Field Name: QWACLRAB

IFCID 003 - Miscellaneous

This topic shows detailed information about "Record Trace - IFCID 003 - Miscellaneous".

This report has the same layout as “ IFCID 002 - Miscellaneous ” on page 476

IFCID 003 - Nested SQL Activity

This topic shows detailed information about "Record Trace - IFCID 003 - Nested SQL Activity".

Record trace - IFCID 003 - Nested SQL Activity

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Nested SQL Activity" are described in the following section.

```
NESTED SQL ACTIVITY
MAX CASCAD LVL          0
CALL STATEMENTS         0  PROCEDURE ABENDS           0  CALL TIMEOUTS             0  CALL REJECTS              0
UDF EXECUTED            0  UDF ABENDS                 0  UDF TIMEOUTS              0  UDF REJECTS               0
STMT TRIGGER            0  ROW TRIGGER                0  SQL ERROR TRIGGER         0
```

MAX CASCAD LVL

The maximum level of indirect SQL cascading. This includes cascading because of triggers, UDFs, or stored procedures.

Field Name: QXCASCDP

This is an *exception* field.

CALL STATEMENTS

The number of SQL CALL statements executed.

Field Name: QXCALL

This is an *exception* field.

PROCEDURE ABENDS

The number of times a stored procedure terminated abnormally.

Field Name: QXCALLAB

This is an *exception* field.

CALL TIMEOUTS

The number of times an SQL call timed out waiting to be scheduled.

Field Name: QXCALLTO

This is an *exception* field.

CALL REJECTS

The number of times an SQL CALL statement was rejected due to the procedure being in the STOP ACTION(REJECT) state.

Field Name: QXCALLRJ

This is an *exception* field.

UDF EXECUTED

The number of user-defined functions executed.

Field Name: QXCAUD

This is an *exception* field.

UDF ABENDS

The number of times a user-defined function abended.

Field Name: QXCAUDAB

This is an *exception* field.

UDF TIMEOUTS

The number of times a user-defined function timed out while waiting to be scheduled.

Field Name: QXCAUDTO

This is an *exception* field.

UDF REJECTS

The number of times a user-defined function was rejected.

Field Name: QXCAUDRJ

This is an *exception* field.

STMT TRIGGER

The number of times a statement trigger was activated.

Field Name: QXSTTRG

This is an *exception* field.

ROW TRIGGER

The number of times a row trigger was activated.

Field Name: QXROWTRG

This is an *exception* field.

SQL ERROR TRIGGER

The number of times an SQL error occurred during the execution of a triggered action. This includes errors that occur in user-defined functions or stored procedures that are called from triggers and that pass back a negative SQLCODE.

Field Name: QXTRGERR

This is an *exception* field.

IFCID 003 - Query Parallelism

This topic shows detailed information about "Record Trace - IFCID 003 - Query Parallelism".

This report has the same layout as “IFCID 002 - Query Parallelism ” on page 481.

IFCID 003 - Resource Limit Facility

This topic shows detailed information about "Record Trace - IFCID 003 - Resource Limit Facility".

Record trace - IFCID 003 - Resource Limit Facility

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Resource Limit Facility" are described in the following section.

```
RESOURCE LIMIT FACILITY
RES LIMIT SCOPE          5             RLF TABLE ID              01       LIMIT IN CPU 16 MICROSEC            0
RES LIMIT TYPE   INFINITE              LIMIT IN SERVICE UNITS          0  HIGHEST CPU 16 MICROSEC USED      2107
QTXAFLG1 (S) :   X'80'
```

RES LIMIT SCOPE

Indicates how the resource limit was established. A value of 0 shows that the resource limit facility was not started.

Field Name: QTXAPREC

RLF TABLE ID

The identifier of the resource limit specification table.

Field Name: QTXARLID

LIMIT IN CPU 16 MICROSEC

The CPU time limit, in microseconds, set by the resource limit facility.

Field Name: QTXACLMT

RES LIMIT TYPE

Indicates how the type of resource limit was established: infinite, zero, or limit.

Note: Label **QTXAFLG1** presents the first flag byte in hexadecimal:

X'80'
Infinite limit

X'40'
No run or zero limit

Field Name: QTXAFLG1

LIMIT IN SERVICE UNITS

The maximum number of CPU service units to be used. Normally, the value is not 0 if the RES LIMIT TYPE is LIMIT. A value of 0 indicates no limit.

Field Name: QTXASLMT

HIGHEST CPU 16 MICROSEC USED

The highest CPU time used by a single DB2 call, in microseconds. Note that there can be many DB2 calls for one SQL statement.

Field Name: QTXACHUS

QTXAFLG1 (S)

Indicates how the type of resource limit was established: infinite, zero, or limit.

Note: Label **QTXAFLG1** presents the first flag byte in hexadecimal:

X'80'
Infinite limit

X'40'
No run or zero limit

Field Name: QTXAFLG1

IFCID 003 - RID List Processing

This topic shows detailed information about "Record Trace - IFCID 003 - RID List Processing".

This report has the same layout as “IFCID 002 - RID List Processing ” on page 483.

IFCID 003 - Rollup Accounting Correlation Block

This topic shows detailed information about "Record Trace - IFCID 003 - Rollup Accounting Correlation Block".

Record trace - IFCID 003 - Rollup Accounting Correlation Block

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Rollup Accounting Correlation Block" are described in the following section.

```
ROLLUP ACCOUNTING CORRELATION BLOCK

TOKEN: X'000000001B0936C0'              START: 07/22/10 01:06:47.294556         END: 07/22/10 01:06:47.302795
TOKEN: X'000000001B0936C0'              START: 07/22/10 01:06:47.302824         END: 07/22/10 01:06:47.303013
TOKEN: X'000000001B092140'              START: 07/22/10 01:06:47.363234         END: 07/22/10 01:06:47.365118
TOKEN: X'000000001B092140'              START: 07/22/10 01:06:47.365141         END: 07/22/10 01:06:47.365332
TOKEN: X'000000001B092140'              START: 07/22/10 01:06:47.446876         END: 07/22/10 01:06:47.465907
TOKEN: X'000000001B092140'              START: 07/22/10 01:06:47.466591         END: 07/22/10 01:06:47.466765
TOKEN: X'000000001B092140'              START: 07/22/10 01:06:47.527667         END: 07/22/10 01:06:47.530670
TOKEN: X'000000001B092140'              START: 07/22/10 01:06:47.530699         END: 07/22/10 01:06:47.531371
TOKEN: X'000000001B094430'              START: 07/22/10 01:06:47.577898         END: 07/22/10 01:06:47.582341
TOKEN: X'000000001B094430'              START: 07/22/10 01:06:47.582516         END: 07/22/10 01:06:47.591900
```

TOKEN

The agent token for the transaction rolled into the record. This can be used to correlate to records written with the same QWHSACE value during the time of the transaction (QWARBSC to QWARESC).

Field Name: QWARACE

START

The beginning time for the transaction.

Field Name: QWARBSC

END

The end time for the transaction.

Field Name: QWARESC

IFCID 003 - ROWID

This topic shows detailed information about "Record Trace - IFCID 003 - ROWID".

Record trace - IFCID 003 - ROWID

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - ROWID" are described in the following section.

```
ROWID
DIRECT ACCESS              0   INDEX USED                          0    TABLE SPACE SCAN USED              0
```

DIRECT ACCESS

The number of times that direct row access was successful.

Field Name: QXROIMAT

INDEX USED

The number of times an index was used to find a record.

Field Name: QXROIINX

TABLE SPACE SCAN USED

The number of times that an attempt to use direct row access reverted to using a table-space scan because DB2 was unable to use a matching index scan.

Background and Tuning Information

Ideally, this value should be 0.

Table-space scans can happen, for example, when a REORG is performed between the read of the ROWID column and the use of the host variable in the WHERE clause of the SQL statement. This causes the RID value in the host variable to be incorrect. DB2 first tries a matching-index scan before using a table-space scan.

To avoid table space scans, you can force the access path of an unsuccessful direct row access to use a matching index scan on the primary-index key by adding PKCOL to the WHERE clause in the SQL statement. `.... WHERE ROWIDCOL=:HVROWID AND PKCOL=:HVPK .....`

Field Name: QXROITS

IFCID 003 - SQL Call Data

This topic shows detailed information about "Record Trace - IFCID 003 - SQL Call Data".

This report has the same layout as “ IFCID 002 - SQL Call Data ” on page 493.

IFCID 004 - Trace Start

This topic shows detailed information about "Record Trace - IFCID 004 - Trace Start".

Record trace - IFCID 004 - Trace Start

The field labels shown in the following sample layout of "Record Trace - IFCID 004 - Trace Start" are described in the following section.

```
MESSAGE:  -START TRACE (A )C (01 02 03 05 07 08 30 )
RMID (* )D (OPX )PLAN (* )AUTHID (* )IFCID
(3 )BUFSIZE (1024 )TDATA (COR CPU DIST )
QW0004CM  X'200000D702001B02'
```

MESSAGE

The start trace message.

Field Name: QW0004MS

IFCID 005 - Trace Stop

This topic shows detailed information about "Record Trace - IFCID 005 - Trace Stop".

Record trace - IFCID 005 - Trace Stop

The field labels shown in the following sample layout of "Record Trace - IFCID 005 - Trace Stop" are described in the following section.

```
MESSAGE:  -STOP TRACE(*) CLASS(*) RMID(*) PLAN(*)
AUTHID(*) TNO(*)
QW0005CM  00000000
```

MESSAGE

The stop trace message.

Field Name: QW0005MS

IFCID 006 - Read I/O Start

This topic shows detailed information about "Record Trace - IFCID 006 - Read I/O Start".

Record trace - IFCID 006 - Read I/O Start

The field labels shown in the following sample layout of "Record Trace - IFCID 006 - Read I/O Start" are described in the following section.

```
DBID: 6        POOL ID:          0     ACE:          2
OBID: 112      FIRST  : X'000000' READTYPE: D
PAGE NUMBERING  : ABS   PARTITION NUMBER  :          0
TABLE_SPACE_TYPE: X'00' ZHYPERLINK REQUEST: N
```

DBID

The page set ID. This page set can be either a table space or an index space. If it is a table space, use this value to match column PSID in SYSIBM.SYSTABLESPACE to find the name of the table space. If it is an index space, use this value to match column ISOBID SYSIBM.SYSINDEXES to find the internal name of the index space. This is deduced from the DB2 fields QW0006OB, and QW0105TN or QW0107TN.

When present, the database name is shown, otherwise the decimal identifier from QW0006DB is shown, or N/A when this value is 0.

Field Name: RT0006DB

POOL ID

The internal identifier of the buffer pool. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0006BP

ACE

The agent control element (ACE) token of the requester.

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0006AC

OBID

The page set ID. This page set can be either a table space or an index space. If it is a table space, use this value to match column PSID in SYSIBM.SYSTABLESPACE to find the name of the table space. If it is an index space, use this value to match column ISOBID SYSIBM.SYSINDEXES to find the internal name of the index space. This is deduced from the DB2 fields QW0006OB, and QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0006OB is shown, or N/A when this value is 0.

Field Name: RT0006OB

FIRST

The hexadecimal number of the first page to be read for a table space that is not defined as large.

Field Name: QW0006PN

READTYPE

The type of read performed:

S
Sequential prefetch request

L
List prefetch request

D
Dynamic sequential prefetch request

R
Synchronous read request

Field Name: QW0006F

PAGE NUMBERING

Indicates how page numbers are shown for partitioned tables:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0006P1

TABLE_SPACE_TYPE

The type of the table space:

L
Non-EA large table

N
Non-large table

V
EA-enabled large table

Field Name: QW0006FG

PARTITION NUMBER
The partition number. This value is 0 if the table space is not partitioned.

Field Name: QW0006PT

ZHYPERLINK REQUEST
Indicates whether or not the I/O is using zHyperLink (synchronous) I/O. Valid values are:

Y
The I/O is using zHyperLink (synchronous) I/O.

N
The I/O did not use zHyperLink (synchronous) I/O.

Field Name: QW0006SI

IFCID 007 - Read I/O Stop

This topic shows detailed information about "Record Trace - IFCID 007 - Read I/O Stop".

Record trace - IFCID 007 - Read I/O Stop

The field labels shown in the following sample layout of "Record Trace - IFCID 007 - Read I/O Stop" are described in the following section.

```
DBID: 6        RETCODE:          0     ACE:          3
OBID: 2014     READ    :         32
PAGE NUMBERING  : ABS   PARTITION NUMBER  :          1
DASD CACHE HIT  : N     ZHYPERLINK REQUEST: Y
PAGE PREFETCHED VIA IO OPERATION:
  X'00000040' X'00000041' X'00000042' X'00000043'
  X'00000044' X'00000045' X'00000046' X'00000047'
  X'00000048' X'00000049' X'0000004A' X'0000004B'
  X'0000004C' X'0000004D' X'0000004E' X'0000004F'
  X'00000050' X'00000051' X'00000052' X'00000053'
  X'00000054' X'00000055' X'00000056' X'00000057'
  X'00000058' X'00000059' X'0000005A' X'0000005B'
  X'0000005C' X'0000005D' X'0000005E' X'0000005F'
```

DBID

The database ID. This is deduced from the DB2 fields QW0007DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0007DB is shown, or N/A when this value is 0.

Field Name: RT0007DB

RETCODE

The return code from the media manager.

Field Name: QW0007MM

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0007AC

OBID

The object ID. This is deduced from the DB2 fields QW0007OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0007OB is shown, or N/A when this value is 0.

Field Name: RT0007OB

READ

The number of pages read.

Field Name: QW0007NP

PAGE NUMBERING

Indicates how page numbers are shown for partitioned tables:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0007P1

PARTITION NUMBER

The partition number. This value is 0 if the table space is not partitioned.

Field Name: QW0007PT

DASD CACHE HIT

Indicates whether the I/O resulted in a disk subsystem cache hit or not. Valid values are:

Y
The requested data was found in the DASD subsystem cache.

N
The requested data was not found in the DASD subsystem cache.

Field Name: QW0007DC

ZHYPERLINK REQUEST

Indicates whether the I/O was synchronous or not. Valid values are:

Y
The I/O is using zHyperLink (synchronous) I/O.

N
The I/O did not use zHyperLink (synchronous) I/O.

Field Name: QW0007SI

PAGE PREFETCHED VIA IO OPERATION

The page number that was prefetched during an I/O operation.

Field Name: QW0007PF

IFCID 008 - Write I/O Synch

This topic shows detailed information about "Record Trace - IFCID 008 - Write I/O Synch".

Record trace - IFCID 008 - Write I/O Synch

The field labels shown in the following sample layout of "Record Trace - IFCID 008 - Write I/O Synch" are described in the following section.

```
DBID:      DBHSR01        ACTIVE:             218
OBID:      HSRPDSFP       UPDATED:            264
POOL ID:          0       WRITTEN:              1
WRITE TYPE: NORMAL        PAGE FAULTS:          0
PARTITION NUMBER :          0
```

DBID

The database ID. This is deduced from the DB2 fields QW0008DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0008DB is shown, or N/A when this value is 0.

Field Name: RT0008DB

ACTIVE

The number of active buffers in the pool.

Field Name: QW0008AB

OBID

The object ID. This is deduced from the DB2 fields QW0008OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0008OB is shown, or N/A when this value is 0.

Field Name: RT0008OB

UPDATED

The number of updated pages in the deferred write queue for the buffer pool that is identified in field QW0008BP.

Field Name: QW0008DW

POOL ID

The internal buffer pool identifier. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0008BP

WRITTEN

The number of pages to be written.

Field Name: QW0008WR

WRITE TYPE

The type of write:

NORMAL
Normal write to disk

CASTOUT
Write to disk initiated by a castout from the coupling facility

Field Name: QW0008FC

PAGE FAULTS

The number of anticipated page faults. Real storage frames are tested before issuing write.

Field Name: QW0008PI

PARTITION NUMBER

The partition number. This value is 0 if the table space is not partitioned.

Field Name: QW0008PT

IFCID 009 - Write I/O

This topic shows detailed information about "Record Trace - IFCID 009 - Write I/O".

Record trace - IFCID 009 - Write I/O

The field labels shown in the following sample layout of "Record Trace - IFCID 009 - Write I/O" are described in the following section.

```
RETURN          0
```

RETURN

The return code from the media manager.

Field Name: QW0009MM

IFCID 010 - Write I/O Asynch

This topic shows detailed information about "Record Trace - IFCID 010 - Write I/O Asynch".

Record trace - IFCID 010 - Write I/O Asynch

The field labels shown in the following sample layout of "Record Trace - IFCID 010 - Write I/O Asynch" are described in the following section.

```
DBID:      DBHSR01        ACTIVE:             218
OBID:      HSRPDSFP       UPDATED:            263
POOL ID:          0       WRITTEN:              1
WRITE TYPE: NORMAL        PAGE FAULTS:          0
PARTITION NUMBER :          0
```

DBID

The database ID. Deduced from the DB2 fields QW0010DB, and QW0105DN or QW0107DN.

When present the database name is shown, otherwise the decimal identifier from QW0010DB is shown, or N/A when this value is 0.

Field Name: RT0010DB

ACTIVE

The number of active buffers in the pool.

Field Name: QW0010AB

OBID

The object ID. Deduced from the DB2 fields QW0010OB, and QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0010OB is shown or N/A when this value is 0.

Field Name: RT0010OB

UPDATED

The number of updated pages in the deferred write queue for the buffer pool that is identified in field QW0010BP.

Field Name: QW0010DW

POOL ID

The internal identifier of the buffer pool. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0010BP

WRITTEN

The number of pages to be written.

Field Name: QW0010WR

WRITE TYPE

The type of write:

NORMAL
Normal write to disk

CASTOUT
Write to disk initiated by a castout from the coupling facility

Field Name: QW0010FC

PAGE FAULTS

The number of anticipated page faults. Real storage frames are tested before issuing write.

Field Name: QW0010PI

PARTITION NUMBER

The partition number. This value is 0 if the table space is not partitioned.

Field Name: QW0010PT

IFCID 011 - Validate Exit

This topic shows detailed information about "Record Trace - IFCID 011 - Validate Exit".

Record trace - IFCID 011 - Validate Exit

The field labels shown in the following sample layout of "Record Trace - IFCID 011 - Validate Exit" are described in the following section.

```
DBID         1     REC ID      3
OBID         2     TIME     4/01/08 17:42:00.000000
RETURN  0004    REASON  00000005
```

DBID

The database ID. Deduced from the DB2 fields QW0011DB, and QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0011DB is shown, or N/A when this value is 0.

Field Name: RT0011DB

REC ID

The decimal identifier of the DB2 table OBID.

Field Name: QW0011OB

OBID

The object ID. Deduced from the DB2 fields QW0011OB, and QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0011OB is shown or N/A when this value is 0.

Field Name: RT0011OB

TIME

The time at which the exit was called.

Field Name: QW0011TM

RETURN

The return code (EXPLRC1) from the exit.

Field Name: QW0011RT

REASON

The reason code (EXPLRC2) from the exit.

Field Name: QW0011RE

IFCID 012 - Edit Exit to Encode

This topic shows detailed information about "Record Trace - IFCID 012 - Edit Exit to Encode".

Record trace - IFCID 012 - Edit Exit to Encode

The field labels shown in the following sample layout of "Record Trace - IFCID 012 - Edit Exit to Encode" are described in the following section.

```
DBID         6     REC ID     19
OBID         9     TIME    06/03/08 05:32:00.000000
RETURN  000A    REASON  00000014
```

DBID

The database ID. Deduced from the DB2 fields QW0012DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0012DB is shown, or N/A when this value is 0.

Field Name: RT0012DB

REC ID

The decimal identifier of the DB2 table OBID.

Field Name: QW0012OB

OBID

The object ID. Deduced from the DB2 fields QW0010OB, and QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0010OB is shown or N/A when this value is 0.

Field Name: RT0010OB

TIME

The time at which the exit was called.

Field Name: QW0012TM

RETURN

The return code (EXPLRC1) from the exit.

Field Name: QW0012RT

REASON

The reason code (EXPLRC2) from the exit.

Field Name: QW0012RE

IFCID 013 - Hash Scan Input Start

This topic shows detailed information about "Record Trace - IFCID 013 - Hash Scan Input Start".

Record trace - IFCID 013 - Hash Scan Input Start

The field labels shown in the following sample layout of "Record Trace - IFCID 013 - Hash Scan Input Start" are described in the following section.

```
DBID    DSNDB01    REC ID     33
OBID    DBD01
COLUMN1   OPER      COL/VAL         CONN   TRUE/FALSE
10    NE  X'F2F4F54040404040'    A         T
15    GT  X'F2F4F54040404040'    A         F
```

DBID

The database ID. Deduced from the DB2 fields QW0010DB, and QW0105DN or QW0107DN.

When present the database name is shown, otherwise the decimal identifier from QW0010DB is shown, or N/A when this value is 0.

Field Name: RT0010DB

REC ID

The decimal identifier of the DB2 table OBID.

Field Name: QW0013OB

OBID

The object ID. Deduced from the DB2 fields QW0013OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0013OB is shown or N/A when this value is 0.

Field Name: RT0013OB

COLUMN1

The first column number.

Field Name: QW0013C1

OPER

The logical operator:

NE
Not equal to

GT
Greater than

GE
Greater than or equal to

LE
Less than or equal to

E
Equal

L
Less than

LT
Less than

LI
Like

NL
Not like

??
Unknown operator

Field Name: QW0013OP

COL/VAL

Column data is printed in decimal. Value data is printed in hexadecimal.

Field Name: QW0013VA

CONN

The connector value:

A
And

O
Or

NONE
Not specified

Field Name: QW0013CO

TRUE/FALSE

Indicates whether the comparison is true:

T
True

F
False

NONE
Not specified

Field Name: QW0013TF

IFCID 014 - Hash Scan End

This topic shows detailed information about "Record Trace - IFCID 014 - Hash Scan End".

Record trace - IFCID 014 - Hash Scan End

The field labels shown in the following sample layout of "Record Trace - IFCID 014 - Hash Scan End" are described in the following section.

```
RETURN           0
QW0014RE         0
```

RETURN

The return code.

Field Name: QW0014RT

IFCID 015 - Index Scan Begin

This topic shows detailed information about "Record Trace - IFCID 015 - Index Scan Begin".

Record trace - IFCID 015 - Index Scan Begin

The field labels shown in the following sample layout of "Record Trace - IFCID 015 - Index Scan Begin" are described in the following section.

```
DBID    DSNDB06   REC ID          37  CUB  00F348C5
OBID    DSNDSX01  INDX ID          5
COLUMN1   OPER      COL/VAL          CONN   TRUE/FALSE
10    NE  4000000000000000      A    'NONE'
15    NE  4000000000000000 'NONE'    'NONE'
```

DBID

The database ID. Deduced from the DB2 fields QW0015DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0015DB is shown, or N/A when this value is 0.

Field Name: RT0015DB

REC ID

The decimal identifier of the DB2 table OBID.

Field Name: QW0015OB

CUB

The hexadecimal address of the CUB token.

Field Name: QW0015AC

OBID

The object ID. Deduced from the DB2 fields QW0015OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0015OB is shown, or N/A when this value is 0.

Field Name: RT0015OB

INDX ID

The index identifier.

Field Name: QW0015IB

COLUMN1

The first column number.

Field Name: QW0015C1

OPER

The logical operator:

NE
Not equal to

GT
Greater than

GE
Greater than or equal to

LE
Less than or equal to

E
Equal

L
Less than

LT
Less than

LI
Like

NL
Not like

??
Unknown operator

Field Name: QW0015OP

COL/VAL

Column data is printed in decimal. Value data is printed in hexadecimal.

Field Name: QW0015VA

CONN

The connector value:

A
And

O
Or

NONE
Not specified

Field Name: QW0015CO

TRUE/FALSE

Indicates whether the comparison is true:

T
True

F
False

NONE
Not specified

Field Name: QW0015TF

IFCID 016 - Insert Scan Begin

This topic shows detailed information about "Record Trace - IFCID 016 - Insert Scan Begin".

Record trace - IFCID 016 - Insert Scan Begin

The field labels shown in the following sample layout of "Record Trace - IFCID 016 - Insert Scan Begin" are described in the following section.

```
DBID 260         REC ID           26 SQL TYPE      N/A
OBID 12          TRIGGER LEVEL   N/A WORKFILE TYPE N/A
CUB  X'7F3F91EC' INTEGRITY TYPE  N/A
```

DBID

The database ID. Deduced from the DB2 fields QW0016DB, QW0105DN, or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0016DB is shown, or N/A when this value is 0.

Field Name: RT0016DB

REC ID

The decimal identifier of the DB2 table OBID.

Field Name: QW0016OB

SQL TYPE

Possible values are:

I
INSERT

U
UPDATE

Insert into a transition table for an UPDATE.

D
DELETE

Insert into a transition table for a DELETE.

R
RI

Insert into a transition table for a DELETE SET NULL for referential integrity.

Field Name: QW0016ST

OBID

The object ID. Deduced from the DB2 fields QW0016OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0016OB is shown, or N/A when this value is 0.

Field Name: RT0016OB

TRIGGER LEVEL

Depth of the trigger in the range 0 (no triggers) through 16.

Field Name: QW0016TL

WORKFILE TYPE

Possible values are:

WF
Workfile

TT
Temporary Table

TR
Transition table

NW
Non-workfile

Field Name: QW0016WT

CUB

The hexadecimal address of the CUB token.

Field Name: QW0016AC

INTEGRITY TYPE

BLANK

S
SET NULL

This can occur when SQL TYPE=U

C
CASCADE DELETE

This can occur when SQL TYPE=D

Field Name: QW0016RI

IFCID 017 - Sequential Scan Begin

This topic shows detailed information about "Record Trace - IFCID 017 - Sequential Scan Begin".

Record trace - IFCID 017 - Sequential Scan Begin

The field labels shown in the following sample layout of "Record Trace - IFCID 017 - Sequential Scan Begin" are described in the following section.

```
DBID DSNDB06      REC ID           42
OBID SYSDBAUT
CUB  X'7D450BB8'    TYPE       N/A
COL1   OP      COL/VAL           CONN    T/F    ST
5  E   X'810E000000000000'  'NONE'   'NONE'
```

DBID

The database ID. Deduced from the DB2 fields QW0017DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0017DB is shown, or N/A when this value is 0.

Field Name: RT0017DB

REC ID

The decimal identifier of the DB2 table OBID.

Field Name: QW0017OB

CUB

The hexadecimal address of the CUB token.

Field Name: QW0017AC

OBID

The object ID. Deduced from the DB2 fields QW0017OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0017OB is shown, or N/A when this value is 0.

Field Name: RT0017OB

SCAN TYPE

Possible values are:

SQ
Sequential scan.

WF
Work-file scan.

TT
Temporary table scan.

TR
Transition table scan for a trigger.

Field Name: QW0017TY

COL1

The first column number.

Field Name: QW0017C1

OP

The logical operator:

NE
Not equal to

GT
Greater than

GE
Greater than or equal to

LE
Less than or equal to

E
Equal

L
Less than

LT
Less than

LI
Like

NL
Not like

??
Unknown operator

Field Name: QW0017OP

COL/VAL

Column data is printed in decimal. Value data is printed in hexadecimal.

Field Name: QW0017VA

CONN

The connector type:

A
And

O
Or

NONE
Not specified

Field Name: QW0017CO

TRUE/FALSE

Indicates whether the comparison is true:

T
True

F
False

NONE
Not specified

Field Name: QW0017TF

IFCID 018 - Scan End

This topic shows detailed information about "Record Trace - IFCID 018 - Scan End".

Record trace - IFCID 018 - Scan End

The field labels shown in the following sample layout of "Record Trace - IFCID 018 - Scan End" are described in the following section.

```
22.CKPA 'BLANK'     09:30:13.61943014     10   1  18 SCAN END    <-- NETWORKID:  DEIBMIPS  LUNAME:  IPSAQC11  LUWSEQ:     1
201                       0.00005981
-------------------------------------------------------------------------------------------------------------------------
CUB  X'00000000'
QW0018RT           4   QW0018RE    13172737
.........................................................................................................................
DATA TYPE       INDX ROW PROC           0 ROW EXAM          0 STG1-QUAL          0 STG2-QUAL         0 ROW INSRT         0
ROW UPDTE          0 ROW DELET          0 PAGES             2 RI SCAN            0 RI DELET          0 ROW SKIP          0
FST INSRT          0 N-PIPE IN          0 PIPE RE           0 INS WAIT           0
```

CUB

The hexadecimal address of the cursor block token of the caller.

Field Name: QW0018AC

DATA TYPE

The scan type identification:

INDX
Index scan

SEQD
Sequential data scan

SEQR
Transition table sequential data scan

SEQT
Temporary table sequential data scan

SEQW
Work-file sequential data scan

Field Name: QW0018ID

ROW PROC

The number of rows processed.

Field Name: QW0018RP

ROW EXAM

The number of rows examined. If DATA TYPE shows `INDX `, this number is the number of index entries (not rows) scanned.

Field Name: QW0018LA

STG1-QUAL

The number of rows qualified at stage 1.

Field Name: QW0018DQ

STG2-QUAL

The number of rows qualified at stage 2.

Field Name: QW0018RQ

ROW INSRT

The number of rows inserted.

Field Name: QW0018IN

ROW UPDTE

The number of rows updated.

Field Name: QW0018UP

ROW DELET

The number of rows deleted. If the delete was a mass delete, the indicator `MASS ` is printed.

Field Name: QW0018DE

PAGES

The number of get page requests issued by the data manager to the buffer manager. Note that for an index scan the value includes the number of index pages scanned.

Field Name: QW0018PS

RI SCAN

The number of additional pages scanned for referential integrity.

Field Name: QW0018PR

RI DELET

The number of additional rows deleted for referential integrity.

Field Name: QW0018DR

ROW SKIP

The number of rows skipped due to an incompatible hold lock.

Field Name: QW0018SK

FST INSRT

The number of rows inserted using the fast insert algorithm. This value is usually 1, but it is more than 1 for insert with subselect.

Field Name: QW0018FI

N-PIPE IN

The number of times that fast insert could not be used for the insert operation, so a non-pipe insert algorithm was used instead.

Field Name: QW0018FS

PIPE RE

The number of times that the fast insert pipe was refilled for the insert operation.

Field Name: QW0018FA

INS WAIT

The number of times that the insert operation waited for the fast insert pipe to fill.

Field Name: QW0018FW

IFCID 019 - Edit Exit to Decode

This topic shows detailed information about "Record Trace - IFCID 019 - Edit Exit to Decode".

Record trace - IFCID 019 - Edit Exit to Decode

The field labels shown in the following sample layout of "Record Trace - IFCID 019 - Edit Exit to Decode" are described in the following section.

```
DBID    DSNDB06   REC ID           5
OBID    DSNDSX01  TIME     3/29/89 14:27:35.645897
RETURN   X'0000' REASON   X'00000000'
```

DBID

The database ID. Deduced from the DB2 fields QW0019DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0019DB is shown, or N/A when this value is 0.

Field Name: RT0019DB

REC ID

The decimal identifier of the DB2 table OBID.

Field Name: QW0019OB

OBID

The object ID. Deduced from the DB2 fields QW0019OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0019OB is shown, or N/A when this value is 0.

Field Name: RT0019OB

TIME

The time at which the exit was called.

Field Name: QW0019TM

RETURN

The return code (EXPLRC1) from the user edit exit.

Field Name: QW0019RT

REASON

The reason code (EXPLRC2) from the user edit exit.

Field Name: QW0019RE

IFCID 020 - Lock Summary

This topic shows detailed information about "Record Trace - IFCID 020 - Lock Summary".

This record has a variable format. It contains one data section for each table table space section present in the record.

Record trace - IFCID 020 - Lock Summary

The field labels shown in the following sample layout of "Record Trace - IFCID 020 - Lock Summary" are described in the following section.

```
MAXNO:        12  SHARED:        0     EXCL:         0
DBID :  FIJ1DB01  OBID  : FIJS0010 MAX LOCK:         0
TABLESPACE TYPE: PARTIT.-SPL      ESCALATED:         0
LOCK SIZE      : TABLESPACE OR TABLE
HISTATE: INTENT SHARE     PRESTATE: NO LOCK ESCALATION
```

MAXNO

The maximum number of page, row and LOB locks held concurrently for the thread across all tables spaces and index spaces.

Field Name: QW0020TP

SHARED

The number of escalations to shared mode for the thread:

- For segmented table spaces, the number of tables that have escalated
- For partitioned table spaces using selective partition locking (SPL), the number of partitions that have escalated
- For simple and partitioned table spaces, the number of table spaces that have escalated

Field Name: QW0020TS

EXCL

The number of escalations to exclusive mode for the thread:

- For segmented table spaces, the number of tables that have escalated
- For partitioned table spaces using selective partition locking (SPL), the number of partitions that have escalated
- For simple and partitioned table spaces, the number of table spaces that have escalated

Field Name: QW0020TX

Table space sections

The record contains one data section for each relevant table space. These sections are only printed if they are present in the record.

Field Name: QW0020N

DBID

The database ID. Deduced from the DB2 fields QW0020PD, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0020PD is shown, or N/A when this value is 0.

Field Name: RT0020DB

OBID

The object ID. Deduced from the DB2 fields QW0020PP, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0020PP is shown, or N/A when this value is 0.

Field Name: RT0020OB

MAX LOCK

The maximum number of either page, row or LOB locks held by the thread.

Field Name: QW0020PL

ESCALATED

The number of escalations:

- For segmented table spaces, the number of tables that have escalated within the table space
- For partitioned table spaces using selective partition locking (SPL), the number of partitions that have escalated
- For table spaces using SPL, the number of partitions that have escalated

If the value in TABLESPACE TYPE is `SIMPLE` or `PARTITIONED` , this field is not printed.

Field Name: QW0020PC

LOCK SIZE

The lock size used.

Field Name: QW0020PR

HISTATE

The highest table space lock state. This field is printed for simple table spaces and partitioned table spaces not using SPL.

Field Name: QW0020PS

PRESTATE

The table space lock state before escalation. This field is printed for simple table spaces and partitioned table spaces not using SPL.

Field Name: QW0020PE

IFCID 021 - Lock Detail

This topic shows detailed information about "Record Trace - IFCID 021 - Lock Detail".

Record trace - IFCID 021 - Lock Detail

The field labels shown in the following sample layout of "Record Trace - IFCID 021 - Lock Detail" are described in the following section.

```
LOCK RES TYPE: ROW LOCK                          DBID: DSNDB06   OBID: SYSUSER   RESOURCE ID: X'00000313123456'
IRLM FUNC CODE : LOCK (NAME)            RETURN TOKEN: X'7F690A80'              REQUEST TOKEN      : X'00000000'
LOCK STATE     : SHARED                 DB2 TOKEN   : X'00C150001DFFD428'      IRLM RETURN CODE   :          0
LOCK ATTRIBUTES: NMODIFY NOFORCE        PROP TO XES : NO                       ASYN TO XES        : NO
LOCK DURATION  : MANUAL                 REQUEST TYPE: L-LOCK                   IRLM RETURN SUBCODE: B'0000000000000000'
PARENT TOKEN   : X'7F68F3F0'            GLOBAL/LOCAL: GLOBAL                   OWNER              : 'BLANK'
CACHED STATE   : N/A                                                           LOCK HASH VALUE    : X'0C4C3603'
```

LOCK RES TYPE

The locked resource type.

Note: For data sharing, `SKELETON CURSOR TABLE LOCKING` and `SKELETON PACKAGE TABLE LOCK` are LP-locks (an LP-lock has an L-lock component and a P-lock component).

Field Name: QW0021KT

DBID

The database ID. This field is not applicable if the value in LOCK RES TYPE is:

```
SKELETON CURSOR TABLE LOCKING
UTILITY SERIALIZATION LOCK
SKELETON PACKAGE TABLE LOCK
COLLECTION
BINDLOCK
ALTER BUFFER POOL
GROUP BUFFERPOOL START/STOP LOCK
GROUP BUFFER POOL LEV CASTOUT P-LOCK
CATMAINT MIGRATION LOCK
CATMAINT CONVERT CATALOG LOCK
CATMAINT CONVERT DIRECTORY LOCK
```

Field Name: QW0021KD

OBID

The object ID. This field is not applicable if the value in LOCK RES TYPE is:

```
SKELETON CURSOR TABLE LOCKING
UTILITY SERIALIZATION LOCK
SKELETON PACKAGE TABLE LOCK
COLLECTION
BINDLOCK
ALTER BUFFER POOL
GROUP BUFFERPOOL START/STOP LOCK
DDF CDB P-LOCK
GROUP BUFFER POOL LEV CASTOUT P-LOCK
DBD P-LOCK
CATMAINT MIGRATION LOCK
CATMAINT CONVERT CATALOG LOCK
CATMAINT CONVERT DIRECTORY LOCK
```

Field Name: QW0021KP

RESOURCE ID

The hexadecimal identifier of the small resource. If LOCK RES TYPE is:

DATA PAGE LOCKING
First 3 bytes are the page number

PARTITION LOCKING
Last byte is the partition number

INDEX PAGE LOCKING
First 3 bytes are the page number

HASH ANCHOR LOCK
First 3 bytes are the page number and the last byte is the anchor point ID

CS-READ DRAIN
Last byte is the partition number (optional)

RR-READ DRAIN
Last byte is the partition number (optional)

WRITE DRAIN
Last byte is the partition number (optional)

ROW LOCK
First 3 bytes are the page number and the last byte is the row ID of the record

INDEX END OF FILE LOCK
Last byte is the partition number (optional)

PAGESET/PARTITION P-LOCK
First byte is the 1-based partition number (optional)

PAGE P-LOCK
First byte is the 1-based partition number (optional) and the last 3 bytes are the relative page number

PAGESET/PARTITION LEV CASTOUT P-LOCK
First byte is the 1-based partition number (optional)

Note:

- In large partitioned table spaces, the page number covers 4 bytes instead of 3.
- If table spaces use relative page numbers, the resource ID covers 7 bytes. It contains the partition number in the first 2 bytes, the page number in the next 4 bytes, and the record ID in the seventh byte.

For all other lock resource types, the resource ID is not applicable.

Field Name: QW0021KR

NAME

The plan name or collection name. This field is only printed if the value in LOCK RES TYPE is `SKELETON CURSOR TABLE LOCKING` or `COLLECTION` .

Deduced from the DB2 field QW0021KD, QW0021KP, and QW0021KR. when the locked resource type is skeleton cursor table locking.

Field Name: RT21NAME

COLL

The collection identifier. This field is only printed if the value in LOCK RES TYPE is `SKELETON PACKAGE TABLE LOCK` .

The package identifier. This field is only printed if the value in LOCK RES TYPE is `SKELETON PACKAGE TABLE LOCK` .

The consistency token. This field is only printed if the value in LOCK RES TYPE is `SKELETON PACKAGE TABLE LOCK` .

Field Name: QW0021RN

BPID

The buffer pool ID. This field is only printed if the value in LOCK RES TYPE is:

```
ALTER BUFFER POOL
GROUP BUFFERPOOL START/STOP LOCK
PAGESET/PARTITION P-LOCK
PAGE P-LOCK
GROUP BUFFERPOOL LEV CASTOUT P-LOCK
PAGESET/PARTITION LEV CASTOUT P-LOCK
```

For ALTER BUFFER POOL, deduced from QW0021KD || QW0021KP.

For GROUP BUFFERPOOL START/STOP LOCK, deduced from QW0021KD || QW0021KP.

For PAGESET/PARTITION P-LOCK, deduced from QW0021P1.

For PAGE P-LOCK, deduced from QW0021P1.

For GROUP BUFFERPOOL LEV CASTOUT P-LOCK deduced from QW0021P1.

For PAGESET/PARTITION LEV CASTOUT P-LOCK, deduced from QW0021P1.

Field Name: RT21BPID

IRLM FUNC CODE

The IRLM function code.

Field Name: QW0021FC

RETURN TOKEN

The IRLM returned token.

Field Name: QW0021FT

REQUEST TOKEN

The lock request token. If the value in IRLM FUNC CODE is LOCK , this field shows "BLANK". If the value in IRLM FUNC CODE is UNLOCK or CHANGE , this field contains a 0 or a non-zero value. A 0 indicates that the lock name is used to identify the object that is to be unlocked or changed. A non-zero value is the same as the value in RETURN TOKEN. It associates the unlock or change request with the locked object.

Field Name: QW0021RT

LOCK STATE

The lock state.

Field Name: QW0021ST

DB2 TOKEN

The DB2 token which identifies the subsystem.

Field Name: QW0021TK

IRLM RETURN CODE

The return code from IRLM:

0
The request completed successfully.

4
The request completed successfully, but the lock state remained unchanged.

8
The request completed unsuccessfully because of a system error or condition.

12
The request completed unsuccessfully because of a logic error in the request.

16
The request completed unsuccessfully because of an invalid request specification.

20
The request completed unsuccessfully because IRLM resources are not available.

Field Name: QW0021RC

LOCK ATTRIBUTES

This field shows various lock attributes.

Field Name: QW0021FL

PROP TO XES

Indicates whether the request was propagated to XES by IRLM.

Field Name: QW0021Y1

ASYN TO XES

Indicates whether IRLM sent the request to XES asynchronously.

Field Name: QW0021Y2

LOCK DURATION

The lock duration:

MANUAL
Varies depending on the ISOLATION parameter (QW0021DR= x'20')

MANUAL+1
Temporary change of consistency level from CS to RR during bind and DDL (QW0021DR= x'21')

COMMIT
Until commit (QW0021DR=x '40')

COMMIT+1
Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD (QW0021DR=x '41')

ALLOCATION
Until deallocation (QW0021DR=x '60')

PLAN
For the duration of the plan (QW0021DR=x '80')

UTIL
For the duration of the utility execution (QW0021DR=x '81')

INTEREST
Duration used for P-locks (QW0021DR=x 'FE')

FREE ALL
Until all locks are freed (QW0021DR=x 'FF')

N/A
Not applicable for NOTIFY SUSPEND

Field Name: QW0021DR

REQUEST TYPE

Indicates whether it was a P-lock or L-lock request.

Field Name: QW0021Z1

IRLM RETURN SUBCODE

The IRLM return subcode.

Field Name: QW0021SC

PARENT TOKEN

The parent lock token for explicit hierarchical locking. This token is only significant when DB2 is a member of a data sharing group. If the value in this field is not 0, then this request is for a child of a parent that has already been locked. This value must match the RETURN TOKEN field of the previously locked parent. This field is only applicable if the value in IRLM FUNC CODE is LOCK .

Field Name: QW0021PT

GLOBAL/LOCAL

Indicates whether this is a global or local lock.

Field Name: QW0021GF

OWNER

The DB2 member name of either of the following:

- The owner of an incompatible retained lock on this resource that caused this request to be denied
- The owner of an incompatible held lock on this resource that caused this request to timeout

Field Name: QW0021SN

CACHED STATE

The cached state of the P-lock. This field is only applicable if the value in REQUEST TYPE is P-LOCK, and the value in LOCK RES TYPE is PAGESET/PARTITION P-LOCK.

Field Name: QW0021CS

LOCK HASH VALUE

The hash value of the locked resource.

Field Name: QW0021LH

IFCID 022 - Minibind

This topic shows detailed information about "Record Trace - IFCID 022 - Minibind".

Minibind record shows information about mini plans, which are generated by the optimizer at bind and SQL prepare time. One mini plan is generated for each table and for each subselect block in the query. This means that if your query uses subqueries, more than one mini plan record is written.

Note:

- When interpreting this record, relate table and mini plans by table name.
- The order of the mini plans might not be the same as the order of the table as written in the SQL statement.
- When you are not sure about the accessing order of the tables, use EXPLAIN to get the query block number and plan number.
- This IFCID shows whether sequential prefetch is used.
- This mini plan block is written for each query and repeated for each subsequent subquery.
- If the query or subquery uses index scan (INDEX_NUMBER > 0), information is provided for each index used.

Record trace - IFCID 022 - Minibind

The field labels shown in the following sample layout of "Record Trace - IFCID 022 - Minibind" are described in the following section.

```
QUERYNO  :          0 PLANNAME      : ADB               COST          :      615 PARALLELISM_DISABLED: N/A
QBLOCKNO :          1 COLLID        : DSNDYNAMICSQLCACHE PROGNAME      : ADBMAIN  CONSISTENCY_TOKEN : X'262D553B00000050'
APPLNAME : 'BLANK'    WHEN_OPTIMIZE : REOPT             OPT_HINT_IDENT: 'BLANK'  OPTIMIZE_HINTS_USED : NO
UNITS    :          0 MILLI_SEC     :          0         COST_CATEGORY : N/P      PARENT_Q_BLOCKNO    :          0
MEMBER   : SDA2       STATEMENT_TYPE: SELECT            TIMESTAMP     : 2003/07/29 15:31:20.43
BIND_TIME: 2003/07/29 15:31:20.430000  VERSION : N/P
REASON   : TABLE CARDINALITY / HAVING CLAUSE
QW0022LC:           0  QW0022GC:           0
.....................................................................................................................
PLANNO          :     1              METHOD    : FIRST TABLE ACCESSED  SORTN_UNIQ      : NO     SORTC_UNIQ     : NO
DATABASE        : DSNDB06            NEXTSTEP  : NOT APPLICABLE        SORTN_JOIN      : NO     SORTC_JOIN     : NO
OBJECT          :    42              ACCESSTYPE: X'C1'                 SORTN_ORDERBY   : NO     SORTC_ORDERBY  : NO
CREATOR         : SYSIBM             PAGE_RANGE      : NO              SORTN_GROUPBY   : NO     SORTC_GROUPBY  : NO
TNAME           : SYSDATABASE        JOIN_TYPE       : NO              SORTN_PGROUP_ID :      0  SORTC_PGROUP_ID:     0
CORRELATION_NAME: T                  MERGE_JOIN_COLS :     0           ACCESS_DEGREE   :      0  JOIN_DEGREE    :     0
TSLOCKMODE      :  IS                PARALLELISM_MODE: NO              ACCESS_PGROUP_ID:      0  JOIN_PGROUP_ID :     0
AGGREGATE_FUNCT : N/A                INDEX_NUMBER    :     1           PREFETCH        : SEQ    DIRECT_ROW_ACC : NO
PAGES_FOR_TABLE :       501          TAB_CARDINALITY :      10000      STARJOIN        : NO
TABLE_TYPE      : TABLE (T)
.....................................................................................................................
INDEXONLY       : NO                 MATCHCOLS       :          1      MIXOPSEQ        :     1  QW0022FF: X'4019999A'
PREFETCH_INDEX  : SEQUENTIAL         OPERATION       : SCAN
ACCESS_NAME     : DSNDDH01
ACCESS_CREATOR  : SYSIBM
.....................................................................................................................
QW0022BX:          1   QW0022DX:          0   QW0022LR: X'7D9EB6DC'  QW0022AP: X'00000000'  QW0022AG: X'02'
QW0022ID:          1   QW0022CL:      65535   QW0022TR: X'00000000'  QW0022JP: X'00000000'  QW0022A2: X'00'
QW0022DT: X'00'        QW0022P5: X'433E8001'  QW0022WF: X'00'        QW0022DS: X'433E9000'  QW0022XX: X'0000000000'
QW0022DR: X'433E8001'  QW0022RD: X'433E8001'
```

QUERYNO

The number identifying the statement to be prepared.

Field Name: QW0022QN

PLANNAME

The plan name or package ID.

Field Name: QW0022PN

COST

The relative cost of the SQL statement. It might not relate to the actual CPU or elapsed time for the query.

Field Name: QW0022OS

PARALLELISM_DISABLED

Indicates whether query parallelism is disabled by the resource limit facility (RLF) for dynamic queries:

NO
The RLF does not affect this statement. (QW0022RP=x '00')

I/O ONLY
Query I/O parallelism is disabled. (QW0022RP=x '01')

CP ONLY
Query CP parallelism is disabled. (QW0022RP=x '02')

CP + I/O
Query I/O and CP parallelism is disabled. (QW0022RP=x '03')

X
Sysplex query parallelism is disabled. (QW0022RP=x '04')

X + I/O
Sysplex query and query I/O parallelism is disabled. (QW0022RP=x '05')

X + CP
Sysplex query and query CP parallelism is disabled. (QW0022RP=x '06')

YES
The entire query parallelism (I/O, CP, and sysplex) is disabled. (QW0022RP=x '07')

N/A
Query parallelism does not apply to this statement. (QW0022RP=x 'FF')

Field Name: QW0022RP

QBLOCKNO

The position of the query in the statement.

Field Name: QW0022QB

COLLID

The collection ID of the package.

Field Name: QW0022CI

PROGNAME

The name of the package containing the statement to be prepared.

Field Name: QW0022PG

CONSISTENCY_TOKEN

The consistency token.

Field Name: QW0022CT

APPLNAME

The name of the application plan.

Field Name: QW0022AL

WHEN_OPTIMIZE

Indicates when the access path of the SQL statement is optimized:

DEFAULT
The access path is determined at bind time using default values.

BIND
The access path is determined at bind time using default values, but it is reoptimized at runtime using values of input variables.

RUN
The access path is determined at runtime using values of input variables.

REOPT
The access path is reoptimized at runtime because the value of the host variable or parameter marker changes.

Field Name: QW0022RX

OPT_HINT_IDENT

Access path hint value.

Field Name: QW0022QO

OPTIMIZE_HINTS_USED

Indicates whether the query used access path hints.

Field Name: QW0022HT

UNITS

Estimated processor cost in service units for the SQL statement.

Field Name: QW0022AS

MILLI_SEC

Estimated processor cost in milliseconds for the SQL statement.

Field Name: QW0022CE

COST_CATEGORY

The cost category for the statement can be one of the following:

A
This SQL statement is a category A statement.

B
This SQL statement is a category B statement.

'BLANK'
Indicates that there is no processor cost estimate for this trace record.

Field Name: QW0022CC

PARENT_Q_BLOCKNO

Parent query block number.

Field Name: QW0022PQ

MEMBER

The member name of the DB2 that executed EXPLAIN. The column is blank if the DB2 subsystem was not in a data sharing environment when EXPLAIN was executed.

Field Name: QW0022GM

STATEMENT_TYPE

For each query block, the type of operation performed. For the outermost query, the statement type. Possible values:

SELECT
SELECT

INSERT
INSERT

UPDATE
UPDATE

DELETE
DELETE

SELUPD
SELECT for UPDATE

DELCUR
DELETE current of cursor

UPDCUR
UPDATE current of cursor

CORSUB
Correlated subquery

NCOSUB
Noncorrelated subquery

Field Name: QW0022QT

TIMESTAMP

The timestamp at which the row is processed.

Field Name: QW0022TS

BIND_TIME

The date and time at which the plan or package to which this statement belongs was bound.

Field Name: QW0022BT

VERSION

The version ID of the package.

Field Name: QW0022VN

PREDICATE #

If the REASON field has a value of REOPT, the predicate number that triggers the REOPT decision is shown.

Field Name: QW0022PD

REASON

Reason code for cost category B. This value is blank if the cost category is not B. Possible values are:

HOST VARIABLES
If there are host variables, parameter markers, or special registers in range or between predicates.

TABLE CARDINALITY
If the table cardinality is missing for one or more tables.

TRIGGERS
If there are insert, update, or delete triggers defined on the target table.

UDF
If there are user-defined functions referenced in the SQL statement.

REFERENTIAL CONSTRAINTS
If a table that is the target of a delete has referential constraints defined on it.

HAVING CLAUSE
If a having clause causes an SQL statement to be assigned to cost category B.

Field Name: QW0022RS

PLANNO

The plan number of the step in which the query is processed.

Field Name: QW0022PL

METHOD or NEXTSTEP

The join method used for the step.

Note: NEXTSTEP is shown if this field has one of the following values 0, 4, 8, 12, 1, 5, 9, 13, 2, 6, 10, 14, 3, 7, 11, or 15. Otherwise, METHOD is displayed.

Field Name: QW0022OD

SORTN_UNIQ

Indicates whether the new table is sorted to remove duplicate rows.

Field Name: QW0022UN

SORTC_UNIQ

Indicates whether the composite table is sorted to remove duplicate rows.

Field Name: QW00222N

DATABASE

The database ID.

Field Name: QW0022DD

SORTN_JOIN

Indicates whether the new table is sorted for a merge scan join or hybrid join. For a hybrid join, this is a sort of the RID list.

Field Name: QW0022IN

SORTC_JOIN

Indicates whether the composite table is sorted for a nested loop join, merge scan join, or hybrid join.

Field Name: QW00222J

OBJECT

The internal ID of the table in hexadecimal (2 bytes). Use this value to match column "OBID" in SYSIBM.SYSTABLES to find the name of the table. For example, X'2A' is 42, which is table SYSDATABASE.

Field Name: QW0022OB

ACCESSTYPE

The method of accessing the new table. N/P is printed if there is no access type.

Field Name: QW0022YP

SORTN_ORDERBY

Indicates whether the new table is sorted for ORDER BY.

Field Name: QW0022DB

SORTC_ORDERBY

Indicates whether the composite table is sorted for ORDER BY.

Field Name: QW00222O

CREATOR

The creator of the new table accessed in this step.

Field Name: QW0022CR

PAGE_RANGE

Whether the table qualifies for page range screening, so that plans scan only the partitions that are needed. Y = Yes; N = No.

Field Name: QW0022PR

SORTN_GROUPBY

Indicates whether the new table is sorted for GROUP BY.

Field Name: QW0022PB

SORTC_GROUPBY

Indicates whether the composite table is sorted for GROUP BY.

Field Name: QW00222G

TNAME

The name of the table accessed in this step, without qualifier. This field is blank if a view is used instead of a real table.

Field Name: QW0022TN

JOIN_TYPE

The type of join:

F
FULL OUTER JOIN

L
LEFT OUTER JOIN

S
STAR JOIN

blank
INNER JOIN or no join

RIGHT OUTER JOIN converts to a LEFT OUTER JOIN when you use it, so that JOIN_TYPE contains L.

Field Name: QW0022JT

SORTN_PGROUP_ID

The parallel group identifier for the parallel sort of the new table.

Field Name: QW0022P6

SORTC_PGROUP_ID

The parallel group identifier for the parallel sort of the composite table.

Field Name: QW0022P7

CORRELATION_NAME

The correlation name of a table or view that is specified in the statement. If there is no correlation name, then the column is blank.

Field Name: QW0022CN

MERGE_JOIN_COLS

The number of columns that are joined during a merge scan join (Method=2).

Field Name: QW0022JC

ACCESS_DEGREE

The number of parallel tasks or operations activated by a query.

Field Name: QW0022P1

JOIN_DEGREE

The number of parallel tasks or operations used in joining the composite table with the new table.

Field Name: QW0022P3

TSLOCKMODE

Indicates the lock mode to be acquired on the new table or its table space.

If the isolation can be determined at bind time, possible values are:

IS
Intent share lock

IX
Intent exclusive lock

S
Share lock

U
Update lock

X
Exclusive lock

SIX
Share with intent exclusive lock

N
UR isolation, no lock

If the isolation cannot be determined at bind time, the lock mode determined by the isolation at run time is shown by the following values:

NS
For UR isolation: no lock. For CS or RR isolation: an S lock.

NIS
For UR isolation: no lock. For CS or RR isolation: an IS lock.

NSS
For UR isolation: no lock. For CS isolation: an IS lock. For RR isolation: an S lock.

SS
For UR or CS isolation: no lock. For RR isolation: an S lock.

The data in this column is right-justified.

Field Name: QW0022LM

PARALLELISM_MODE

The kind of parallelism, if any, that is used at bind time:

I
Query I/O parallelism

C
Query CP parallelism

X
Sysplex query parallelism

Field Name: QW0022PM

ACCESS_PGROUP_ID

The ID of the parallel group for accessing the new table.

Field Name: QW0022P2

JOIN_PGROUP_ID

The ID of the parallel group for joining the composite table with the new table.

Field Name: QW0022P4

AGGREGATE_FUNCT

Indicates when an SQL column function is evaluated. Possible values are:

R
Column function is evaluated during data retrieval.

S
Column function is evaluated during SORT.

Field Name: QW0022Z

INDEX_NUMBER

Number of index access operations.

Field Name: QW0022MN

PREFETCH

The number of PREFETCH requests.

Field Name: QW0022EF

DIRECT_ROW_ACC

Indicates whether DB2 can use direct row access to a table row without a table space or index scan:

YES
Direct row access was used

NO
Direct row access was not used

Field Name: QW0022PA

PAGES_FOR_TABLE

The number of pages for the table. A value of "-1" indicates that statistics are not available.

Field Name: QW0022NP

TAB_CARDINALITY

Table cardinality in floating point.

Field Name: QW0022CY

STARJOIN

Indicates whether star join was used, possible values are:

YES
Star join was used

NO
Star join was not used

Field Name: QW0022SJ

TABLE_TYPE

The table type can be:

T
Table

F
Table function

W
Workfile

Q
Table queue (not materialized)

Field Name: QW0022TT

INDEXONLY

Indicates what kind of prefetch of the data is used:

SEQ
Sequential prefetch

LIST
List prefetch

NO
No prefetch

Field Name: QW0022XO

MATCHCOLS

The number of index keys used in an index scan. This field is 0 if either no index is used or an index is used that has no matching columns.

Field Name: QW0022XM

MIXOPSEQ

The sequence number of a step in a multiple index operation.

Field Name: QW0022MS

PREFETCH_INDEX

Indicates whether data pages are to be read in advance by a prefetch.

Field Name: QW0022XF

OPERATION

The type of index access operation.

Field Name: QW0022MO

ACCESS_NAME

The index name. This field applies only to index scans. N/A is printed for table space scans or when no index is used.

Field Name: QW0022XN

ACCESS_CREATOR

The index creator.

Field Name: QW0022XC

IFCID 023 - Utility Start

This topic shows detailed information about "Record Trace - IFCID 023 - Utility Start".

Record trace - IFCID 023 - Utility Start

The field labels shown in the following sample layout of "Record Trace - IFCID 023 - Utility Start" are described in the following section.

```
DBID          1  UTILITY NAME    LOAD
OBID          2  UTILITY PHASE   UTILINIT
RQSTASK       3  UTILITY ID      HSR
DBNAME  1        OBJECT NAME     2
REORG KEEPDICTIONARY    : NO   LOAD KEEPDICTIONARY : NO   COPY CONCURRENT     : YES  REBUILD REUSE     : NO
REORG REUSE             : NO   LOAD REUSE          : NO   COPY SHRLEVEL CHANGE: NO   REBUILD SORTKEYS  : NO
REORG LOG NO            : NO   LOAD LOG NO         : YES  COPY PARALLEL       : NO   REBUILD STATISTICS: NO
REORG SORTKEYS          : NO   LOAD SORTKEYS       : YES  COPY CHECKPAGE      : NO   REBUILD WORKDDN   : NO
REORG SORTDATA          : NO   LOAD SHRLEVEL CHANGE: NO
REORG NOSYSREC          : NO   LOAD COPYDDN        : NO   RECOVER REUSE       : NO   RUNSTATS SAMPLE         : NO
REORG SHRLEVEL CHANGE   : NO   LOAD STATISTICS     : NO   RECOVER PARALLEL    : NO   RUNSTATS SHRLEVEL CHANGE: NO
REORG SHRLEVEL REFERENCE: NO                              LOAD PART INDDN     : NO
REORG COPYDDN           : NO   UNLOAD SHRLEVEL REFERENCE          : NO
REORG STATISTICS        : NO                              UNLOAD SHRLEVEL CHANGE ISOLATION CS: NO
REORG FASTSWITCH        : NO                              UNLOAD SHRLEVEL CHANGE ISOLATION UR: NO
```

DBID

The database ID. Deduced from the DB2 fields QW0023DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0023DB is shown, or N/A when this value is 0.

Field Name: RT0023DB

UTILITY NAME

The utility name.

Field Name: QW0023NM

OBID

The object ID. Deduced from the DB2 fields QW0023PD, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0023OB is shown, or N/A when this value is 0.

Field Name: RT0023OB

UTILITY PHASE

The phase name of the utility.

Field Name: QW0023PH

RQSTASK

The number of requested subtasks.

Field Name: QW0023R1

UTILITY ID

The identifier of the utility.

Field Name: QW0023ID

DBNAME

The database name.

Field Name: QW0023DB

OBJECT NAME

The object name.

Field Name: QW0023PD

REORG KEEPDICTIONARY

The reorg utility is specified with the KEEPDICTIONARY keyword.

Field Name: QW0023D1

LOAD KEEPDICTIONARY

The load utility is specified with the KEEPDICTIONARY keyword.

Field Name: QW0023B1

COPY CONCURRENT

The copy utility is specified with the CONCURRENT keyword.

Field Name: QW0023A1

REBUILD REUSE

The rebuild utility is specified with the REUSE keyword.

Field Name: QW0023F1

REORG REUSE

The reorg utility is specified with the REUSE keyword.

Field Name: QW0023D2

LOAD REUSE

The load utility is specified with the REUSE keyword.

Field Name: QW0023B2

COPY SHRLEVEL CHANGE

The copy utility is specified with the SHRLEVEL(CHANGE) keyword.

Field Name: QW0023A2

REBUILD SORTKEYS

The rebuild utility is specified with the SORTKEYS keyword.

Field Name: QW0023F2

REORG LOG NO

The reorg utility is specified with the LOG(NO) keyword.

Field Name: QW0023D3

LOAD LOG NO

The load utility is specified with the LOG(NO) keyword.

Field Name: QW0023B3

COPY PARALLEL

The copy utility is specified with the PARALLEL keyword.

Field Name: QW0023A3

REBUILD STATISTICS

The rebuild utility is specified with the STATISTICS keyword.

Field Name: QW0023F3

REORG SORTKEYS

The reorg utility is specified with the SORTKEYS keyword.

Field Name: QW0023D4

LOAD SORTKEYS

The load utility is specified with the SORTKEYS keyword.

Field Name: QW0023B4

COPY CHECKPAGE

The copy utility is specified with the CHECKPAGE keyword.

Field Name: QW0023A4

REBUILD WORKDDN

The rebuild utility is specified with the WORKDDN keyword.

Field Name: QW0023F4

REORG SORTDATA

The reorg utility is specified with the SORTDATA keyword.

Field Name: QW0023D5

LOAD SHRLEVEL CHANGE

The load utility is specified with the SHRLEVEL(CHANGE) keyword.

Field Name: QW0023B5

REORG NOSYSREC

The reorg utility is specified with the NOSYSREC keyword.

Field Name: QW0023D6

LOAD COPYDDN

The load utility is specified with the COPYDDN keyword.

Field Name: QW0023B6

RECOVER REUSE

The recover utility is specified with the REUSE keyword.

Field Name: QW0023A7

RUNSTATS SAMPLE

The runstats utility is specified with the SAMPLE keyword.

Field Name: QW0023G1

REORG SHRLEVEL CHANGE

The reorg utility is specified with the SHRLEVEL(CHANGE) keyword.

Field Name: QW0023D7

LOAD STATISTICS

The load utility is specified with the STATISTICS keyword.

Field Name: QW0023B7

RECOVER PARALLEL

The recover utility is specified with the PARALLEL keyword.

Field Name: QW0023A8

RUNSTATS SHRLEVEL CHANGE

The runstats utility is specified with the SHRLEVEL(CHANGE) keyword.

Field Name: QW0023G2

REORG SHRLEVEL REFERENCE

The reorg utility is specified with the SHRLEVEL(REFERENCE) keyword.

Field Name: QW0023D8

LOAD PART INDDN

The load utility is specified with the PART(INDDN) keyword.

Field Name: QW0023B8

REORG COPYDDN

The reorg utility is specified with the COPYDDN keyword.

Field Name: QW0023E1

UNLOAD SHRLEVEL REFERENCE

The unload utility is specified with the SHRLEVEL(REFERENCE) keyword.

Field Name: QW0023H1

REORG STATISTICS

The reorg utility is specified with the STATISTICS keyword.

Field Name: QW0023E2

UNLOAD SHRLEVEL CHANGE ISOLATION CS

The unload utility is specified with the SHRLEVEL(CHANGE ISOLATION CS) keyword.

Field Name: QW0023H2

REORG FASTSWITCH

The reorg utility is specified with the FASTSWITCH keyword.

Field Name: QW0023E3

UNLOAD SHRLEVEL CHANGE ISOLATION UR

The unload utility is specified with the SHRLEVEL(CHANGE ISOLATION UR) keyword.

Field Name: QW0023H3

IFCID 024 - Utility Change

This topic shows detailed information about "Record Trace - IFCID 024 - Utility Change".

Record trace - IFCID 024 - Utility Change

The field labels shown in the following sample layout of "Record Trace - IFCID 024 - Utility Change" are described in the following section.

```
DBID         269  UTILITY NAME    COPY
OBID           2  UTILITY PHASE   COPYR
ITEMS          0  UTILITY ID      SYSADM.CREATEP2
DBNAME  DBDB2PM   OBJECT  NAME    TSDB2PM
```

DBID

The database ID. Deduced from the DB2 fields QW0024DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0024DB is shown, or N/A when this value is 0.

Field Name: RT0024DB

UTILITY NAME

The utility name.

Field Name: QW0024NM

OBID

The object ID. Deduced from the DB2 fields QW0023PD, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0024OB is shown, or N/A when this value is 0.

Field Name: RT0024OB

UTILITY PHASE

The phase name of the utility.

Field Name: QW0024PH

ITEMS

The number of items processed by the utility.

Field Name: QW0024DN

UTILITY ID

The identifier of the utility.

Field Name: QW0024ID

DBNAME

The database name.

Field Name: QW0024NA

OBJECT NAME

The table space name or index name.

Field Name: QW0024PN

PART/DATASET#

The number of the partition or data set if the utility is operating on one partition or data set. Otherwise, the value in this field is 0.

Field Name: QW0024PT

IFCID 025 - Utility End

This topic shows detailed information about "Record Trace - IFCID 025 - Utility End".

Record Trace - IFCID 025 - Utility End

The field labels shown in the following sample layout of "Record Trace - IFCID 025 - Utility End" are described in the following section.

```
DB2 VERSION: V10                                                                                  PAGE DATE: 05/31/13
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                          TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME              ID
-------- -------- ----------- ----------------- ------ --- --- -------------- ----------------------------------------------------
                              09:01:19.05114383    568   1  25 UTILITY    <-- BBED
                                    0.04901157                 END           NETWORKID:  DEIBMIPS  LUNAME:  IPSARA22  LUWSEQ:    15
                                                                             DBID    TESTDB    UTILITY NAME    REORG
                                                                             OBID    EMPLOYEE  UTILITY PHASE   UTILTERM
                                                                             ITEMS          0  UTILITY ID      BBE.BBED
          JOBNAME      : BBED       STEPNAME     : UNLD0      ELAPSED TIME:        0.208941    SUBTASKS    :          0
          DFSORT       :        YES DB2SORT      :        NO  DATA SORTS  :               1    INDEX SORTS :          0
          OTHER SORTS  :          0 SHRLEVEL     : N          CPU TIME    :        0.038269    ZIIP TIME   :   0.000109
          IMP DEC POINT:         NO                           SORT CPU    :        0.000000    SORT ZIIP   :   0.000000
                                                              SORT OPTMODE:             CPU    ZIIP ONLINE :         NO
```

DBID

The database ID. Deduced from the DB2 fields QW0025DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0025DB is shown, or N/A when this value is 0.

Field Name: RT0025DB

UTILITY NAME

The utility name.

Field Name: QW0025NM

OBID

The object ID. Deduced from the DB2 fields QW0025PD, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0025OB is shown, or N/A when this value is 0.

Field Name: RT0025OB

UTILITY PHASE

The phase name of the utility.

Field Name: QW0025PH

ITEMS

The phase name of the utility.

Field Name: QW0025DN

UTILITY ID

The identifier of the utility.

Field Name: QW0025ID

JOBNAME

The job name of the utility.

Field Name: QW0025JN

STEPNAME

The step name of the utility job.

Field Name: QW0025JS

ELAPSED TIME

The utility elapsed time at termination. This field and the following time fields are in time-of-day format. If this field contains binary zeroes, no data is available for this field or for the following time fields. For example, this is the case for subphase termination records.

Field Name: QW0025UE

SUBTASKS

The final subtask count.

Field Name: QW0025R1

DFSORT

DFSORT was invoked at least once. Possible values are Y or N.

Field Name: QW0025DF

DB2SORT

DB2 SORT was invoked at least once. Possible values are Y or N.

Field Name: QW0025DS

DATA SORTS

The number of parallel data sorts.

Field Name: QW0025DA

INDEX SORTS

The number of parallel index sorts.

Field Name: QW0025IX

OTHER SORTS

The number of other sorts.

Field Name: QW0025OS

SHRLEVEL

The SHRLEVEL value of the utility. Possible values are: NONE, REFERENCE, CHANGE, or N/A.

Field Name: QW0025SL

CPU TIME

The CPU time of the utility.

Field Name: QW0025UC

ZIIP TIME

The total utility ZIIP time (if Accounting class 1 trace is activated).

Field Name: QW0025UZ

SORT CPU

The Sort CPU time.

Field Name: QW0025SC

SORT ZIIP

The Sort ZIIP time (if provided by the Sort program).

Field Name: QW0025SZ

ZIIP ONLINE

Specifies whether IBM zIIPs are online.

Field Name: QW0025ZIIP

SORT OPTMODE

Specifies Optimization mode for DB2 Sort. BALANCE provides the best mix of CPU and elapsed time performance by balancing utilization of central storage and disk space. CPU optimizes to minimize CPU time without any consideration for elapsed time, maximizing disk space usage. ELAP optimizes to minimize elapsed time while significantly reducing CPU time, favoring central storage over disk space usage.

Field Name: QW0025OPT

IMP DEC POINT

Specifies whether implied decimal point has been detected.

Field Name: QW0025IM

IFCID 026 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 026 - IBM Service Record".

This record is for IBM service use.

IFCID 027 - Sort Workfile Records

This topic shows detailed information about "Record Trace - IFCID 027 - Sort Workfile Records".

Record trace - IFCID 027 - Sort Workfile Records

The field labels shown in the following sample layout of "Record Trace - IFCID 027 - Sort Workfile Records" are described in the following section.

```
MPEUSER 'BLANK'  RRS         16:05:01.16505224      5   1  27 SORT WORKFILE  NETWORKID:  DEIBMIPS  LUNAME:  IPSAQB11  LUWSEQ:  1511
B2PM    'BLANK'              N/P                              RECORDS
        |.....................................................................................................................
         RECORDS IN NEW WORKFILE ......:                    3           SPARSE INDEX SPACE USED (KB) .:                       1
         ESTIMATED SIZE ALL IN-MEM (KB):                   39           ESTIMATED RECORDS IN SP INDEX :                     400

         SKIP FACTOR ............. :          1    RECORDS IN IN-MEMORY PART :          3   RECORDS IN WORKFILE PART .:          0
         DATA AREA SIZE (BYTES) ...:         88    KEY SIZE SP IDX (BYTES)   :          4   TOTAL NR OF IDX IN QUERY .:          1
         CURRENT IDX IN PROCESS . :          1

         TYPE OF RECORD ..........:          H
                                             INDICATES SPARSE INDEX HASH USED (IN-MEMORY WORKFILE ONLY)
```

RECORDS IN NEW WORKFILE

The number of records in the new work file.

Field Name: QW0027NR

SPARSE INDEX SPACE USED (KB)

The size of the in-memory work file in kilobytes (KB).

Field Name: QW0027OZ

ESTIMATED SIZE ALL IN-MEM (KB)

The APS estimated size of all sparse indexes in a query if they are all in the in-memory part (in KB).

Field Name: QW0027TZ

ESTIMATED RECORDS IN SP INDEX

The APS estimated number of records in the current sparse index.

Field Name: QW0027IR

SKIP FACTOR

The skip factor if sparse index records are found in the work file. It shows a value of 1 if found in the in-memory part.

Field Name: QW0027SF

RECORDS IN IN-MEMORY PART

The number of records in the in-memory part of the sparse index.

Field Name: QW0027IE

RECORDS IN WORKFILE PART

The number of records in the work-file part of the sparse index.

Field Name: QW0027WE

DATA AREA SIZE (BYTES)

The data area size for a sparse index (in bytes).

Field Name: QW0027DS

KEY SIZE SP IDX (BYTES)

The key size for a sparse index (in bytes).

Field Name: QW0027KS

TOTAL NR OF IDX IN QUERY

The total number of sparse indexes in the query.

Field Name: QW0027TS

CURRENT IDX IN PROCESS

The current sparse index that is processed.

Field Name: QW0027SC

TYPE OF RECORD

The type of record. Possible values are:

B
Indicates that a sparse index combination of hash and work file is used (both in-memory and physical work file).

H
Indicates a sparse index hash is used (in-memory work file only).

O
Indicates that a sparse index binary is used (in-memory work file only).

S
Indicates that no sparse index is used because of storage constraints.

T
Indicates that a sparse index work-file is used.

W
Indicates that no sparse index is used.

Field Name: QW0027SP

IFCID 028 - Sort Phase Detail

This topic shows detailed information about "Record Trace - IFCID 028 - Sort Phase Detail".

Record trace - IFCID 028 - Sort Phase Detail

The field labels shown in the following sample layout of "Record Trace - IFCID 028 - Sort Phase Detail" are described in the following section.

```
OMPEUSER 'BLANK'  RRS         15:15:38.81346278 991294   1  28 SORT PHASE     NETWORKID:  DEIBMIPS  LUNAME:  IPSAQB11  LUWSEQ:     5
KO2PLAN  'BLANK'              N/P                                 DETAIL        IWORK              0  WORKFILES REQ          0  TYPE I
                                                                                PASS               0  WORKFILES ACQ          0
                                                                                PARALLELISM DEGREE                           0
                                                                                WORKFILE RECORDS                             0
                                                                                RECS SORTED AFT INS PHASE                    0
                                                                                MULTIPLE DISTINCT SORTS                      0
                                                                                MULTIPLE DISTINCT READ                       0
                                                                                MULTIPLE DISTINCT GROUPS                     0
                                                                                CURRENT MULTIPLE DISTINCT SORT               0
```

IWORK

The number of work files created during the sort input phase. If the rows to be sorted are already in order, there is one work file. The number of work files needed depends on the distribution of the sort key. The maximum number of work files is limited by the buffer pool size. This field is valid if TYPE equals `I `.

Field Name: QW0028NP

WORKFILES REQ

The number of work files requested from the buffer manager at the beginning of each merge pass (MVS/ESA 3.1.3). It is valid if TYPE equals S .

If this field is greater than WORKFILES ACQ, there is another merge pass. If both fields are equal, this is the last or only merge pass.

Field Name: QW0028WA

TYPE

The type of IFCID 28. It indicates the phase when the IFCID 28 record is issued. Valid values are:

I
The end of the input phase

S
The start of a merge pass

E
The end of a merge pass

Z
The start of output work file partitioning

W
During the output work file partitioning

X
The end of output work file partitioning

K
The start of last merge pass partitioning

M
During last merge pass partitioning

L
The end of last merge pass partitioning

T
The start of one record partitioning

O
During one record partitioning

U
The end of one record partitioning

V
The start of presorted records partitioning

P
During presorted records partitioning

Y
The end of presorted records partitioning

Field Name: QW0028TY

PASS

The current merge pass. It is issued at the end of the merge pass and, therefore, valid if TYPE equals E .

Field Name: QW0028MP

WORKFILES ACQ

The number of work files actually acquired from the buffer manager at the beginning of each merge pass (MVS/ESA 3.1.3). It is valid if TYPE equals S.

Field Name: QW0028WG

PARALLELISM DEGREE

The partition work file number. The value in this field is 0 if partitioning is not requested. If partitioning is requested, the value can be from 1 to *n* , where *n* is the degree of parallelism. It is valid if TYPE equals `Z, W, X, K, M, L, T, O, U, V, P, or Y .`

Field Name: QW0028PW

WORKFILE RECORDS

The number of records in the partition work file. It is valid if TYPE equals `Z, W, X, K, M, L, T, O, U, V, P, or Y .`

Field Name: QW0028PN

RECS SORTED AFT INS PHASE

The number of records sorted into work files after the sort input phase.

Field Name: QW0028NR

MULTIPLE DISTINCT SORTS

Total number of multiple distinct sorts.

Field Name: QW0028DS

MULTIPLE DISTINCT READ

The number of records read into a group at the start of the GROUPBY phase for a multiple distinct sort.

Field Name: QW0028DR

MULTIPLE DISTINCT GROUPS

The total number of multiple distinct sort groups.

Field Name: QW0028DG

CURRENT MULTIPLE DISTINCT SORT

The multiple distinct sort currently being processed.

Field Name: QW0028DC

IFCID 029 - EDM Request Start

This topic shows detailed information about "Record Trace - IFCID 029 - EDM Request Start".

Record trace - IFCID 029 - EDM Request Start

The field labels shown in the following sample layout of "Record Trace - IFCID 029 - EDM Request Start" are described in the following section.

```
EDM REQUEST--> NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
 START         EDMID       CT    PLAN    HSRTEP2L
               RDS  X'80000000'  SEQNO          1  CT LGTH        120
EDM REQUEST--> 'BLANK'
 START         NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
               EDMID       CT    PLAN    HSRTEP2L
               RDS  X'00000001'  SEQNO          0  CT LGTH       3560
EDM REQUEST--> 'BLANK'
 START         NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
               EDMID       PT
EDM REQUEST--> NETWORKID:  DEIBMIPS  LUNAME:  IPUAQB61  LUWSEQ:     1
 START         EDMID       DY
               SCHEMA NAME     =   SCHEMA1
               HASH ID X'00000000000000000000000000000000'
               COPY ID     0  DPS QUERY ID                     0
               RELEASE BOUND X'00'

LOCATION    N/P
COLLECTION  HSRTEP2VL1XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4X
XXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XX
XXXXXXX9XXXXXXXXX0XXXXXXXXX1XXXXXXXXX2XXX
XXXXZ
PACKAGE ID  DSN@EP2L@@@@@@@@@@
CONSISTENCY TOKEN  X'0000000000000000'
RDS  X'00000000'  SEQNO          0  PT LGTH        120
QW0029SV  X'0000'
```

EDMID

The type of request:

DB
Database descriptor

DY
SYSDYNQRY table

CT
Cursor table

PT
Package table

Field Name: QW0029ID

DBID

The database ID. Deduced from the DB2 fields QW0029DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0029DB is shown, or N/A when this value is 0.

Field Name: RT0029DB

DB LGTH

The length of the section associated with this DBD.

Field Name: QW0029DL

PLAN

The plan name for the CT or XT request.

Field Name: QW0029PL

RDS

The RDS identifier number. Special cases are:

x'00000001'
SKCT header

x'FFFFFFFE'
SKCT directory

Field Name: QW0029KN

SEQNO

The sequence number within the RDS number. This is QW0029SN for CT or QW0029GN for PT.

Field Name: RT0029SN

CT LGTH

The length of the CT or XT sections in bytes.

Field Name: QW0029CL

LOCATION

The name of the package location. This field shows 'BLANK' if the local location name is not defined.

Field Name: QW0029LN

COLLECTN

The collection identifier of the package.

Field Name: QW0029CI

PCKG ID

The package identifier.

Field Name: QW0029PI

CONSISTENCY TOKEN

The consistency token of the package.

Field Name: QW0029CT

PT LGTH

The length of the PT section in bytes.

Field Name: QW0029GL

SCHEMA NAME

The name of the schema.

Field Name: QW0029SC

HASH ID

The hash ID.

Field Name: QW0029QH

COPY ID

The Copy ID.

Field Name: QW0029CP

DPS QUERY ID

The identifier of the stabilized dynamic query.

Field Name: QW0029QD

RELEASE BOUND

The release bound.

Field Name: QW0029RB

IFCID 030 - EDM Request End

This topic shows detailed information about "Record Trace - IFCID 030 - EDM Request End".

Record trace - IFCID 030 - EDM Request End

The field labels shown in the following sample layout of "Record Trace - IFCID 030 - EDM Request End" are described in the following section.

```
EDM REQUEST< -- NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
 END           EDMID       CT    PLAN    HSRTEP2L
               RDS  X'FFFFFFFE'  SEQNO          2  CT CALLS         1
EDM REQUEST< -- 'BLANK'
 END           NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
               EDMID       CT    PLAN    HSRTEP2L
               RDS  X'00000001'  SEQNO          2  CT CALLS         1
EDM REQUEST< -- 'BLANK'
 END           NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
               EDMID       PT
EDM REQUEST--> NETWORKID:  DEIBMIPS  LUNAME:  IPUAQB61  LUWSEQ:     1
 END           EDMID       DY
               SCHEMA NAME     =   SCHEMA1
               HASH ID X'00000000000000000000000000000000'
               COPY ID     0  DPS QUERY ID                     0
               RELEASE BOUND X'00'   RECORDS READ       0

LOCATION    N/P
COLLECTION  HSRTEP2VL1XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4X
XXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XX
XXXXXXX9XXXXXXXXX0XXXXXXXXX1XXXXXXXXX2XXX
XXXXZ
PACKAGE ID  DSN@EP2L@@@@@@@@@@
CONSISTENCY TOKEN  X'0000000000000000'
RDS  X'00000000'  SEQNO          0  PT CALLS         1
QW0030SV  X'0000'
```

EDMID

The type of request:

DB
Database descriptor

DY
SYSDYNQRY table

CT
Cursor table

PT
Package table

Field Name: QW0030ID

DBID

The database ID. Deduced from the DB2 fields QW0030DB, QW0105DN, or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0030DB is shown, or N/A when this value is 0.

Field Name: RT0030DB

DB CALLS

The number of calls to the data manager for the DBD.

Field Name: QW0030DC

PLAN

The plan name for the CT or XT request.

Field Name: QW0030PL

RDS

The RDS identifier number for CT. Special cases are:

x'00000001'
SKCT header

x'FFFFFFFE'
SKCT directory

Field Name: QW0030RN

RDS

The RDS identifier number for PT. Special cases are:

x'00000001'
SKCT header

x'FFFFFFFE'
SKCT directory

Field Name: QW0030KN

SEQNO

The sequence number within the RDS number. This is QW0030SN for CT or QW0030GN for PT.

Field Name: RT0030SN

CT CALLS

The number of calls to the data manager for CT.

Field Name: QW0030CC

LOCATION

The name of the package location. This field shows "BLANK" if the local location name is not defined.

Field Name: QW0030LN

COLLCTN

The collection identifier of the package.

Field Name: QW0030CI

PCKG ID

The package identifier.

Field Name: QW0030PI

CONSISTENCY TOKEN

The consistency token of the package.

Field Name: QW0030CT

PT CALLS

The number of calls to the data manager for PT.

Field Name: QW0030GC

SCHEMA NAME

The name of the schema.

Field Name: QW0030SC

HASH ID

The hash ID.

Field Name: QW0030QH

COPY ID

The Copy ID.

Field Name: QW0030CP

DPS QUERY ID

The identifier of the stabilized dynamic query.

Field Name: QW0030QD

RELEASE BOUND

The release bound.

Field Name: QW0030RB

RECORDS READ

The number of records read.

Field Name: QW0030QC

IFCID 031 - EDM Full

This topic shows detailed information about "Record Trace - IFCID 031 - EDM Full".

Record trace - IFCID 031 - EDM Full

The field labels shown in the following sample layout of "Record Trace - IFCID 031 - EDM Full" are described in the following section.

```
EDM FULL   --> NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
EDMID       CT    PLAN    PLANNAM1
RDS  X'00001267'  SEQNO          1  CT LGTH         16
'BLANK'
EDM FULL   --> NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
EDMID       PT
LOCATION    LOCATION01XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4X
XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XX
XXXXXXX9XXXXXXXX0XXXXXXXX1XXXXXXXX2XXX
XXXXZ
COLLECTION  COLLECTION01XXXXXXX2XXXXXXXX3XXXXXXXX4X
XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XX
XXXXXXX9XXXXXXXX0XXXXXXXX1XXXXXXXX2XXX
XXXXZ
PACKAGE ID  PACKAGE001XXXXXXXX2XXXXXXXX3XXXXXXXX4X
XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XX
XXXXXXX9XXXXXXXX0XXXXXXXX1XXXXXXXX2XXX
XXXXZ
CONSISTENCY TOKEN  X'C3D6D5E2E3D6D2F1'
RDS  X'FFFFFFFE'  SEQNO         66  PT LGTH        120
QW0031SV  X'E7E7'
EDM FULL   --> 'BLANK'
NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
EDMID       PT
LOCATION    LOCATION01XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4X
XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XX
XXXXXXXXXXXXX0XXXXXXXXX1XXXXXXXX2XXXXXX
Z
COLLECTION  COLLID01X1XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4X
XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XX
XXXXXXXXXXXXX0XXXXXXXXX1XXXXXXXX2XXXXXX
Z
PACKAGE ID  PACKAGE001XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4X
XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XX
XXXXXXXXXXXXX0XXXXXXXXX1XXXXXXXX2XXXXXX
Z
CONSISTENCY TOKEN  X'C3D6D5E2E3D6D2F1'
RDS  X'FFFFFFFE'  SEQNO         66  PT LGTH        120
QW0031SV  X'E7E7'
```

EDMID

The type of request:

DB
Database

CT
Cursor

XT
DBD extension

PT
Package table

Field Name: QW0031ID

DBID

The database ID. Deduced from the DB2 fields QW0031DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0031DB is shown, or N/A when this value is 0.

Field Name: RT0031DB

DB LGTH

The length of the section associated with this DBD.

Field Name: QW0031DL

PLAN

The plan name for the CT or XT request.

Field Name: QW0031PL

RDS

The RDS identifier number for CT. Special cases are:

x'00000001'
SKCT header

x'FFFFFFFE'
SKCT directory

Field Name: QW0031RN

RDS

The RDS identifier number for PT. Special cases are:

x'00000001'
SKCT header

x'FFFFFFFE'
SKCT directory

Field Name: QW0031KN

SEQNO

The sequence number within the RDS number. This is QW0031SN for CT or QW0031GN for PT.

Field Name: R0031SN

CT LGTH

The length of the CT or XT sections in bytes.

Field Name: QW0031CL

LOCATION

The name of the package location. This field shows "BLANK" if the local location name is not defined.

Field Name: QW0031LN

COLLCTN

The collection identifier of the package.

Field Name: QW0031CI

PCKG ID

The package identifier.

Field Name: QW0031PI

CONSISTENCY TOKEN

The consistency token of the package.

Field Name: QW0031CT

PT LGTH

The length of the PT section in bytes.

Field Name: QW0031GL

IFCID 032 - Log Wait Start

This topic shows detailed information about "Record Trace - IFCID 032 - Log Wait Start".

Record trace - IFCID 032 - Log Wait Start

The field labels shown in the following sample layout of "Record Trace - IFCID 032 - Log Wait Start" are described in the following section.

```
FUNC TYPE:  WFRC
QW0032RB   155344864
```

FUNC TYPE

The function type or request type:

WFRC
Write force request

ARC
Archive log command

' '
Normal write-force request

Deduced from the DB2 fields QW0032FT and QW0032RT.

Field Name: QW0032FT

IFCID 033 - Log Wait End

This topic shows detailed information about "Record Trace - IFCID 033 - Log Wait End".

This record is for IBM service use.

Record trace - IFCID 033 - Log Wait End

The field labels shown in the following sample layout of "Record Trace - IFCID 033 - Log Wait End" are described in the following section.

```
33 LOG WAIT   <-- NETWORKID:  DEIBMIPS  LUNAME:  IPUAXA21  LUWSEQ:     1
    END           RET               0
                  QW0033RS          0
                  'BLANK'
```

QW0033RS

This field is for IBM service use.

Field Name: QW0033RS

IFCID 034 - Log Read Start

This topic shows detailed information about "Record Trace - IFCID 034 - Log Read Start".

Record trace - IFCID 034 - Log Read Start

The field labels shown in the following sample layout of "Record Trace - IFCID 034 - Log Read Start" are described in the following section.

```
DSID    : XXXXXXXX       ACE     : ZZ9
WAIT TIME TYPE:  ACTIVE LOG READ
QW0034HR: X'HHHH'        QW0034LR: X'HHHHHHHH'
```

DSID

The data set identifier of the log manager.

Field Name: QW0034DI

WAIT TIME TYPE

The type of wait time. Possible values are:

- ACTIVE LOG READ
- ACTIVE LOG PREFETCH READ
- BSDS READ
- PEER-BSDS READ

Otherwise, a hexadecimal value is shown.

Field Name: QW0034TY

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0034AC

IFCID 035 - Log Read End

This topic shows detailed information about "Record Trace - IFCID 035 - Log Read End".

Record trace - IFCID 035 - Log Read End

The field labels shown in the following sample layout of "Record Trace - IFCID 035 - Log Read End" are described in the following section.

```
RET           0  ACE            1
```

RET

The return code.

Field Name: QW0035RT

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0035AC

IFCID 036 - Log Non I/O Start

This topic shows detailed information about "Record Trace - IFCID 036 - Log Non I/O Start".

Record trace - IFCID 036 - Log Non I/O Start

The field labels shown in the following sample layout of "Record Trace - IFCID 036 - Log Non I/O Start" are described in the following section.

```
DSID        : DSIDNAME   EVENT ID:    ALLC
REQUEST TYPE:    ALLD    ACE     :   1
```

DSID

The data set identifier of the log manager.

Field Name: QW0036DI

EVENT ID

The event identifier:

ALLC
Allocation

DTAU
Data set unavailable

OPEN
Open

CLOS
Close

DEAL
Deallocate

CLOC
Wait for the catalog to be located

WTOR
Wait for reply from write-to-operator

HSMR
Wait for HSM recall

UUNI
Wait for unavailable tape unit

URST
Wait for unavailable reader service task

MDSV
Wait for multi-data set volume

POSI
Wait for tape volume positioning

Field Name: QW0036EI

REQUEST TYPE

The request type:

ALLD
Demand allocation

ALLL
Look ahead (premount) allocation

Field Name: QW0036RT

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0036AC

IFCID 037 - Log Non I/O End

This topic shows detailed information about "Record Trace - IFCID 037 - Log Non I/O End".

Record trace - IFCID 037 - Log Non I/O End

The field labels shown in the following sample layout of "Record Trace - IFCID 037 - Log Non I/O End" are described in the following section.

```
RET            0  ACE            1
QW0037RC       0
```

RET

The return code.

Field Name: QW0037RT

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0037AC

IFCID 038 - Active Write Start

This topic shows detailed information about "Record Trace - IFCID 038 - Active Write Start".

Record trace - IFCID 038 - Active Write Start

The field labels shown in the following sample layout of "Record Trace - IFCID 038 - Active Write Start" are described in the following section.

```
DSID         ACTLG101     COPY           1  ACE       2
CI                  1
QW0038VR      4345856     QW0038FR           0
QW0038LR    155340800     QW0038LC    155344772
QW0038LB   X'7F709470'
```

DSID

The data set identifier of the log manager.

Field Name: QW0038DI

COPY

The copy number of the active log data set.

Field Name: QW0038CN

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0038AC

CI

The number of contiguous control intervals.

Field Name: QW0038CC

IFCID 039 - Active Write End

This topic shows detailed information about "Record Trace - IFCID 039 - Active Write End".

Record trace - IFCID 039 - Active Write End

The field labels shown in the following sample layout of "Record Trace - IFCID 039 - Active Write End" are described in the following section.

```
DSID    ACTLG102  COPY           1   ACE          17
RET            0
QW0039RC       0
```

DSID

The data set identifier.

Field Name: QW0039DI

COPY

The copy number of the active log data set.

Field Name: QW0039CN

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0039AC

RET

The return code.

Field Name: QW0039RT

IFCID 040 - Archive Write Start

This topic shows detailed information about "Record Trace - IFCID 040 - Archive Write Start".

Record trace - IFCID 040 - Archive Write Start

The field labels shown in the following sample layout of "Record Trace - IFCID 040 - Archive Write Start" are described in the following section.

```
DSID    DSIDNAME
```

DSID

The data set identifier of the log manager.

Field Name: QW0040DI

IFCID 041 - Archive Write End

This topic shows detailed information about "Record Trace - IFCID 041 - Archive Write End".

Record trace - IFCID 041 - Archive Write End

The field labels shown in the following sample layout of "Record Trace - IFCID 041 - Archive Write End" are described in the following section.

```
RET            0  BLOCKS          5
```

RET

The return code.

Field Name: QW0041RT

BLOCKS

The number of blocks written.

Field Name: QW0041BW

IFCID 042 - Checkpoint Start

This topic shows detailed information about "Record Trace - IFCID 042 - Checkpoint Start".

When present, data is printed in dump format, otherwise NO DATA is printed.

IFCID 043 - Checkpoint End

This topic shows detailed information about "Record Trace - IFCID 043 - Checkpoint End".

Record trace - IFCID 043 - Checkpoint End

The field labels shown in the following sample layout of "Record Trace - IFCID 043 - Checkpoint End" are described in the following section.

```
RBA   X'0000008F65341288'
```

RBA

The beginning checkpoint RBA.

Field Name: QW0043BC

IFCID 044 - Lock Suspend

This topic shows detailed information about "Record Trace - IFCID 044 - Lock Suspend".

Record trace - IFCID 044 - Lock Suspend

The field labels shown in the following sample layout of "Record Trace - IFCID 044 - Lock Suspend" are described in the following section.

```
LOCK RES TYPE: LPL RECOVERY             DBID: 256       OBID: 257         RESOURCE ID: X'00000313123456'
IRLM FUNC CODE: LOCK (NAME)         STATE: SHARED                         DURATION: COMMIT      REASON SUSP: LM
REQ TOKEN: X'00000000'   LOCK ATTRIBUTES: L-LOCK GLOBAL NOMODIFY NOFORCE   PROP TO XES: NO       ASYN TO XES: NO
PARENT TOKEN: X'7F6906D8'     LOCK HASH VALUE: X'0001840A'
QW0044CL: X'00'         QW0044FL: X'30'
```

LOCK RES TYPE

The locked resource type.

Note: For data sharing, SKELETON CURSOR TABLE LOCKING and SKELETON PACKAGE TABLE LOCK are LP-locks (an LP-lock has an L-lock component and a P-lock component).

Field Name: QW0044KT

NAME

The plan name or collection name. This field is only printed if the value in LOCK RES TYPE is SKELETON CURSOR TABLE LOCKING or COLLECTION .

Deduced from the DB2 field QW0021KD, QW0021KP, and QW0021KR. when the locked resource type is skeleton cursor table locking.

Field Name: RT21NAME

BPID

The buffer pool ID. This field is only printed if the value in LOCK RES TYPE is:

```
ALTER BUFFER POOL
GROUP BUFFERPOOL START/STOP LOCK
PAGESET/PARTITION P-LOCK
PAGE P-LOCK
GROUP BUFFERPOOL LEV CASTOUT P-LOCK
PAGESET/PARTITION LEV CASTOUT P-LOCK
```

For ALTER BUFFER POOL, deduced from QW0021KD || QW0021KP.

For GROUP BUFFERPOOL START/STOP LOCK, deduced from QW0021KD || QW0021KP.

For PAGESET/PARTITION P-LOCK, deduced from QW0021P1.

For PAGE P-LOCK, deduced from QW0021P1.

For GROUP BUFFERPOOL LEV CASTOUT P-LOCK deduced from QW0021P1.

For PAGESET/PARTITION LEV CASTOUT P-LOCK, deduced from QW0021P1.

Field Name: RT21BPID

DBID

The database ID. This field is not applicable if the value in LOCK RES TYPE is:

```
SKELETON CURSOR TABLE LOCKING
SKELETON PACKAGE TABLE LOCK
COLLECTION
ALTER BUFFER POOL
```

Deduced from the DB2 fields QW0044KD, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0044KD is shown, or N/A when this value is 0.

Field Name: RT0044DB

OBID

The object ID of the table space or page set. This field is not applicable if the value in LOCK RES TYPE is:

```
SKELETON CURSOR TABLE LOCKING
SKELETON PACKAGE TABLE LOCK
COLLECTION
ALTER BUFFER POOL
```

Deduced from the DB2 fields QW0044OB, QW0105TN, QW0107TN, QW0105OB, or QW0107OB.

The table space or object name is shown, when present, otherwise the decimal identifier from QW0044OB is shown, or N/A when this value is 0.

Field Name: RT0044OB

RESOURCE ID

The hexadecimal identifier of the small resource. If LOCK RES TYPE is:

DATA PAGE LOCKING
First 3 bytes are the page number

DATA SET LOCKING (PARTITION)
Last byte is the partition number

INDEX PAGE LOCKING
First 3 bytes are the page number

HASH ANCHOR LOCK
First 3 bytes are the page number and the last byte is the anchor point ID

CS-READ DRAIN
Last byte is the partition number (optional)

RR-READ DRAIN
Last byte is the partition number (optional)

WRITE DRAIN
Last byte is the partition number (optional)

ROW LOCK
First 3 bytes are the page number and the last byte is the row ID of the record

INDEX END OF FILE LOCK
Last byte is the partition number (optional)

Note:

- In large partitioned table spaces, the page number covers 4 bytes instead of 3.
- If table spaces use relative page numbers, the resource ID covers 7 bytes. It contains the partition number in the first 2 bytes, the page number in the next 4 bytes, and the record ID in the seventh byte.

This field is not applicable if the value in LOCK RES TYPE is `SKELETON CURSOR TABLE LOCKING` , `SKELETON PACKAGE TABLE LOCK` , `COLLECTION` , `TABLE LOCK` , or `ALTER BUFFER POOL` . If the value is `UTILITY SERIALIZATION LOCK` or `BINDLOCK` , N/A is printed.

Field Name: QW0044KR

COLL

The collection identifier. This field is only printed if the value in LOCK RES TYPE is `SKELETON PACKAGE TABLE LOCKING` .

The package identifier. This field is only printed if the value in LOCK RES TYPE is `SKELETON PACKAGE TABLE LOCKING` .

The consistency token. This field is only printed if the value in LOCK RES TYPE is `SKELETON PACKAGE TABLE LOCKING` .

The buffer pool ID. This field is only printed if the value in LOCK RES TYPE is `ALTER BUFFER POOL` .

Field Name: QW0044RN

IRLM FUNC CODE

The IRLM function code.

Field Name: QW0044FC

STATE

The lock state.

Field Name: QW0044ST

DURATION

The lock duration:

MANUAL
Varies depending on the ISOLATION parameter (QW0044DR=x '20')

MANUAL+1
Temporary change of consistency level from CS to RR during bind and DDL (QW0044DR=x '21')

COMMIT
Until commit (QW0044DR=x '40')

COMMIT+1
Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD (QW0044DR=x '41')

ALLOCATION
Until deallocation (QW0044DR= '60')

PLAN
For the duration of the plan (QW0044DR=x '80')

UTIL
For the duration of the utility execution (QW0044DR=x '81')

INTEREST
Duration used for P-locks (QW0044DR=x 'FE')

FREE ALL
Until all locks are freed (QW0044DR=x 'FF')

N/A
Not applicable for NOTIFY SUSPEND

Field Name: QW0044DR

REASON SUSP

The reason for the suspend:

LC
IRLM latch contention

IQ
IRLM queued request

LR
Local resource contention

GR
Global resource contention

IS
Intersystem communication

N
Notify message sent

LS
No longer used

RL
Contention with a retained lock

Field Name: QW0044WS

REQ TOKEN

The IRLM lock request token.

Field Name: QW0044RT

LOCK ATTRIBUTES

The lock attributes.

Field Name: QW0044FO

PROP TO XES

Indicates whether the request was propagated to XES by IRLM.

Field Name: QW0044Y1

ASYN TO XES

Indicates whether the request was sent to XES asynchronously by IRLM.

Field Name: QW0044Y2

PARENT TOKEN

The parent token for explicit hierarchical locking. This field is valid if the DB2 subsystem is a member of a data sharing group.

Field Name: QW0044PT

LOCK HASH VALUE

The hash value of the locked resource.

Field Name: QW0044LH

IFCID 045 - Lock Resume

This topic shows detailed information about "Record Trace - IFCID 045 - Lock Resume".

Record Trace - IFCID 045 - Lock Resume

The field labels shown in the following sample layout of "Record Trace - IFCID 045 - Lock Resume" are described in the following section.

```
REASON FOR RESUME               :  NORMAL RESUME
REASON FOR SUSPEND              :  X'08'
  IRLM LATCH CONTENTION         :   NO
  IRLM QUEUED REQUEST           :   NO
  LOCAL RESOURCE CONTENTION     :   NO
  RETAINED LOCK CONTENTION      :   NO
  INTERSYSTEM COMMUNICATION REQ.:  YES
    SYNC-TO-ASYNC CONVERSION    :  YES
  GLOBAL RESOURCE CONTENTION    :   NO
  INTER-SYSTEM MESSAGE SENDING  :   NO
  FALSE RESOURCE CONTENTION     :   NO
GLOBAL CONTENTION EXTENT        :  X'C0'
  XES  RESOURCE CONTENTION      :   NO
  IRLM RESOURCE CONTENTION      :   NO
QW0045X1  YES   QW0045X2  YES   QW0045X5   NO
QW0045X6   NO   QW0045X7   NO   QW0045X8   NO
```

REASON FOR RESUME

The reason for the lock resume.

Field Name: QW0045R

REASON FOR SUSPEND

The reason for the suspension. The nonserviceability values are:

IRLM LATCH CONTENTION
Indicates whether IRLM latch contention occurred. (QW0045W1)

IRLM QUEUED REQUEST
Indicates whether there was an IRLM queued request. (QW0045W2)

LOCAL RESOURCE CONTENTION
Indicates whether local resource contention occurred. (QW0045W3)

RETAINED LOCK CONTENTION
Indicates whether there was contention with a retained lock. (QW0045W4)

INTERSYSTEM COMMUNICATION REQ.
Intersystem communication required to resolve the IRLM request - if set, then consult QW0045XR to determine the extent of the global contention. (QW0045W5)

SYNC-TO-ASYNC CONVERSION
Intersystem communication request sync to async conversion to resolve the IRLM request. The value Yes indicates that all of the following are true:

- INTERSYSTEM COMMUNICATION REQ. (QW0045W5) = Yes
- IRLM RESOURCE CONTENTION (QW0045X4) = No
- XES RESOURCE CONTENTION (QW0045X3) = No
- FALSE RESOURCE CONTENTION (QW0045W8) = No

GLOBAL RESOURCE CONTENTION
Indicates whether intersystem communication was required to resolve an IRLM request. (QW0045W6)

INTER-SYSTEM MESSAGE SENDING
Indicates whether any intersystem message was sent. (QW0045W7)

FALSE RESOURCE CONTENTION
Indicates whether it is false resource contention. (QW0045W8)

Field Name: QW0045SR

GLOBAL CONTENTION EXTENT

The extent of global contention. This is applicable if the value in the GLOBAL RESOURCE CONTENTION field is YES. The nonserviceability values are:

XES RESOURCE CONTENTION
Indicates whether XES global contention occurred. The value Yes indicates that INTERSYSTEM COMMUNICATION REQ. (QW0045W5) = Yes and DB2 flag QW0045X3 = ON.

IRLM RESOURCE CONTENTION
Indicates whether IRLM global contention occurred. The value Yes indicates that: INTERSYSTEM COMMUNICATION REQ. (QW0045W5) = Yes and DB2 flag QW0045X4 = ON.

Field Name: QW0045XR

IFCID 046 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 046 - IBM Service Record".

This record is for IBM service use.

IFCID 047 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 047 - IBM Service Record".

This record is for IBM service use.

IFCID 048 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 048 - IBM Service Record".

This record is for IBM service use.

IFCID 049 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 049 - IBM Service Record".

This record is for IBM service use.

IFCID 050 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 050 - IBM Service Record".

This record is for IBM service use.

IFCID 051 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 051 - IBM Service Record".

This record is for IBM service use.

IFCID 052 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 052 - IBM Service Record".

This record is for IBM service use.

IFCID 053 - SQL Describe/Commit/Rollback/Remote Statement

This topic shows detailed information about "Record Trace - IFCID 053 - SQL Describe/Commit/Rollback/Remote Statement".

If this event is not recognized, UNRECOG CMD is printed.

The following data is printed in the DATA column:

Record trace - IFCID 053 - SQL Describe/Commit/Rollback/Remote Statement

The field labels shown in the following sample layout of "Record Trace - IFCID 053 - SQL Describe/Commit/Rollback/Remote Statement" are described in the following section.

```
LOCATION NAME         : OMPDBZ4
PKG COLLECTION ID     : DSNTIA10
PROGRAM NAME          : DSNTIAD
CONSISTENCY TOKEN     : X'18B61ACB02FABE19'                                    SECTION NUMBER     : 1
STATEMENT NUMBER      :            1989  QUERY COMMAND ID :  X'0000000000000000'  QUERY INSTANCE ID:  X'0000000000000000'
SQL REQUEST TYPE      :               0  EXPANSION REASON :  X'0000000000000000'
                                                                  SQLCODE :        -805       SQLSTATE:    51002
SQLCAID: SQLCA         SQLCABC          136                        SQLERRP : DSNXEPM           SQLEXT  :    51002
SQLERRD1        -100   SQLERRD2           0   SQLERRD3           0   SQLWARN0:     SQLWARN1:     SQLWARN2:    SQLWARN3:
SQLERRD4          -1   SQLERRD5           0   SQLERRD6           0   SQLWARN4:     SQLWARN5:     SQLWARN6:    SQLWARN7:
                                                                  SQLWARN8:     SQLWARN9:     SQLWARNA:
SQLERRM: PMODBE1.NULLID.SYSSH200.5359534C564C3031 DISTSERV 04
.................................................................................................................
DATA TYPE       INDX ROW PROC           2 ROW EXAM          1 STG1-QUAL          1 STG2-QUAL         0 ROW INSRT         0
ROW UPDTE          0 ROW DELET          0 PAGES            17 RI SCAN            0 RI DELET          0
DATA TYPE       SEQD ROW PROC           2 ROW EXAM          2 STG1-QUAL          0 STG2-QUAL         0 ROW INSRT         0
ROW UPDTE          0 ROW DELET          0 PAGES             2 RI SCAN            0 RI DELET          0
```

LOCATION NAME

The location name.

Field Name: QW0053LN

PKG COLLECTION ID

The package collection identifier.

Field Name: QW0053PC

PROGRAM NAME

The name of the program.

Field Name: QW0053PN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0053TS

SECTION NUMBER

The section number of the Relational Data system Input parameter list (RDI).

Field Name: QW0053SECTN

STATEMENT NUMBER

The number of the statement executed.

Field Name: QW0053SN

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0053QID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0053CID

SQL REQUEST TYPE

The type of SQL request.

Field Name: QW0053TOS

EXPANSION REASON

The reason for the expansion. It can have the following values:

GET_ARCHIVE
Expansion caused by built-in SYSIBMADM.GET_ARCHIVE global variable.

TEMPORAL BUSINESS_TIME
Expansion caused by the current temporal BUSINESS_TIME special register.

TEMPORAL SYSTEM_TIME
Expansion caused by the current temporal SYSTEM_TIME special register.

TEMPORAL SYSTEM_TIME & BUSINESS_TIME
Expansion caused by the current temporal SYSTEM_TIME & current temporal BUSINESS_TIME special registers.

NO EXPANSION
The query does not contain any expansion.

Field Name: QW0053ER

SQLCA CONTENTS

This section contains the SQLCA fields. It is only printed if the value in the ENTRY/EXIT TYPE field is RETURNED.

Field Name: QW0053SQ

DATA TYPE

The scan type identification:

INDX
Index scan

SEQD
Sequential data scan

SEQW
Sequential data work-file scan

Field Name: QW0053ID

ROW PROC

The number of rows processed.

Field Name: QW0053RP

ROW EXAM

The number of rows examined. If DATA TYPE shows `INDX `, this number is the number of index entries (not rows) scanned.

Field Name: QW0053LA

STG1-QUAL

The number of rows qualified at stage 1.

Field Name: QW0053DQ

STG2-QUAL

The number of rows qualified at stage 2.

Field Name: QW0053RQ

ROW INSRT

The number of rows inserted.

Field Name: QW0053IN

ROW UPDTE

The number of rows updated.

Field Name: QW0053UP

ROW DELET

The number of rows deleted. If the delete was a mass delete, the indicator `MASS ` is printed.

Field Name: QW0053DE

PAGES

The number of get page requests issued by the data manager to the buffer manager. Note that for an index scan the value includes the number of index pages scanned.

Field Name: QW0053PS

RI SCAN

The number of additional pages scanned for referential integrity.

Field Name: QW0053PR

RI DELET

The number of additional rows deleted for referential integrity.

Field Name: QW0053DR

IFCID 055 - Set SQLID

This topic shows detailed information about "Record Trace - IFCID 055 - Set SQLID".

This IFCID is written when a SET CURRENT SQLID STATEMENT is issued. It shows the previous SQLID, the new SQLID, and whether the statement succeeded. This record is only written at the application server when DRDA protocol is used.

This record is written when performance trace class 3 is on. This record is written when audit class 7 is on. MONITOR1 privilege is required for reading via ifi.

The SQLID is the SQL authorization ID of the process. This is:

- The authorization ID used for authorization checking on dynamically prepared CREATE, GRANT, and REVOKE SQL statements

- The owner of a table space, database, storage group, or synonym created by a dynamically issued CREATE statement
- The implicit qualifier of all table, view, alias, and index names specified in dynamic SQL statements.

The initial value of CURRENT SQLID can be provided by the connection or sign-on exit routine, otherwise the initial value is the primary authorization ID of the process.

Record trace - IFCID 055 - Set SQLID

The field labels shown in the following sample layout of "Record Trace - IFCID 055 - Set SQLID" are described in the following section.

```
SET SQLID      NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
PREV SQLID:  DB2PM
NEW  SQLID:  DB2PM
STATUS    :  SUCCESSFUL EXECUTION
```

PREV SQLID

The initial value of the SQLID before execution of the request.

Field Name: QW0055OI

NEW SQLID

If the command completed successfully, the new value of the SQLID is shown. If the command did not complete successfully, the value of the attempted SQLID change is shown.

Field Name: QW0055NI

STATUS

The success or failure of the attempted authorization change. Possible values are:

- SUCCESS or SUCCESSFUL for a successful authorization change
- FAILURE for a failed attempt

Note: The SQL statement is always successful if the user has SYSADM authority.

Field Name: QW0055ST

IFCID 056 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 056 - IBM Service Record".

This record is for IBM service use.

Record trace - IFCID 056 - IBM Service Record

The field labels shown in the following sample layout of "Record Trace - IFCID 056 - IBM Service Record" are described in the following section.

```
QW0056LA: X'1122334455667788'    QW0056LC: X'E2'
QW0056LF: X'00000A00'
```

QW0056LA

This field is for IBM service use.

Field Name: QW0056LA

QW0056LC

This field is for IBM service use.

Field Name: QW0056LC

QW0056LF

This field is for IBM service use.

Field Name: QW0056LF

IFCID 057 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 057 - IBM Service Record".

This record is for IBM service use.

Record trace - IFCID 057 - IBM Service Record

The field labels shown in the following sample layout of "Record Trace - IFCID 057 - IBM Service Record" are described in the following section.

```
QW0057LA: X'1122334455667788'    QW0057LC: X'88'
QW0057TS: X'00000A00'
```

QW0057LA

This field is for IBM service use.

Field Name: QW0057LA

QW0057LC

This field is for IBM service use.

Field Name: QW0057LC

QW0057TS

This field is for IBM service use.

Field Name: QW0057TS

IFCID 058 - End SQL

This topic shows detailed information about "Record Trace - IFCID 058 - End SQL".

Record trace - IFCID 058 - End SQL

The field labels shown in the following sample layout of "Record Trace - IFCID 058 - End SQL" are described in the following section.

```
LOCATION NAME         : OMPDBZ4
PKG COLLECTION ID     : DSNTIA10
PROGRAM NAME          : DSNTIAD
CONSISTENCY TOKEN     : X'18B61ACB02FABE19'                                SECTION NUMBER     : 1
STATEMENT NUMBER      :            1989  QUERY COMMAND ID :  X'0000000000000000'  QUERY INSTANCE ID:  X'0000000000000000'
SQL REQUEST TYPE      :               0  EXPANSION REASON :  X'0000000000000000'

                                                                 SQLCODE :           0       SQLSTATE:    00000
SQLCAID: SQLCA         SQLCABC          136                      SQLERRP : DSN               SQLEXT  :    00000
SQLERRD1           0   SQLERRD2           0   SQLERRD3           0   SQLWARN0:     SQLWARN1:     SQLWARN2:    SQLWARN3:
SQLERRD4          -1   SQLERRD5           0   SQLERRD6           0   SQLWARN4:     SQLWARN5:     SQLWARN6:    SQLWARN7:
                                                                 SQLWARN8:     SQLWARN9:     SQLWARNA:

SQLERRM:
.....................................................................................................................
DATA TYPE       INDX ROW PROC          10 ROW EXAM          2 STG1-QUAL          7 STG2-QUAL         0 ROW INSRT         0
ROW UPDTE          0 ROW DELET          0 PAGES           36 RI SCAN            2 RI DELET          0
LOB SCAN           0 LOB UPDTE          0

ACCUMULATED TIME VALUES:
IN-DB2 ELAPSED          :         0.759050                IN-DB2 CPU              :         0.758975
WAIT FOR SYNC I/O       :         7.503980                WAIT FOR LOCK/LATCH     :         0.000918
SYNC EXEC UNIT SWITCH   :              N/P                WT FOR GLOBAL LOCKS     :              N/P
WT FOR READ BY OTHER THR:         0.554322                WT FOR WRTE BY OTHER THR:         0.171751
NBR OF TIMES RID LIST NOT USED, BECAUSE:
  NBR EXCEEDS DB2 LIMITS:                0             NOT ENOUGH STORAGE      :                    0
WAIT FOR LATCH          :         0.002227                WAIT FOR PAGE LATCH     :              N/P
WAIT FOR DRAIN LOCK     :              N/P                WAIT FOR CLAIM COUNT    :              N/P
WAIT FOR LOG WRITER     :         0.002679                WAIT FOR CHILD L-LOCKS  :              N/P
WAIT FOR PAGESET L-LOCKS:              N/P                WAIT FOR OTHER L-LOCKS  :              N/P
WAIT FOR PAGE P-LOCKS   :              N/P                WAIT FOR OTHER P-LOCKS  :              N/P
WAIT FOR PIPE           :         0.014852                WT FOR PARENT CHILD SYNC:              N/P
```

LOCATION NAME

The location name.

Field Name: QW0058LN

PKG COLLECTION ID

The package collection identifier.

Field Name: QW0058PC

PROGRAM NAME

The program name.

Field Name: QW0058PN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0058TS

SECTION NUMBER

The section number of the Relational Data system Input parameter list (RDI).

Field Name: QW0058SECTN

STATEMENT NUMBER

The number of the statement executed.

Field Name: QW0058SN

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0058CID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0058QID

SQL REQUEST TYPE

Field Name: QW0058TOS

EXPANSION REASON

The reason for the expansion. It can have the following values:

GET_ARCHIVE
Expansion caused by built-in SYSIBMADM.GET_ARCHIVE global variable.

TEMPORAL BUSINESS_TIME
Expansion caused by the current temporal BUSINESS_TIME special register.

TEMPORAL SYSTEM_TIME
Expansion caused by the current temporal SYSTEM_TIME special register.

TEMPORAL SYSTEM_TIME & BUSINESS_TIME
Expansion caused by the current temporal SYSTEM_TIME & current temporal BUSINESS_TIME special registers.

NO EXPANSION
The query does not contain any expansion.

Field Name: QW0058EXR

SQLCA CONTENTS

This section contains the SQLCA fields. It is only printed if the value in the ENTRY/EXIT TYPE field is RETURNED.

Field Name: QW0058SQ

DATA TYPE

The scan type identification.

INDX
Index scan

SEQD
Sequential data scan

SEQW
Sequential data work-file scan

Field Name: QW0058ID

ROW PROC

The number of rows processed.

Field Name: QW0058RP

ROW EXAM

The number of rows examined. If DATA TYPE shows `INDX `, this number is the number of index entries (not rows) scanned.

Field Name: QW0058LA

STG1-QUAL

The number of rows qualified at stage 1.

Field Name: QW0058DQ

STG2-QUAL

The number of rows qualified at stage 2.

Field Name: QW0058RQ

ROW INSRT

The number of rows inserted.

Field Name: QW0058IN

ROW UPDTE

The number of rows updated.

Field Name: QW0058UP

ROW DELET

The number of rows deleted. If the delete was a mass delete, the indicator `MASS ` is printed.

Field Name: QW0058DE

PAGES

The number of get page requests issued by the data manager to the buffer manager. Note that for an index scan, the value includes the number of index pages scanned.

Field Name: QW0058PS

RI SCAN

The number of additional pages scanned for referential integrity.

Field Name: QW0058PR

RI DELET

The number of additional rows deleted for referential integrity.

Field Name: QW0058DR

LOB SCAN

Additional pages scanned in a LOB table space.

Field Name: QW0058PL

LOB UPDTE

Number of LOB data pages updated by SQL INSERT or SQL UPDATE.

Field Name: QW0058UL

IN-DB2 ELAPSED

The accumulated in-DB2 elapsed time.

Field Name: QW0058ET

IN-DB2 CPU

The accumulated in-DB2 CPU time. It includes CPU time consumed on an IBM specialty engine.

Field Name: QW0058CP

WAIT FOR SYNC I/O

The accumulated wait for synchronous I/O.

Field Name: QW0058SI

WAIT FOR LOCK/LATCH

The accumulated wait time for locks.

Field Name: QW0058LK

SYNC EXEC UNIT SWITCH

The accumulated wait time for the synchronous execution unit switches.

Field Name: QW0058EU

WT FOR GLOBAL LOCKS

The Accumulated wait time for global locks.

Field Name: QW0058GL

WT FOR READ BY OTHER THR

The accumulated wait time for read activity done by another thread.

Field Name: QW0058OR

WT FOR WRTE BY OTHER THR

The accumulated wait time for write activity done by another thread.

Field Name: QW0058OW

NBR EXCEEDS DB2 LIMITS

The number of times RID list was not used because the number of RIDS would have exceeded DB2 limits.

Field Name: QW0058RL

NOT ENOUGH STORAGE

The number of time a RID list was not used because there is not enough storage available to hold the list of RIDs.

Field Name: QW0058RS

WAIT FOR LATCH

The accumulated wait for latch.

Field Name: QW0058LH

WAIT FOR PAGE LATCH

The accumulated wait time for page latch.

Field Name: QW0058PA

WAIT FOR DRAIN LOCK

The accumulated wait time for drain lock.

Field Name: QW0058DA

WAIT FOR CLAIM COUNT

The accumulated wait time for claim count.

Field Name: QW0058CL

WAIT FOR LOG WRITER

The accumulated wait time for log writer.

Field Name: QW0058LG

WAIT FOR CHILD L-LOCKS

The accumulated wait time for global child L-locks.

Field Name: QW0058AWTK

WAIT FOR PAGESET L-LOCKS

The accumulated wait time for global Pageset or Partition L-locks.

Field Name: QW0058AWTN

WAIT FOR OTHER L-LOCKS

The accumulated wait time for global other L-locks.

Field Name: QW0058AWTM

WAIT FOR PAGE P-LOCKS

The accumulated wait time for global page P-locks.

Field Name: QW0058AWTO

WAIT FOR OTHER P-LOCKS

The accumulated wait time for global other P-locks.

Field Name: QW0058AWTQ

WAIT FOR PIPE

The accumulated wait time for pipe.

Field Name: QW0058PW

WT FOR PARENT CHILD SYNC

The accumulated time waiting for parallel queries to synchronize between parent and child tasks.

Field Name: QW0058PQ

IFCID 059 - Fetch Start

This topic shows detailed information about "Record Trace - IFCID 059 - Fetch Start".

Record trace - IFCID 059 - Fetch Start

The field labels shown in the following sample layout of "Record Trace - IFCID 059 - Fetch Start" are described in the following section.

```
START         LOCATION NAME    : PMO5D851
PKG COLLECTION ID: HSRTEP2VL1XXXXXXXXX2XXXXXXXXX3XXXX
XXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXX
X7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0XX
XXXXXXX1XXXXXXXXX2XXXXXXXZ
PROGRAM NAME     : DSN@EP2L
CURSOR NAME      : C1
CONSISTENCY TOKEN: X'172A1C98193C380E'
STATEMENT NUMBER :       1627
STATEMENT TYPE   : X'01'
QUERY COMMAND ID : ----
QUERY INSTANCE ID: ----
FETCH SENSITIVITY: UNSPECIFIED
FETCH ORIENTATION: NEXT
```

LOCATION NAME

The location name.

Field Name: QW0059LN

PKG COLLECTION ID

The package collection identifier.

Field Name: QW0059PC

PROGRAM NAME

The program name.

Field Name: QW0059PN

CURSOR NAME

The name of the cursor used by the FETCH statement.

Field Name: QW0059CN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0059TS

STATEMENT NUMBER

The statement number.

Field Name: QW0059SN

STATEMENT TYPE

The statement type. X'01' indicates FETCH.

Field Name: QW0059ST

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0059CID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0059QID

FETCH SENSITIVITY

Identifies the fetch sensitivity. It can be one of the following:

- Sensitive
- Insensitive
- Unspecified

Field Name: QW0059FS

FETCH ORIENTATION

Identifies the fetch orientation. It can be one of the following:

- First
- Last
- Before
- After
- Next
- Previous
- Current
- Absolute
- Relative
- Unspecified

Field Name: QW0059FO

IFCID 060 - Select Start

This topic shows detailed information about "Record Trace - IFCID 060 - Select Start".

Record trace - IFCID 060 - Select Start

The field labels shown in the following sample layout of "Record Trace - IFCID 060 - Select Start" are described in the following section.

```
START         LOCATION NAME        : PMO5D851
PKG COLLECTION ID    : DB2PM
PROGRAM NAME         : DGO@PC1
CONSISTENCY TOKEN    : X'1747F0EF086D1D5E'
STATEMENT NUMBER     :        318
STATEMENT TYPE       : X'00'
QUERY COMMAND ID     : N/P
QUERY INSTANCE ID    : N/P
ISOLATION            : RR
REOPTIMIZATION       : NO
```

LOCATION NAME

The location name.

Field Name: QW0060LN

PKG COLLECTION ID

The package collection identifier.

Field Name: QW0060PC

PROGRAM NAME

The program name.

Field Name: QW0060PN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0060TS

STATEMENT NUMBER

The statement number of the statement executed.

Field Name: QW0060SN

STATEMENT TYPE

The statement type. X'00' indicates SELECT.

Field Name: QW0060ST

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0060CID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0060QID

ISOLATION

The isolation level:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

UR
Uncommitted read

Field Name: QW0060I

REOPTIMIZATION

Indicates whether the access path of the SQL statement was reoptimized at run time.

Field Name: QW0060RO

IFCID 061 - Insert/Update/Delete Start

This topic shows detailed information about "Record Trace - IFCID 061 - Insert/Update/Delete Start".

Record trace - IFCID 061 - Insert/Update/Delete Start

The field labels shown in the following sample layout of "Record Trace - IFCID 061 - Insert/Update/Delete Start" are described in the following section.

```
START         LOCATION NAME        : PM05D851
PKG COLLECTION ID    : DB2PM
PROGRAM NAME         : DGO@PC4
CONSISTENCY TOKEN    : X'1746B2741FC9F534'
STATEMENT NUMBER     :        168
STATEMENT TYPE       : UPDATE TYPE- NON CURSOR
CURSOR NAME          : N/P
QUERY COMMAND ID     : N/P
QUERY INSTANCE ID    : N/P
ISOLATION            : RR
REOPTIMIZATION       : NO
```

LOCATION NAME

The location name.

Field Name: QW0061LN

PKG COLLECTION ID

The package collection ID.

Field Name: QW0061PC

PROGRAM NAME

The program name.

Field Name: QW0061PN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0061TS

STATEMENT NUMBER

The statement number of the statement executed.

Field Name: QW0061SN

STATEMENT TYPE

The statement type. Possible values are:

- STATEMENT TYPE
- INSERT TYPE
- UPDATE TYPE- NON CURSOR
- UPDATE TYPE- CURSOR
- MERGE TYPE
- DELETE TYPE- NON CURSOR
- DELETE TYPE- CURSOR
- TRUNCATE TYPE

Field Name: QW0061ST

CURSOR NAME

The name of the cursor.

Field Name: QW0061CN

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0061CI

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0061QI

ISOLATION

The isolation level:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

Field Name: QW0061I

REOPTIMIZATION

Indicates whether the access path of the SQL statement was reoptimized at run time.

Field Name: QW0061RO

IFCID 062 - DDL Start

This topic shows detailed information about "Record Trace - IFCID 062 - DDL Start".

Record trace - IFCID 062 - DDL Start

The field labels shown in the following sample layout of "Record Trace - IFCID 062 - DDL Start" are described in the following section.

```
DDL START       STATEMENT TYPE: ALTER VIEW
OBJECT TYPE   : TABLESPACE
OBJECT NAME   : HSRPDSBU
```

STATEMENT TYPE

The type of statement that is processed. Possible values are:

- ALTER DATABASE
- ALTER FUNCTION
- ALTER INDEX
- ALTER JAR
- ALTER MASK
- ALTER PERMISSION
- ALTER PROCEDURE
- ALTER SEQUENCES
- ALTER STORAGE GROUP
- ALTER TABLE
- ALTER TABLESPACE
- ALTER TRUSTED CONT
- ALTER VIEW
- CREATE ALIAS
- CREATE AUX TABLE
- CREATE DATABASE

- CREATE DISTINCT TYPE
- CREATE FUNCTION
- CREATE GLBL T.TAB
- CREATE INDEX
- CREATE JAR
- CREATE MASK
- CREATE PERMISSION
- CREATE PROCEDURE
- CREATE ROLE
- CREATE SEQUENCES
- CREATE STORAGE GROUP
- CREATE SYNONYM
- CREATE TABLE
- CREATE TABLESPACE
- CREATE TRIGGER
- CREATE TRUSTED CONT
- CREATE VIEW
- COMMENT ON
- DECLARE GLBL T.TAB
- DROP ALIAS
- DROP DATABASE
- DROP DISTINCT TYPE
- DROP INDEX
- DROP JAR
- DROP MASK
- DROP PERMISSION
- DROP PROCEDURE
- DROP ROLE
- DROP SEQUENCES
- DROP STORAGE GROUP
- DROP SYNONYM
- DROP TABLE
- DROP TABLESPACE
- DROP TRIGGER
- DROP TRUSTED CONTEXT
- DROP PACKAGE
- DROP UDF
- DROP VIEW
- FREE LOCATOR
- GRANT
- HOLD LOCATOR
- LABEL ON
- LOCK

- RENAME INDEX
- RENAME TABLE
- REVOKE
- TRANSFER OWNERSHIP

Field Name: QW0062ST

OBJECT TYPE

The type of object that is processed. Possible values are:

- ALIAS
- DATABASE
- DISTINCT TYPE
- FUNCTION
- INDEX
- JAR
- NO OBJECT
- PACKAGE
- ROLE
- SEQUENCES
- STORAGE GROUP
- STORED PROC
- SYNONYM
- TABLE
- TABLESPACE
- TRIGGER
- TRUSTED CONT
- VIEW

Field Name: QW0062OT

OBJECT NAME

The object name. The name does not include high-level qualifiers.

Field Name: QW0062ON

IFCID 063 - SQL Statement

This topic shows detailed information about "Record Trace - IFCID 063 - SQL Statement".

Record trace - IFCID 063 - SQL Statement

The field labels shown in the following sample layout of "Record Trace - IFCID 063 - SQL Statement" are described in the following section.

```
SQL STATEMENT  NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
OPTIONS:  X'04' HOST LANG: N/A          SQL STATEMENT:
SELECT L.PLANNAME,L.SEQNO,K.*,HEX(CONTOKEN) FROM
SYSIBM.SYSPACKLIST L,SYSIBM.SYSPACKage K WHERE
L.PLANNAME = 'HSRTEP2L' AND (L.LOCATION = '*' OR
L.LOCATION = ' ') AND K.LOCATION = ' ' AND K.COLLID =
L.COLLID AND K.NAME = L.NAME UNION ALL SELECT
L.PLANNAME,L.SEQNO,K.*,HEX(CONTOKEN) FROM
SYSIBM.SYSPACKLIST L,SYSIBM.SYSPACKage K WHERE
L.PLANNAME = 'HSRTEP2L' AND (L.LOCATION = '*' OR
L.LOCATION = ' ') AND K.LOCATION = ' ' AND L.COLLID =
'*' AND K.NAME = L.NAME UNION ALL SELECT
L.PLANNAME,L.SEQNO,K.*,HEX(CONTOKEN) FROM
SYSIBM.SYSPACKLIST L,SYSIBM.SYSPACKage K WHERE
L.PLANNAME = 'HSRTEP2L' AND (L.LOCATION = '*' OR
L.LOCATION = ' ') AND K.LOCATION = ' ' AND L.COLLID =
'*' AND L.NAME = '*' UNION ALL SELECT
L.PLANNAME,L.SEQNO,K.*,HEX(CONTOKEN) FROM
SYSIBM.SYSPACKLIST L,SYSIBM.SYSPACKage K WHERE
L.PLANNAME = 'HSRTEP2L' AND (L.LOCATION = '*' OR
L.LOCATION = ' ') AND K.LOCATION = ' ' AND K.COLLID =
L.COLLID AND L.NAME = '*' ORDER BY 1 , 2 FOR FETCH
ONLY
STATEMENT IDENTIFIER:                  29011
TYPE OF STATEMENT   : DYNAMIC  CCSID:   1208
```

OPTIONS

This field consists of 8 bits. The bits indicate the parser options and the host language. The four most significant bits describe the parser options:

Bit 7
String delimiter (0 = apostrophe; 1 = quotation mark)

Bit 6
Decimal separator (0 = period; 1 = comma)

Bit 5
SQL delimiter (0 = apostrophe; 1 = quotation mark)

Bit 4
Mixed data (0 = no; 1 = yes)

Bit 3
Reserved

Bits 0 to 2
Host language

The three least significant bits (0 to 2) are the host language bit mask. The hexadecimal value indicates the host language:

001
Host language is Assembler

010
Host language is COBOL

011
Host language is PL/I

100
Host language is Dynamic SQL

101
Host language is FORTRAN

110
Host language is COBOL2

111
Look at HOST LANG field

Field Name: QW0063OT

HOST LANG

Additional host language option. This field is optional. When the OPTIONS host language bit mask is x'7' , it indicates the host language.

Field Name: QW0063HL

SQL STATEMENT

The SQL statement being processed.

Note:

- SQL text longer than 5000 characters is truncated.
- Host variables are represented as :H

Field Name: QW0063ST

STATEMENT IDENTIFIER

The type of statement.

Field Name: QW0063TY

TYPE OF STATEMENT

The statement identifier.

Field Name: QW0063SI

CCSID

The coded character set identifier (CCSID).

Field Name: QW0063CC

IFCID 064 - Prepare Start

This topic shows detailed information about "Record Trace - IFCID 064 - Prepare Start".

Record trace - IFCID 064 - Prepare Start

The field labels shown in the following sample layout of "Record Trace - IFCID 064 - Prepare Start" are described in the following section.

```
START         LOCATION NAME    : PMO5D851
PKG COLLECTION ID: HSRTEP2VL1XXXXXXXXX2XXXXXXXXX3XXXX
XXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXX
X7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0XX
XXXXXXX1XXXXXXXXX2XXXXXXXZ
PROGRAM NAME     : DSN@EP2L
TIME STAMP       : X'172A1C98193C380E'
STATEMENT NUMBER :       1550
STATEMENT TYPE   : X'81'
CURSOR NAME      : C1
QUERY COMMAND ID : QRYCMD01
QUERY INSTANCE ID: QRYINS01
```

LOCATION NAME

The location name.

Field Name: QW0064LN

PKG COLLECTION ID

The package collection identifier.

Field Name: QW0064CI

PROGRAM NAME

The program name.

Field Name: QW0064PN

TIME STAMP

The hexadecimal value of the precompiler timestamp.

Field Name: QW0064TS

STATEMENT NUMBER

The statement number.

Field Name: QW0064SN

STATEMENT TYPE

The statement types:

x'81'
Prepare a cursor section.

x'80'
Prepare a noncursor section.

x'C1'
Implicit prepare of a cursor section.

x'C0'
Implicit prepare of a noncursor section.

Field Name: QW0064ST

CURSOR NAME

The name of the cursor used by the PREPARE statement.

Field Name: QW0064CN

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0064CID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0064QID

IFCID 065 - Open Cursor

This topic shows detailed information about "Record Trace - IFCID 065 - Open Cursor".

Record trace - IFCID 065 - Open Cursor

The field labels shown in the following sample layout of "Record Trace - IFCID 065 - Open Cursor" are described in the following section.

```
CURSOR        LOCATION NAME        : PMO5D851
PKG COLLECTION ID    : HSRTEP2VL1XXXXXXXXX2XXXXXXXXX3
XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6
XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9
XXXXXXXXX0XXXXXXXXX1XXXXXXXXX2
XXXXXXXZ
PROGRAM NAME         : DSN@EP2L
CONSISTENCY TOKEN    : X'172A1C98193C380E'
STATEMENT NUMBER     :       1611
STATEMENT TYPE       : X'91'
CURSOR NAME          : C1
QUERY COMMAND ID     : ----
QUERY INSTANCE ID    : ----
ISOLATION            : RR
REOPTIMIZATION       : NO
CURSOR SCROLLABILITY : NON-SCROLL
CURSOR SENSITIVITY   : UNSPECIFIED
CUR RESULT TABLE TYPE: UNSPECIFIED
CURSOR CLOSE COMMIT  : NO IMPLICIT COMMIT
```

LOCATION NAME

The location name.

Field Name: QW0065LN

PKG COLLECTION ID

The package collection identifier.

Field Name: QW0065PC

PROGRAM NAME

The program name.

Field Name: QW0065PN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0065TS

STATEMENT NUMBER

The statement number.

Field Name: QW0065SN

STATEMENT TYPE

The statement type. X'91' indicates OPEN.

Field Name: QW0065ST

CURSOR NAME

The name of the cursor used by the OPEN cursor statement.

Field Name: QW0065CN

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0065CID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0065QID

ISOLATION

The isolation level:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

UR
Uncommitted read

XR
Repeatable read with X lock

XS
Read stability with X lock

Field Name: QW0065I

REOPTIMIZATION

Indicates whether the access path of the SQL statement was reoptimized at run time.

Field Name: QW0065RO

CURSOR SCROLLABILITY

Identifies the cursor scrollability. It can be one of the following:

- Scroll
- None-scroll

Field Name: QW0065SC

CURSOR SENSITIVITY

Identifies the cursor sensitivity. It can be one of the following:

- Sensitive
- Insensitive
- Unspecified

Field Name: QW0065SV

CUR RESULT TABLE TYPE

Identifies the type of the cursor result table. It can be one of the following:

- Static
- Dynamic
- Unspecified

Field Name: QW0065RT

CURSOR CLOSE COMMIT

The cursor attribute implicit commit, which closed the cursor. Possible values are:

- IMPLICIT COMMIT
- NO IMPLICIT COMMIT
- N/A

Otherwise the values are shown in hexadecimal.

Field Name: QW0065TY

IFCID 066 - Close Cursor

This topic shows detailed information about "Record Trace - IFCID 066 - Close Cursor".

Record trace - IFCID 066 - Close Cursor

The field labels shown in the following sample layout of "Record Trace - IFCID 066 - Close Cursor" are described in the following section.

```
CURSOR        LOCATION NAME        : PMO5D851
PKG COLLECTION ID    : HSRTEP2VL1XXXXXXXXX2XXXXXXXXX3
XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6
XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9
XXXXXXXXX0XXXXXXXXX1XXXXXXXXX2
XXXXXXXZ
PROGRAM NAME         : DSN@EP2L
CONSISTENCY TOKEN    : X'172A1C98193C380E'
STATEMENT NUMBER     :       1889
STATEMENT TYPE       : X'A1'
CURSOR NAME          : C1
CLOSE STMT TYPE      : IMPLICIT
QUERY COMMAND ID     : ----
QUERY INSTANCE ID    : ----
```

LOCATION NAME

The location name.

Field Name: QW0066LN

PKG COLLECTION ID

The package collection identifier.

Field Name: QW0066PC

PROGRAM NAME

The program name.

Field Name: QW0066PN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0066TS

STATEMENT NUMBER

The statement number.

Field Name: QW0066SN

STATEMENT TYPE

The statement type. X'A1' indicates CLOSE.

Field Name: QW0066ST

CURSOR NAME

The name of the cursor used by the CLOSE cursor statement.

Field Name: QW0066CN

CLOSE STMT TYPE

The Close statement type. Possible values are:

- IMPLICIT
- EXPLICIT

- N/A

Otherwise the values are shown in hexadecimal.

Field Name: QW0066TY

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0066CID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0066QID

IFCID 067 - Accounting

This topic shows detailed information about "Record Trace - IFCID 067 - Accounting".

When present, data is printed in dump format, otherwise `NO DATA` is printed.

IFCID 068 - Rollback Start

This topic shows detailed information about "Record Trace - IFCID 068 - Rollback Start".

Record trace - IFCID 068 - Rollback Start

The field labels shown in the following sample layout of "Record Trace - IFCID 068 - Rollback Start" are described in the following section.

```
PSWKEY    X'80'
QW0068FR  X'007C6428'
```

PSWKEY

The PSW key of the holder.

Field Name: QW0068CK

IFCID 069 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 069 - IBM Service Record".

This record is for IBM service use.

IFCID 070 - Commit Phase 2 Start

This topic shows detailed information about "Record Trace - IFCID 070 - Commit Phase 2 Start".

Record trace - IFCID 070 - Commit Phase 2 Start

The field labels shown in the following sample layout of "Record Trace - IFCID 070 - Commit Phase 2 Start" are described in the following section.

```
PSWKEY       X'0E'
QW0070FR     X'00000000'
```

PSWKEY

The PSW key of the caller.

Field Name: QW0070CK

IFCID 071 - Commit Phase 2 End

This topic shows detailed information about "Record Trace - IFCID 071 - Commit Phase 2 End".

This record is for IBM service use.

Record trace - IFCID 071 - Commit Phase 2 End

The field labels shown in the following sample layout of "Record Trace - IFCID 071 - Commit Phase 2 End" are described in the following section.

```
71 COMMIT     <-- NETWORKID:  DEIBMIPS  LUNAME:  IPUAPZA5  LUWSEQ: 20796
    PHASE 2 END   QW0071FR  X'00000000'    QW0071RT           0
                  QW0071RS    14233856
                  QW0071NI  X'00000000000000000000000000000000'
```

QW0071FR

This field is for IBM service use.

Field Name: QW0071FR

IFCID 072 - Create Thread Start

This topic shows detailed information about "Record Trace - IFCID 072 - Create Thread Start".

Record trace - IFCID 072 - Create Thread Start

The field labels shown in the following sample layout of "Record Trace - IFCID 072 - Create Thread Start" are described in the following section.

```
RESOURCE NAME:   ABE5B03
```

RESOURCE NAME

The plan name used in thread creation. If the thread is created to process a DB2 command, the field shows 'BLANK'.

Field Name: QW0072RN

IFCID 073 - Create Thread End

This topic shows detailed information about "Record Trace - IFCID 073 - Create Thread End".

Record trace - IFCID 073 - Create Thread End

The field labels shown in the following sample layout of "Record Trace - IFCID 073 - Create Thread End" are described in the following section.

```
QLGTH             0
QW0073RT          0     QW0073RS          0
QW0073WT          1
```

QLGTH

The queue length of the create thread request.

Field Name: QW0073QL

IFCID 074 - Terminate Thread Start

This topic shows detailed information about "Record Trace - IFCID 074 - Terminate Thread Start".

When data is present, it is printed in dump format.

IFCID 075 - Terminate Thread End

This topic shows detailed information about "Record Trace - IFCID 075 - Terminate Thread End".

Record trace - IFCID 075 - Terminate Thread End

The field labels shown in the following sample layout of "Record Trace - IFCID 075 - Terminate Thread End" are described in the following section.

```
QW0075RT              0  QW0075RS              0
QW0075CO  X'E2E8D5C3'
```

IFCID 076 - End of Memory Start

This topic shows detailed information about "Record Trace - IFCID 076 - End of Memory Start".

Record trace - IFCID 076 - End of Memory Start

The field labels shown in the following sample layout of "Record Trace - IFCID 076 - End of Memory Start" are described in the following section.

```
PSWKEY    X'01'       FLGS  X'07'          ASID    256
QW0076SS  X'01234567'    QW0076AM  X'89ABCDEF'
QW0076FC           2     QW0076AS  X'12345678'
```

PSWKEY

The PSW key of the SSI caller.

Field Name: QW0076CK

FLGS

SSI caller flags:

X'80'
SSI caller problem state (P-bit)

X'40'
A-bit SSI caller AMODE 31 (A-bit)

X'20'
Abnormal end of memory

Field Name: QW0076F1

ASID

The identifier of the end of memory address space.

Field Name: QW0076ID

IFCID 077 - End of Memory End

This topic shows detailed information about "Record Trace - IFCID 077 - End of Memory End".

Record trace - IFCID 077 - End of Memory End

The field labels shown in the following sample layout of "Record Trace - IFCID 077 - End of Memory End" are described in the following section.

```
RETURN          0  PROCESSED END OF MEMORY?: YES
```

RETURN

The return code. This field is always 0.

Field Name: QW0077R0

PROCESSED END OF MEMORY?

Indicates whether end of memory was processed.

Field Name: QW0077PR

IFCID 078 - End of Task Start

This topic shows detailed information about "Record Trace - IFCID 078 - End of Task Start".

Record trace - IFCID 078 - End of Task Start

The field labels shown in the following sample layout of "Record Trace - IFCID 078 - End of Task Start" are described in the following section.

```
ACE         2
QW0078AS  X'00B9F328'  QW0078AG  X'00B226C8'
```

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0078AC

IFCID 079 - End of Task End

This topic shows detailed information about "Record Trace - IFCID 079 - End of Task End".

When present, data is printed in dump format, otherwise NO DATA is printed.

IFCID 080 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 080 - IBM Service Record".

This record is for IBM service use.

IFCID 081 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 081 - IBM Service Record".

This record is for IBM service use.

IFCID 082 - Identify Start

This topic shows detailed information about "Record Trace - IFCID 082 - Identify Start".

Record trace - IFCID 082 - Identify Start

The field labels shown in the following sample layout of "Record Trace - IFCID 082 - Identify Start" are described in the following section.

```
PSWKEY    X'70'          FLAGS     X'40'
QW0082SS  X'007C9FBC'    QW0082AM  X'02E9C5A8'
QW0082FC          41
```

PSWKEY

The PSW key of the SSI caller.

Field Name: QW0082CK

FLAGS

The flags of the SSI caller:

X'80'
P-bit of the SSI caller (problem state)

X'40'
A-bit of the SSI caller (AMODE 31)

Field Name: QW0082F1

IFCID 083 - Identify End

This topic shows detailed information about "Record Trace - IFCID 083 - Identify End".

Record trace - IFCID 083 - Identify End

The field labels shown in the following sample layout of "Record Trace - IFCID 083 - Identify End" are described in the following section.

```
END           RECOPT: 'BLANK' ACCESS:  SUCCESSFUL
CURR SQLID : HSR
ORIG AUTHID: HSR
SECONDARY AUTHORIZATION IDS:
DE#01892 DE#03704 D01DD    PMDEV    PMDEVX
PMDEVX5  PMDEVX6  PMDEVX7  PMDEV5   PMDEV6
PMDEV61  PMDEV7   PMDEV71  PMDEV72  PMDEV81
PM3704   USERS
ACEE UTOKEN :'BLANK'
QW0083RT          0     QW0083RS           0
QW0083CT  X'C2C1E3C3C8404040'
```

RECOPT

The record coordination option specification.

Field Name: QW0083RO

ACCESS

The success or failure of the attempted authorization change. Possible values are:

SUCCESSFUL
The access is permitted.

DENIED BY IDENTIFY AUTH EXIT
The access is denied by the authorization exit.

DENIED BY SAF/SECURITY SYSTEM
The access is denied by the security authorization facility or security system.

Field Name: QW0083AD

CURR SQLID

The current SQL authorization ID.

Field Name: QW0083QD

ORIG AUTHID

The original primary authorization ID.

Field Name: QW0083OP

SECONDARY AUTHORIZATION IDS

A list of the secondary authorization IDs. This list is only produced if there are secondary authorization IDs.

Field Name: QW0083SA

ACEE UTOKEN

The ACEE UTOKEN.

Field Name: QW0083UT

IFCID 084 - Prepare Start

This topic shows detailed information about "Record Trace - IFCID 084 - Prepare Start".

Record trace - IFCID 084 - Prepare Start

The field labels shown in the following sample layout of "Record Trace - IFCID 084 - Prepare Start" are described in the following section.

```
PSWKEY    X'00'
QW0084FR  X'00000000'
```

PSWKEY

The PSW key of the caller.

Field Name: QW0084CK

IFCID 085 - Prepare End

This topic shows detailed information about "Record Trace - IFCID 085 - Prepare End".

Record trace - IFCID 085 - Prepare End

The field labels shown in the following sample layout of "Record Trace - IFCID 085 - Prepare End" are described in the following section.

```
QW0085FR  X'007C8428'    QW0085RT          0 QW0085RS          0 QW0085NI
X'C9F3F2D7404040400000000200000000'
```

IFCID 086 - Signon Start

This topic shows detailed information about "Record Trace - IFCID 086 - Signon Start".

Record trace - IFCID 086 - Signon Start

The field labels shown in the following sample layout of "Record Trace - IFCID 086 - Signon Start" are described in the following section.

```
PSWKEY    X'00'
QW0086FR  X'00000000'
```

PSWKEY

The PSW key of the SSI caller.

Field Name: QW0086CK

IFCID 087 - Signon End

This topic shows detailed information about "Record Trace - IFCID 087 - Signon End".

Record trace - IFCID 087 - Signon End

The field labels shown in the following sample layout of "Record Trace - IFCID 087 - Signon End" are described in the following section.

```
ACCESS: SUCCESSFUL
CURRENT SQLID  : DEA
ORIGINAL AUTHID: DEA
SECONDARY AUTHORIZATION IDS:
AUTHID02  AUTHID03  AUTHID04
ACEE UTOKEN :'BLANK'
```

ACCESS

The success or failure of the attempted access. Possible values are:

SUCCESSFUL
If the access is permitted.

DENIED BY SIGNON AUTH EXIT
If the access was denied by the signon authorization exit.

Field Name: QW0087AD

CURRENT SQLID

The value of the authorization ID as set by the IDENTIFY or SIGNON exit.

Field Name: QW0087QD

ORIGINAL AUTHID

The original value of the authorization ID, as passed to the IDENTIFY or SIGNON authorization exit.

Field Name: QW0087OP

SECONDARY AUTHORIZATION IDS

Lists the secondary authorization IDs set by the IDENTIFY or SIGNON authorization exits. If no secondary authorization IDs exist, this line is not printed. Secondary authorization IDs are printed in rows of five, up to a maximum of 49 rows (245 AUTHIDs).

Field Name: QW0087SA

ACEE UTOKEN

The ACEE UTOKEN.

Field Name: QW0087UT

IFCID 088 - Synch Start

This topic shows detailed information about "Record Trace - IFCID 088 - Synch Start".

Record trace - IFCID 088 - Synch Start

The field labels shown in the following sample layout of "Record Trace - IFCID 088 - Synch Start" are described in the following section.

```
PSWKEY    X'00'
QW0088FR  X'00000000'
```

PSWKEY

The PSW key of the caller.

Field Name: QW0088CK

IFCID 089 - Synch End

This topic shows detailed information about "Record Trace - IFCID 089 - Synch End".

Record trace - IFCID 089 - Synch End

The field labels shown in the following sample layout of "Record Trace - IFCID 089 - Synch End" are described in the following section.

```
QW0089FR  X'007BC428'    QW0089RT          0
QW0089RS           0
```

IFCID 090 - DB2 Command Start

This topic shows detailed information about "Record Trace - IFCID 090 - DB2 Command Start".

Record trace - IFCID 090 - DB2 Command Start

The field labels shown in the following sample layout of "Record Trace - IFCID 090 - DB2 Command Start" are described in the following section.

```
COMMAND:  -ARCHIVE LOG MODE(QUIESCE) TIME(2)
PHB      X'02BC1040'
```

COMMAND

The command text.

The input PHB token is extracted from the first 4 bytes of the COMMAND field.

Field Name: QW0090CT

IFCID 091 - Command End

This topic shows detailed information about "Record Trace - IFCID 091 - Command End".

Record trace - IFCID 091 - Command End

The field labels shown in the following sample layout of "Record Trace - IFCID 091 - Command End" are described in the following section.

```
QW0091RC           0     QW0091RS           0
QW0091BA  X'7F4B9F10'
```

IFCID 092 - AMS Command Start

This topic shows detailed information about "Record Trace - IFCID 092 - AMS Command Start".

Record trace - IFCID 092 - AMS Command Start

The field labels shown in the following sample layout of "Record Trace - IFCID 092 - AMS Command Start" are described in the following section.

```
COMMAND: DEFINE CLUSTER
(NAME(DSN220C.DSNDBC.CDDB.EMPLOYEE.I0001.A001
) NOERASE LINEAR OWNER(DB2ADM ) REUSE ) DATA
(NAME(DSN220C.DSNDBD.CDDB.EMPLOYEE.I0001.A001
) RECORDS( 00000003 00000003) OWNER(DB2ADM )
SHAREOPTIONS(3,3) REUSE VOLUMES('ELURU2' ));
```

COMMAND

The command text.

Field Name: QW0092P1

IFCID 093 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 093 - IBM Service Record".

This record is for IBM service.

IFCID 094 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 094 - IBM Service Record".

This record is for IBM service use.

IFCID 095 - Sort Start

This topic shows detailed information about "Record Trace - IFCID 095 - Sort Start".

When present, data is shown in dump format, otherwise NO DATA is printed.

IFCID 096 - Sort End

This topic shows detailed information about "Record Trace - IFCID 096 - Sort End".

Record Trace - IFCID 096 - Sort End

The field labels shown in the following sample layout of "Record Trace - IFCID 096 - Sort End" are described in the following section.

```
DB2PM    RRSAF    C79F2F7464E6 'BLANK'          'BLANK'                      'BLANK'
DB2PM    'BLANK'  RRS          12:26:12.90643968   2180   1  96 SORT END   < -- NETWORKID:  DEIBMIPS  LUNAME:  IPUAPZA5  LUWSEQ: 20795
DB2PM    'BLANK'               N/P
|-------------------------------------------------------------------------------------------------------------------------------
|COLLECTION ID:  DB2PM
|PROGRAM NAME :  DGO@PC2
|
|RECNO    :                    26       AREA     :                   53       KEYSZ    :                    4
|SIZE     :                    57       WORK     :                    1       RET      :                    0
|IWORK    :                     1       ROW DEL  :                    0       PASSES   :                    0
|SORT KEYS:                     1       STMTNO   :                  780       WORKFILES:                    0
|SORT COLUMNS:                  7       PARTITIONING BY SORT: NO              SORT IN ADDITION: NO
|SORTL AREA SIZE:              52       PARTIONING OCCURRED : NOT PARTITIONING  TYPE     : ESA
|SORTL KEY SIZE:               12
|
|QW0096IN (S):                     0     QW0096RD (S):                     0     QW0096RU (S):          0
|-------------------------------------------------------------------------------------------------------------------------------
```

COLLECTION ID

The package collection ID for the query that invokes sort.

Field Name: QW0096PC

PROGRAM NAME

The program name for the query that invokes sort.

Field Name: QW0096PN

RECNO

The number of records sorted.

Field Name: QW0096NR

AREA

The sort data area size in bytes.

Field Name: QW0096DL

KEYSZ

The sort key size in bytes.

Field Name: QW0096KL

SIZE

The sort record size in bytes (the sort key size and the data area size).

Field Name: QW0096WR

WORK

The number of work files used for both input and merge phases.

Field Name: QW0096WF

RET

The sort return code:

0
Successful

4
Empty - sort successful

8
Resource unavailable

12
Sort key too long

16
Error detected by fetch routine during input phase

20
Serious processing error

Field Name: QW0096RC

IWORK

The number of initial work files. The sorting of records can take more than one work file. The number of work files needed depends on the distribution of sort key values. The maximum number of work files is limited by the buffer pool size.

Field Name: QW0096IR

ROW DEL

The number of rows deleted because records were merged for the evaluation of column functions with GROUP BY.

Field Name: QW0096RL

PASSES

The number of merge passes during sort processing.

Field Name: QW0096MP

SORT KEYS

The number of sort keys.

Field Name: QW0096SK

STMTNO

The statement number for the query that invokes sort.

Field Name: QW0096SN

WORKFILES

The number of work files, equal to the degree of parallelism, that sort has partitioned.

Field Name: QW0096PW

SORT COLUMNS

The number of sort columns.

Field Name: QW0096SC

PARTITIONING BY SORT

Indicates whether the sorted records were partitioned.

Field Name: QW0096PP

SORT IN ADDITION

Indicates whether the input records were only partitioned or partitioned and sorted:

YES
The records were only partitioned.

NO
The records were partitioned and sorted.

Field Name: QW0096PO

SORTL AREA SIZE

Sort data area size with sortl (in bytes).

Background and Tuning Information

Sort data area size with sortl (in bytes).

Field Name: QW0096DZ

PARTITIONING OCCURRED

Indicates when partitioning took place:

W
The work file was partitioned at the end of the input phase. No merge occurred.

M
The output was partitioned during the last merge pass.

O
One record was put into one partition.

P
The records were presorted before being partitioned.

N
The work file was not partitioned.

Field Name: QW0096PT

TYPE

The type of sort that occurred. The possible values are:

ESA
ORDER BY sort using the ESA sort hardware instructions

ESAG
GROUP BY sort using the ESA sort hardware instructions

ESAT
ESA tag sort using the ESA sort hardware instructions

RCYC
GROUP RECYCLING sort using the ESA sort hardware instructions

REG
Regular sort

NONE
No sort occurred.

Field Name: QW0096TS

SORTL KEY SIZE

Sort key size with sortl (in bytes).

Background and Tuning Information

Sort key size with sortl (in bytes).

Field Name: QW0096KZ

IFCID 097 - AMS Command End

This topic shows detailed information about "Record Trace - IFCID 097 - AMS Command End".

Record trace - IFCID 097 - AMS Command End

The field labels shown in the following sample layout of "Record Trace - IFCID 097 - AMS Command End" are described in the following section.

```
RETURN            0 COMMAND: DEFINE DSNC210.DSNDBC.DB2PMDB1.DB2PMIX1.I0001.A001
CLUSTER CATALOG(DSNC210);
```

RETURN

The AMS return code.

Field Name: QW0097RC

COMMAND

The AMS command text.

Field Name: QW0097P1

IFCID 098 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 098 - IBM Service Record".

This record is for IBM service use.

IFCID 099 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 099 - IBM Service Record".

This record is for IBM service use.

IFCID 100 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 100 - IBM Service Record".

This record is for IBM service use.

IFCID 101 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 101 - IBM Service Record".

This record is for IBM service use.

IFCID 102 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 102 - IBM Service Record".

This record is for IBM service use.

IFCID 103 - SOS Off

This topic shows detailed information about "Record Trace - IFCID 103 - SOS Off".

Record trace - IFCID 103 - SOS Off

The field labels shown in the following sample layout of "Record Trace - IFCID 103 - SOS Off" are described in the following section.

```
TIME:      3/18/92 14:25:37.400234
```

TIME

Store clock time.

Field Name: QW0103SC

IFCID 104 - Log Data Set

This topic shows detailed information about "Record Trace - IFCID 104 - Log Data Set".

Record trace - IFCID 104 - Log Data Set

The field labels shown in the following sample layout of "Record Trace - IFCID 104 - Log Data Set" are described in the following section.

```
DSID      ACTLG103
DSNAME    DSNC310.LOGCOPY1.DS03
```

DSID

The data set identifier of the active log manager.

Field Name: QW0104DI

DSNAME

The data set name of the active log.

Field Name: QW0104DN

IFCID 105 - DBID/OBID Translation

This topic shows detailed information about "Record Trace - IFCID 105 - DBID/OBID Translation".

This record contains up to 100 data sections. The following data is printed for each section in the record:

Record trace - IFCID 105 - DBID/OBID Translation

The field labels shown in the following sample layout of "Record Trace - IFCID 105 - DBID/OBID Translation" are described in the following section.

```
DBID:        5  DATABASE NAME: DSNDB07
OBID:       24    OBJECT NAME: DSNDSX02
```

DBID

The decimal identifier of the database.

Field Name: QW0105DB

DATABASE NAME

The database name.

Field Name: QW0105DN

OBID

The decimal identifier of the object. Examples of objects are table space and index space.

Field Name: QW0105OB

OBJECT NAME

The name of the object. Examples of objects are table space and index space.

Field Name: QW0105TN

IFCID 106 - System Parameters

IFCID 106 shows the data from system parameters.

IFCID 106 - Application Programming Defaults

This topic shows detailed information about "Record Trace - IFCID 106 - Application Programming Defaults".

This block shows application programming defaults.

The values shown are used as default values by the program preparation panels, program preparation CLIST (DSNH), and precompiler. They can also be used as defaults by other programs, such as Query Management Facility (QMF).

Changing some of these defaults is not recommended because changes can make the syntax of existing SQL statements invalid or affect the way application programs run.

Values set here are contained in load module DSNHDECP, in library prefix.SDSNEXIT, which can be loaded and accessed by application programs. When modifying DSNHDECP, do so only by changing and running the installation CLIST.

Do not modify the data in DSNHDECP. If you modify any installation parameters by changing job DSNTIJUZ directly, these values are not recorded for later updates, new installations, or migrations.

Record trace - IFCID 106 - Application Programming Defaults

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Application Programming Defaults" are described in the following section.

```
                                APPLICATION PROGRAMMING DEFAULTS
VERSION .........: 1210                 DECIMAL POINT OPT:              PERIOD  EBCDIC SBCS CCSID:               1148
DEFAULT SUBSYSTEM: DC61                 DEFLT ENC SCHEME :              EBCDIC  EBCDIC MBCS CCSID:              65534
DEFAULT HOST LANG: IBMCOB               DISTR SQL STR DEL:               APOST  EBCDIC GBCS CCSID:              65534
DECFLOAT RND MODE:           HALF EVEN  DEFLT DEC ARITHM :               DEC15  ASCII SBCS CCSID :                819
DEFAULT DELIMITER:               APOST  DEFLT MIXED GRAPH:                  NO  ASCII MBCS CCSID :              65534
DEFLT SQL DELIMIT:               APOST  SQL LANG SUPP LVL:                  NO  ASCII GBCS CCSID :              65534
DATE FORMAT .....: ISO                  USE FOR DYN RULES:                YES  UNICOD SBCS CCSID:                367
TIME FORMAT .....: ISO                  DB2 DECP INDICAT :              X'D5'  UNICOD MBCS CCSID:               1208
IMP TIMEZONE ....:             CURRENT  LOCAL DATE LENGTH:                   0  UNICOD GBCS CCSID:               1200
IMP TIMEZONE(HEX):          X'9999999C' LOCAL TIME LENGTH:                   0  NEWFUN CUR REL ..:                N/A
APPLIC ENCODING .: EBCDIC               PAD NULL-TERMIN .:                YES  NEWFUN CUR REL-1 :                N/A
DSNHDECP DS NAME : SYS1.DSN.DC61.SDSNEXIT(DSNHDECP)                             NEWFUN CUR REL-2 :                N/A
DEFAULT LOCALE ..: 'BLANK'

QWPBLVL .........: V12R1M0              QWPBLEN .........:                  260  QWPBEYE .........: DECP
QWPBCHAR ........: ALPHANUM
```

VERSION

The version, release, and modification level.

Field Name: QWPBREL

DECIMAL POINT OPT

Indicates whether the decimal contains a comma (,) or a period (.). This parameter is used for dynamic SQL and COBOL programs. It is not used or supported by other languages.

Install parameter DECIMAL POINT IS on panel DSNTIPF, or ZPARM DECIMAL in DSNHDECP.

Derivation: DB2 field QWPBDE

Field Name: QWPBDE

EBCDIC SBCS CCSID

The EBCDIC single-byte coded character set ID.

A coded character set identifier (CCSID) must be specified when DDF STARTUP OPTION field on panel DSNTIPR is set to AUTO or COMMAND, or when the MIXED DATA field on panel DSNTIPF is set to YES. When mixed data is used, valid Mixed Data CCSID must also be specified.

A nonexistent CCSID causes an error.

An incorrect CCSID can corrupt data.

Install parameter EBCDIC CCSID on panel DSNTIPF, or ZPARM SCCSID in DSNHDECP.

Field Name: QWPBSID

DEFAULT SUBSYSTEM

The MVS subsystem name for DB2. The name is used in member IEFSSN xx of SYS1.PARMLIB.

A valid name has 1-4 characters, the first must be A-Z, #, $, or @. Others must be A-Z, 1-9, #, $, or @. Default is DSN1.

Install parameter SUBSYSTEM NAME on panel DSNTIPM, or ZPARM SSID in DSNHDECP.

Field Name: QWPBSSID

DEFLT ENC SCHEME

The default encoding scheme, which can be ASCII or EBCDIC, or UNICODE.

Install parameter DEF ENCODING SCHEME on panel DSNTIPF, or ZPARM ENSCHEME in DSNHDECP.

Derivation: DB2 field QWPBENS

Field Name: QWPBENS

EBCDIC MBCS CCSID

The EBCDIC mixed coded character set ID.

A coded character set identifier (CCSID) must be specified when DDF STARTUP OPTION field on panel DSNTIPR is set to AUTO or COMMAND, or when the MIXED DATA field on panel DSNTIPF is set to YES. When mixed data is used, valid Mixed Data CCSID must also be specified.

A nonexistent CCSID causes an error.

An incorrect CCSID can corrupt data.

Install parameter EBCDIC CCSID on panel DSNTIPF, or ZPARM MCCSID in DSNHDECP.

Field Name: QWPBMID

DEFAULT HOST LANG

The default programming language for your site. This can be:

- ASM
- C
- CPP
- COBOL
- COB2
- IBMCOB
- FORTRAN
- PLI

When this is C or C++, you can fold SQL identifiers to uppercase.

Install parameter LANGUAGE DEFAULT on panel DSNTIPF, or ZPARM DEFLANG in DSNHDECP.

Field Name: QWPBLANG

DISTR SQL STR DEL

The SQL delimiter for bind operations at this DB2 if the requester does not provide DB2 with this information.

Field Name: QWPBDSD

EBCDIC GBCS CCSID

The EBCDIC graphic coded character set ID.

A coded character set identifier (CCSID) must be specified when DDF STARTUP OPTION field on panel DSNTIPR is set to AUTO or COMMAND, or when the MIXED DATA field on panel DSNTIPF is set to YES. When mixed data is used, valid Mixed Data CCSID must also be specified.

A nonexistent CCSID causes an error.

An incorrect CCSID can corrupt data.

Install parameter EBCDIC CCSID on panel DSNTIPF, or ZPARM GCCSID in DSNHDECP.

Field Name: QWPBGID

DECFLOAT RND MODE

The default rounding mode for the decimal floating point type. Possible values are:

X'80'
ROUND_CEILING

X'40'
ROUND_DOWN

X'20'
ROUND_FLOOR

X'10'
ROUND_HALF_DOWN

X'08'
ROUND_HALF_EVEN

X'04'
ROUND_HALF_UP

X'02'
ROUND_UP

Otherwise this field shows 'BLANK'.

ZPARM DEF_DECFLOAT_ROUND_MODE in DSNHDECP.

Field Name: QWPBDDRM

DEFLT DEC ARITHM

Indicates the rules of precision for a decimal field.

Install parameter DECIMAL ARITHMETIC on panel DSNTIP4, or ZPARM DECARTH in DSNHDECP.

Derivation : DB2 field QWPBAR

Field Name: QWPBAR

ASCII SBCS CCSID

The ASCII single-byte coded character set ID.

The default (0) means the installation has no ASCII databases, table spaces, or tables.

Install parameter ASCII CCSID on panel DSNTIPF, or ZPARM ASCCSID in DSNHDECP.

Field Name: QWPBASID

DEFAULT DELIMITER

Shows the string delimiter for COBOL. Default string delimiter is the quotation mark. This option is applicable to all types of COBOL.

Install parameter STRING DELIMITER on panel DSNTIPF, or ZPARM DELIM in DSNHDECP.

Field Name: QWPBDL

DEFLT MIXED GRAPH

Indicates whether the code points X'0E' and X'0F' are the shift-out and shift-in controls for character strings that include double-byte characters.

Install parameter MIXED DATA on panel DSNTIPF, or ZPARM MIXED in DSNHDECP.

Field Name: QWPBGRA

ASCII MBCS CCSID

Indicates the ASCII mixed coded character set ID.

The default (0) means the installation has no ASCII databases, table spaces, or tables.

Install parameter ASCII CCSID on panel DSNTIPF, or ZPARM AMCCSID in DSNHDECP.

Field Name: QWPBAMID

DEFLT SQL DELIMIT

The string delimiter for SQL.

Install parameter SQL STRING DELIMITER on panel DSNTIPF, or ZPARM SQLDELI in DSNHDECP.

Derivation: DB2 field QWPBSDL

Field Name: QWPBSDL

SQL LANG SUPP LVL

Shows whether SQL, the language standard used by applications, conforms to 1986 ANSI SQL standard.

YES
Conforms to the 1986 ANSI SQL standard

NO
Conforms to the SQL language defined by DB2

86
Conforms to the 1986 ANSI SQL standard

Install parameter STD SQL LANGUAGE on panel DSNTIP4, or ZPARM STDSQL in DSNHDECP.

Field Name: QWPBSQL

ASCII GBCS CCSID

Indicates the ASCII graphic coded character set ID.

The default (0) means the installation has no ASCII databases, table spaces, or tables.

Install parameter ASCII CCSID on panel DSNTIPF, or ZPARM AGCCSID in DSNHDECP.

Field Name: QWPBAGID

DATE FORMAT

Default output format for dates.

Valid formats are ISO (yyyy-mm-dd), USA (mm/dd/yyyy), EUR (dd.mm.yyyy), JIS (yyyy- mm-dd), or LOCAL (your choice, defined by a date exit routine). DB2 interprets the input date from the punctuation and converts the output date to the required format.

Install parameter DATE FORMAT on panel DSNTIP4, or ZPARM DATE in DSNHDECP.

Field Name: QWPBDATE

USE FOR DYN RULES

Shows whether DB2 uses the application programming defaults specified on this panel or those of the DB2 precompiler options for dynamic SQL statements bound using DYNAMICRULES bind, define, or invoke behavior.

When YES, the application programming (DSNHDECP) defaults are used for dynamic SQL statements in plans or packages bound using DYNAMICRULES bind, define, or invoke behavior.

The following defaults are affected:

- DECIMAL POINT IS
- STRING DELIMITER
- SQL STRING DELIMITER
- MIXED DATA
- DECIMAL ARITHMETIC

When NO, values of the precompiler options are used for dynamic SQL statements in plans or packages bound with DYNAMICRULES(BIND).

Install parameter USE FOR DYNAMICRULES on panel DSNTIP4, or ZPARM DYNRULS in DSNHDECP.

Field Name: QWPBDRLS

UNICOD SBCS CCSID

Unicode Single Byte Character Set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARM USCCSID in macro DSNHDECP.

Field Name: QWPBUSID

TIME FORMAT

Indicates the default output format for times.

Valid values are ISO (hh.mm.ss), USA (hh:mm AM), EUR (hh.mm.ss), JIS (hh:mm:ss), or LOCAL (your choice, defined by a time exit routine). DB2 interprets the input time from the punctuation and converts the output time to the required format.

Install parameter TIME FORMAT on panel DSNTIP4, or ZPARM TIME in DSNHDECP.

Field Name: QWPBTIME

DB2 DECP INDICAT

Indicates that DECP is supplied by DB2.

Using a DB2 supplied DECP could cause data corruption due to applications using wrong CCSIDs.

Field Name: QWPBDB2S

UNICODE MBCS CCSID

Unicode Mixed Character Set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARM UMCCSID in macro DSNHDECP.

Field Name: QWPBUMID

IMP TIMEZONE

The implicit time zone that is associated with DB2 table columns and routine parameters that are declared as time stamp with time zone.

For IFCID 106 - Application Programming Defaults, this field is displayed twice, with its hex value and in a readable string.

This field corresponds to DSNHDECP field IMPLICIT_TIMEZONE.

Field Name: QWPBIMTZ

LOCAL DATE LENGTH

Shows the length of the longest field required to hold a locally defined date.

The default (0) indicates an IBM-supplied format (ISO, JIS, USA, or EUR).

Install parameter LOCAL DATE LENGTH on panel DSNTIP4, or ZPARM DATELEN in DSNHDECP.

Field Name: QWPBDLEN

UNICOD GBCS CCSID

Unicode graphics character set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARM UGCCSID in macro DSNHDECP.

Field Name: QWPBUGID

IMP TIMEZONE (HEX)

The implicit time zone that is associated with DB2 table columns and routine parameters that are declared as time stamp with time zone.

For IFCID 106 - Application Programming Defaults, this field is displayed twice, with its hex value and in a readable string.

This field corresponds to DSNHDECP field IMPLICIT_TIMEZONE.

Field Name: QWPBIMTZ

LOCAL TIME LENGTH

Shows the length of the longest field required to hold a time when a locally defined time format is used.

The default (0) indicates an IBM-supplied format (ISO, JIS, USA, or EUR).

Install parameter LOCAL TIME LENGTH on panel DSNTIP4, or ZPARM TIMELEN in DSNHDECP.

Field Name: QWPBTLEN

NEWFUN CUR REL

If YES, the DB2 subsystem/group is running in New Function Mode. At this mode/catalog level, the New Function Mode is enabled and available. The DB2 catalog is completely Unicode (UTF-8) and long names can be used.

Install parameter INSTALL TYPE on panel DSNTIPA1, or ZPARM NEWFUN in DSNHDECP.

Field Name: QWPBNEWF

APPLIC ENCODING

Application encoding scheme.

Install parameter APPLICATION ENCODING on installation panel DSNTIPF, or ZPARM APPENSCH in DSNHDECP.

Field Name: QWPBAPSC

PAD NULL-TERMIN

Shows whether output host variables that are NULL-terminated strings are padded with blanks and a NULL terminator.

When NO, NULL-terminated output host variables have the NULL terminator placed at the end of actual data returned in the host variable. When YES, NULL-terminated output host variables have the NULL terminator placed at the end of the string, after the string has been padded with blanks from the end of the actual data to the declared length of the output host variable.

Install parameter PAD NUL-TERMINATED on installation panel DSNTIP4, or ZPARM PADNTSTR in DSNHDECP.

Field Name: QWPBPAD

NEWFUN CUR REL-1

Shows the current release minus one of the new-function mode (NEWFUN).

Field Name: QWPBNEWFN1

DSNHDECP DS NAME

Shows the fully qualified DECP name of the data set from which the DSNHDECP module was loaded.

Field Name: QWPBLNM

NEWFUN CUR REL-2

Shows the current release minus two of the new-function mode (NEWFUN).

Field Name: QWPBNEWFN2

DEFAULT LOCALE

The system LOCALE LC_CTYPE.

A locale is the part of the system environment that depends on language and cultural conventions. An LC_TYPE is a subset of a locale that applies to character functions. The UPPER, LOWER, and TRANSLATE scalar functions use the CURRENT LOCALE LC_CTYPE system default or special register. The results of these functions can vary, depending on the setting of the locale.

The following values are possible:

BLANK
The source field is empty.

This is the default, unless it is necessary to run the UPPER, LOWER, or TRANSLATE functions for data that must be interpreted using the rules provided by specific locales, for example, En_US or Fr_CA.

1st word
The source field contains left-justified word(s), where each byte of a word is > X'40'. It can be a single word or several ones, delimited by bytes <= X'40'.

Note: These hexadecimal codes do not represent printable characters.

N/P
The source field contains regular words that are not left-justified. This means that the first bytes are <= X'40'. N/P is also shown if the whole source field only consists of bytes < X'40', such as zeros.

Install parameter LOCALE LC_CTYPE on panel DSNTIPF, or ZPARM LC_TYPE in DSNHDECP.

Field Name: QWPBLCTP

DSNHDECP DS NAME

The system LOCALE LC_CTYPE.

A locale is the part of the system environment that depends on language and cultural conventions. An LC_TYPE is a subset of a locale that applies to character functions. The UPPER, LOWER, and TRANSLATE scalar functions use the CURRENT LOCALE LC_CTYPE system default or special register. The results of these functions can vary, depending on the setting of the locale.

The following values are possible:

BLANK
The source field is empty.

This is the default, unless it is necessary to run the UPPER, LOWER, or TRANSLATE functions for data that must be interpreted using the rules provided by specific locales, for example, En_US or Fr_CA.

1st word
The source field contains left-justified word(s), where each byte of a word is > X'40'. It can be a single word or several ones, delimited by bytes <= X'40'.

Note: These hexadecimal codes do not represent printable characters.

N/P
The source field contains regular words that are not left-justified. This means that the first bytes are <= X'40'. N/P is also shown if the whole source field only consists of bytes < X'40', such as zeros.

Install parameter LOCALE LC_CTYPE on panel DSNTIPF, or ZPARM LC_TYPE in DSNHDECP.

Field Name: DSNHDECP

QWPBLVL

This field is for IBM service.

Field Name: QWPBLVL

QWPBLEN

Shows the length of the control block.

Field Name: QWPBLEN

QWPBEYE

Shows the control block eyecatcher (DECP).

Field Name: QWPBEYE

QWPBCHAR

Shows the default character set, ALPHANUM or KATAKANA.

ZPARM CHARSET in DSNHDECP.

Field Name: QWPBCHAR

IFCID 106 - Data Sharing Parameters

This topic shows detailed information about "Record Trace - IFCID 106 - Data Sharing Parameters".

This block shows the members in a data-sharing group.

DB2 subsystems that share data must belong to a DB2 data sharing group, which runs on a Parallel Sysplex®. A data sharing group is a collection of one or more DB2 subsystems that access shared DB2 data. A Parallel Sysplex is a collection of MVS systems that communicate and cooperate with each other.

Record trace - IFCID 106 - Data Sharing Parameters

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Data Sharing Parameters" are described in the following section.

```
                                    DATA SHARING PARAMETERS
GROUP NAME ......: 'BLANK'          DATA SHARING ENAB:              NO  MAX # OF MEMBERS :            248
MEMBER NAME .....: DC11             IMMEDWRITE FLAG .:              NO  CONVERSION FACTOR:            224
RANDOM ATTACH ...:                YES  PEER RECOVERY ...:          NONE

QWPALVL .........: DSN1210          QWPACOOR ........:              NO  QWPAASST ........:             NO
```

GROUP NAME

The name of the DB2 data sharing group.

The group name encompasses the entire data sharing group and is the basis for the coupling facility structure names.

N/A means this DB2 is not part of a data sharing group.

Install parameter GROUP NAME on panel DSNTIPK, or ZPARM GRPNAME in DSN6GRP.

Field Name: QWPAGRPN

DATA SHARING ENAB

Indicates whether data sharing is enabled.

Field Name: QWPADSHR

MAX # OF MEMBERS

The maximum number of members possible in a data sharing group. This is a constant (248) and is not shown on any installation panel.

Field Name: QWPAMAXM

MEMBER NAME

The member name of this DB2.

N/A means this DB2 is not part of a data sharing group.

Install parameter MEMBER NAME on panel DSNTIPK, or ZPARM MEMBNAME in DSN6GRP.

Field Name: QWPAMBRN

IMMEDWRITE FLAG

Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data-sharing environment.

Group buffer pool dependent pages can be written to DASD or SYSTEM pagesets.

Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abend for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback and are written out at the end of the abend.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect performance due to coupling facility overhead.

Install parameter IMMEDIATE WRITE on panel DSNTIP8, or ZPARM IMMEDWRI in DSN6GRP.

Field Name: QWPAIMMW

CONVERSION FACTOR

The CPU service unit conversion factor for this CPU.

This factor allows conversion CPU time in seconds to a common unit, called service unit (SU). The conversion factor used depends on the machine. Service units allow you to calculate CPU execution times across a data sharing group.

The conversion factor is used as follows:

```
CP secs * 16,000,000 / Conversion Factor = SUs

SUs * Conversion Factor / 16,000,000 = CP secs
```

This field does not map to an installation panel.

Field Name: QWPASUCV

RANDOM ATTACH

Specifies a random group attach flag:

N
Not eligible for random group attach.

NOT N
Eligible for random group attach.

This field corresponds to field RANDOM ATTACH on installation panel DSNTIPK. The ZPARM name is RANDOMATT in DSN6GRP.

Field Name: QWPARAND

PEER RECOVERY

Specifies whether this data sharing member is to participate in data sharing peer recovery.

NONE
None.

RECOVER
This member is recovered by a peer member in case it fails.

ASSIST
This member attempts to initiate peer recovery for other failed members. When this member detects a failure, it will attempt to initiate a LIGHT(YES) restart for the failed member if it has not been initiated to recover the retained locks.

BOTH
Both RECOVER and ASSIST options are activated for this member.

Field Name: QWPAPEERREC

QWPACOOR

Shows whether this DB2 member can coordinate parallel processing on other members of the group.

When NO, a query can be processed by this DB2 member only.

When YES, a read-only query running on this DB2 member can be processed in part on other members of the group.

N/A means this DB2 is not part of a data sharing group.

Install parameter COORDINATOR on panel DSNTIPK or ZPARM COORDNTR in DSN6GRP.

Field Name: QWPACOOR

QWPAASST

Shows whether this DB2 member can assist a parallelism coordinator with parallel processing.

When YES, this member is considered an assistant at both bind and run time. To be a viable assistant at run time, both the VPPSEQT and VPXPSEQT buffer pool thresholds of this member must be greater than 0.

N/A means this DB2 is not part of a data sharing group.

Install parameter ASSISTANT on panel DSNTIPK or ZPARM ASSIST in DSN6GRP.

Field Name: QWPAASST

IFCID 106 - Databases/Spaces Automatically Deferred

This topic shows detailed information about "Record Trace - IFCID 106 - Databases/Spaces Automatically Deferred".

Record trace - IFCID 106 - Databases/Spaces Automatically Deferred

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Databases/Spaces Automatically Deferred" are described in the following section.

```
DATABASES/SPACES  STARTED  AUTOMATICALLY
ALL
```

Tablespace Names

Contains the name of a table space or index space that is to be started automatically.

Field Name: QWP8SPNM

IFCID 106 - Databases/Spaces Automatically Restarted

This topic shows detailed information about "Record Trace - IFCID 106 - Databases/Spaces Automatically Restarted".

Database Names

The name of a database that is to be started automatically.

Field Name: QWP8DBNM

IFCID 106 - Databases/Spaces Automatically Started

This topic shows detailed information about "Record Trace - IFCID 106 - Databases/Spaces Automatically Started".

Record trace - IFCID 106 - Databases/Spaces Automatically Started

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Databases/Spaces Automatically Started" are described in the following section.

```
DATABASES/SPACES  STARTED  AUTOMATICALLY
ALL
```

Database names

The name of a database that is to be started automatically.

Field Name: QWP8DBNM

Tablespace names

Contains the name of a table space or index space that is to be started automatically.

Field Name: QWP8SPNM

IFCID 106 - Distributed Data Facility Parameters

This topic shows detailed information about "Record Trace - IFCID 106 - Distributed Data Facility Parameters".

This block shows how Distributed Data Facility (DDF) was started and the protocols used.

To use DDF, you must have VTAM installed, even if you use TCP/IP connections only.

Record trace - IFCID 106 - Distributed Data Facility Parameters

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Distributed Data Facility Parameters" are described in the following section.

```
                                DISTRIBUTED DATA FACILITY PARAMETERS
FACILITY NAME ...: DDF                FACILITY START ..:                AUTO  TCP/IP VERIFIED .:                  NO
DBAT STATUS .....: INACTIVE           RLF DYNAMIC ERROR:             NOLIMIT  TCP/IP KEEPALIVE :                 120
IDLE THR TIMEOUT :                120  RLF STATIC ERROR :             NOLIMIT  MAX T1 INACT THR :                  0
POOL THR TIMEOUT :                120  PRIVATE PROTOCOL :                  NO  RESYNCH INTERVAL :                  2
CONN Q MAX DEPTH :                  0  ID & PASSWORD REQ:                  NO  SQL INTRPT DISABL:                 NO
CONN Q MAX WAIT .:                  0  DDF COMP PRIOR V :
                                       DDF COMPATIBILITY
SP_PARMS_JV     :                  NO  SP_PARMS_NJV     :                  NO  IGNORE_TZ       :                  NO
DSBL_IMPCAST_JV  :                 NO  DSBL_IMPCAST_NJV :                  NO
```

FACILITY NAME

The name of the DDF facility.

Field Name: QWP9NAME

FACILITY START

Indicates whether DDF is loaded, and if so, how it was started.

When NO, DDF was not loaded at DB2 startup and cannot be started.

AUTO means DDF was loaded and started automatically when DB2 was started. The DDF address space was started as part of DDF initialization.

COMMAND means DDF was initialized and the DDF address space was started at DB2 startup. IF DDF is running, it was started from the console with the -DSN1 START DDF command. If it is not running, it can be started with this command.

Install parameter DDF STARTUP OPTION on panel DSNTIPR, or ZPARM DDF in DSN6FAC.

Field Name: QWP9STRT

TCP/IP VERIFIED

Indicates whether DB2 accepts TCP/IP connection requests containing only a user ID.

When YES, a connection request is accepted with a user ID only. This value must be the same for all members of a data sharing group.

When NO (default), TCP/IP clients must provide authentication information (password, RACF PassTicket, or Kerberos ticket) to gain access to DB2.

Install parameter TCP/IP ALREADY VERIFIED on panel DSNTIP5, or ZPARM TCPALVER in DSN6FAC.

Field Name: QWP9TCPA

DBAT STATUS

Shows whether DB2 inactivates threads that have successfully committed or rolled back, and hold no cursors.

ACTIVE provides the best performance but consumes system resources.

INACTIVE is recommended when the installation must support a large number of connections.

When a thread becomes eligible for inactivation, DB2 tries to make it a type 2 inactive thread, which uses less storage than a type 1 inactive thread. If this fails, DB2 tries to make it a type 1 inactive thread. If neither attempt is successful, the thread remains active.

Install parameter DDF THREADS on panel DSNTIPR, or ZPARM CMTSTAT in DSN6FAC.

Field Name: QWP9CMST

RLF DYNAMIC ERROR

Shows what DB2 does when the governor cannot access the resource limit specification table or when no row in the table matches the currently executing statement.

NOLIMIT (default) allows all dynamic SQL statements to run without limit.

NORUN terminates all dynamic SQL statements immediately with an SQL error code.

The number of CPU service units allowed for a query can be anywhere from 1 to 5000000.

Install parameter RLST ACCESS ERROR on panel DSNTIPR, or ZPARM RLFERRD in DSN6FAC (DB2 field QWP9RLER).

Field Name: QWP9RLER

TCP/IP KEEPALIVE

Indicates whether the TCP/IP configuration KeepAlive value has been overwritten.

When ENABLE (default), KeepAlive is enabled, the TCP/IP configuration stack value is used.

When DISABLE, TCP/IP KeepAlive has been disabled.

A value in the range 1 through 65534 means KeepAlive is active, and the TCP/IP stack value has been overridden. The number reported shows the time, in seconds, between TCP/IP probes.

When considering overwriting the keep-alive time, it is recommended to set a value close to the IDLE THREAD TIMEOUT value on installation panel DSNTIPR or the IRLM RESOURCE TIMEOUT value on installation panel DSNTIPI. It is good practice to set all these to about five minutes, or less.

Because KeepAlive detection is accomplished by probing the network at this interval, avoid small values, which can cause excessive network traffic and system resource consumption.

The trick is to find a proper balance that allows network failures to be detected on a timely basis without impacting system and network performance.

Install parameter TCP/IP KEEPALIVE on panel DSNTIP5, ZPARM TCPKPALV in DSN6FAC.

Field Name: QWP9TCKA

IDLE THR TIMEOUT

The approximate time, in seconds, that an active server thread can remain idle before it is canceled.

Inactive and indoubt threads are not subject to timeout.

Threads are checked for timeouts every 3 minutes. This means that timeouts might not be honored for up to 3 minutes when the timeout value is less than this.

0 (default) means timeout processing is disabled, idle server threads remain in the system and continue to hold their resources, if any.

Install parameter IDLE THREAD TIMEOUT on panel DSNTIPR, or ZPARM IDTHTOIN in DSN6FAC.

Field Name: QWP9TTO

RLF STATIC ERROR

Shows what DB2 does when the governor cannot access the resource limit specification table or when no row in the table matches the currently running statement:

NOLIMIT
This is the default. It allows all static SQL statements to run without limit.

NORUN
Terminates all static SQL statements immediately with an SQL error code. A number from 1 to 5000000 is the default limit; if the limit is exceeded, the SQL statement is terminated.

Install parameter REMOTE STATIC SQL on panel DSNTIPO4, or ZPARM RLFERRDSTC in DSN6FAC (DB2 field QWP9RLER).

Field Name: RLFERRDSTC

MAX T1 INACT THR

Indicates the number of type 1 inactive threads that DB2 allows.

A large number of type 1 inactive threads can adversely affect system performance. Type 1 inactive threads are used for DB2 private protocol.

DRDA uses type 2 inactive threads.

Zero indicates that type 1 inactive connections are not allowed. Threads remain active when they become eligible to be made a type 1 inactive thread.

A value greater than zero indicates that type 1 inactive connections are allowed, but are limited to this number. When a thread becomes eligible to be made a type 1 inactive thread, and this threshold is reached, the remote connection is terminated.

When this is equal to MAX REMOTE CONNECTED on panel DSNTIPE, DB2 allows all remote threads to become type 1 inactive threads.

Install parameter MAX INACTIVE DBATS on panel DSNTIPR, or ZPARM MAXTYPE1 in DSN6FAC.

Field Name: QWP9MAX1

POOL THR TIMEOUT

The approximate time, in seconds, that a DBAT can remain idle in the pool before it is terminated.

A DBAT thread in the pool counts as an active thread against MAX REMOTE ACTIVE and can hold locks, but does not have any cursors.

Threads are checked for timeouts every 3 minutes. This means that timeouts might not be honored for up to 3 minutes when the timeout value is less than this. The default is 120.

Install parameter POOL THREAD TIMEOUT on panel DSNTIP5, ZPARM POOLINAC in DSN6FAC.

Field Name: QWP9INAC

PRIVATE PROTOCOL

Shows if it is allowed to use the private protocol. It can have the following values:

YES
Allows private-protocol-related plan-owner-based package authorization behavior. Plan-owner-based package execution authorization semantics are honored for DB2 for z/OS DRDA requester systems that might rely on it. Secondary IDs are not used to determine package execution privileges for remote DB2 for z/OS applications.

NO
Does not allow any private-protocol-related behavior. Plan-owner-based package execution authorization semantics are not honored. This might affect DB2 for z/OS DRDA requester systems that rely on it. Secondary IDs are used to determine package execution privileges for remote DB2 for z/OS applications.

ZPARM name PRIVATE_PROTOCOL in DSN6FAC.

Field Name: QWP9PRVPA

RESYNCH INTERVAL

The number of minutes between resynchronization periods.

A resynchronization period is the time during which indoubt logical units of work involving this DB2 subsystem and partner logical units are processed.

Install parameter RESYNC INTERVAL on panel DSNTIPR, or ZPARM RESYNC in DSN6FAC.

Field Name: QWP9RYC

CONN Q MAX DEPTH

The maximum depth of the connection-request queue of connections that are waiting for a DBAT to process a request. If this value is non-zero, and QWP9CMST is active, or the subsystem is not a member of a data sharing group, DB2 operates as if this value were 0.

A value of 0 is displayed for OFF; a value of 32767 is displayed for ON.

This field corresponds to field CONN QUEUE MAX DEPTH on installation panel DSNTIP5. The ZPARM name is MACONQN in DSN6FAC.

Field Name: QWP9MCONQN

ID & PASSWORD REQ

Shows whether user ID and password are required. In addition, one of the following is required:

- The user ID and password and any RACF PassTickets (A PassTicket is a one-time-only password that is generated by a requesting product or function) are Advanced Encryption Standard (AES) encrypted.
- A Kerberos ticket is required.
- The connection is protected by a z/OS Communications Server IP Application Transparent Transport Layer Security (AT-TLS) policy, which is ensured through a DB2 SECPORT.
- The connection is protected by an IPSec tunnel.

Field Name: QWP9TCPVE

SQL INTRPT DISABL

Shows how SQL interrupts are processed. It can have the following values:

NO
SQL interrupt processing is enabled.

YES
DB2 SQL interrupt support is disabled.

Note: YES should only be used if remote client systems experience failures because of SQL interrupts. In this case, SQL interrupt support should be disabled only until the remote client systems can be modified to tolerate SQL interrupts.

ZPARM name SQLINTRP in DSN6FAC.

Field Name: QWP9SINTD

CONN Q MAX WAIT

The maximum time that a connection waits for a DBAT request. If this value is non-zero, and QWP9CMST is active, or the subsystem is not a member of a data sharing group, DB2 operates as if this value is 0.

A value of 0 is displayed for OFF; a value of 1 is displayed for ON.

This field corresponds to field CONN QUEUE MAX WAIT on installation panel DSNTIP5. The ZPARM name is MAXCONQW in DSN6FAC.

Field Name: QWP9MCONQW

DDF COMP PRIOR V

The DDF compatibility parameter. The DB2 server with new-function mode has not yet been activated. The DDF compatibility parameter causes this server to identify itself to all remote clients as being in new-function mode for the previous version. The format of this field in the trace record is *nnr*, where *nn* is the version of the DB2 server and *r* is the release.

Field Name: QWP9DDFCIP

SP_PARMS_JV

Specifies that when a Java client application calls a DB2 for z/OS stored procedure, DB2 returns output argument values with data types that match the data types that were specified in the CallableStatement.registerOutParameter method calls.

If SP_PARMS_JV is not specified, DB2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition.

ZPARM name DDF_COMPATIBILITY and ZPARM value SP_PARMS_JV in DSN6FAC.

Field Name: QWP9SPPMJ

SP_PARMS_NJV

Specifies that when a non-Java client application calls a DB2 for z/OS stored procedure, DB2 returns output argument values with data types that match the data types of the corresponding CALL statement arguments, unless one of the following conditions are true:

- The non-Java client is Version 10 or later.
- The stored procedure uses a parameter data type that was introduced in DB2 for z/OS Version 10 (XML, TIMESTAMP WITH TIMEZONE, or TIMESTAMP with precision greater than 6).

If one condition is true, DB2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition. If SP_PARMS_NJV is not specified, DB2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition.

ZPARM name DDF_COMPATIBILITY and ZPARM value SP_PARMS_NJV in DSN6FAC.

Field Name: QWP9SPPM

IGNORE_TZ

Shows whether to ignore the time zone (TMZ) in TMZ input for Java.

Field Name: QWP9ITZJ

DSBL_IMPCAST_JV

Specifies whether the DB2 for z/OS server disables implicit casting of input host variables from numeric data types to string data types, or from string data types to numeric data types, when the application is a Java client application that uses the IBM Data Server Driver for JDBC and SQLJ. If application compatibility is set to:

- V10R1: DB2 uses DISABLE_IMPCAST_JV.
- V11R1 or later: DB2 always does implicit casting.

ZPARM name DDF_COMPATIBILITY ZPARM value DISABLE_IMPCAST_JV in DSN6FAC.

Field Name: QWP9ICIJ

DSBL_IMPCAST_NJV

Specifies that DB2 for z/OS disables implicit casting of input host variables from numeric data types to string data types, or from string data types to numeric data types, when the application is a non-Java client application that uses an IBM Data Server client or driver that is at Version 10.5 or earlier.

ZPARM name DDF_COMPATIBILITY and ZPARM value DISABLE_IMPCAST_NJV in DSN6FAC.

Field Name: QWP9ICIN

IFCID 106 - IRLM Processing Parameters

This topic shows detailed information about "Record Trace - IFCID 106 - IRLM Processing Parameters".

Record trace - IFCID 106 - IRLM Processing Parameters

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - IRLM Processing Parameters" are described in the following section.

```
                                IRLM PROCESSING PARAMETERS
PC SPECIFIED ....:                YES  DEADLOCK WAIT ...:                5000  LOCAL/GLOBAL CYCL:                   1
TIMEOUT INTERVAL :                 30  MAX CSA USAGE ...:                   0  LOCKTAB HASH ENTR:                   0
MAX 31-BIT STOR .:                  0  PENDING HASH ENTR:                   0  LOCKTAB LIST ENTR:                   0
MAX 64-BIT STOR .:                  0
```

PC SPECIFIED

Shows whether the IRLM uses the cross-address-space program call. This parameter determines where the IRLM lock control block structure is stored.

If you run a tightly-controlled environment and virtual storage is not constrained, use PC=NO. PC=YES is the conservative choice where insufficient information about the environment is available to make a well-informed decision.

With PC=NO, locks are managed in extended common service area (ECSA) and it is possible to achieve better CPU performance, because DB2 does not use cross-memory services for IRLM requests. However, ECSA is a limited resource and constrains the size of the private address space area available above the 16-MB line. The demand for ECSA storage to support locks may be excessive when one or more of the following conditions are true:

- Extensive use of row-level locking
- Ineffective lock avoidance
- Infrequent application commits

- Lock escalation via NUMLKTS and LOCKMAX is disabled because the applications cannot tolerate the impact
- Effectively no limit on the number of locks taken by an application (NUMLKUS is set very high)
- Multiple DB2 subsystems with IRLM PC=NO reside on the same z/OS image

Assuming the average lock consumes 536 bytes of storage, a single application which takes 100000 locks before a commit would consume almost 52 MB of ECSA when IRLM is configured with PC=NO. MAXCSA would have to be set to at least 52 MB. If a very large number of locks are held by concurrent application processes, the demand for ECSA may not be able to be supported.

Recommendation: If you run applications that have many of the above characteristics, it is strongly recommended to use PC=YES. Certain ERP vendor applications that run concurrent processes can acquire a very large number of held locks that would require a very large setting for MAXCSA, or cause an ECSA overflow which would adversely impact the availability of the z/OS image.

If PC=NO is selected, MAXCSA should be sized to support the concurrent number of held locks required and to avoid an ECSA overflow condition. When setting MAXCSA, check to ensure that the ECSA setting in PARMLIB is sufficient to support the aggregate demand from IRLM and other subsystems. The ECSA size for z/OS is specified by the CSA keyword in the IEASSYSnn member in SYS1.PARMLIB.

With PC=YES, locks are managed in the extended private area of the IRLM address space. This can increase the CPU cost of lock and unlock requests relative to PC=NO. However, with reasonable lock avoidance, the total CPU overhead is likely to be limited to 1 to 2%, which is well within measurement noise and therefore not significant.

With PC=YES, the MAXIMUM ECSA option is ignored but must not be zero. The amount of storage allowed for LOCK usage is determined from the extended storage provided to the IRLM address space at startup time. This amount is reduced by 200 MB to allow a buffer for IRLM and z/OS required storage and for DMBS MUST COMPLETE processes. The amount being monitored can be seen in the display message from the irlmproc,STATUS,STOR command. IRLM still uses CSA and ECSA for other purposes. If you need to create a dump for DB2 diagnostic purposes, you need to ensure that IRLM is included in the dump, and that the dump data sets are large enough to hold IRLM.

PC=NO is a good solution when one or more of the following conditions are true, particularly when running a data sharing configuration:

- Optimal CPU performance is required
- No constraint is necessary on available ECSA
- Significant IRLM lock contention and a very large number of lock requests with ineffective lock avoidance
- Relatively high IRLM SRB time

YES puts the lock control block structure in the IRLM private address space, and the program call instruction is used to address it. IRLM still uses CSA and ECSA for other purposes. With PC=YES, the MAXIMUM ECSA option is ignored.

Field Name: QWP5PCY

DEADLOCK WAIT

Wait time for local deadlock.

Field Name: QWP5DLOK

LOCAL/GLOBAL CYCL

Number of local cycles per global cycle.

Field Name: QWP5DCYC

TIMEOUT INTERVAL

Timeout interval.

Field Name: QWP5TVAL

MAX CSA USAGE

The maximum amount of common service area that can be used by IRLM.

The amount of space needed for the common service area (CSA) below the 16 MB line is less than 40 KB for each DB2 subsystem and 24 KB for each IRLM. High concurrent activity, parallelism, or high contention can require more CSA.

Most of the DB2 common data resides in the extended common service area (ECSA). Most modules, control blocks, and buffers reside in the extended private area. A DB2 subsystem with 200 concurrent users and 2000 open data sets should need less than 2 MB of virtual storage below the 16 MB line.

Field Name: QWP5MCSA

LOCKTAB HASH ENTR

The number of z/OS lock table hash entries.

Field Name: QWP5HASH

MAX 31-BIT STOR

The maximum amount of 31-bit IRLM private storage that is available of the 2 GB virtual storage limit, for normal operations in IRLM. IRLM reserves an additional 10% of the 2 GB for use by requests in IRLM.

Field Name: QWP5BPM

PENDING HASH ENTR

The number of z/OS lock table hash entries pending.

Field Name: QWP5PHSH

LOCKTAB LIST ENTR

The number of z/OS lock table list entries.

Field Name: QWP5RLE

MAX 64-BIT STOR

The maximum amount of 64-bit IRLM private storage that is available of the total amount of storage that is specified by MEMLIMIT, for normal operations in IRLM. IRLM reserves an additional 10% of the amount that is specified by MEMLIMIT for use by requests in IRLM.

Field Name: QWP5APM

IFCID 106 - Log Initialization Parameters (Part 1)

This topic shows detailed information about "Record Trace - IFCID 106 - Log Initialization Parameters (Part 1)".

Record trace - IFCID 106 - Log Initialization Parameters (Part 1)

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Log Initialization Parameters (Part 1)" are described in the following section.

```
                                LOG INITIALIZATION PARAMETERS (PART 1)
LOG OUTPUT BUFFER:              4000  MAX ARCH INP UNIT:                2  DEALLOC TIME(MIN):                  0
READ COPY2 ARCH .:                NO  MAX ARCH IN BSDS :            10000  DEALLOC TIME(SEC):                  0
ACTIVE LOG COPIES:                 1  DUAL BSDS MODE ..:              YES  OFFLOAD OPTION ..:               YES
ARCH LOG COPIES .:                 1  REM COPY SW ACCEL:                NO

QWP2LVL .........: DSN1210            QWP2WRTH ........:                20  QWP2LLBS ........:                  NO
QWP2LBPF ........:                YES
```

LOG OUTPUT BUFFER

The output log buffer size in kilobytes.

There is only one output log buffer per DB2 subsystem.

Increasing this parameter reduces BSDS I/O updates when there is a buffer wraparound. Frequent wraparounds are likely in LOAD or REORG with logging, and mass insert operations.

Increasing this parameter also helps avoid log write waits for an available buffer during heavy update workload.

When the specified size is not a 4 KB multiple, it is rounded up to the next 4 KB multiple.

Install parameter OUTPUT BUFFER on DSNTIPL, or ZPARM OUTBUFF in DSN6LOGP.

Field Name: QWP2OBPS

MAX ARCH INP UNIT

The maximum number of archive log volumes that can be allocated at the same time.

Field Name: QWP2INLM

DEALLOC TIME(MIN)

The number of minutes an archive read tape unit can remain unused before it is deallocated.

When archive log data is read from tape, this value should be high enough to allow DB2 to optimize tape handling for multiple read applications.

Install parameter DEALLOC PERIOD on panel DSNTIPA, or ZPARM DEALLCT in DSN6LOGP.

Field Name: QWP2DMIN

READ COPY2 ARCH

Indicates whether COPY2 archives should be read first when the DB2 subsystem is started. The default is NO. Install parameter READ COPY2 ARCHIVE on panel DSNTIPO, or ZPARM TRKRSITE in DSN6SPRM.

Field Name: QWP2ARC2

MAX ARCH IN BSDS

The maximum number of archive log volumes that can be recorded in the BSDS.

When this number is exceeded, recording resumes at the beginning of the BSDS.

For dual archive, this value applies to each log data set. As an example, a value of 500 allows 500 COPY-1 and 500 COPY-2 data sets in the BSDS.

You must create image copies of all DB2 objects, probably several times, before the archive log data sets are discarded. If you fail to retain an adequate number of archive log data sets for all the image copies, you might need to cold start or reinstall DB2. In either case, data is lost.

Install parameter RECORDING MAX on panel DSNTIPA, or ZPARM MAXARCH in DSN6LOGP.

Field Name: QWP2ARCL

DEALLOC TIME(SEC)

The deallocation time in seconds.

Field Name: QWP2DSEC

ACTIVE LOG COPIES

The number of copies of the active log being maintained: 2 indicates dual logging.

Field Name: QWP2DUAL

DUAL BSDS MODE

Shows whether two BSDS data sets are used.

A second BSDS (strongly recommended) makes recovery much easier in most situations. In cases that normally require recovery and restart, a second BSDS allows you to continue working. The storage overhead required is small and the data set is relatively inactive.

DB2 parameter TWOBSDS in DSN6LOGP.

Field Name: QWP2DBSD

OFFLOAD OPTION

Shows whether the offload process is initiated online.

ZPARM OFFLOAD in macro DSN6LOGP.

Field Name: QWP2OFFL

ARCH LOG COPIES

The number of copies of the archive log being produced during offloading: 2 indicates dual logging.

Install parameter NUMBER OF COPIES on PANEL DSNTIPH, or ZPARM TWOARCH in DSN6LOGP.

Field Name: QWP2ADL

REM COPY SW ACCEL

Specifies whether DB2 uses software (SW) to control the remote copy process for active log output in peer-to-peer remote copy (PPRC) environments. It can have the following values:

- DISABLE (This is the default value)
- ENABLE

ZPARM REMOTE_COPY_SW_ACCEL in DSN6LOGP.

Field Name: QWP2RCSA

IFCID 106 - Log Initialization Parameters (Part 2)

This topic shows detailed information about "Record Trace - IFCID 106 - Log Initialization Parameters (Part 2)".

Record trace - IFCID 106 - Log Initialization Parameters (Part 2)

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Log Initialization Parameters (Part 2)" are described in the following section.

```
                                LOG INITIALIZATION PARAMETERS (PART 2)
DATASET BLOCKSIZE:               24576  COPY1 DEVICE TYPE: DASD                MSS GROUP NAME 1 : 'BLANK'
PRIMARY ALLOC ...:                 100  COPY2 DEVICE TYPE: 'BLANK'             MSS GROUP NAME 2 : 'BLANK'
SECONDARY ALLOC .:                  10  COPY1 PREFIX ....: DSNB11.ARCHLOG1
RETENTION PERIOD :                  30  COPY2 PREFIX ....: DSNB11.ARCHLOG2
SINGLE VOLUME ...:                  NO  QUIESCE PERIOD ..:                   5  CATALOG ARCH DS .:                 YES
SPACE ALLOC METHD:            CYLINDER  ARCHLOG RACF PROT:                  NO  WTOR BEF ARCH MNT:                 YES
COMPACT DATA ....:                  NO  TS ARCHLOG DS ...:                 YES

QWP3LVL .........:  X'C4E2D5F1F1F1F040'
QWP3WLST ........:
0000  00000000  00000000  017E8000  60606060   60606060  60606060  60606060  60606060  | .........=..----------------------
0020  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0040  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0060  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0080  60606060  60600000  B000                                                         | ------....
```

DATASET BLOCKSIZE

The block size of the archive log data set.

The block size must be compatible with the device type used for archive logs. The value is rounded up to the next multiple of 4096 bytes.

If the archive log is written to tape, use the largest possible block size to improve the reading speed.

Recommended block size values are 28672 for tape, 20480 for 3380, and 24576 for 3390 or RAMAC .

Install parameter BLOCK SIZE on panel DSNTIPA, or ZPARM BLKSIZE in DSN6ARVP.

Field Name: QWP3BKSZ

COPY1 DEVICE TYPE

The device type or unit name for storing archive log data sets.

The value can be any alphanumeric string. If you choose to archive to DASD, you can specify a generic device type with a limited volume range. DB2 requires that all archive log data sets allocated on DASD are cataloged.

If the device type is DASD, CATALOG DATA must be set to YES. If the unit name specifies DASD, the archive log data sets can extend to a maximum of 15 volumes. PRIQTY and SECQTY must be large enough to contain all active log data set data without extending beyond 15 volumes. If the unit name specifies a tape device, DB2 can extend to a maximum of 20 volumes. Default is TAPE.

Install parameter DEVICE TYPE 1 on panel DSNTIPA, or ZPARM UNIT in DSN6ARVP.

Field Name: QWP3UNT1

MSS GROUP NAME 1

The mass storage system volume group name of the first storage group.

Field Name: QWP3MSV1

PRIMARY ALLOCATION

The primary space allocation for archive data sets.

Install parameter PRIMARY QUANTITY on installation panel DSNTIPA, or ZPARM PRIQTY in DSN6ARVP.

Field Name: QWP3RISP

COPY2 DEVICE TYPE

Indicates the device type or unit name for storing the second copy of archive log data sets.

The value can be any alphanumeric string. If you choose to archive to DASD, you can specify a generic device type with a limited volume range. DB2 requires that all archive log data sets allocated on DASD are cataloged.

If the device type is DASD, then CATALOG DATA must be set to YES. If the unit name specifies DASD, the archive log data sets can extend to a maximum of 15 volumes. PRIQTY and SECQTY must be large enough to contain all active log data set data without extending beyond 15 volumes. If the unit name specifies a tape device, DB2 can extend to a maximum of 20 volumes. Default is TAPE.

Install parameter DEVICE TYPE 2 on panel DSNTIPA, or ZPARM UNIT2 in DSN6ARVP.

Field Name: QWP3UNT2

MSS GROUP NAME 2

The mass storage system volume group name of the second storage group.

Field Name: QWP3MSV2

SECONDARY ALLOC.

The amount of DASD secondary space allocation for an archive log data set.

The units used are specified by the ALLOCATION UNITS field. When blank (default), the CLIST calculates this space using block size and size of the log.

Install parameter SECONDARY QTY on panel DSNTIPA, or ZPARM SECQTY in DSN6ARVP.

Field Name: QWP3SECS

COPY 1 PREFIX

The prefix of the first archive log data set.

Install parameter Archive Logs: COPY1 PREFIX on panel DSNTIPH, or ZPARM ARCPFX1 in DSN6ARVP.

Field Name: QWP3RE1N

RETENTION PERIOD

The number of days DB2 keeps archive log data sets.

This value is added to the current date to calculate the expiration date.

The retention period is often used in tape management systems to control the reuse and scratching of data sets and tapes. DB2 uses this as the value for the dynamic allocation parameter DALRETPD when archive log data sets are created.

Install parameter RETENTION PERIOD on panel DSNTIPA, or ZPARM ARCRETN in DSN6ARVP.

Field Name: QWP3RETN

COPY 2 PREFIX

The prefix of the second archive log data set. If single logging is used, this value is a default.

Install parameter Archive Logs: COPY2 PREFIX on panel DSNTIPH, or ZPARM ARCPFX2 in DSN6ARVP.

Field Name: QWP3RE2N

SINGLE VOLUME

Indicates whether single-volume DASD archives are used.

Install parameter SINGLE VOLUME on panel DSNTIPA, or ZPARM SVOLARC in DSN6ARVP.

Field Name: QWP3SVOL

QUIESCE PERIOD

The maximum amount of time (in seconds) permitted for DB2 to attempt a full system quiesce.

Install parameter QUIESCE PERIOD on panel DSNTIPA, or ZPARM QUIESCE in DSN6ARVP.

Field Name: QWP3MQP

CATALOG ARCH DS

The alias of the VSAM integrated catalog facility user catalog or the name of the master catalog where the DB2 VSAM data sets created during installation are cataloged. The MVS catalog alias is also used as the high-level qualifier for DB2 VSAM data sets.

Install parameter CATALOG ALIAS on panel DSNTIPA, or ZPARM CATALOG in DSN6ARVP.

Field Name: QWP3CTLG

SPACE ALLOC METHD

The unit used in allocating archive data sets. Possible values are:

CYLINDER
Space allocation by cylinders (QWP3CYL=1)

TRACKS
Space allocation by tracks (QWP3TRCK=1)

BLOCKS
Space allocation by blocks (QWP3CYL=0 and QWP3TRCK=0)

Install parameter ALLOCATION UNITS on panel DSNTIPA, or ZPARM ALCUNIT in DSN6ARVP.

Field Name: RT0106SA

ARCHLOG RACF PROT

Indicates whether archive log data sets are protected with individual RACF profiles when they are created.

When YES, RACF protection must be active for DB2. YES also means that you cannot use RACF generic profiles for archive log data sets. If your archive log is on tape, RACF class TAPEVOL must be active, otherwise, the off-load will fail.

Install parameter ARCHIVE LOG RACF on panel DSNTIPP, or ZPARM PROTECT in DSN6ARVP.

Field Name: QWP3RTCT

WTOR BEF ARCH MNT

Indicates whether DB2 must send a message to the operator and wait for an answer before attempting to mount an archive log data set.

Other DB2 users can be forced to wait while the mount is pending. They are not affected while DB2 is waiting for a response to the message.

When YES, a device such as tape is used that requires long delays for mounts. DEVICE TYPE 1 shows the device type or unit name.

Install parameter WRITE TO OPER on panel DSNTIPA, or ZPARM ARCWTOR in DSN6ARVP.

Field Name: QWP3WTOR

COMPACT DATA

Indicates whether data written to archive logs is compacted.

This option only applies to data written to a 3480 device that has the improved data recording capability (IDRC) feature.

Install parameter COMPACT DATA on panel DSNTIPA, or ZPARM COMPACT in DSN6ARVP.

Field Name: QWP3COMP

TS ARCHLOG DS

Indicates whether the date and time of creation of the DB2 archive log data set is included in the archive log data set name.

Possible values are:

YES (QWP3DTIM=1)
The maximum allowable length of the user-controlled portion of the archive log prefix is reduced from 35 characters to 19 characters. This allows the 16-character timestamp to be added to the archive log data set prefix. The timestamp format is as follows: D*yyddd*T*hhmmsst*, where:

D
Starts the date.

yy
Is the last two digits of the year.

ddd
Is the day of the year.

T
Starts the time.

hh
Is the hour.

mm
Are the minutes.

ss
Are the seconds.

t
Is the tenths of a second.

The maximum allowable length of the user-controlled portion of the archive log prefix is reduced from 35 characters to 19 characters. This reduction in size permits the 16-character date and time qualifiers (timestamp) to be added to the archive log data set prefix.

NO (QWP3DTIM=0 and QWP3DTFM=0)
The archive data set name does not contain a timestamp.

EXT (QWP3DTFM=1)
The archive data set name contains a timestamp with an extended date component in the format: *.Dyyyyddd*. A value of EXT in this field causes the lengths of the values that are entered for field COPY 1 PREFIX and field COPY 2 PREFIX to be audited to ensure that neither exceeds 17 bytes (19 bytes for other settings of TIMESTAMP ARCHIVES).

Install parameter TIMESTAMP ARCHIVES on panel DSNTIPH, or ZPARM TSTAMP in DSN6ARVP.

Field Name: RT0106AL

QWP3LVL

This field is for IBM service.

Field Name: QWP3LVL

QWP3WLST

This field is for IBM service.

Field Name: QWP3WLST

IFCID 106 - Miscellaneous installation parameters

This topic shows detailed information about "Record Trace - IFCID 106 - Miscellaneous Installation Parameters". The block shows values that are not shown on Db2 installation panels. These values are either set internally by Db2, or calculated from other install parameter values.

When this block contains names that are too long for the space available, they are truncated. The full name is shown in the list of long names printed at the end of this block. The long list shows the parameter identifier, in alphabetic order, and the complete name. If the name is too long for one line, it continues on the next line.

Record trace - IFCID 106 - Miscellaneous Installation Parameters

```
                                MISCELLANEOUS INSTALLATION PARAMETERS
EDM POOL SIZE ...:                   N/A                                    IRLM PROCEDURE ..: OCA5IRLM
TAB OWNER .......: DSNRGCOL              INST DD CTRL SUPT:                NO  IRLM MODULE NAME : IRP7
APPL TABLE ......: DSN_REGISTER_APPL     CTRL ALL APPLIC .:                NO  IRLM START TIME ..:                300
OBJ TABLE .......: DSN_REGISTER_OBJT     REQ FULL NAMES ..:               YES  IRLM INIT TIME ..:                  1
INSTALL SYSADM ..: DB2SYSP               UNREGIST DDL DFLT:            ACCEPT  IRLM AUTOSTART ..:               YES
SYSADM ID 2 .....: CSMARK                UTILITY FACTOR ..:                 6  IRLM TIMEOUT ....:                30
DEFAULT USERID ..: IBMUSER               EXPL AT AUTOBIND :               YES  MAXIMUM DATASETS :               3000
DATABASE NAME ...: DSNRGFDB              ENABLE DATA CAPT :                NO  ASYNC DRAIN START:                  1
SYSOPER ID ......: PDKURT                SITE TYPE .......:             LOCAL  ASYNC DRAIN STOP :                3
SYSOPER ID 2 ....: TSSAL                 TRACKER SITE ....:                NO  ENFORCE DPROP ...:                NO
DDCS ESCAPE CHAR : 'BLANK'               WAIT RETAIN LOCKS:                NO  IMS/BMP TIMEOUT .:                 4
BIND NEW PACKAGE : BINDADD               AUTO BIND .......:               YES  IMS/DLI TIMEOUT .:                 6
ENABLE DB2 AUTH .:                   YES MAX APPL LOCKS ..:             10000  CACHE DYNAMIC SQL:               YES
MFA UNUSED TIME..:                   600
AUTH CACHE SIZE .:                  3072 REP READ U LOCK .:                YES  MAX KEPT DYN STMT:               5000
ACCEL MODELING ..:                    NO MAX TSPACE LOCK .:               1000  CURRENT DEGREE ...:               ANY
OPT HINTS ALLOWED:                    NO SORT POOL SIZE ..:           10240000  STATIC DESCRIBE .:                YES
RIDPOOL SIZE (KB):                  8000 PACK AUTH CACHE .:            5242880  CONTR THREAD STOR:                 NO
MAX DEG OF PARALL:                     0 RTN AUTH W/O CAT :            5242880
USE X LOCK ......:                    NO                                     STAR JOIN ENABL .:            DISABLE
NPAGES THRESHOLD :                     0 DBADM CREATE VIEW:                YES  MAX # LE TOKENS .:                N/A
MAX EXT SERV TASK:                    20                                     PROJ Z INS THRESH:                  2
MAX NOT FOUND-HSH:                   100 FIELD PROCS T BLK:                 5  MANAGE THREAD STO:                NO
EVAL UNCOMMITTED :                    NO STATISTICS ROLLUP:               YES  STATISTICS HIST .:               ALL
SUPPRESS SOFT ERR:                   YES REAL TIME STATS .:                15  EDM STATMNT CACHE:           58053632
STAR JOIN THRESH :                    10 ZOSMETRICS ......:                NO  EDM DBD CACHE ...:           11980800
LONG RUNNING READ:                    10 MAX OPEN CURSORS :               500  EDM SKEL POOLSIZE:          104857600
CUR MAINT TYPE ..:                SYSTEM PAD IDX BY DEFLT :                NO  MIN DIVIDE SCALE :                NONE
FREE CACHED STMTS:                   N/A TEMP UNIT NAME ..: SYSDA               CUR REFRESH AGE .:                   0
MAX DATA CACHING :                    20 ONL ZPARM TYPE ..: 'BLANK'             RESTORE/RECOVER .:                NO
MAX STORED PROCS :                  2000 ONL ZPARM USER ID: 'BLANK'             INDEX I/O PARALL :               YES
MAX TEMP STORAGE :                     0 ONL ZPARM CORID .: 'BLANK'             REVOKE DEP PRIVIL:                NO
MAX CONC AUTOBIND:                    10 ONL ZPARM TIME ..:                   N/P
PLANMGMT ........:                   OFF ADM SCHED JCLPROC: 'BLANK'             SYS-LEVEL BACKUP :                NO
PLANMGMTSCOPE ...:                STATIC DUMP CLASS NAME .: 'BLANK'             MAX TAPE UNITS ..:                 0
SEPARATE SECURITY:                    NO SECADM1 ID ......: SECADM               SECADM1 TYPE ....:             AUTHID
MAX TEMP RID ....:                NOLIMIT SECADM2 ID ......: SECADM               SECADM2 TYPE ....:             AUTHID
SKIP UNCOMM INS .:                    NO GET ACCEL ARCHIVE:                 NO  LMT CONV PART TAB:                NO
DDL TIMEOUT FACT :                     1 CUR QUERY ACCEL .:              ENABLE  REORG SORT NPSI .:              AUTO
MAX UTIL PARALL .:                    99 ACCEL STARTUP OPT:             COMMAND  REORG IGN FREESPC:               N/A
MULT INDEX ACCESS:                   YES QUERY ACCEL OPT .:          (1,2,3,5,6)  REORG TABSPC LIST:          PARALLEL
OPT 1 ROW-NO SORT:                    NO AUTH EXIT CHECK .:              PRIMARY  REORG MAPPING DB : 'BLANK'
UTIL OBJ CONVERS :                  NONE AUTHEX CACHE REF :                 NONE  REORG DROP PARTS :                NO
OBJ CREATE FORMAT:                 BASIC PKG RLEASE COMMIT:                 YES  REORG KEEP DICT .:               YES
TEMPLATE TIME ...:                   UTC MAX IN-MEM SORT .:                1000  STATIST FEEDBACK :               ALL
LOAD RO OBJECTS..:                   YES
MAX PARA DEG DPSI:                     0 APPL COMPAT .....: V12R1M500            PCTFREE UPDATE ..:                   0
```

```
WF DB AGNT THRESH:                  0  LIKE BLANK INSIGN:                 NO  IDX CLEANUP THRDS:                  10
WF DB SYS THRESH :                 90  D.STMT CACHE STOR:                N/A  SPT01 MAX LENGTH :                  -1
SIMULATED CPUS ..:                  0  MSEC OF TASK/SRB :                  0  COMPRESS SPT01 ..:                  NO
UT SORT DS ALLOC :                YES  MAX ZL DICT ENTR :               4096  I/O SCHEDULING ..:                 YES
UT DB2 SORT USE ..:               YES  ENABLE DB CHECK .:                 NO  IGN SORTNUM STMT :                  NO
UT TEMP STORCLASS: 'BLANK'             BIF COMPATIBILITY: CURRENT             FAST REPLICATION :          PREFERRED
FLASHCOPY PPRC ..:          REQUIRED  CAT DAT DATACLASS: 'BLANK'             FAST RESTORE ....:          PREFERRED
FLASHCOPY COPY ..:                NO  CAT DAT MGMTCLASS: 'BLANK'             RESTR ALT COL DCC:                  NO
FLASHCOPY LOAD ..:                NO  CAT DAT STORCLASS: 'BLANK'             SET CHECK PENDING:                  NO
FLASHCOPY REB IX :                NO  CAT IDX DATACLASS: 'BLANK'             DISABLE EDM RTS ..:                 NO
FLASHCPY REORG TS:                NO  CAT IDX MGMTCLASS: 'BLANK'             DRDA RESOLV ALIAS:                 YES
FLASHCPY REORG IX:                NO  CAT IDX STORCLASS: 'BLANK'             MANAGE REAL STOR :                AUTO
MAX REAL+AUX STOR:                 0  PARALL EFFICIENCY:                   50  REORDERD ROW FORM:                 YES
SEPAR WORK FILES :                NO  PREVENT ALTER LMT:                  NO  PREVENT IDX PART :                  NO
RETRY STOPPED OBJ:                NO  EMPTY XML ELEMENT:                  NO  RENAME TABLE    :                   NO
ALTERNATE CPYPOOL:     'BLANK'        DB BAK STG GRP   :           'BLANK'   LOG BAK STG GRP  :           'BLANK'
COPY FAST REPLIC :          PREFERRED  PAGE NUMBERING   :           ABSOLUTE  COMPRESS_DIRLOB  :                  NO
CACHE DYN STABIL :               BOTH  SELECT FOR UNLOAD:                  NO  DDL MATERIALIZATN:     ALWAYS_IMMEDIATE
INDEX MEMORY CTRL:               AUTO  HSM MSG DS HLQ   :           'BLANK'   DFLT INSERT ALG  :                   2
STATFDBK PROFILE :                YES  MAT NODET SQLTUDF:                 NO  ACCEL WT FOR DATA:                 0.0
ZHYPERLINK       :           DATABASE

.................
LIST OF LONG NAMES
FCOPY DEFLT TEMPL: ODS5.&DB..&SN..N&DS..D&JU..T&TI.
ENCRYPTION KEY...: N/P

QWP4LEN .........:               2884  QWP4EYE .........: SPRM                QWP4LVL .........: DSN1210
QWP4MMRB ........:                408  QWP4WREN ........:                  300  QWP4FSTP ........:                  YES
QWP4MRU .........:                YES  QWP4BMCK ........:                  OFF  QWP4WIOL ........:                   ON
QWP4LRNG ........:                OFF  QWP4SLDB ........:                  OFF  QWP4BYCK ........:                  OFF
QWP4SLIX ........:                OFF  QWP4NAPF ........:                  OFF  QWP4CTUP ........:                  OFF
QWP4DIV3 ........:                OFF  QWP4EXPL ........:                  OFF  QWP4NHJM ........:                  OFF
QWP4STOO ........:                OFF  QWP4UDEG ........:                   NO  QWP4VCOF ........:                 2864
QWP4DBOF ........:               2852  QWP4SWFN ........:                  140  QWP4SMXN ........:                64000
QWP4BMC1 ........:                 10  QWP4BMC2 ........:                   20  QWP4SWT1 ........:                    5
QWP4SWT2 ........:                 40  QWP4DWF1 ........:                   14  QWP4DWU1 ........:                    8
QWP4DWU2 ........:                  8  QWP4VDWT ........:                   64  QWP4KDSA ........:                 1300
QWP4KDSB ........:               1000  QWP4RDEU ........:                  900  QWP4LRUT ........:                 4000
QWP4PF32 ........:                  0  QWP4PFT1 ........:                   14  QWP4PFT2 ........:                   10
QWP4BBTR ........:                500  QWP4PSID ........:          X'00000000'  QWP4DSPM ........:                   50
QWP4CHKL ........:                 10  QWP4PDQ .........:                  128  QWP4PCBS ........:                   20
QWP4HRCL ........:                 ON  QWP4PCWH ........:                    1  QWP4PCRB ........:                   20
QWP4MXRB ........:              20000  QWP4HRCD ........:                  180  QWP4RCST ........:                    8
QWP4TRWT ........:                 10  QWP4WPFQ ........:                    4  QWP4WPFS ........:                    4
QWP4SQTM ........:                  4  QWP4SQTD ........:                    5  QWP4VDTM ........:                    1
QWP4MPFQ ........:                  2  QWP4SWFU ........:                    5  QWP4TISP ........:                24576
QWP4DRBS ........:              30720  QWP4RMIN ........:                    1  QWP4MXVL ........:                   NO
QWP4RNLP ........:                  8  QWP4RHTI ........:                    4  QWP4INTV ........:                  120
QWP4QCTM ........:                120  QWP4TXS .........:                24576  QWP4SRBT ........:                   10
QWP4AND .........:                 32  QWP4OR ..........:                   25  QWP4NOIN ........:                   NO
QWP4CUT .........:                100  QWP4SPC .........:                  100
QWP4NLG .........:                 NO  QWP4AST .........:                   99  QWP4SCTM ........:                   10
QWP4ZUT .........:                  2  QWP4ULBZ ........:                10240  QWP4ACAN ........:                   10
QWP4COC1 ........:                128  QWP4COC2 ........:                   10  QWP4ULFR ........:                    1
QWP4IOP .........:                 ON  QWP4DBCK ........:                  OFF  QWP4GOP .........:                  OFF
```

```
QWP4FFB .........:                 NO  QWP4XCTH ........:                    0  QWP4UBS .........:                  128
QWP4DATE ........:           01/07/19  QWP4AURT ........:                   50  QWP4DXTP ........:                    2
QWP4MXTB ........:                225  QWP4CTHR ........:                   10  QWP4STHR ........:              1048576
QWP4SREC ........:            X'8000'  QWP4RMTI ........:                    1  QWP4MXCE ........:                 1023
QWP4INLP ........:                 50  QWP4RRBA ........:                   NO  QWP4MQTH ........:                  120
QWP4TTRS ........:                  1  QWP4MXOS ........:                   40  QWP4MXOC ........:                  100
QWP4LTDM ........:                 10  QWP4URNM ........:                  YES  QWP4PROF ........:                   NO
QWP4SCLC ........:                255  QWP4UNM7 ........:                   NO  QWP4NLGF ........:                   NO
QWP4JRCS ........:                 NO  QWP4LRCS ........:                   NO  QWP4IRCS ........:                   NO
QWP4DMTR ........:                500  QWP4BXTR ........:                  500  QWP4LBTR ........:                  500
QWP4SCAC ........:                YES  QWP4PST .........:                  YES  QWP4VCFK ........:                   NO
QWP4DSCM ........:                 NO  QWP4CDIO ........:                   NO  QWP4OPSE ........:                  YES
QWP4QJEH ........:                YES  QWP4DCFS ........: 'BLANK'             QWP4DCIX ........: 'BLANK'
QWP4COMC ........:                 NO  QWP4IXIO ........:                  YES  QWP4STCL ........:                  YES
QWP4QA98 ........:                 NO  QWP4QA99 ........:                   NO  QWP4N4504 ........:                   NO
QWP4ATRC ........:                500  QWP4MUSE ........: N/P                 QWP4N2645_1......:                   NO
QWP4QRWD ........:                  1  QWP4N0193A ......:                 1024  QWP4N0193B ......:                  100
QWP4TRSU ........:                YES  QWP4FLKT ........:                    0  QWP4HAVL ........:                   NO
QWP4TRSS ........:                 NO  QWP4FLMT ........:                  100  QWP4TRCK ........:                   NO
QWP4FTST ........:                 NO  QWP4FLBS ........:                   10  QWP4PJSJ ........:                  YES
QWP4PLIM ........:                120  QWP4OPTC ........:                  YES  QWP4OXQB ........:                  YES
QWP4RPTC ........:                YES  QWP4SMGE ........:                   NO  QWP4MUDI ........:                   NO
QWP4SELD ........:                  0  QWP4DINB ........:                   NO  QWP4EXQRY .......:                13000
QWP4ABVC ........:         2147483647  QWP4APS .........: N/P                 QWP4SA1X ........:                   NO
QWP4IAST ........:                  4  QWP4RIDNOWF .....:                   NO  QWP4SA2X ........:                   NO
QWP4PDPN ........:                 NO  QWP4TPXF ........:                   NO  QWP4PDST ........:                   NO
QWP4PEPT ........:                 NO  QWP4PDCP ........:                   NO  QWP4PELM ........:                 1000
QWP4PLMR ........:                100  QWP4IMWF ........:                  128  QWP4HASH ........: N/P
QWP4SLD2 ........:                 NO  QWP4PLMS ........:                 1000  QWP4GRGL ........:                  YES
QWP4INLTBL ......:                YES  QWP4DRGL ........:                  YES  QWP4TBLVMG ......:                  YES
QWP4EPMH ........:                 NO  QWP4PRDPD .......:                  YES  QWP4KLRU ........:                    2
QWP4SLRU ........:                  2  QWP4DLRU ........:                    2  QWP4DYNPF .......:                  YES
QWP4NIDX ........:                  0  QWP4P1MT ........:                   NO  QWP4TPM .........:                   NO
QWP4IXMT ........:                  0
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

EDM POOL SIZE [QWP4EDPL]

The size (in kilobytes) of the environmental descriptor manager (EDM) pool.

This can be the value calculated by the CLIST, based on input from previous panels, or the value entered in the Override column at installation time.

Install parameter EDMPOOL STORAGE SIZE on panel DSNTIPC, or ZPARM EDMPOOL in DSN6SPRM.

IRLM PROCEDURE [QWP4IPRC]

The name of the IRLM procedure invoked by MVS if AUTO START is YES.

The name cannot be the same as the subsystem name given for SUBSYSTEM NAME.

Install parameter PROC NAME on panel DSNTIPI, or ZPARM IRLMPRC in DSN6SPRM.

TAB OWNER [QWP4REGC]

The owner of the application registration table and the object registration table.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter REGISTRATION OWNER on panel DSNTIPZ, or ZPARM RGFCOLID in DSN6SPRM.

INST DD CTRL SUPT [QWP4REGI]

Indicates whether data definition support has been installed.

Install parameter INSTALL DD CONTROL SUPT on panel DSNTIPZ, or ZPARM RGFINSTL in DSN6SPRM.

IRLM MODULE NAME [QWP4ISID]

The IRLM subsystem name defined to MVS.

This is used for communication between Db2 and the IRLM. It is included in the MVS subsystem table IEFSSN xx, where xx is the value of SUBSYSTEM MEMBER on installation panel DSNTIPM.

If the IRLM for IMS is installed, the Db2 IRLM name is different because two IRLMs on the same MVS system must have unique names.

Install parameter SUBSYSTEM NAME on panel DSNTIPI, or ZPARM IRLMSID in DSN6SPRM.

APPL TABLE [QWP4REGA]

The name of the application registration table.

Install parameter APPL REGISTRATION TABLE on panel DSNTIPZ or ZPARM RGFNMPRT in DSN6SPRM.

CTRL ALL APPLIC [QWP4REGD]

Indicates that the Db2 system is completely controlled by a set of closed applications identified in the application registration table.

Closed applications require their Db2 objects to be managed solely through the plans or packages registered in the application registration table.

Install parameter CONTROL ALL APPLICATIONS on panel DSNTIPZ, or ZPARM RGFDEDPL in DSN6SPRM.

IRLM START TIME [QWP4ISWT]

The IRLM wait time in seconds.

Db2 autostart abends if IRLM does not start within this time.

Install parameter TIME TO AUTOSTART on panel DSNTIPI, or ZPARM IRLMSWT in DSN6SPRM.

OBJ TABLE [QWP4REGO]

The name of the object registration table.

Install parameter OBJT REGISTRATION TABLE on panel DSNTIPZ, or ZPARM RGFNMORT in DSN6SPRM.

REQ FULL NAMES [QWP4REGQ]

Indicates whether registered objects require fully qualified names.

Install parameter REQUIRE FULL NAMES on panel DSNTIPZ, or ZPARM RGFFULLQ in DSN6SPRM.

IRLM INIT TIME [QWP4ISWI]

The number of seconds Db2 waits before querying whether IRLM has completed initialization.

Db2 parameter SPRMISWI in DSNMSPRM.

INSTALL SYSADM [QWP4SADM]

One of two authorization IDs with SYSADM authority. SYSADM users can access to Db2 in all cases.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM ADMIN 1 on panel DSNTIPP, or ZPARM SYSADM in DSN6SPRM.

UNREGIST DDL DFLT [QWP4REGU]

The action taken for DDL that names an unregistered object.

Options are REJECT, ACCEPT, or APPL, which rejects the DDL when the current application is not registered.

Install parameter UNREGISTERED DDL DEFAULT on panel DSNTIPZ, or ZPARM RGFDEFLT in DSN6SPRM.

IRLM AUTOSTART [QWP4IAUT]

Indicates whether IRLM is started automatically by Db2.

Install parameter AUTO START on panel DSNTIPI, or ZPARM IRLMAUT in DSN6SPRM.

SYSADM ID 2 [QWP4ADM2]

One of two authorization IDs with SYSADM authority. SYSADM users can access to Db2 in all cases.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM ADMIN 2 on panel DSNTIPP, or ZPARM SYSADM2 in DSN6SPRM.

UTILITY FACTOR [QWP4UTO]

Shows how much longer utilities can wait for a resource than SQL applications can.

This is the number of RESOURCE TIMEOUT units that a utility or utility command can wait for a lock or for all claims on a resource of a particular claim class to be released. The default value is 6, meaning a utility can wait 6 times longer than an SQL application for a resource.

Install parameter UTILITY TIMEOUT on panel DSNTIPI, or ZPARM UTIMOUT in DSN6SPRM.

IRLM TIMEOUT [QWP4TOUT]

The number of seconds before a timeout is detected.

This is an integer multiple of DEADLOCK TIME on panel DSNTIPJ.

Timeout means that a lock request has waited for a resource (or for claims on a resource for a particular claim class to be released) longer than this time.

For data sharing, the actual timeout period is longer than the timeout value.

Install parameter RESOURCE TIMEOUT on panel DSNTIPI, or ZPARM IRLMRWT in DSN6SPRM.

DEFAULT USERID [QWP4DFID]

The authorization ID used if RACF is not available for batch access and USER= is not specified in the job statement.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter UNKNOWN AUTHID on panel DSNTIPP, or ZPARM DEFLTID in DSN6SPRM.

EXPL AT AUTOBIND [QWP4ABX]

Indicates whether EXPLAIN processing occurs during automatic rebind.

YES means EXPLAIN processing happens during automatic rebind of a plan or package that has EXPLAIN(YES) as a bind option. If the PLAN_TABLE does not exist, automatic rebind continues, but there is no EXPLAIN output. Explain processing does not happen for a plan or package with EXPLAIN(NO).

Install parameter EXPLAIN PROCESSING on panel DSNTIPO, or ZPARM ABEXP in DSN6SPRM.

MAXIMUM DATASETS [QWP4DSMX]

The maximum number of data sets that can be open at one time.

The practical limit can be less than the MVS limit of 32727, depending on available storage below the line.

Install parameter DSMAX on panel DSNTIPC, or ZPARM DSMAX in DSN6SPRM.

DATABASE NAME [QWP4REGN]

The name of the database that contains the registration tables.

Install parameter REGISTRATION DATABASE on panel DSNTIPZ, or ZPARM RGFDBNAM in DSN6SPRM.

ENABLE DATA CAPT [QWP4CDC]

Indicates whether change data capture is enabled.

Install parameter DPROP SUPPORT on panel DSNTIPO. ZPARM name is CHGDC in DSN6SPRM.

ASYNC DRAIN START [QWP4TDDN]

The percentage below 100% DSMAX that open data sets can reach before an asynchronous drain is started. The default is 1, meaning that asynchronous drain starts when the number of open data sets reaches 99% of DSMAX.

Db2 defers closing and deallocating the table spaces or indexes until the number of open data sets reaches one of the following limits:

- The MVS limit for the number of concurrently open data sets.
- 99% (default) of the value that you specified for DSMAX.

When one of these limits is reached, Db2 closes a number of data sets not in use equal to 3% (default) of the value DSMAX. Thus, DSMAX controls not only the limit of open data sets, but also the number of data sets that are closed when that limit is reached.

Db2 parameter SPRMTDD in DSN6SPRM.

SYSOPER ID [QWP4OPR1]

One of two authorization IDs with SYSOPR authority. SYSOPR users can access Db2 even if the Db2 catalog is unavailable.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM OPERATOR 1 on panel DSNTIPP, or ZPARM SYSOPR1 in DSN6SPRM.

SITE TYPE [QWP4MSTY]

Shows whether this system is at a local site or a recovery site.

LOCALSITE
This is the site of the current system. Multiple image copies are made and are operational here. This is the default.

RECOVERYSITE
This an alternative site for recovery purposes.

The RECOVER utility uses this parameter to determine what site the current system is on and recovers everything from the copies of data registered at that site.

The RECOVER and MERGECOPY utilities use this to determine whether COPYDDN or RECOVERDDN is allowed with NEWCOPY NO.

Install parameter SITE TYPE on panel DSNTIPO, or ZPARM SITETYP in DSN6SPRM.

ASYNC DRAIN STOP [QWP4MDDN]

The percentage of maximum open data sets until the asynchronous drain operations are stopped.

Db2 parameter SPRMMDD in DSNDSPRM.

SYSOPER ID 2 [QWP4OPR2]

One of two authorization IDs with SYSOPR authority. SYSOPR users can access Db2 even if the Db2 catalog is unavailable.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM OPERATOR 2 on panel DSNTIPP, or ZPARM SYSOPR2 in DSN6SPRM.

TRACKER SITE [QWP4TRKR]

Indicates whether this subsystem is a remote tracker site for another Db2 subsystem.

When YES, this is a tracker site.

A Db2 tracker site is a separate Db2 subsystem or data sharing group that exists solely for the purpose of keeping shadow copies of your primary site's data. No independent work can be run on the tracker site.

Install parameter TRACKER TYPE on panel DSNTIPO, or ZPARM TRKRSITE in DSN6SPRM.

ENFORCE DPROP [QWP4ENF]

Shows whether DataPropagator NonRelational (DPROP) is used to propagate SQL changes made to tables defined with DATA CAPTURE CHANGES.

1
No changes are propagated.

2
DPROP propagates SQL changes, and those changes made to tables defined with DATA CAPTURE CHANGES are only allowed when monitor trace class 6 is active, DPROP is installed, and the Db2 application is running in an IMS environment. If any of these conditions are not met, no changes to the Db2 table are permitted.

3
Data propagation occurs when monitor trace class 6 is active, DPROP is installed, and the Db2 application is running in an IMS environment. In this instance, an application that is not running in an IMS environment can update Db2 tables defined with DATA CAPTURE CHANGES. However, these changes are not propagated to IMS.

ANY
Allows subsystems to propagate some data with DPROP and other data with a different propagation program.

Tables that should only be updated by Db2 applications running in an IMS environment can be protected using the following methods:

- Use the ENABLE parameter on BIND to specify a specific attachment facility through which updates to data propagation tables can be made.

- Define a validation procedure for data propagation tables to define which plans can update those tables.
- Allow update authority for data propagation tables to a group of authorization IDs that can only run in IMS.

Install parameter DPROP SUPPORT on panel DSNTIPO, or ZPARM EDPROP and CHGDC in DSN6SPRM.

DDCS ESCAPE CHAR [QWP4ESC]

The escape character used in the application registration table (ART) or object registration table (ORT).

Sets of names in the ART and ORT can be represented by patterns that use the underscore (_) and percent sign (%) characters in the same way as in an SQL LIKE predicate.

Install parameter ART/ORT ESCAPE CHARACTER on panel DSNTIPZ, or ZPARM RGFESCP in DSN6SPRM.

WAIT RETAIN LOCKS [QWP4WAIT]

Indicates whether a request is suspended until an incompatible retained lock becomes available.

This value is only significant in a data sharing environment. It indicates how long a transaction should wait for a lock on a resource if another Db2 in the data sharing group has failed and is holding an incompatible lock on that resource. Locks held by failed Db2 members are called retained locks.

This value is a multiplier that is applied to the connection's normal timeout value. For example, if the retained lock multiplier is 2, then the timeout period for a call attachment connection that is waiting for a retained lock is twice the normal CAF timeout period. The default is 0, meaning applications do not wait for incompatible retained locks, the lock request is immediately rejected and the application receives a "resource unavailable" SQLCODE.

Install parameter RETAINED LOCK TIMEOUT on panel DSNTIPI, or ZPARM RETLWAIT in DSN6SPRM.

IMS/BMP TIMEOUT [QWP4WBMP]

The number of RESOURCE TIMEOUT units that an IMS BMP connection waits for a lock to be released.

The default value is 4, meaning that an IMS BMP connection can wait 4 times the resource timeout value for a resource.

Install parameter IMS BMP TIMEOUT on panel DSNTIPI, or ZPARM BMPTOUT in DSN6SPRM.

BIND NEW PACKAGE [QWP4BNVA]

Shows whether BIND or BINDADD authority is required to BIND a new version of an existing package.

When BINDADD (default), only users with BINDADD system privilege can create a new package.

BIND users with BIND privilege for a package or collection can create a new version of an existing package when they bind it. This also allows users with PACKADM authority to add a new package or a new version of a package to a collection.

Install parameter BIND NEW PACKAGE on panel DSNTIPP, or ZPARM BINDNV in DSN6SPRM.

AUTO BIND [QWP4ABN]

Indicates whether autobind is enabled. Values are:

YES
Allows automatic rebind operations to be performed when a plan/package:

- Was marked "invalid".
- Was bound on Db2 Vn, but is now running on Db2 Vn-1
- After use on Db2 Vn-1 (as previously described), is later used again on Db2 Vn

NO
Prevent Db2 from performing any automatic rebind operations under any circumstances.

COEXIST
Allows automatic rebind operation to be performed in a Db2 Data Sharing coexistence environment when the plan/package:

- Is marked "invalid" or
- Was last bound in DB2 Vn and is running on Db2 Vn-1

Install parameter AUTO BIND on panel DSNTIPO, or ZPARM ABIND in DSN6SPRM.

IMS/DLI TIMEOUT [QWP4WDLI]

The number of RESOURCE TIMEOUT units that a DL/I batch connection waits for a lock to be released.

The default value is 6, meaning that an IMS BMP connection can wait 4 times the resource timeout value for a resource.

Install parameter DL/I BATCH TIMEOUT on panel DSNTIPI, or ZPARM DLITOUT in DSN6SPRM.

ENABLE DB2 AUTH [QWP4AUTH]

Shows whether Db2 performs authorization checking.

When all authorization checking by Db2 is disabled, the GRANT statement is also disabled (granting every privilege to PUBLIC); this is not recommended.

Install parameter USE PROTECTION on panel DSNTIPP, or ZPARM AUTH in DSN6SPRM.

MAX APPL LOCKS [QWP4LKUS]

The maximum number of page or row locks that a single application can hold concurrently on all table spaces.

This includes locks on data pages, index pages, and rows that the program acquires when it accesses table spaces.

The limit applies to all table spaces defined with the LOCKSIZE PAGE, LOCKSIZE ROW, or LOCKSIZE ANY options. 0 means that there is no limit to the number of page and row locks a program can acquire.

Db2 assumes that 250 bytes of storage are required for each lock. If NO is specified for CROSS MEMORY, the value of this field has to take into account the available lock space. If referential constraints between tables is defined, the value of this field might need to be increased.

Install parameter LOCKS PER USER on panel DSNTIPJ, or ZPARM NUMLKUS in DSN6SPRM.

CACHE DYNAMIC SQL [QWP4CDYN]

Indicates whether prepared dynamic SQL statements are saved for later use by eligible application processes in the EDM pool.

Install parameter CACHE DYNAMIC SQL on panel DSNTIP8, or ZPARM CACHEDYN in DSN6SPRM.

MFA UNUSED TIME [QWP4MFAT]

MFA UNUSED TIME specifies how long in seconds that MFA security credentials from a distributed client can remain unused in the Db2 global authentication cache before new security credentials must be provided.

AUTH CACHE SIZE [QWP4AUCA]

The size of the authorization cache to be used if no CACHESIZE is specified on the BIND PLAN subcommand.

The size of the cache is 32 bytes of overhead + (8 bytes of storage X number of concurrent users).

0 means authorization caching is not used.

Install parameter PLAN AUTH CACHE on panel DSNTIPP, or ZPARM AUTHCACH in DSN6SPRM.

REP READ U LOCK [QWP4RRU]

Indicates whether the U (UPDATE) lock is used when using repeatable read (RR) or read stability (RS) isolation to access a table.

When YES, the U lock is used for an updated cursor with repeatable read or read stability.

When NO, the S lock is used for an updated cursor with repeatable read or read stability. If the cursor in the running applications includes the clause FOR UPDATE OF, but updates are infrequent, S locks generally provide better performance.

Install parameter U LOCK FOR RR/RS on panel DSNTIPI, or ZPARM RRULOCK in DSN6SPRM.

MAX KEPT DYN STMT [QWP4MXKD]

Shows the total number of prepared dynamic SQL statements that are saved past a commit point.

0 means that prepared dynamic SQL statements are not saved past commit points.

Install parameter MAX KEPT DYN STMTS on panel DSNTIPE, or ZPARM MAXKEEPD in DSN6SPRM.

ACCEL MODELING [QWP4ACMO]

The ACCELMODEL subsystem parameter determines whether to enable modeling of query workload for evaluating potential savings for both the accumulated elapsed time and CPU time if the plan is executed on an accelerator.

Only queries that are deemed eligible for execution on an accelerator by Db2 will be included in accelerator-related fields of Accounting trace IFCID 3:

No
Specifies that no modeling is to be performed. This is the default setting.

Yes
Specifies that modeling is to be performed. Consider acceleration eligibility for an SQL statement and update the new Accounting fields accordingly.

To enable modeling, the IBM Db2 Analytics Accelerator for z/OS special register CURRENT QUERY ACCELERATION and ZPARM QUERY_ACCELERATION (set by the CURRENT QUERY ACCEL) must be set to NONE for accelerator modeling. All other values for the special register and ZPARM will take the existing logic of IBM Db2 Analytics Accelerator for z/OS. This means that existing queries that already execute on the accelerator with CURRENT QUERY ACCELERATION = ENABLE, ENABLE WITH FAILBACK, ELIGIBLE, or ALL will not be part of the accelerator-related Accounting fields.

MAX TSPACE LOCK [QWP4LKTS]

The default (SYSTEM) for the LOCKMAX clause of the SQL statements CREATE TABLESPACE and ALTER TABLESPACE.

Install parameter LOCKS PER TABLE(SPACE) on panel DSNTIPJ, or ZPARM NUMLKTS in DSN6SPRM.

CURRENT DEGREE [QWP4CDEG]

Shows the default for the CURRENT DEGREE special register when no degree is explicitly set with SET CURRENT DEGREE.

The default disables query parallelism.

Install parameter CURRENT DEGREE on panel DSNTIP8, or ZPARM CDSSRDEF in DSN6SPRM.

OPT HINTS ALLOWED [QWP4HINT]

Shows whether Db2 can use optimization hints from the PLAN_TABLE to influence the access paths used for certain queries.

Install parameter OPTIMIZATION HINTS on panel DSNTIP8, or ZPARM OPTHINTS in DSN6SPRM.

SORT POOL SIZE [QWP4SPOL]

Indicates the amount of storage needed for the sort pool.

This can be the value calculated by the CLIST, based on input from previous panels, or the value entered in the Override column at installation time.

Install parameter SORT POOL SIZE on panel DSNTIPC, or ZPARM SRTPOOL in DSN6SPRM.

STATIC DESCRIBE [QWP4DSST]

Shows whether Db2 builds a DESCRIBE SQLDA when binding static SQL statements.

A DESCRIBE cannot be issued against a static SQL statement except:

- In a distributed environment, where Db2 for z/OS is the server and the requester supports extended dynamic SQL. In this instance, a DESCRIBE on an SQL statement in the extended dynamic package appears to Db2 as a DESCRIBE on a static SQL statement in the Db2 package.
- When an application uses a stored procedure result set, the application must allocate a cursor for that result set. The application can do this using a DESCRIBE CURSOR statement. The SQL statement actually described is the one with the cursor declared in the stored procedure. If that statement is static, a static SQL statement must be described.

When NO (default), Db2 does not generate a DESCRIBE SQLDA at BIND time for static SQL statements. If a DESCRIBE request is received at execution time, Db2 generates an error. However, if the describe request comes from a DESCRIBE CURSOR statement, Db2 satisfies the request but is only able to provide data type and length information. Column names are not provided.

When YES, Db2 generates a DESCRIBE SQLDA at BIND time so that DESCRIBE requests for static SQL can be satisfied during execution.

Note: You must rebind packages after this value has been set to YES.

This option increases the size of some packages because the DESCRIBE SQLDA is now stored with each statically-bound SQL SELECT statement.

Install parameter DESCRIBE FOR STATIC on panel DSNTIP4, or ZPARM DESCSTAT in DSN6SPRM.

RIDPOOL SIZE (KB) [QWP4RMAX]

The amount of storage needed for the RID pool.

This can be the value calculated by the CLIST, based on input from previous panels, or the value entered in the Override column at installation time.

When 0, Db2 does not use access paths or join methods that depend on RID pool storage.

Install parameter RID POOL SIZE on panel DSNTIPC, or ZPARM MAXRBLK in DSN6SPRM.

PACK AUTH CACHE [QWP4PAC]

The amount of storage allocated for caching authorization information for all packages on this Db2 member.

32 KB hold about 375 collection-ID.package-IDs. The cache is stored in the DSN1DBM1 address space.

Install parameter PACKAGE AUTH CACHE on panel DSNTIPP, or ZPARM CACHEPAC in DSN6SPRM.

CONTR THREAD STOR [QWP4CONT]

In Db2 12 this field is a serviceability field.

Indicates whether Db2 returns unused thread storage at commit. Possible values are:

YES
Db2 checks threads at commit points and periodically returns unused storage to the system.

NO
Db2 does not check threads at commit points and returns acquired storage on deallocation.

Install parameter CONTRACT THREAD STG on panel DSNTIPE, or ZPARM CONTSTOR in DSN6SPRM.

MAX DEG OF PARALL [QWP4MDEG]

Indicates the upper limit on the degree of parallelism for a parallel group.

This field has a value of 0. This means PARAMDEG is not set and Db2 can set a default maximum degree of parallelism based on the system configuration.

Install parameter MAX DEGREE on panel DSNTIP8, or ZPARM PARAMDEG in DSN6SPRM.

RTN AUTH W/O CAT [QWP4RAC]

The amount of storage allocated for caching authorization information for all routines on this Db2 member.

Routines include stored procedures and user-defined functions.

32 KB hold about 380 schema.routine.type entries.

Install parameter ROUTINE AUTH CACHE on panel DSNTIPP, or ZPARM CACHERAC in DSN6SPRM.

USE X LOCK [QWP4XLUD]

The locking method used when performing a searched UPDATE or DELETE.

When NO, Db2 uses an S or U lock when scanning for qualifying rows. For any qualifying rows or pages the lock is upgraded to an X lock before performing the update or delete. For nonqualifying rows or pages the lock is released if using ISOLATION(CS). For ISOLATION(RS), or ISOLATION(RR), an S lock is retained on the rows or pages until the next commit point. This option is used to achieve higher rates of concurrency.

When YES, Db2 gets an X lock on qualifying rows or pages. For ISOLATION(CS), the lock is released if the rows or pages are not updated or deleted. For ISOLATION(RS) or ISOLATION(RR), an X lock is retained until the next commit point. This is beneficial in a data sharing environment when most or all searched updates and deletes use an index. The downside is that if searched updates or deletes result in a tablespace scan, the likelihood of timeouts and deadlocks greatly increases.

Install parameter X LOCK FOR SEARCHED U/D on panel DSNTIPI, or ZPARM XLKUPDLT in DSN6SPRM.

STAR JOIN ENABL [QWP4SJRT]

Star join enable indicator. Possible values are:

-1 (DISABLE)
Star join is disabled. This is the default.

0 (ENABLE)
Star join is enabled when the join meets the conditions described in the DB2 administration information for performance.

1
Star join is enabled without comparing the ratio of the fact-table cardinality to the cardinality of the largest dimension table. The table with the largest cardinality is the fact table.

n
This is the star join fact table and the largest dimension table ratio. The lowest ratio of the cardinality of the fact table compared to the cardinality of the largest dimension table for which star join is used. 2 < N <= 32768.

Install parameter STAR JOIN QUERIES on panel DSNTIP8, or ZPARM STARJOIN in DSN6SPRM.

Background and Tuning Information

This parameter allows you to set the star join ratio to increase or decrease the dimension table and fact table ratio rule according to application needs.

This parameter also allows you to disable star join if needed for performance reasons. The default is to allow star join if star join detection is successful.

Star join technique is only used when these conditions exist:

- At least two dimensions exist.

- The join predicates are between the fact table and the dimension tables only. (No join predicates lie between the dimension tables.)
- The join predicates are equijoin predicates.
- No correlated subqueries cross dimensions.
- No cycles within the dimensions exist. This means that no predicate can reference more than one candidate dimension table with respect to the same column of the fact table.
- No outer join exists.
- The data type and length of the join predicates are the same.
- The fact table is larger than the dimension table.

NPAGES THRESHOLD [QWP4NPAG]

This parameter allows you to specify the optimizer threshold for qualifying a table as small.

-1
Every table qualifies as small.

0
No table qualifies as small (this is the default).

1
Only tables with zero pages qualify as small.

2
Tables with less than two pages qualify as small.

10
Tables with less than ten pages qualify as small.

502
Tables with less than 502 pages, and tables that have not had statistics collected qualify as small. For example, when NPAGES = -1.

Db2 parameter NPGTHRSH in DSN6SPRM.

Background and Tuning Information

Tables can be populated using insert just prior to their use by queries and then cleared immediately on completion of the queries. These tables are permanent even though the data they contain is transient.

This can cause problems when RUNSTATS is run overnight, or at other times when these tables are empty. This gives the optimizer the false indication that these tables contain no data when in fact, the tables will contain data when the query executes. This causes the optimizer to pick an inefficient access path. Usually the optimizer chooses to do a table scan, which would be the most efficient access path if the table were truly empty. Because the table is not empty when the query executes, it would be more efficient to use matching index access.

With this parameter, you can force the optimizer to treat tables containing no data as small tables. For these tables, the optimizer will:

- Select a matching index access rather than a table space scan and non-matching index access.
- Select the index with the most matching columns when more than one index qualifies for matching index access.
- Select indexes with the same number of matching columns on cost.

DBADM CREATE VIEW [QWP4CRVW]

Shows whether a Db2 administrator can create a view or alias for another user. Possible values are YES or NO. The default is NO.

Install parameter DBADM CREATE AUTH on panel DSNTIPP. ZPARM DBACRVW in macro DSN6SPRM.

MAX # LE TOKENS [QWP4LEM]

The maximum number of LE tokens active at any time. When zero, no tokens are available.

A token is used each time one of the following is used: trigonometry functions, degrees, radians, rand, exp, power, log functions, upper, lower, translate.

Install parameter MAXIMUM LE TOKENS on panel DSNTIP7, or ZPARM LEMAX in DSN6SPRM.

MAX EXT SERV TASK [QWP4EST]

Maximum number of extended service tasks.

PROJ Z INS THRESH [QWP4ZTN]

Project z insertion threshold.

MAX NOT FOUND-HSH [QWP4KNFC]

The maximum number of NOT FOUND hash records.

FIELD PROCS T BLK [QWP4FDP]

The number of field procedures for the DESCRIBE TABLE block.

ZPARM SPRMFDP.

MANAGE THREAD STO [QWP4MSTG]

In Db2 12 this field is a serviceability field.

Shows whether Db2 uses storage management to optimize the amount of working storage consumed by individual threads.

Install parameter MANAGE THREAD STORAGE on panel DSNTIPE, or ZPARM MINSTOR in DSN6SPRM.

For best performance, this parameter should be NO, meaning DB2 does not manage thread storage.

When YES, Db2 uses best fit algorithm to manage and assign thread storage. This can help on systems that have many long-running threads and that are constrained on DBM1 address space.

EVAL UNCOMMITTED [QWP4EVUN]

Shows whether stage 1 predicate evaluation during table access can proceed upon uncommitted data or not.

This applies to isolation levels of Read Stability and Cursor Stability only.

When NO (default), predicate evaluation occurs only on committed data (or on the application's own uncommitted changes). NO ensures that all qualifying data is always included in the answer set.

When YES, predicate evaluation can occur upon uncommitted data. Only committed data is returned to the query. However, a decision can be made to omit a row from the answer set based on uncommitted data. Later, undo processing (statement rollback or statement failure) could cause the data to revert to a state that satisfies the predicate.

When YES, Db2 can request fewer locks than in previous versions when processing isolation level Read Stability and Cursor Stability queries. The number of locks avoided is related to the access path of the query, the number of rows evaluated when processing the stage 1 predicate of the query, and the number of those rows that are overflow rows. Specifically, for isolation level Read Stability and Cursor Stability queries, locks are avoided for rows that do not satisfy the stage 1 predicate, provided they are not overflow rows. Table access includes table space scans and index-to-data access, including ridlist-to-data access. For isolation Cursor Stability ridlist production, all row/page locking is avoided.

Install parameter EVALUATE UNCOMMITTED on panel DSNTIP8, or ZPARM EVALUNC in DSN6SPRM.

STATISTICS ROLLUP [QWP4STRL]

Shows whether RUNSTATS utility aggregates the partition level statistics, even though some parts may not contain data.

This should be YES for Db2 systems that have large partitioned table spaces, index spaces, or both. This enables the aggregation of part level statistics and helps the optimizer to choose a better access path.

Install parameter STATISTICS ROLLUP on panel DSNTIPO, or ZPARM STATROLL in DSN6SPRM.

STATISTICS HIST [QWP4STHT]

Shows which inserts and updates are recorded in catalog history tables.

The report can show the following values:

N / NONE
Changes in the catalog are not recorded. This is the default.

A / ALL
All inserts and updates in the catalog are recorded.

P / ACCESSPATH
All inserts and updates to access path related catalog statistics are recorded.

S / SPACE
All inserts and updates to space related catalog statistics are recorded.

Install parameter STATISTICS HISTORY on panel DSNTIPO, or ZPARM STATHIST in DSN6SPRM.

SUPPRESS SOFT ERR [QWP4SAE]

Shows whether the recording of errors, such as invalid decimal data and arithmetic exceptions, in the operating system data set SYS1.LOGREC is suppressed.

When YES, these exceptions are not recorded in the LOGREC data set.

Install parameter SUPPRESS SOFT ERRORS on panel DSNTIPM or ZPARM SUPERRS in DSN6SPRM.

REAL TIME STATS [QWP4INTE]

The time interval that Db2 waits before it attempts to write out page set statistics to the real-time statistics tables. This value is between 1 and 65535 minutes.

Install parameter REAL TIME STATS on panel DSNTIPO, or ZPARM STATSINT in DSN6SPRM.

EDM STATMNT CACHE [QWP4ESTC]

The size of the statement cache that can be used by the Environmental Descriptor Manager (EDM). This value is used at Db2 startup time as the minimum value. You can increase and subsequently decrease this value with the SET SYSPARM command. This value cannot be decreased below the value that is specified at Db2 startup. The CLIST calculates a statement cache size. This storage pool is located above the 2 GB bar.

The value used at Db2 startup time is either calculated by the CLIST based on input from other installation information or an override value.

For record trace, this value is shown in bytes. For other reports, the value is shown in kilobytes.

Install parameter EDM STATEMENT CACHE on panel DSNTIPC, or ZPARM EDMSTMTC in DSN6SPRM.

STAR JOIN THRESH [QWP4SJTB]

The minimum number of tables in the star schema query block, including the fact table, dimensions tables, and snowflake tables. This value is considered only if the subsystem parameter STARJOIN qualifies the query for star join.

Possible values are:

0
Star join is disabled. This is the default.

1, 2, or 3
Star join is always considered.

4 through 255
Star join is considered if the query block has at least the specified number of tables.

256 and greater
Star join is never considered.

Db2 parameter SJTABLES in DSN6SPRM.

Background and Tuning Information

Although star join can reduce bind time significantly it does not provide optimal performance in all cases. Performance of star join depends on a number of factors such as the available indexes on the fact table, the cluster ratio of the indexes, and the selectivity of rows through local and join predicates. Follow these general guidelines for setting the value of SJTABLES:

- If you have star schema queries with less than 10 tables and you want to make the star join method applicable to all qualified queries, set the value of SJTABLES to a low number, such as 5.
- If you have some star schema queries that are not necessarily suitable for star join but want to use star join for relatively large queries, use the default. The star join method will be considered for all qualified queries that have 10 or more tables.
- If you have star schema queries but normally do not want to use star join, you could increase SJTABLES, say to 15. This will greatly cut the bind time for large queries and avoid a potential bind time SQL return code -101 for large qualified queries.

ZOSMETRICS [QWP4METE]

YES indicates that gathering of z/OS metrics using the RMF interface is enabled. ZPARM ZOSMETRICS in DSN6SPRM.

EDM DBD CACHE [QWP4EDBC]

The minimum size of the DBD cache that can be used by the Environmental Descriptor Manager (EDM). This value is used at Db2 startup time as the minimum value. You can increase and subsequently decrease the value with the SET SYSPARM command. This value cannot be decreased below the value that is specified at Db2 startup. This storage pool is located above the 2 GB bar. The CLIST calculates the DBD cache size.

The value used at Db2 startup time is either calculated by the CLIST based on input from other installation information or an override value.

Install parameter EDM DBD CACHE on panel DSNTIPC, or ZPARM EDMDBDC in DSN6SPRM.

LONG RUNNING READ [QWP4LRTH]

Shows the number of minutes that a read claim can be held by an agent before Db2 reports it as a long-running reader. Valid values are 0 (default) through 1439.

Install parameter LONG-RUNNING READER on installation panel DSNTIPE, or ZPARM LRDRTHLD in DSN6SYSP.

MAX OPEN CURSORS [QWP4MXNC]

Shows the maximum number of cursors, including allocated cursors, that are open at a given Db2 site per thread. RDS keeps a total of currently open cursors. If an application attempts to open a thread after the maximum is reached, the statement will fail.

In a data sharing group, this parameter is shown at member scope.

Install parameter MAX OPEN CURSORS on panel DSNTIPX, or ZPARM MAX_NUM_CUR in DSN6SPRM.

EDM SKEL POOLSIZE [QWP4SKLC]

The minimum size of the EDM pool for skeleton package and skeleton cursor tables. For record trace, this value is shown in bytes. For other reports, the value is shown in kilobytes.

Install parameter EDM SKELETON POOL SIZE on panel DSNTIPC or ZPARM EDM_SKELETON_POOL in DSN6SPRM.

CUR MAINT TYPE [QWP4MNTY]

Shows the default special register for the CURRENT MAINTAINED TABLE TYPES FOR OPTIMIZATION statement when no value is explicitly set. Possible values are:

- ALL
- NONE
- SYSTEM (default)
- USER

The default allows query rewrite using system-maintained materialized query tables (SYSTEM) when CURRENT REFRESH AGE is set to ANY. When USER, query rewrite is done using user-maintained materialized query tables when CURRENT REFRESH AGE is set to ANY. ALL means that query rewrite uses both system-maintained and user- maintained materialized query tables.

Install parameter CURRENT MAINT TYPES on panel DSNTIP8, or ZPARM MAINTYPE in DSN6SPRM.

PAD IDX BY DEFLT [QWP4PDIX]

Shows whether new indexes are be padded by default.

- YES indicates that a new index is padded unless the NOT PADDED option is specified on the CREATE INDEX statement.
- The default value, NO, indicates that a new index is not padded unless the PADDED option is specified on the CREATE INDEX statement.

Install parameter PAD INDEXES BY DEFAULT on installation panel DSNTIPE, or ZPARM PADIX in DSN6SPRM.

MIN DIVIDE SCALE [QWP4MDSC]

The minimum scale for the result of a decimal division. The values for this parameter are none (the default), 3, or 6. If 3 or 6 is specified, this parameter overrides the DECDIV3 parameter.

FREE CACHED STMTS [QWP4FRLC]

Indicates whether Db2 can free statements from the local dynamic statement cache to relieve storage constraints below the 2 GB bar. This parameter applies only for packages or plans that are bound with KEEPDYNAMIC(YES). Possible values are:

0
Db2 cannot free statements from the local cache

1
Db2 can free statements from the local cache

Db2 parameter CACHEDYN_FREELOCAL in DSN6SPRM.

TEMP UNIT NAME [QWP4VDTY]

Shows the device type or unit name for allocating temporary data sets. It is the direct access or disk unit name used for the precompiler, compiler, assembler, sort, linkage editor, and utility work-files in the tailored jobs and CLISTs.

It can be any device type acceptable to the DYNALLOC parameter of the SORT or OPTION options for DFSORT.

The default is SYSDA.

Install parameter TEMPORARY UNIT NAME on DSNTIPA2, or ZPARM VOLTDEVT in DSN6SPRM.

CUR REFRESH AGE [QWP4RFSH]

Shows the default for the CURRENT REFRESH AGE special register deferred materialized query tables.

Install parameter CURRENT REFRESH AGE on panel DSNTIP8, or ZPARM REFSHAGE in DSN6SPRM.

MAX DATA CACHING [QWP4MXDC]

The maximum amount of virtual memory in megabytes (MB) that is allocated for data caching.

Install parameter MAX DATA CACHING on panel DSNTIP8, or ZPARM MXDTCACH in DSN6SPRM.

ONL ZPARM TYPE [QWP4OZTP]

The type of Db2 system parameter changed by the last SET SYSPARM statement.

RESTORE/RECOVER [QWP4RRFD]

If YES, the system-level backup that is the recovery base, is from a dump on tape. Otherwise NO is shown.

Install parameter RESTORE/RECOVER on installation panel DSNTIP6, or ZPARM RESTORE_RECOVER_FROMDUMP in DSN6SPRM.

MAX STORED PROCS [QWP4MXSP]

Shows the maximum number of stored procedures per thread. If an application attempts to call a stored procedure after this is reached, the statement will fail. In a data sharing group, this parameter is shown as member scope.

Install parameter MAX STORED PROCS on panel DSNTIPX, or ZPARM MAX_ST_PROC in DSN6SPRM.

ONL ZPARM USER ID [QWP4OZUS]

The user ID that made the last online change to Db2 system settings.

INDEX I/O PARALL [QWP4IIOP]

In Db2 12 this field is a serviceability field.

The enablement of the index I/O parallelism ZPARM.

MAX TEMP STORAGE [QWP4WFAL]

The maximum amount of temporary storage in megabytes (MB) for each agent.

Install parameter MAX TEMP STORAGE on panel DSNTIP6 or ZPARM MAXTEMPS in DSNTIP9.

ONL ZPARM CORID [QWP4OZCI]

The correlation ID of the online application that made the last change to Db2 system settings.

REVOKE DEP PRIVIL [QWP4RVDPR]

Include dependent privileges on REVOKE. Possible values are:

Y
If INCLUDING DEPENDENT PRIVILEGES is enforced.

N
If NOT INCLUDING DEPENDENT PRIVILEGES is enforced.

S
If specified in a REVOKE statement.

MAX CONC AUTOBIND [QWP4MXAB]

The maximum number of package requests that can be processed simultaneously.

Db2 parameter MAX_CONCURRENT_PKG_OPS in DSN6SPRM.

ONL ZPARM TIME [QWP4OZTM]

Time of the last online change made to Db2 system settings.

PLANMGMT [QWP4PMGT]

Shows if and how access path information is stored in the repository. Possible values are:

O
On

F
Off

B
Basic

E
Extended

ADM SCHED JCLPROC [QWP4ADMT]

The name of the JCL procedure for starting the Db2 administrative scheduler task address space.

Db2 parameter ADMTPROC in DSN6SPRM.

SYS-LEVEL BACKUP [QWP4SLBU]

Shows if RECOVER uses system level backups as the recovery base.

Install parameter SYSTEM-LEVEL BACKUPS on installation panel DSNTIP6, or ZPARM SYSTEM_LEVEL_BACKUPS in DSN6SPRM.

PLANMGMTSCOPE [QWP4PMSC]

Controls which queries are populated in the access path repository (ZPARM parameter PLANMGMTSCOPE). Possible values are:

A
ALL: Includes static and dynamic SQL queries.

S
STATIC: Includes static SQL queries only. This is the default.

D
DYNAMIC: Includes dynamic SQL queries only.

DUMP CLASS NAME [QWP4RSDC]

The name of the DFSMSHSM dump class used by the restore system utility to restore from a system-level backup that has been dumped to tape.

Install parameter DUMP CLASS NAME on installation panel DSNTIP6, or ZPARM UTILS_DUMP_CLASS_NAME in DSN6SPRM.

MAX TAPE UNITS [QWP4RSMT]

The maximum number of tape units or tape drives that the restore system utility can use to restore from a system-level backup that has been dumped to tape.

A value of 0 is displayed for NOLIMIT.

Install parameter MAXIMUM TAPE UNITS on installation panel DSNTIP6, or ZPARM RESTORE_TAPEUNITS in DSN6SPRM.

SEPARATE SECURITY [QWP4SEPSD]

Separate security tasks. Possible values are:

Y
SYSADM/SYSCTRL cannot GRANT/REVOKE

N
SYSADM/SYSCTRL can GRANT/REVOKE

SECADM1 ID [QWP4SECA1]

Security administrator 1.

SECADM1 TYPE [QWP4SECA1_TYPE]

Security administrator 1 type. Possible values are:

' '
Blank indicates that the authorization ID (AUTH ID) is used.

'L'
Indicates that ROLE is used.

This field corresponds to field SEC ADMIN 1 TYPE on installation panel DSNTIPP1, or ZPARM SECADM1_TYPE in DSN6SPRM.

MAX TEMP RID [QWP4WFRD]

The maximum number of RID blocks of temporary storage in the Workfile database that a single RID list can use at any point in time. This field corresponds to field MAX TEMP RID on installation panel DSNTIP9. The ZPARM name is MAXTEMPS_RID.

It can have the following values:

- -1 if MAXTEMPS_RID=NONE
- 0 if MAXTEMPS_RID=NOLIMIT
- 1 to 329166 otherwise

SECADM2 ID [QWP4SECA2]

Security administrator 2.

SECADM2 TYPE [QWP4SECA2_TYPE]

Security administrator 2 type. Possible values are:

'*blank*'
Indicates that the authorization ID (AUTH ID) is used.

'L'
Indicates that ROLE is used.

This field corresponds to field SEC ADMIN 2 TYPE on installation panel DSNTIPP1, or ZPARM SECADM2_TYPE in DSN6SPRM.

SKIP UNCOMM INS [QWP4SKUI]

YES indicates that uncommitted inserts are treated as if they have not yet been executed. The ZPARM name is SKIPUNCI.

GET ACCEL ARCHIVE [QWP4CGAA]

Determines the default value that is to be used for the CURRENT GET_ACCEL_ARCHIVE special register:

NO
Indicates that if a table is archived in an accelerator server, and a query references that table, the query does not use the data that is archived.

YES
Indicates that if a table is archived in an accelerator server, and a query references that table, the query uses the data that is archived.

ZPARM name GET_ACCEL_ARCHIVE in macro DSN6SPRM.

LMT CONV PART TAB [QWP4XPKE]

Shows whether to include all columns in the partitioning key during conversion from index-controlled partitioning to table-controlled partitioning:

NO
Includes all columns

YES
Includes trailing columns only if they affect partitioning

This field corresponds to field EXCLUDE PART KEY ELEMENTS on installation panel DSNTIP71. The ZPARM name is IX_TB_PART_CONV_EXCLUDE in DSN6SPRM.

DDL TIMEOUT FACT [QWP4DDLTO]

Shows the time out factor of the SQL data definition. The time out value is the product of this value and the IRLMRWT value.

ZPARM name DDLTOX in DSN6SPRM.

CUR QUERY ACCEL [QWP4CQAC]

Determines the default value that is to be used for the CURRENT QUERY ACCELERATION special register. Possible values are:

NONE
Indicates that no query acceleration is done. This is the default value.

ENABLE
Indicates that queries are accelerated only if Db2 determines that it is advantageous to do so. If there is an accelerator failure while a query is running, or the accelerator returns an error, Db2 returns a negative SQLCODE to the application.

ENABLE_WITH_FAILBACK
Indicates that queries are accelerated only if Db2 determines that it is advantageous to do so. If the accelerator returns an error during the PREPARE or first OPEN for the query, Db2 executes the query without the accelerator. If the accelerator returns an error during a FETCH or a subsequent OPEN, Db2 returns the error to the user, and does not execute the query.

ELIGIBLE
Indicates that queries are accelerated if they are eligible for acceleration. Db2 does not use cost information to determine whether to accelerate the queries. Queries that are not eligible for acceleration are executed by Db2. If there is an accelerator failure while a query is running, or the accelerator returns an error, Db2 returns a negative SQLCODE to the application.

ALL
Indicates that queries are accelerated if they are eligible for acceleration. Db2 does not use cost information to determine whether to accelerate the queries. Queries that are not eligible for acceleration are not executed by Db2, and an SQL error is returned. If there is an accelerator failure while a query is running, or the accelerator returns an error, Db2 returns a negative SQLCODE to the application.

ZPARM name QUERY_ACCELERATION in DSN6SPRM.

REORG SORT NPSI [QWP4RPSN]

Specifies the default method of building a non-partitioned secondary index during the REORG tablespace part. This setting is used when the SORTNPSI keyword is not specified in a utility control statement.

Possible values are:

- Auto
- Disable
- Enable

This field corresponds to field REORG PART SORT NPSI in installation panel DSNTIP61. The ZPARM name is REORG_PART_SORT_NPSI in DSN6SPRM.

MAX UTIL PARALL [QWP4UMD]

The maximum degree of utility parallelism.

ACCEL STARTUP OPT [QWP4ACCS]

Specifies whether to enable accelerator servers. Possible values are:

AUTO
Enable and start accelerator servers.

COMMAND
Enable but do not start accelerator servers.

NO
Do not enable accelerator servers.

This field corresponds to field ACCEL STARTUP on installation panel DSNTIP81. ZPARM name is ACCEL in DSN6SPRM.

REORG IGN FREESPC [QWP4RIFS]

YES indicates that REORG tablespace does not use the PCTFREE and FREEPAGE values when it reloads data rows into a partition-by-growth (PBG) table space if:

- A subset of the partitions is reorganized.
- The associated table contains LOB columns that cause a REORG AUX NO REQUEST to fail.

This field corresponds to field REORG IGNORE FREESPACE in installation panel DSNTIP61. ZPARM name is REORG_IGNORE_FREESPACE in DSN6SPRM.

MULT INDEX ACCESS [QWP4SQMX]

Specifies whether to enable or disable multiple index access for queries that have subquery predicates:

NO
Disables multiple index access for queries.

YES
Enables multiple index access for queries.

The ZPARM name is SUBQ_MIDX IN DSN6SPRM.

QUERY ACCEL OPT [QWP4QACO]

Specifies additional types of SQL queries that are eligible for acceleration.

NONE
Indicates that no additional types of SQL queries are eligible. Therefore, the types of queries that are described in the other available values for this parameter are not eligible for acceleration. This is the default value.

1
Indicates that queries that include data that is encoded with the EBCDIC mixed or graphic encoding schemes are eligible for acceleration.

2
Indicates that an INSERT with SELECT statement is eligible for acceleration. However, only the SELECT operation of the query is processed by the accelerator server.

3
Indicates that queries that contain built-in functions for which Db2 processes each byte of the input string, rather than each character of the input string, can run on an accelerator server.

4
The queries that reference an expression with a DATE data type that uses a LOCAL format are not blocked from executing on IBM Db2 Analytics Accelerator for z/OS. IBM Db2 Analytics Accelerator for z/OS will use the *dd/mm/yyyy* format to interpret the input and output date value. Specify option 4 only when you also specify LOCAL as the setting for the DSNHDECP.DATE parameter and your LOCAL date exit defines the specific *dd/mm/yyyy* date format. Otherwise, queries may return unpredictable results.

5
Allow OFFLOAD of SYSTEM_TIME temporal queries.

6
Allow OFFLOAD of queries that reference timestamp columns with a precision of up to 12.

7
OFFLOAD uses *YYYYMMDD* date format.

ZPARM name QUERY_ACCEL_OPTIONS in macro DSN6SPRM.

REORG TABSPC LIST [QWP4RLPR]

Specifies the default value for the REORG TABLESPACE PARALLEL option.

- Parallel
- Serial

The ZPARM name is REORG_LIST_PROCESSING in DSN6SPRM.

OPT 1 ROW-NO SORT [QWP4O1RBS]

Specifies whether Db2 explicitly blocks sort operations when the OPTIMIZE FOR 1 ROW clause is specified on a query:

NO = DISABLE
Means that when OPTIMIZE FOR 1 ROW is specified, Db2 avoids access paths that involve sorts. If an access path that avoids a sort exists, it is possible, although unlikely, that an access path that involves a sort is chosen instead. This behavior is used in Db2 9 and earlier releases.

YES = ENABLE
Means that when OPTIMIZE FOR 1 ROW is specified, Db2 chooses access paths that avoid sorts whenever such a path is available.

ZPARM name is OPT1ROWBLOCKSORT in DSN6SPRM.

AUTH EXIT CHECK [QWP4RACK]

Specifies whether the Db2 authorization ID or the RACF primary authorization ID is to be used for authorization checks, when the access control authorization exit is active:

Primary
Db2 provides:

- The ACEE of the package owner to perform statement authorization checks during AUTOMATIC REBIND, BIND, and REBIND processing
- The ACEE of the package owner, routine definer, or routine invoker, as determined by the dynamic rules behavior for dynamic SQL authorization checking, when a DYNAMICRULES BIND option value other than run is in effect.

The access control authorization exit uses the ACEE for the XAPLUCHK authorization ID field to perform the authorization. The authorization ID in XAPLUCHK must be defined as a RACF user and must have the privileges required to execute the SQL statements in the package.

Db2
Db2 provides the ACEE of the primary authorization ID for performing all authorization checks. The primary authorization ID must have the privileges required to execute the SQL statements in the package. This field corresponds to field "RACF AUTH CHECK" on installation panel DSNTIPP. ZPARM name is RACF_AUTHCHECK in DSN6SPRM.

REORG MAPPING DB [QWP4RMDB]

The default database in which REORG TABLESPACE SHRLEVEL change implicitly creates the mapping table. This field corresponds to field RECORD MAPPING DB on installation panel DSNTIP61. The ZPARM name RECORD_MAPPING_TABLE in DSN6SPRM.

UTIL OBJ CONVERS [RT0106OC]

This field can have the following values:

NONE (QWP4UTOC1=0 and QWP4UTOC2=0)
No conversion is performed. This option is the default setting of this parameter. NONE is allowed regardless of the OBJECT CREATE FORMAT setting.

BASIC (QWP4UTOC1=1 and QWP4UTOC2=0)
Existing table spaces and indexes that use extended 10-byte page format are converted to basic 6-byte page format. BASIC is allowed only if the OBJECT CREATE FORMAT field is also set to BASIC.

EXTENDED (QWP4UTOC1=0 and QWP4UTOC2=1)
Existing table spaces and indexes that use 6-byte page format are converted to extended 10-byte page format. EXTENDED is allowed only if the OBJECT CREATE FORMAT field is also set to EXTENDED.

NO BASIC (QWP4UTOC1=1 and QWP4UTOC2=1)
Prevents the conversion of table spaces and indexes in extended page format to basic page format and disallows a utility that accepts the RBALRSN_CONVERSION utility keyword from running on an object in basic page format unless it converts it to extended page format. This setting is permitted only when OBJECT_CREATE_FORMAT=EXTENDED is set.

The ZPARM name is UTILITY_OBJECT_CONVERSION in DSN6SPRM.

AUTHEX CACHE REF [QWP4AECR]

Specifies whether the package authorization cache, routine authorization cache, and dynamic statement cache entries are refreshed when an access control authorization exit is active, and the user profile is changed in RACF. Possible values are:

- All
- None

This field corresponds to field AUTH EXIT CACHE REFR in installation panel DSNTIPP. ZPARM name is AUTHEXIT_CACHEREFRESH in DSN6SPRM.

REORG DROP PARTS [QWP4RPBG]

If YES, REORG completes, REORG drops empty, and trailing partitions are set in a PARTITION-BY-GROWTH table space.

This field corresponds to field REORG DROP PBG PARTS on INSTALLATION panel DSNTIP61. The ZPARM name is REORG_DROP_PBG_PARTS in DSN6SPRM.

OBJ CREATE FORMAT [QWP4OBCF]

Creates new table spaces and indexes in the following log record format:

EXTENDED
Creates new table spaces and indexes in extended log record format.

BASIC
Creates new table spaces and indexes in basic log record format.

PKG RLEASE COMMIT [QWP4PKRC]

YES indicates that the following operations on a package that are bound with RELEASE(DEALLOCATE) are permitted while the package is active and allocated by Db2:

- BIND and REBIND requests, including AUTOMATIC REBIND
- Data definition language changes to objects that are statically referenced by the package

The ZPARM name is PKGREL_COMMIT in DSN6SPRM.

REORG KEEP DICT [QWP4HKEEPD]

Indicates that KEEPDICTIONARY is used when a REORG converts a table space from basic row format (BRF) to reordered row format (RRF).

TEMPLATE TIME [QWP4TPTM]

Specifies the default setting for the TIME option of the template utility control statement. Possible values are:

- UTC (utility control)
- Local

This field corresponds to field TEMPLATE TIME on installation panel DSNTIP6. The ZPARM name is TEMPLATE_TIME in DSN6SPRM.

MAX IN-MEM SORT [QWP4MIMTS]

The maximum amount of storage in kilobytes to allocate for sorting the results of each query that contains the order by clause, the group by clause, or both. This field corresponds to field MAX IN-MEMORY SORT SIZE in installation panel DSNTIPC. The ZPARM name is MAXSORT_IN_MEMORY in DSN6SPRM.

STATIST FEEDBACK [QWP4SFBS]

Specifies the scope of SQL statements for which Db2 is to recommend statistics. Possible values are:

- All
- Dynamic
- None
- Static

This value corresponds to field STATISTICS FEEDBACK on installation panel DSNTIPO. The ZPARM name is STATFDBK_SCOPE in DSN6SPRM.

LOAD RO OBJECTS [QWP4LIRO]

The LOAD RO OBJECTS subsystem parameter specifies whether Db2 utilities allow LOAD on all SHRLEVELs including the data loading and inserting cases to load into read-only (RO) objects.

MAX PARA DEG DPSI [QWP4DEGD]

The maximum degree of parallelism for a parallel group in which a data-partitioned secondary index is used to control parallelism. This field corresponds to field MAX DEGREE FOR DPSI on installation panel DSNTIP81. The ZPARM name is PARAMDEG_DPSI in DSN6SPRM.

APPL COMPAT [QWP4APCO_VAR]

Specifies the Db2 level for downward compatibility with applications. ThQWP4MFATe ZPARM name is APPLCOMPAT in DSN6SPRM.

PCTFREE UPDATE [QWP4PFUP]

Specifies the default percentage of each page that Db2 leaves as free space in a table space when a table in this table space is populated. This value applies only to table spaces whose definitions do not include PCTFREE and for UPDATE.

This value corresponds to field PERCENT FREE FOR UPDATE on installation panel DSNTIP71. The ZPARM name is PCTFREE_UPD in DSN6SPRM.

WF DB AGNT THRESH [QWP4WFSAT]

Specifies the percentage of space that is used in the Workfile Database by a single agent when Db2 issues a warning message.

This value corresponds to field AGENT LEVEL THRESHOLD on installation panel DSNTIP91. The ZPARM name is WFSTGUSE_AGENT_THRESHOLD in DSN6SPRM.

LIKE BLANK INSIGN [QWP4LBIN]

YES indicates that blanks are not significant when Db2 applies the LIKE predicate to a string. Blanks are significant in Db2 10.

This setting corresponds to field LIKE BLANK INSIGNIFICANT on installation panel DSNTIP41. The ZPARM name is LIKE_BLANK_INSIGNIFICANT in DSN6SPRM.

IDX CLEANUP THRDS [QWP4IXCU]

The maximum number of threads that can be created to clean up pseudo-deleted index entries on a data sharing member of a subsystem. This field corresponds to field INDEX CLEANUP THREADS on installation panel DSNTIPE1. The ZPARM name is INDEX_CLEANUP_THREADS in DSN6SPRM.

WF DB SYS THRESH [QWP4WFSST]

Specifies the percentage of space that is used in the Workfile Database by all agents in a Db2 subsystem or data sharing member when Db2 issues a warning message.

This value corresponds to field SYSTEM LEVEL THRESHOLD on installation panel DSNTIP91. The ZPARM name is WFSTGUSE_SYSTEM_THRESHOLD in DSN6SPRM.

D.STMT CACHE STOR [QWP4CDTSL]

Specifies the number of gigabytes of storage that Db2 allocates for hashing entries in the dynamic statement cache. This parameter can avoid storage shortages for long-running threads. The storage is allocated above the bar.

The ZPARM name is CACHE_DEP_TRACK_STOR_LIM in DSN6SPRM.

SPT01 INLINE LENGTH [QWP4S1IL]

The maximum length in bytes of LOB columns in the SPT01 directory space that are maintained in the base table. The ZPARM name is SPT01_INLINE_LENGTH in DSN6SPRM. The default value is 0. When NOINLINE is specified, the value is set to -1.

SIMULATED CPUS [QWP4NCPU]

The number of CPUs that are online.

MSEC OF TASK/SRB [QWP4CPUM]

Microseconds of task or SRB (service request block) execution time for each service unit (SU).

COMPRESS SPT01 [QWP4CS01]

Enables the compression of SPT01.

UT SORT DS ALLOC [QWP4SRAL]

In Db2 12 this field is a serviceability field.

YES indicates that utilities invoke a SORT use and a space prediction algorithm for dynamically allocated SORT work data sets. The ZPARM name is UTSORTAL in DSN6SPRM.

MAX ZL DICT ENTR [QWP4MDE]

The maximum number of ZIVLEMPEL dictionary entries.

I/O SCHEDULING [QWP4IOP]

Determines whether the I/O scheduling feature is activated. Db2 parameter SPRMIOP in DSN6SPRM.

UT DB2 SORT USE [QWP4DB2SRT]

In Db2 12 this field is a serviceability field.

Enables the use of DB2 SORT.

ENABLE DB CHECK [QWP4DBCK]

Enable database checking.

IGN SORTNUM STMT [QWP4IGSN]

Ignores SORTNUM clause in utility control statements. The ZPARM name is IGNSORTN in DSN6SPRM.

UT TEMP STORCLASS [QWP4CHEC]

Specifies the name of the SMS storage class that Db2 uses for defining temporary shadow data sets. A blank value indicates that the temporary shadow data sets a defined in the same storage class as the production page set. This field corresponds to field "UTIL TEMP STORCLAS" on installation panel DSNTIP6. The ZPARM name is UTIL_TEMP_STORCLAS in DSN6SPRM.

BIF COMPATIBILITY [QWP4_BIF_COMPAT]

The BIF_COMPATIBILITY subsystem parameter specifies whether the built-in functions and specifications are to return results in the Db2 10 format or revert to the pre-Version 10 format. It can have the following values:

- CURRENT
- V9
- V9_TRIM
- V9_DECIMAL_VARCHAR (default for migration)
- N/P (default for new installation

This field corresponds to field BIF COMPATIBILITY on installation panel DSNTIPX.

ZPARM name BIF_COMPATIBILITY in DSN6SPRM.

FAST REPLICATION [QWP4CFRP]

The FASTREPLICATION type for check utilities:

- N=NONE
- P=PREFERRED
- R=REQUIRED

This field corresponds to field "Fast replication" in installation panel DSNTIP6. The ZPARM name is CHECK_FASTREPLICATION in DSN6SPRM.

FLASHCOPY PPRC [QWP4FCPPRC]

Specifies the behavior for DFSMSdss FLASHCOPY requests when the target disk storage volume is the primary device in a peer-to-peer remote copy (metro mirror) relationship (Db2 field: QWP4FCPPRC). This field corresponds to field "FLASHCOPY PPRC" on installation panel DSNTIP6. The ZPARM name is FLASHCOPY_PPRC.

CAT DAT DATACLASS [QWP4CDDC]

The SMS data class for Db2 catalog data sets. This field corresponds to column SMS data class in field "Directory and catalog data" on installation panel DSNTIPA3. The ZPARM name is CATDDACL in DSN6SPRM.

FAST RESTORE [QWP4RFRP]

Specifies how the Recover utility directs DFSMSdss copy to restore an image copy that was created with FLASHCOPY. This field corresponds to field "Fast restore" on installation panel DSNTIP6. The ZPARM name is REC_FASTREPLICATION.

FLASHCOPY COPY [QWP4FCCP]

YES indicates that the Copy utility uses the subsystem parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement. The ZPARM name is FLASHCOPY_COPY in DSN6SPRM.

CAT DAT MGMTCLASS [QWP4CDMC]

The SMS management class for Db2 catalog data sets. This field corresponds to column SMS MGMT class in field "Directory and catalog data" on installation panel DSNTIPA3. The ZPARM name is CATDMGCL in DSN6SPRM.

RESTR ALT COL DCC [QWP4RACD]

A value of YES prevents the use of ALTER table ALTER column with SET DATA TYPE, SET DEFAULT, and DROP DEFAULT when data capture changes is enabled on the target table. The ZPARM name is RESTRICT_ALT_COL_FOR_DCC in DSN6SPRM.

FLASHCOPY LOAD [QWP4FCLD]

YES indicates that the load utility uses the subsystem parameter settings for FLASHCOPY, FCCOPYDD, and FCAUXOBJS when those keywords are not present in the utility control statement. ZPARM NAME: FLASHCOPY_LOAD IN DSN6SPRM.

CAT DAT STORCLASS [QWP4CDSC]

The SMS storage class for Db2 catalog data sets. This field corresponds to column SMS STOR class in field "Directory and catalog data" on installation panel DSNTIPA3. The ZPARM name is CATDSTCL in DSN6SPRM.

SET CHECK PENDING [QWP4CSCP]

In Db2 12 this field is a serviceability field.

YES sets the object in check-pending status when the check utility detects an inconsistency. This field corresponds to field "Set check pending" on installation panel DSNTIP61. The ZPARM name is CHECK_SETCHKP in DSN6SPRM.

FLASHCOPY REB IX [QWP4FCRBI]

YES indicates that the Rebuild Index utility uses the subsystem parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement (Db2 field: QWP4FCRBI). The ZPARM name is FLASHCOPY_REBUILD_INDEX in DSN6SPRM.

CAT IDX DATACLASS [QWP4CXDC]

The SMS data class for Db2 catalog index data sets. This field corresponds to column SMS data class in field "Directory and catalog indexes" on installation panel DSNTIPA3. The ZPARM name is CATXDACL in DSN6SPRM.

DISABLE EDM RTS [QWP4DEDR]

Hexadecimal (X'01'). YES disables the use of EDM real-time Statistics. The ZPARM name is DISABLE_EDMRTS in DSN6SPRM.

FLASHCPY REORG TS [QWP4FCROT]

YES indicates that the Reorg Tablespace utility uses the subsystem parameter settings for FLASHCOPY, FCCOPYDDN, and FCAUXOBJS when these keywords are not present in the utility control statement. The ZPARM name is FLASHCOPY_REORG_TS in DSN6SPRM.

CAT IDX MGMTCLASS [QWP4CXMC]

The SMS management class for Db2 catalog index data sets. this field corresponds to column SMS MGMT class in field "Directory and catalog indexes" on installation panel DSNTIPA3. The ZPARM name is CATXMGCL in DSN6SPRM.

DRDA RESOLV ALIAS [QWP4RSLV]

YES means that in SQL statements, Db2 replaces aliases that refer to three-part names with qualified object names before it sends the statements to the remote location. This substitution is done in the following cases:

- When PREPARE or EXECUTE IMMEDIATE is performed
- When REMOTE BIND of a package is performed.

ZPARM name DRDA_RESOLVE_ALIAS in DSN6SPRM.

FLASHCPY REORG IX [QWP4FCRBI]

YES indicates that the Rebuild Index utility uses the subsystem parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement (Db2 field: QWP4FCRBI). The ZPARM name is FLASHCOPY_REBUILD_INDEX in DSN6SPRM.

CAT IDX STORCLASS [QWP4CXSC]

The SMS storage class for Db2 catalog index data sets. This field corresponds to column SMS STOR class in field "Directory and catalog indexes" on installation panel DSNTIPA3. The ZPARM name is CATXSTCL in DSN6SPRM.

MANAGE REAL STOR [QWP4STMN]

Specifies whether Db2 manages real storage consumption. This field corresponds to field MANAGE REAL STORAGE on installation panel DSNTIPE. The ZPARM name is REALSTORAGE_MANAGEMENT in DSN6SPRM.

MAX REAL+AUX STOR [QWP4RSMX]

The maximum amount of real plus auxiliary storage that can be used.

A value of 0 is displayed for NOLIMIT.

The ZPARM name is REALSTORAGE_MAX in DSN6SPRM.

PARALL EFFICIENCY [QWP4PAEF]

The parallelism efficiency factor.

Note: This field has value of 0 if the System Management Facilities (SMF) trace contains the hexadecimal value X'8000'.

This field corresponds to field PARALLELISM EFFICIENCY on installation panel DSNTIP8. The ZPARM name is PARA_EFF in DSN6SPRM.

REORDERD ROW FORM [QWP4RRF]

In Db2 12 this field is a serviceability field.

A value of YES shows that reordered row format is enabled.

This field corresponds to field REORDERED ROW FORMAT on installation panel DSNTIP7. The ZPARM name is RRF in DSN6SPRM.

SEPAR WORK FILES [QWP4WFDBSEP]

YES directs processing of declared temporary tables only to Db2-managed table spaces that are defined with SECQTY>0 (Db2 field: QWP4WFDBSEP). It directs all other processing to Db2-managed table spaces that are defined with SECQTY=0 or to user-managed table spaces. This field corresponds to field "Separate Work Files" in installation panel DSNTIP9. The ZPARM name is WFDBSEP in DSN6SPRM.

PREVENT ALTER LMT [QWP4PALK]

Determines whether Db2 disallows altering the limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. This alter operation places the table space in REORG-pending (REORP) restrictive status, and the data is not available until the affected partitions are reorganized. Use PREVENT_ALTERTB_LIMITKEY to avoid this data unavailability.

NO
Specifies that you can alter a limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. NO is the default.

YES
Specifies that it is not permitted to alter a limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. An ALTER TABLE statement must not attempt to alter the limit key for an index-controlled partitioned table.

Install parameter PREVENT ALTER LIMITKEY on panel DSNTIP71, or ZPARM: PREVENT_ALTERTB_LIMITKEY in DSN6SPRM.

PREVENT IDX PART [QWP4PCIP]

Determines whether Db2 does not allow the creation of new index-controlled partitioned tables. This subsystem parameter ensures that new partitioned tables use table-controlled partitioning, which is the preferred partitioning method for non-universal table spaces.

NO
Specifies that new index-controlled partitioned tables can be created. NO is the default value.

YES
Specifies that new partitioned table spaces must use table-controlled partitioning. A CREATE INDEX statement must not attempt to create an index-controlled partitioned table.

Install parameter PREVENT INDEX PART CREATE on panel DSNTIP71, or ZPARM: PREVENT_NEW_IXCTRL_PART in DSN6SPRM.

RETRY STOPPED OBJ [QWP4RSO]

Specifies whether Db2 should immediately reject requests for a stopped object or retry them, up to the IRLM timeout limit, if the object is restarted.

NO
This is the default. It indicates that Db2 immediately rejects requests for a stopped object.

YES
Db2 retries such requests, up to the IRLM timeout setting, if the stopped object is restarted.

Install parameter RETRY STOPPED OBJECTS on panel DSNTIP72, or ZPARM RETRY_STOPPED_OBJECTS in DSN6SPRM.

EMPTY XML ELEMENT [QWP4NOET]

Indicates whether empty XML elements are serialized:

NO
Serialization of empty XML elements is not defined.

YES
Empty XML elements are serialized using a start-element tag followed by an end-element tag.

ZPARM name is XML_RESTRICT_EMPTY_TAG in DSN6SPRM.

RENAME TABLE [QWP4ERTS]

Specifies whether the RENAME TABLE statement should extend to tables that are referenced in a view definition or the definition of an SQL table function:

YES
ALLOW_DEP_VIEW_SQLTUDF

NO
DISALLOW_DEP_VIEW_SQLTUDF

Install parameter RENAME TABLE on panel DSNTIP72, or ZPARM RENAMETABLE in DSN6SPRM.

ALTERNATE CPYPOOL [QWP4BSACP]

Specifies an optional alternate SMS copy pool for the Db2 BACKUP SYSTEM utility.

This field corresponds to field ALTERNATE COPYPOOL on INSTALLATION panel DSNTIP62. The ZPARM name is ALTERNATE_CP in DSN6SPRM.

DB BAK STG GRP [QWP4UDBSG]

Specifies an optional backup SMS storage group to be used by the Db2 BACKUP SYSTEM utility for the DB copy pool.

This field corresponds to field DB BACKUP STG GROUP on INSTALLATION panel DSNTIP62. The ZPARM name is UTIL_DBBSG in DSN6SPRM.

LOG BAK STG GRP [QWP4ULBSG]

Specifies an optional backup SMS storage group to be used by the Db2 BACKUP SYSTEM utility for the LOG copy pool.

This field corresponds to field LOG BACKUP STG GRP on INSTALLATION panel DSNTIP62. The ZPARM name is UTIL_LGBSG in DSN6SPRM.

COPY FAST REPLIC [QWP4CYFR]

Specifies whether FlashCopy fast replication is preferred, required, or should not be used.

This field corresponds to field COPY FAST REPLICATION on INSTALLATION panel DSNTIP61. The ZPARM name is COPY_FASTREPLICATION in DSN6SPRM.

PAGE NUMBERING [QWP4PSPN]

Specifies whether range-partitioned table spaces and associated indexes will be created to use absolute page numbers across partitions or relative page numbers.

A
Absolute page numbers

R
Relative page numbers

Install parameter PAGE SET PAGE NUMBERING on panel DSNTIP71, or ZPARM PAGESET_PAGENUM in DSN6SPRM.

COMPRESS_DIRLOB [QWP4CDRL]

Specifies whether Db2 compresses large object (LOB) table spaces in the Db2 directory the next time that the table spaces are reorganized.

- 0 indicates NO
- 1 indicates YES

This value corresponds to field COMPRESS DB2 DIR LOBS on installation panel DSNTIPA2. ZPARM name: COMPRESS_DIRLOB in DSN6SPRM.

CACHE DYN STABIL [QWP4CDST]

Specifies when dynamic SQL statements can be captured for stabilization. When a statement is stabilized, the current SQLID, statement text, and runtime structures are written to catalog tables. If a dynamic SQL statement is not present in the dynamic SQL statement cache, Db2 will load the runtime structures from catalog table rather than performing a full prepare. This extends the stability and reliability of performance of a dynamic SQL. It can have the following values:

CAPTURE
Statements may be stabilized through the -START DYNQUERY command using both MONITOR(NO) and MONITOR(YES). Db2 will not load stabilized statements from SYSDYNQRY.

LOAD
Statements may not be stabilized via any means. The -START DYNQUERY command will fail, and any MONITOR(YES) commands in progress will not stabilize statements, even if stabilization criteria are matched. During long prepare, Db2 will attempt to load stabilized statements from SYSDYNQRY with which to run.

BOTH
Statements may be stabilized through the -START DYNQUERY command via both MONITOR(NO) and MONITOR(YES). During long prepare, Db2 will attempt to load stabilized statements from SYSDYNQRY with which to run. BOTH is the default setting.

NONE
Statements may not be stabilized via any means. The -START DYNQUERY command will fail, and any MONITOR(YES) commands in progress will not stabilize statements, even if stabilization criteria are matched. Db2 will not load stabilized statements from SYSDYNQRY.

This field corresponds to field CACHE DYN STABILITY on installation panel DSNTIP8. The ZPARM name is CACHEDYN_STABILIZATION in DSNTIP8.

SELECT FOR UNLOAD [QWP4ACSU]

Shows the AUTH_COMPATIBILITY ZPARM values (Db2 field: QWP4AUTCSU):

1
The unload utility checks whether the user has the SELECT privilege on the target table.

0
The unload utility checks whether the user has the UNLOAD privilege on the target table.

DDL MATERIALIZATN [QWP4DDLM]

Specifies when Db2 materializes changes to the definition of an object. This value corresponds to field DDL MATERIALIZATION on installation panel DSNTIP71. ZPARM name is DDL_MATERIALIZATION in DSN6SPRM.

INDEX MEMORY CTRL [QWP4IXMC]

Shows the amount of memory that Db2 should allocate for fast traversing of Db2 indexes:

-1 = AUTO
Specifies that Db2 sets the upper limit of the storage to 20% of the currently allocated buffer pools.

0 = DISABLE
Specifies that Db2 returns any existing storage allocated for fast index traversal and does not allocate any further storage for this purpose.

500 - 200000
Indicates the storage limit for fast index traversal.

The ZPARM name is INDEX_MEMORY_CONTROL in DSN6SPRM.

HSM MSG DS HLQ [QWP4UHMDH]

Shows the high level qualifier (HLQ) for data sets (DS) to be allocated by the Db2 BACKUP SYSTEM and RESTORE SYSTEM utilities to receive messages from the Data Facility Hierarchical Storage Manager (DFHSM) and the IBM Data Facility Data Set Services (DFDSS) (Db2 field: QWP4UHMDH).

This value corresponds to field HSM MESSAGE DS HLQ on installation panel DSNTIP62. ZPARM name: UTILS_HSM_MSGDS_HLQ in DSN6SPRM.

DFLT INSERT ALG [QWP4DINA]

Specifies the default algorithm for inserting data into table spaces. This value corresponds to the field DEFAULT INSERT ALGORITHM on installation panel DSNTIP71. The ZPARM name DEFAULT_INSERT_ALGORITHM is in DSN6SPRM.

STATFDBK PROFILE [QWP4SFPR]

Specifies whether Statistics recommendations that are identified during query optimization cause Db2 to modify to Statistics profiles.

- 0 indicates NO
- 1 indicates YES

This value corresponds to field STATS PROFILE FEEDBACK on installation panel DSNTIP8. ZPARM name: STATFDBK_PROFILE in DSN6SPRM.

MAT NODET SQLTUDF [QWP4MNSU]

Db2 materializes the result of a user-defined SQL table function that is defined as not deterministic.

- 0=NO
- 1=YES

ZPARM name is MATERIALIZE_NODET_SQLTUDF in DSN6SPRM.

ACCEL WT FOR DATA [QWP4QAWFD]

Query Accelerator wait for data is a numeric-constant value that specifies the maximum number of seconds that the accelerator will delay a query while the accelerator waits for the replication of committed Db2 data changes that occurred prior to Db2 running the query.

The valid range is 0.0 to 3600.0 (DSN6SPRM)

If the value is not in valid range, then **N/A** (invalid sign) or **N/P** (out of range) will be printed.

ZHYPERLINK [QWP4ZHYPL]

The scope of zHyperLink I/O usage for this Db2 subsystem. Valid values are:

DISABLED
zHyperLink I/O not used by this Db2 subsystem.

ENABLED
All eligible I/Os will use zHyperLink if possible.

DATABASE
zHyperLink will only be used for eligible I/O on database objects.

ACTIVELOG
zHyperLink will only be used for eligible I/O on active log objects.

ENCRYPTION KEY [QWP4ENKL]

If non-blank, the name of a ICSF key to be used for encrypting archive log data sets, directory data sets, catalog data sets and user-defined indexes on the Db2 catalog. A blank value shows as N/P in the report. A UNICODE value that cannot be converted to EBCDIC for the report shows as N/P.

IFCID 106 - Stored Procedures Parameters

This topic shows detailed information about "Record Trace - IFCID 106 - Stored Procedures Parameters".

Record trace - IFCID 106 - Stored Procedures Parameters

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Stored Procedures Parameters" are described in the following section.

```
STORED PROCEDURES PARAMETERS
MVS PROCEDURE NAME: 'BLANK'     ALLOWABLE ABENDS:         0    TIMEOUT VALUE:       180
```

MVS PROCEDURE NAME

The name of the MVS JCL procedure used to start the DB2 stored procedures address space.

Install parameter DB2 PROC NAME on panel DSNTIPX, or ZPARM STORPROC in DSN6SYSP.

Field Name: QWP1SPPN

ALLOWABLE ABENDS

The number of times a stored procedure is allowed to terminate abnormally, after which SQL CALL statements for the stored procedure are rejected.

Install parameter MAX ABEND COUNT on panel DSNTIPX, or ZPARM STORMXAB in DSN6SYSP.

Field Name: QWP1SPAB

TIMEOUT VALUE

The number of seconds before DB2 stops waiting for an SQL CALL statement to be assigned to one of the TCBs in the DB2 stored procedures address space.

Install parameter TIMEOUT VALUE on panel DSNTIPX, or ZPARM STORTIME in DSN6SYSP.

Field Name: QWP1SPTO

IFCID 106 - System Initialization Parameters

This topic shows detailed information about "Record Trace - IFCID 106 - System Initialization Parameters".

When this block contains names that are too long for the space available, they are truncated. The full name is shown in the list of long names, which is printed at the end of this block. When present, the list shows the parameter identifier, in alphabetic order, and the complete name. If the name is too long for one line, it continues on the next.

Record trace - IFCID 106 - System Initialization Parameters

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - System Initialization Parameters" are described in the following section.

```
                                  SYSTEM INITIALIZATION PARAMETERS
CHECKP FREQUENCY :                    5  TRACETAB SIZE(4K):                  16  GLOBAL CLASSES ..:          X'00000000'
WTO ROUTE CODES .:              X'8000'  LOCAL TRACETAB SZ:                  16  STATS CLASSES ...:          X'BC000000'
BACKGROUND IDS ..:                   50  MONITOR BUF SIZE :             1048576  ACCOUNT CLASSES .:          X'80000000'
FOREGROUND IDS ..:                   50  STATS INTERVAL ..:                   1  AUDIT CLASSES ...:          X'00000000'
RLIMIT TABLE ID .:                   01  PSEUDOCLOSE CHCKP:                  10  MONITOR CLASSES .:          X'80000000'
RLIMIT TAB AUTHID: SYSIBM                PSEUDOCLOSE MIN .:                  10  REM THRDS(ACTIVE):                 200
RLF DYNAMIC ERROR:              NOLIMIT  CONCURR THREADS .:                 200  REM THRDS(CONN) .:               10000
RLF STATIC ERROR.:              NOLIMIT  RLF SCOPE........:             DYNAMIC
RLF AUTO START ..:                   NO  UR LOG THRESHOLD :                10000  LIMIT BACKOUT ...:                AUTO
EXTENDED SECURITY:                   YES  UR CHECK FREQ ...:                   5  BACKOUT DURATION :                   5
WLM ENVIRONMENT .: N/P
ROLLUP PARAL THRD:                   YES  UNIT PRICE TRACK :                  NO  OTC LIC ACCEPTED :                  NO
LEVEL ID CHECKPS :                     5  USER LOB VAL STOR:                 N/A  USER XML VAL (KB):                N/A
DEF 4K BP U.DATA : BP0                    SYS LOB VAL STOR :               51200  SYS XML VAL (MB) :               51200
DEF 8K BP U.DATA : BP8K0                  LOB INLINE LENGTH:                   0  RANDOM XML DOCID :                  NO
DEF 16K BP U.DATA: BP16K0                 EXTRA BLOCKS SRV :                 100  SYNCVAL W/IN HOUR:                 N/P
DEF 32K BP U.DATA: BP32K                  EXTRA BLOCKS REQ :                 100  SYNCHR FLAG .....:                  NO
DEF BP USER INDEX: BP0                    DDF/RRSAF ACCUM .:                  10  TS ALLOCATION ...:                   0
DEF BP IMPL LOB .: BP0                    DSET STATS TIME .:                   5  IX ALLOCATION ...:                   0
DEF BP IMPL XML .: BP16K0                 UNICODE IFCIDS ..:                  NO  OPT EXTENT SIZING:                  NO
VARY DS CTRL INTV:                   YES  DEL CF STRUCTS ..:                  NO  DEF PART SEGSIZE :                  32
AGGREGATION FLDS :                     0  USE DATA COMPRESS:                  NO  DSSIZE IMPL TS ..:                   4
DEFINE DATA SETS :                   YES  COMPRESS SMF RECS:                 OFF  TRACKMOD IMPL TS :                 YES
PARAMETER MODULE : DC11BIF9               MAX OPEN FILE REF:                 100  RESERV Z/OS SPACE:               40960
ACCESS CONTROL ..: DSNX@XAC               CHECKPOINT TYPE .:              SINGLE  RESERV CRIT SPACE:            26279936
IDENTIFY/AUTH ...: DSN3@ATH               RECORDS/CHECKP ..:                 N/P  RESERV SOS SPACE :            26279936
SIGNON ..........: DSN3@SGN               MINUTES/CHECKP ..:                 N/P  PROFILE AUTOSTART:                 NO

QWP1LVLC ........: DSN1210                QWP1LVL .........:                  99  QWP1DONT ........:                  NO
```

CHECKP FREQUENCY

Checkpoint frequency. This shows either the number of minutes (1 through 60) or the number of DB2 log records between the start of successive checkpoints. DB2 starts a new checkpoint when this value is reached.

You can use the SET LOG command to change the number of log records between checkpoints dynamically. Valid values are 1-60 when specifying a time value and 200-16000000 when specifying a number of records.

Install parameter CHECKPOINT FREQ on panel DSNTIPL, ZPARM CHKFREQ in DSN6SYSP.

Field Name: QWP1LOGL

TRACETAB SIZE(4K)

Shows the size of the RES trace table in 4 KB blocks. A value of 16 means 64 KB have been allocated for this table.

This is the default destination for the global trace records in DB2. Most trace records require 32-byte entries; events with more than three data items require 64-byte entries.

Install parameter TRACE SIZE on panel DSNTIPN, or ZPARM TRACTBL in DSN6SYSP.

Field Name: QWP1TRSZ

GLOBAL CLASSES

Shows whether the global trace is started automatically when DB2 is started.

When YES, the global trace starts for the default classes (classes 1, 2, and 3) whenever DB2 is started, and additional data consistency checks are made whenever a data page or index page is modified. When ALL, the global trace is automatically started for all classes.

The global trace is used to diagnose problems in DB2 but it also impacts DB2 performance. If you have production systems requiring high performance, you might consider turning off global trace. If you do this, be aware that this presents a serviceability exposure. In the event of a system failure, IBM service personnel will ask you to turn on global trace and attempt to recreate the problem.

Install parameter TRACE AUTO START on panel DSNTIPN, or ZPARM TRACSTR in DSN6SYSP.

Field Name: QWP1TRST

WTO ROUTE CODES

The MVS console routing codes.

These codes are assigned to messages that are not solicited from a specific console. Up to 16 comma-separated codes can be shown.

Install parameter WTO ROUTE CODES on panel DSNTIPO, or ZPARM ROUTCDE in DSN6SYSP.

Field Name: QWP1SMRC

LOCAL TRACETAB SZ

The size of the local trace tables in multiples of 4 KB. ZPARM name TRACLOC in DSN6SYSP.

Field Name: QWP1TLSZ

STATS CLASSES

Shows whether a Statistics trace was started automatically at DB2 startup time.

The classes started are shown separated by commas.

DB2 sends collected trace data to SMF. The SMFPRM xx member of SYS1.PARMLIB must be set to allow SMF to write the records.

Install parameter SMF STATISTICS on panel DSNTIPN, or ZPARM SMFSTAT in DSN6SYSP.

Field Name: QWP1SMFS

BACKGROUND IDS

The maximum allowed number of concurrent connections for batch jobs and utilities. This includes:

- All batch jobs using QMF.
- All batch jobs using the DSN command processor.
- All tasks connected to DB2 through call attach facility (CAF) running in batch. This can include:
  - Batch jobs using QMF
  - APPC applications
  - TCP/IP FTP connections

When the number of batch jobs reaches this limit, further requests are rejected.

Install parameter MAX BATCH CONNECT on panel DSNTIPE, or ZPARM IDBACK in DSN6SYSP.

Field Name: QWP1IDB

MONITOR BUF SIZE

The default number of bytes allocated for the monitor trace buffer.

Install parameter MONITOR SIZE on panel DSNTIPN, or ZPARM MONSIZE in DSN6SYSP.

Field Name: QWP1MONS

ACCOUNT CLASSES

Shows whether DB2 sends accounting data to SMF automatically when DB2 is started. Numeric values show what classes are sent. When YES, the default class (class 1) is sent. When ALL, accounting classes one through five are started.

The SMFPRM xx member of SYS1.PARMLIB must also be set to allow SMF to write the records.

Install parameter SMF ACCOUNTING on panel DSNTIPN, or ZPARM SMFACCT in DSN6SYSP.

Field Name: QWP1SMFA

FOREGROUND IDS

The maximum number of concurrent TSO foreground connections (QMF, DSN, DB2I, and SPUFI).

Each of the following is a separate user:

- Each TSO foreground user executing a DSN command.
- Each TSO foreground user connected to DB2 through the call attachment facility (CAF). This can include QMF users running in TSO foreground or user-written CAF applications running in TSO foreground.

When the number of TSO users attempting to access DB2 exceeds this limit, connection requests are rejected.

There is no subsystem parameter to control the maximum concurrent connections for IMS and CICS. These are controlled by using IMS and CICS facilities. For CICS attachment, the maximum number of connections to DB2 can be controlled using the resource control table (RCT) TYPE=INIT THRDMAX value.

Install parameter MAX TSO CONNECT on panel DSNTIPE, or ZPARM IDFORE in DSN6SYSP.

Field Name: QWP1IDF

STATS INTERVAL

The time interval, in minutes, between statistics collections. Statistics records are written approximately at the end of this interval.

Install parameter STATISTICS TIME on panel DSNTIPN, or ZPARM STATIME in DSN6SYSP.

Field Name: QWP1STIM

AUDIT CLASSES

Shows whether the audit trace is started automatically when DB2 is started.

When YES, the audit trace is started for the default class (class 1) whenever DB2 is started. When ALL, an audit trace is automatically started for all classes.

Install parameter AUDIT TRACE on panel DSNTIPN, or ZPARM AUDITST in DSN6SYSP.

Field Name: QWP1AUDT

RLIMIT TABLE ID

The default resource limit specification table (RLST) suffix.

This suffix is used when the resource limit facility (governor) is automatically started or when the governor is started without specifying a suffix.

Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARM RLFTBL in DSN6SYSP.

Prior to DB2 12: Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARM RLFTBL in DSN6SYSP.

Field Name: QWP1RLFT

PSEUDOCLOSE CHCKP

The number of consecutive DB2 checkpoints that a page set or partition can remain in read/write mode since it was last updated. When this limit or the RO SWITCH TIME is reached, DB2 changes the page set or partition to read only.

This can improve performance for recovery, logging, and data-sharing processing.

Install parameter RO SWITCH CHKPTS on panel DSNTIPL, or ZPARM PCLOSEN in DSN6SYSP.

Field Name: QWP1FREQ

MONITOR CLASSES

Shows whether the monitor trace is started automatically when DB2 is started. When YES, the default (trace class 1) is started. Numeric values show which classes are started. When ALL, monitor trace classes 1 through 8 are started.

Install parameter MONITOR TRACE on panel DSNTIPN, or ZPARM MON in DSN6SYSP.

Field Name: QWP1MON

RLIMIT TAB AUTHID

The authorization ID used for the resource limit facility (governor).

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter RESOURCE AUTHID on panel DSNTIPP, or ZPARM RLFAUTH in DSN6SYSP.

Field Name: QWP1RLFA

PSEUDOCLOSE MIN

The number of minutes that a page set or partition can remain in read-write mode since it was last updated. When this limit or the RO SWITCH CHKPTS is reached, DB2 changes the page set or partition to read-only.

This can improve performance for recovery, logging, and data-sharing processing.

Install parameter RO SWITCH TIME on panel DSNTIPL, or ZPARM PCLOSET in DSN6SYSP.

Field Name: QWP1TMR

REM THRDS(ACTIVE)

The maximum number of database access threads (DBATs) that can be active concurrently.

When this limit has been reached, DB2 uses the value of DDF THREADS on panel DSNTIPR to decide how to handle a new allocation request.

When DDF THREADS is ACTIVE and MAX REMOTE CONNECTED has not been reached, the allocation request is allowed but any further processing for the connection is queued waiting for an active database access thread to terminate.

When DDF THREADS is INACTIVE and MAX REMOTE CONNECTED has not been reached, the allocation request is allowed and is processed when DB2 can assign an unused database access thread slot to the connection.

The total number of threads accessing data concurrently is the sum of MAX USERS and MAX REMOTE ACTIVE. The maximum allowable value for this sum is 2000.

Install parameter MAX REMOTE ACTIVE on panel DSNTIPE, or ZPARM MAXDBAT in DSN6SYSP.

Field Name: QWP1RMT

RLF DYNAMIC ERROR

Shows whether the resource limit facility (governor) is automatically started when DB2 is started.

Install parameter RLF AUTO START on panel DSNTIPO4, or ZPARM RLF in DSN6SYSP.

Field Name: QWP1RLF

CONCURR THREADS

The maximum number of allied threads (threads started at the local subsystem) that can be allocated concurrently.

Separate threads are created for each occurrence of the following:

- TSO user (whether running a DSN command or a DB2 request from QMF)
- Batch job (whether running a DSN command or a DB2 utility)
- IMS region that can access DB2
- Active CICS transaction that can access DB2
- Task connected to DB2 through the call attachment facility.

Install parameter MAX USERS on panel DSNTIPE, or ZPARM CTHREAD in DSN6SYSP.

Field Name: QWP1CT

REM THRDS(CONN)

The maximum allowed number of concurrent remote connections.

When this limit is reached, any new connection request is rejected.

Install parameter MAX REMOTE CONNECTED on panel DSNTIPE, or ZPARM CONDBAT in DSN6SYSP.

Field Name: QWP1CDB

UR LOG THRESHOLD

Shows the number of log records that are to be written by an uncommitted unit of recovery (UR) before DB2 issues a warning message to the console. This provides notification of a long-running UR. Long-running URs might result in a lengthy DB2 restart or a lengthy recovery situation for critical tables. Log records are specified in 1-K (1000 log records) increments. A value of 0 indicates that no write check is to be performed.

Install parameter UR LOG WRITE CHECK on panel DSNTIPL, ZPARM URLGWTH in DSN6SYSP.

Field Name: QWP1LWCK

LIMIT BACKOUT

Shows whether some backward log processing should be postponed.

When NO, DB2 backward log processing processes all inflight units of recovery (URs) and URs for abending transactions.

When YES, DB2 postpones backout processing for some units of work until the command RECOVER POSTPONED is issued.

AUTO (default) postpones some backout processing but automatically starts the backout processing when DB2 restarts and begins accepting new work.

When YES or AUTO, backout processing runs concurrently with new work. Page sets or partitions with backout work pending are unavailable until their backout work is complete.

Install parameter LIMIT BACKOUT on panel DSNTIPL, or ZPARM LBACKOUT in DSN6SYSP.

Field Name: QWP1LMBO

EXTENDED SECURITY

Extended security options.

When YES (strongly recommended), detailed reason codes are returned to a DRDA level 3 client when a DDF connection request fails because of security errors. When using SNA protocols, the requester must have included a product that supports the extended security sense codes, such as DB2 Connect version 5 and subsequent releases.

RACF users can change their passwords using the DRDA change password function. This support is only for DRDA level 3 requesters that have implemented support for changing passwords.

YES allows properly enabled DRDA clients to determine the cause of security failures without requiring DB2 operator support.

When NO, generic error codes are returned to the clients and RACF users are prevented from changing their passwords.

Install parameter EXTENDED SECURITY on panel DSNTIPR, or ZPARM EXTSEC in DSN6SYSP.

Field Name: QWP1SCER

UR CHECK FREQ

Shows the number of checkpoint cycles to complete before DB2 issues a warning message to the console and writes an IFCID 313 record for an uncommitted, indoubt, or inflight unit of recovery (UR). The default is 0, which disables this option.

Install parameter UR CHECK FREQ on panel DSNTIPL, or ZPARM URCHKTH in DSN6SYSP.

Field Name: QWP1URCK

BACKOUT DURATION

Indicates how much of the log to process for backout when LIMIT BACKOUT = YES or AUTO.

During restart, backward log processing continues until both of the following events occur:

- All inflight and inabort URs with update activity against the catalog or directory are backed out.
- The number of log records processed is equal to the number specified in BACKOUT DURATION times the value of CHECKPOINT FREQ. If the checkpoint frequency is specified in minutes, the number of records processed is the default of 50000 records multiplied by the value of CHECKPOINT FREQ.

In-flight and in-abort URs that are not completely backed out during restart are converted to postponed-abort status. Page sets or partitions with postponed-backout work are put into restart pending (RESTP). This state blocks all access to the object other than access by the command RECOVER POSTPONED or by automatic backout processing performed by DB2 when LIMITED BACKOUT = AUTO.

A table space might be in restart pending mode, without the associated index spaces also in restart pending mode. This happens if a postponed abort UR makes updates only to non-indexed fields of a table in a table space. In this case, the indexes are accessible to SQL (for index-only queries), even though the table space is inaccessible.

Install parameter BACKOUT DURATION on panel DSNTIPL, or ZPARM BACKODUR in DSN6SYSP.

Field Name: QWP1BDUR

WLM ENVIRONMENT

Workload manager environment.

Install parameter WLM ENVIRONMENT on panel DSNTIPX, or ZPARM WLMENV in DSN6SYSP.

Field Name: QWP1WLME

ROLLUP PARAL THRD

Indicates whether DB2 generates a trace record at the originating task level that summarizes accounting information for all parallel tasks.

DB2 parameter PTASKROL in DSN6SYSP.

Field Name: QWP1PROL

UNIT PRICE TRACK

Specifies whether DB2 performs detailed tracking for measured usage pricing. You can select the following values:

YES
DB2 does detailed measured usage tracking if SMF type 89 records are activated. When SMF89 is set to YES, DB2 invokes a z/OS service on every entry into or exit out of DB2 to ensure accurate tracking.

NO (the default value)
DB2 does not do detailed measured usage tracking. If the SMF type 89 record is activated, only high-level tracking is recorded in the SMF type 89 record. Selecting NO reduces CPU usage, but also increases the amount of time spent in DB2 as measured by SMF 89.

Note: Select SMF89 YES only if you use measured usage pricing.

DB2 parameter SMF89.

Field Name: QWP1SM89

OTC LIC ACCEPTED

Indicates that the one-time charge (OTC) license terms are accepted for this DB2 installation.

DB2 parameter OTC_LICENSE.

Field Name: QWP1OLAC

LEVEL ID CHECKPS

Shows how often, in checkpoints, the level ID of a page set or partition is updated. When zero (0), down-level detection is disabled. When five (5), down-level is enabled.

Use the following criteria to decide on a suitable value for this parameter:

- **How often are backup and restore methods used outside of the DB2 control (such as DSN1COPY or DFDSS dump and restore)?** If rarely used, there is no need to update the level ID frequently.
- **How many page sets are open for update at the same time?** If DB2 updates level IDs frequently, there is extra protection against down-level page sets. However, a performance degradation can occur if the level IDs for many page sets must be set at every checkpoint.
- **How often does the subsystem take checkpoints?** If the DB2 subsystem takes frequent system checkpoints, set the level ID frequency to a higher value.

Install parameter LEVELID UPDATE FREQ on panel DSNTIPL, or ZPARM DLDFREQ in DSN6SYSP.

Field Name: QWP1DFRQ

USER LOB VAL STOR

The maximum amount of storage (KB) each user can use for LOB values.

Install parameter USER LOB VALUE STORAGE on panel DSNTIP7, or ZPARM LOBVALA in DSN6SYSP.

Field Name: QWP1LVA

USER XML VAL (KB)

The maximum amount of memory in kilobytes (KB) for each user for storing XML values.

ZPARM XMLVALA in DSN6SYSP.

Field Name: QWP1XVA

DEF 4K BP U.DATA

The name of the 4 KB buffer pool for user table spaces.

Install parameter DEFAULT BUFFER POOL FOR USER DATA on installation panel DSNTIP1, or ZPARM TBSBPOOL in DSN6SYSP.

Field Name: QWP1TBPL

SYS LOB VAL STOR

The maximum amount of storage (MB) each system can use for LOB values.

Install parameter SYSTEM LOB VALUE STORAGE on panel DSNTIP7, or ZPARM LOBVALS in DSN6SYSP.

Field Name: QWP1LVS

SYS XML VAL (MB)

The maximum amount of memory in megabytes (MB) for each system for storing XML values.

ZPARM XMLVALS in DSN6SYSP.

Field Name: QWP1XVS

DEF 8K BP U.DATA

The default 8 KB buffer pool for:

- Table spaces with an 8 KB page size in implicitly created databases
- Explicitly created table spaces with an 8 KB page size, but without a buffer pool clause that is specified in the create table space statement.

Install parameter DEFAULT 8-KB BUFFER POOL FOR USER DATA on panel DSNTIP1 or ZPARM TBSBP8K in DSN6SYSP.

Field Name: QWP1TP8

LOB INLINE LENGTH

Default inline length for any new storing large object (LOB) column in a Universal Table Space on the DB2 subsystem. The valid values are from 0 to 32680 inclusive (in bytes). The default value for this ZPARM is 0, which indicates that no inline attribute is required for any LOB column (BLOB, CLOB or DBCLOB) created on this subsystem.

Field Name: QWP1LBIL

RANDOM XML DOCID

Specifies whether DB2 generates document ID elements sequentially or randomly. Possible values are:

YES
Sequentially

NO
Randomly

ZPARM name XML_RANDOMIZE_DOCID in DSN6SYSP.

Field Name: QWP1XRDI

DEF 16K BP U.DATA

The default 16 KB buffer pool for:

- Table spaces with a 16 KB page size in implicitly created databases
- Explicitly created table spaces with a 16 KB page size, but without a buffer pool clause that is specified in the create table space statement.

Install parameter DEFAULT 16-KB BUFFER POOL FOR USER DATA on panel DSNTIP1 or ZPARM TBSBP16K in DSN6SYSP.

Field Name: QWP1TP16

EXTRA BLOCKS SRV

The maximum number of extra DRDA query blocks DB2 returns to a DRDA client.

The default is 100.

This controls the total amount of data that can be transmitted on any given network exchange. It does not limit the size of the SQL query answer set.

Install parameter EXTRA BLOCKS SRV on panel DSNTIP5, ZPARM EXTRASRV in DSN6SYSP.

Field Name: QWP1EXBS

SYNCVAL W/IN HOUR

Shows whether DB2 statistics recording is synchronized with some part of the hour. The installation can specify that the DB2 statistics recording interval be synchronized with the beginning of the hour (00 minutes past the hour) or any number of minutes past the hour up to 59. Possible values are: 0-59, which indicate the synchronization point. When NO or N/A is shown, synchronization is disabled, this is the default.

If STATISTICS TIME INTERVAL IN MINUTES (STATIME) is greater than 60, NO or N/A is shown.

Install parameter STATISTICS SYNC on panel DSNTIPN, or ZPARM SYNCVAL in DSN6SYSP.

Field Name: QWP1SYNV

DEF 32K BP U.DATA

The default 32 KB buffer pool for:

- Table spaces with a 32 KB page size in implicitly created databases
- Explicitly created table spaces with a 32 KB page size, but without a buffer pool clause that is specified in the create table space statement.

Install parameter DEFAULT 32-KB BUFFER POOL FOR USER DATA on panel DSNTIP1 or ZPARM TBSBP32K in DSN6SYSP.

Field Name: QWP1TP32

EXTRA BLOCKS REQ

The maximum number of extra DRDA query blocks DB2 requests from a remote DRDA server.

The default is 100.

This controls the total amount of data that can be transmitted on any given network exchange. It does not limit the size of the SQL query answer set.

Install parameter EXTRA BLOCKS REQ on panel DSNTIP5, ZPARM EXTRAREQ in DSN6SYSP.

Field Name: QWP1EXBR

SYNCHR FLAG

Interval synchronization flag, shows whether the synchronization is enabled. The default is NO. When YES, the DB2 statistics are synchronized to the value shown in INTERVAL SYNCHR W/IN HOUR.

Field Name: QWP1SYFL

DEF BP USER INDEX

The name of the 4 KB buffer pool used for indexes on user data.

Install parameter DEFAULT BUFFER POOL FOR USER INDEXES on installation panel DSNTIP1, or ZPARM IDXBPOOL in DSN6SYSP.

Field Name: QWP1IXPL

DDF/RRSAF ACCUM

Shows whether DB2 accounting data for DDF and RRSAF threads is accumulated by end user.

When NO, DB2 writes an accounting record when a DDF thread is made inactive, or when signon occurs for an RRSAF thread. A value in the range 2 through 65535 shows the number of times an end-user identifier should occur before DB2 writes an accounting record. An end-user identifier is the concatenation of the end-user user ID, end-user transaction name, and the end-user workstation name.

These values can be set by DDF threads using SERVER CONNECT and SET CLIENT calls, and by RRSAF threads using the RRSAF SIGN, AUTH SIGNON, and CONTEXT SIGNON functions.

An accounting record might be written prior to the number of end user occurrences in the following instances:

- When an internal storage threshold is reached for the accounting RRSAF signon call.
- When the thread deallocates, the accumulated accounting data for all end users on this thread is written (one record per end user).
- When this parameter is dynamically changed to deactivate accounting accumulation. In this instance, the next end-UR (for DDF thread) or signon (for a RRSAF thread) causes DB2 to write the accumulated accounting data for all end users on this thread (one record per end user).

Install parameter DDF/RRSAF ACCUM on installation panel DSNTIPN, or ZPARM ACCUMACC in DSN6SYSP.

Field Name: QWP1ACCU

TS ALLOCATION

Shows the amount of space in KB for primary and secondary space allocation for DB2-defined data sets for table spaces created without the USING clause. 0 indicates that DB2 uses standard defaults.

Install parameter TABLE SPACE ALLOCATION on panel DSNTIP7, or ZPARM TSQTY in DSN6SYSP.

Field Name: QWP1TSQT

DEF BP IMPL LOB

The name of the buffer pool that is used for implicitly created LOB table spaces. This field corresponds to field default buffer pool for USER LOB DATA on installation panel DSNTIP1. The ZPARM name is TBSBPLOB in DSN6SYSP.

Field Name: QWP1TPLB

DSET STATS TIME

The time interval, in minutes, before DB2 resets data set statistics collected for the online performance monitors. Online performance monitors can request DB2 data set statistics for the current interval with an IFI READS request for IFCID 199.

Install parameter DATASET STATS TIME on panel DSNTIPN, or ZPARM DSSTIME in DSN6SYSP.

Field Name: QWP1DTIM

IX ALLOCATION

Shows the amount of space in KB for primary and secondary space allocation for DB2-defined data sets for index spaces created without the USING clause. 0 indicates that DB2 uses standard defaults.

Install parameter INDEX SPACE ALLOCATION on panel DSNTIP7, or ZPARM IXQTY in DSN6SYSP.

Field Name: QWP1IXQT

DEF BP IMPL XML

The name of the buffer pool that is used for XML table spaces. This field corresponds to field default buffer pool for USER XML DATA on installation panel DSNTIP1. The ZPARM name is TBSBPXML in DSN6SYSP.

Field Name: QWP1TPXM

UNICODE IFCIDS

Shows whether output from IFC records should include Unicode information. Only a subset of the character fields (identified in the IFCID record definition by a %U in the comment area to the right of the field declaration in the DSNDQWxx copy files) are encoded in Unicode. The remaining fields maintain the same encoding of previous releases.

Install parameter UNICODE IFCIDS on panel DSNTIPN, or ZPARM UIFCIDS in DSN6SYSP.

Field Name: QWP1_UNICODE

OPT EXTENT SIZING

Indicates whether DB2 uses sliding secondary quantity for DB2 managed data sets to optimize extent sizing.

Install parameter OPTIMIZE EXTENT SIZING on panel DSNTIP7, or ZPARM MGEXTSZ in DSN6SYSP.

Field Name: QWP1MESZ

VARY DS CTRL INTV

Indicates whether DB2 optimizes VSAM CONTROL INTERVAL to page size for data set allocation.

Install parameter VARY DS CONTROL INTERVAL on panel DSNTIP7, or ZPARM DSVCI in DSN6SYSP.

Field Name: QWP1VVCI

DEL CF STRUCTS

Shows whether to:

- Delete change-data (CD) structures during restart
- Attempt to delete coupling-facility (CF) structures, including shared communications area (SCA) structures, internal resource lock manager (IRLM lock) structures, and allocated group buffer pools.

This field corresponds to field DEL CF STRUCTS on installation panel DSNTIPK.

ZPARM name DEL_CFSTRUCTS_ON_RESTART in DSN6SYSP.

Field Name: QWP1DCFS

DEF PART SEGSIZE

The default segment size to be used for a partitioned table space when the CREATE TABLESPACE statement does not include the SEGSIZE parameter. This field corresponds to field DEFAULT PARTITION SEGSIZE on installation panel DSNTIP7. The ZPARM name is DPSEGSZ IN DSN6SYSP.

Field Name: QWP1DPSS

AGGREGATION FLDS

Shows the aggregation fields used for DDF and RRSAF accounting rollup. Values are defined as follows:

0
End user ID, transaction name, and workstation name

1
End user ID

2
End user transaction name

3
End user workstation name

4
End user ID and transaction name

5
End user ID and workstation name

6
End user transaction name and workstation name

This value is ignored if DDF or RRSAF accounting are not used. DB2 writes individual accounting threads for threads that do not have all aggregation fields populated that are specified by this parameter.

Install parameter AGGREGATION FIELDS on installation panel DSNTIPN, or ZPARM ACCUMUID in DSN6SYSP.

Field Name: QWP1ACID

USE DATA COMPRESS

Shows whether data compression in table spaces in implicitly defined databases is used.

Install parameter USE DATA COMPRESSION on panel DSNTIP7 or ZPARM IMPTSCMP in DSN6SYSP.

Field Name: QWP1CITS

DSSIZE IMPL TS

Shows the maximum DSSIZE in gigabytes that DB2 uses for creating each partition of an implicitly created base table space.

This field corresponds to field DEFAULT DSSIZE on installation panel DSNTIP7. The ZPARM name is IMPDSSIZE in DSN6SPRM.

Field Name: QWP1DSSZ

DEFINE DATA SETS

Defines the underlying data sets when a table space (TS) that is contained in an implicitly created database is created.

Install parameter DEFINE DATA SETS on panel DSNTIP7 or ZPARM IMPDSDEF in DSN6SYSP.

Field Name: QWP1DIDS

COMPRESS SMF RECS

Shows the COMPRESS DEST(SMF) TRACE records. This field corresponds to field COMPRESS SMF RECS on installation panel DSNTIPN. ZPARM name: SMFCOMP in DSN6SYSP.

Field Name: QWP1CSMF

TRACKMOD IMPL TS

Shows whether you have specified the TRACKMOD option on ALTER TABLESPACE for an implicitly created table space.

This field corresponds to field TRACK MODIFIED PAGES on installation panel DSNTIP7. The ZPARM name is IMPTKMOD in DSN6SPRM.

Field Name: QWP1TKMD

PARAMETER MODULE

Shows the name of the active subsystem parameter module.

This field corresponds to field PARAMETER MODULE on installation panel DSNTIPO3.

Field Name: QWP1ZPNM

MAX OPEN FILE REF

The maximum number of concurrently open data sets for processing LOB file references.

Install parameter MAX OPEN FILE REFS on panel DSNTIPE or ZPARM MAXOFILR in DSN6SYSP.

Field Name: QWP1MOFR

RESERV Z/OS SPACE

The amount of space reserved for MVS functions.

Field Name: QWP1DB1M

ACCESS CONTROL

Shows the name of the default access control exit module.

This field corresponds to field ACCESS CONTROL on installation panel DSNTIPO3. The ZPARM name is ACCESS_CNTL_MODULE in DSN6SYSP.

Field Name: QWP1DXAC

CHECKPOINT TYPE

Shows the LOG checkpoint type. It can have the following values:

SINGLE
Either records or minutes.

BOTH
Both records and minutes, as specified by **Records Between Checkpoint** (QWP1LOGR) and **Mins Between Checkpoint** (QWP1LOGM).

ZPARM CHKTYPE in DSN6SYSP.

Field Name: QWP1LOGT

RESERV CRIT SPACE

The amount of space reserved for critical work that must be completed.

Field Name: QWP1CRIT

IDENTIFY/AUTH

Shows the name of the default identify or authorization exit module.

This field corresponds to field IDENTIFY/AUTH on installation panel DSNTIPO3. The ZPARM name is IDAUTH_MODULE in DSN6SYSP.

Field Name: QWP1DATH

RECORDS/CHECKP

Shows the number of records between log checkpoints if the LOG checkpoint type is **BOTH** (records and minutes).

This field corresponds to field RECORDS/CHECKPOINT on installation panel DSNTIPL1, or ZPARM name CHKLOGR in DSN6SYSP.

Field Name: QWP1LOGR

RESERV SOS SPACE

The amount of space above z/OS and critical (QWP1DB1M + QWP1CRIT) that DB2 tries to leave available.

Field Name: QWP1SOS

SIGNON

Shows the name of the default signon exit module.

This field corresponds to field SIGNON on installation panel DSNTIPO3. The ZPARM name is SIGNON_MODULE in DSN6SYSP.

Field Name: QWP1DSGN

MINUTES/CHECKP

Shows the number of minutes between log checkpoints if the LOG checkpoint type is **BOTH** (records and minutes).

This field corresponds to field MINUTES/CHECKPOINT on installation panel DSNTIPL1, or ZPARM name CHKMINS in DSN6SYSP.

Field Name: QWP1LOGM

PROFILE AUTOSTART

Specifies whether START PROFILE command processing is automatically initiated as part of DB2 startup (DB2 field: QWP1PFASY):

- 0 indicates NO
- 1 indicates YES

This field corresponds to field PROFILE AUTOSTART on installation panel DSNTIPO. ZPARM name: PROFILE_AUTOSTART in DSN6SYSP.

Field Name: QWP1PFASY

QWP1LVLC

This field is for IBM service use.

Field Name: QWP1LVLC

QWP1LVL

Level of this block. It is used to detect parameters or code that is out of sync.

Field Name: QWP1LVL

QWP1DONT

Indicates whether the resource limit facility (RLF) is started automatically by DB2.

Field Name: QWP1DONT

IFCID 106 - VSAM Catalog Name Qualifier

This topic shows detailed information about "Record Trace - IFCID 106 - VSAM Catalog Name Qualifier".

Record trace - IFCID 106 - VSAM Catalog Name Qualifier

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - VSAM Catalog Name Qualifier" are described in the following section.

```
VSAM CATALOG NAME QUALIFIER
DSNB51
```

Qualifiers

The high-order qualifier name of all DB2 system data sets.

Field Name: QWP6CATN

IFCID 107 - Open/Close

This topic shows detailed information about "Record Trace - IFCID 107 - Open/Close".

Record trace - IFCID 107 - Open/Close

The field labels shown in the following sample layout of "Record Trace - IFCID 107 - Open/Close" are described in the following section.

```
DBID:        5  DATABASE NAME: DSNDB07
OBID:       24    OBJECT NAME: DSNDSX02
```

DBID

The decimal identifier of the database.

Field Name: QW0107DB

DATABASE NAME

The name of the database.

Field Name: QW0107DN

OBID

The decimal identifier of the object. Examples of objects are table space and index space.

Field Name: QW0107OB

OBJECT NAME

The name of the object. Examples of objects are table space and index space.

Field Name: QW0107TN

IFCID 108 - Bind Start

This topic shows detailed information about "Record Trace - IFCID 108 - Bind Start".

Record trace - IFCID 108 - Bind Start

The field labels shown in the following sample layout of "Record Trace - IFCID 108 - Bind Start" are described in the following section.

```
HSRDB01  TSO        15:53:08.08346920  85991   1 108 BIND START --> NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
'BLANK'             N/P
|-------------------------------------------------------------------------------------------------------------------------
|PLAN NAME : N/A                SQLERROR    : NOPACK  REBIND PLAN(*): NO        ISOLATION : RR       RELEASE    : COMMIT
|LOCATION  : PMO5D851           DEGREE      : 1       EXPLAIN       : NO        TYPE      : BIND     QUALIFIER  : HSR
|COLLECT ID: HSRTEP2VL1XXXXXXXX SQLRULES    : X'00'   OWNER         : HSR       ACTION    : REPLACE  CACHE SIZE : N/A
|PACKAGE ID: DSN@EP2L           DISCONNECT  : X'00'   OBJECT TYPE   : PACKAGE   VALIDATION: BIND     REOPT      : NO
|TOKEN     : X'172A1C98193C380E' DYNAMICRULES: N/P     CURRENTDATA   : YES       ACQUIRE   : USE      KEEPDYNAMIC: NO
|DBPROTOCOL: DRDA               DEFERPREPARE: N/P     OPT_HINT_IDENT: N/P       IMMEDWRITE:    NO
|VERSION   : V9R1
|.................
|LIST OF LONG NAMES
|COLLECT ID             HSRTEP2VL1XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXX
|                       XX0XXXXXXXXX1XXXXXXXXX2XXXXXXXZ
```

LOCATION

The package location.

Field Name: QW0108NL

SQLERROR

Indicates whether a package is created if SQL errors are encountered:

CONTIN
A package is created even if SQL errors are encountered.

NOPACK
A package is not created if SQL errors are encountered.

Field Name: QW0108E

REBIND PLAN(*)

Indicates whether a plan is rebound.

Field Name: QW0108S

ISOLATION

The isolation level for plans and packages:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

UR
Uncommitted read

For packages only:

DF
Default (at run time, assumes the isolation level of the current plan)

Field Name: QW0108I

RELEASE

Indicates when to release the locks:

COMMIT
Release locks at commit time.

DEALLOC
Release locks at deallocation time.

For packages only:

DEFAULT
Release locks at run time, which is the default.

Field Name: QW0108R

COLLECT ID

The collection identifier of the package.

Field Name: QW0108NC

DEGREE

The degree bind option:

ANY
Degree(any)

1
Degree(1)

Field Name: QW0108PL

EXPLAIN

Indicates whether EXPLAIN was specified.

Field Name: QW0108X

TYPE

The type of bind.

Field Name: QW0108T

QUALIFIER

The qualifier used for unqualified object names.

Field Name: QW0108QL

PACKAGE ID

The package identifier.

Field Name: QW0108NI

SQLRULES

The SQL rules option.

Field Name: QW0108SR

OWNER

The plan or package owner.

Field Name: QW0108OW

ACTION

Indicates whether the plan or package replaces an existing plan or package with the same name or is new. This field only applies to BIND activities.

Field Name: QW0108A

CACHE SIZE

The authorization cache size. A value of 0 indicates that DB2 determines the size.

Field Name: QW0108CA

TOKEN

The consistency token of the package.

Field Name: QW0108NT

DISCONNECT

The disconnect option:

EXPL
Explicit

AUTO
Automatic

COND
Conditional

Field Name: QW0108DC

OBJECT TYPE

The type of object bound or rebound.

Field Name: QW0108TY

VALIDATION

The time of validation:

RUN
Validate at run time.

BIND
Validate at bind time.

Field Name: QW0108V

REOPT

Indicates whether reoptimization was requested:

YES
REOPT(VARS) was specified to reoptimize the access path of the SQL statement at run time.

NO
NOREOPT(VARS) was specified to optimize the access path of the SQL statement only at bind time.

Field Name: QW0108RO

PLAN NAME

The plan name. 'BLANK' indicates that a test bind was performed.

Field Name: QW0108PN

DYNAMICRULES

The value of the DYNAMICRULES option on the BIND/REBIND command:

RUN
Run-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

BIND
Bind-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

N/P
DYNAMICRULES was not specified.

Field Name: QW0108DY

CURRENTDATA

Controls the data currency for ambiguous cursors:

NO
Data currency is not required for ambiguous cursors. Blocking for ambiguous cursors is allowed.

YES
Data currency is required for ambiguous cursors. Blocking for ambiguous cursors is inhibited.

ALL
Data currency is required for all cursors. Applicable to packages only.

Field Name: QW0108F

ACQUIRE

Indicates when to acquire the locks:

ALLOC
Acquire the locks when the plan is allocated.

USE
Acquire the locks when the application first accesses them.

Field Name: QW0108Q

KEEPDYNAMIC

Indicates whether DB2 keeps (KEEPDYNAMIC(YES)) or discards (KEEPDYNAMIC(NO)) prepared SQL statements at commit points.

Field Name: QW0108KD

DBPROTOCOL

Database protocol option. Possible values are:

DRDA
DRDA protocol

PRIVATE
DB2 private protocol

Field Name: QW0108PR

DEFERPREPARE

Indicates whether preparation of dynamic SQL statements was deferred. Possible values are:

YES
Dynamic SQL statement preparation was deferred.

NO
Dynamic SQL statements were prepared immediately.

Field Name: QW0108DP

OPT_HINT_IDENT

Query optimization hint identifier, the default is blanks.

Field Name: QW0108OH

IMMEDWRITE

Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data-sharing environment.

Group buffer pool dependent pages can be written out to DASD or SYSTEM pagesets. Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abort for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback, and are written out at the end of the abort.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect DB2 performance due to coupling facility overhead.

N/P
The DB2 subsystem is not part of a data sharing group.

Field Name: QW0108WI

VERSION

The version.

Field Name: QW0108VN

IFCID 109 - Bind End

This topic shows detailed information about "Record Trace - IFCID 109 - Bind End".

Record trace - IFCID 109 - Bind End

The field labels shown in the following sample layout of "Record Trace - IFCID 109 - Bind End" are described in the following section.

```
RETURN           0
```

RETURN

The bind return code:

0
Successful bind/rebind

4
Warning

8
Error

Field Name: QW0109RC

IFCID 110 - Bind Free Start

This topic shows detailed information about "Record Trace - IFCID 110 - Bind Free Start".

Record trace - IFCID 110 - Bind Free Start

The field labels shown in the following sample layout of "Record Trace - IFCID 110 - Bind Free Start" are described in the following section.

```
BIND FREE  --> 'BLANK'
START         NETWORKID:  DEIBMIPS  LUNAME:  IPSAU85C  LUWSEQ:     1
PLAN    : N/P         FREE PLAN(*): N
OBJTYPE : PACKAGE           TOKEN X'171BC6E10959E230'
LOCATION: PMO5D85C
COLL-ID : DB2PM
PKG-ID  : DGO@BTCH
VERSION : R110_LEVE
```

PLAN

The name of the plan used in a bind.

Field Name: QW0110PN

FREE PLAN(*)

Indicates whether the command FREE PLAN(*) or FREE PACKAGE(*) was entered:

Y
FREE PLAN(*) was entered.

N
FREE PACKAGE(*) was entered.

Field Name: QW0110S

OBJTYPE

The type of object bound or rebound.

Field Name: QW0110TY

LOCATION

The package location.

Field Name: QW0110PL

COLL-ID

The collection identifier of the package.

Field Name: QW0110PC

PKG-ID

The package identifier.

Field Name: QW0110PI

TOKEN

The consistency token of the package.

Field Name: QW0110PT

VERSION

The version.

Field Name: QW0110VN

IFCID 111 - Bind Free End

This topic shows detailed information about "Record Trace - IFCID 111 - Bind Free End".

Record trace - IFCID 111 - Bind Free End

The field labels shown in the following sample layout of "Record Trace - IFCID 111 - Bind Free End" are described in the following section.

```
RETURN           0
```

RETURN

The bind return code:

0
Successful free plan

4
Warning

8
Error

Field Name: QW0111RC

IFCID 112 - Thread Allocate

This topic shows detailed information about "Record Trace - IFCID 112 - Thread Allocate".

Record trace - IFCID 112 - Thread Allocate

The field labels shown in the following sample layout of "Record Trace - IFCID 112 - Thread Allocate" are described in the following section.

```
THREAD     --> NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
ALLOCATE      PLAN NAME   : DSNBIND      ACQUIRE: ALLOCATION
ISOLATION   : CS           RELEASE: DEALLOCATION
DYNAMICRULES: RUN          REOPT  : NO
KEEPDYNAMIC :  NO          PREPARE: NO
DBPROTOCOL  : PRIVATE
HINTID      : 'BLANK'
IMMEDWRITE  :  NO
```

PLAN NAME

The plan name for the thread.

Field Name: QW0112PN

ACQUIRE

Indicates when to acquire locks:

ALLOCATION
Acquire the locks when the plan is allocated.

USE
Acquire the locks when the application first accesses them.

Field Name: QW0112Q

ISOLATION

The isolation level:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

UR
Uncommitted read

Field Name: QW0112I

RELEASE

Indicates when to release locks:

COMMIT
Release locks at commit time.

DEALLOCATION
Release locks at deallocation time.

Field Name: QW0112R

DYNAMICRULES

The value of the DYNAMICRULES option on the BIND/REBIND command:

RUN
Run-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

BIND
Bind-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

N/P
DYNAMICRULES was not specified.

Field Name: QW0112DY

REOPT

Indicates whether reoptimization was requested:

YES
REOPT(VARS) was specified to reoptimize the access path of the SQL statement at run time.

NO
NOREOPT(VARS) was specified to optimize the access path of the SQL statement only at bind time.

Field Name: QW0112RO

KEEPDYNAMIC

Indicates whether DB2 keeps (KEEPDYNAMIC(YES)) or discards (KEEPDYNAMIC(NO)) prepared SQL statements at commit points.

Field Name: QW0112KD

DBPROTOCOL

Database protocol option. Possible values are:

DRDA

PRIVATE

Field Name: QW0112PR

PREPARE

Indicates whether preparation of dynamic SQL statements was deferred. Possible values are:

YES
Dynamic SQL statement preparation was deferred.

NO
Dynamic SQL statements were prepared immediately.

Field Name: QW0112DP

HINTID

Query optimization hint identifier, the default is blanks.

Field Name: QW0112OH

IMMEDWRITE

Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data-sharing environment.

Group buffer pool dependent pages can be written out to DASD or SYSTEM pagesets. Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abort for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback, and are written out at the end of the abort.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect DB2 performance due to coupling facility overhead.

N/P
The DB2 subsystem is not part of a data sharing group.

Field Name: QW0112WI

IFCID 113 - Agent Allocate

This topic shows detailed information about "Record Trace - IFCID 113 - Agent Allocate".

Record trace - IFCID 113 - Agent Allocate

The field labels shown in the following sample layout of "Record Trace - IFCID 113 - Agent Allocate" are described in the following section.

```
ALLOCATE      PLAN NAME   : BCT          ACQUIRE: ALLOCATION
ISOLATION   : CS           RELEASE: DEALLOCATION
DYNAMICRULES: RUN          REOPT  : NO
KEEPDYNAMIC : NO           PREPARE: NO
DBPROTOCOL  : PRIVATE
HINTID      : 'BLANK'
IMMEDWRITE  : NO
```

PLAN NAME

The plan name for the thread.

Field Name: QW0113PN

ACQUIRE

Indicates when to acquire locks:

ALLOCATION
Acquire the locks when the plan is allocated.

USE
Acquire the locks when the application first accesses them.

Field Name: QW0113Q

ISOLATION

The isolation level:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

UR
Uncommitted read

Field Name: QW0113I

RELEASE

Indicates when to release locks:

COMMIT
Release locks at commit time.

DEALLOCATION
Release locks at deallocation time.

Field Name: QW0113R

DYNAMICRULES

The value of the DYNAMICRULES option on the BIND/REBIND command:

RUN
Run-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

BIND
Bind-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

N/P
DYNAMICRULES was not specified.

Field Name: QW0113DY

REOPT

Indicates whether reoptimization was requested:

YES
REOPT(VARS) was specified to reoptimize the access path of the SQL statement at run time.

NO
NOREOPT(VARS) was specified to optimize the access path of the SQL statement only at bind time.

Field Name: QW0113RO

KEEPDYNAMIC

Indicates whether DB2 keeps (KEEPDYNAMIC(YES)) or discards (KEEPDYNAMIC(NO)) prepared SQL statements at commit points.

Field Name: QW0113KD

DBPROTOCOL

Database protocol option. Possible values are:

DRDA

PRIVATE

Field Name: QW0113PR

PREPARE

Indicates whether preparation of dynamic SQL statements was deferred. Possible values are:

YES
Dynamic SQL statement preparation was deferred.

NO
Dynamic SQL statements were prepared immediately.

Field Name: QW0113DP

HINTID

Query optimization hint identifier, the default is blanks.

Field Name: QW0113OH

IMMEDWRITE

Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data-sharing environment.

Group buffer pool dependent pages can be written out to DASD or SYSTEM pagesets. Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abort for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback, and are written out at the end of the abort.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect DB2 performance due to coupling facility overhead.

N/P
The DB2 subsystem is not part of a data sharing group.

Field Name: QW0113WI

IFCID 114 - Archive Wait Start

This topic shows detailed information about "Record Trace - IFCID 114 - Archive Wait Start".

Record trace - IFCID 114 - Archive Wait Start

The field labels shown in the following sample layout of "Record Trace - IFCID 114 - Archive Wait Start" are described in the following section.

```
DSID     00000002   ACE          2
QW0114HR  X'0000'   QW0114LR  X'00000000'
```

DSID

The data set identifier of the log manager.

Field Name: QW0114DI

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0114AC

IFCID 115 - Archive Wait End DASD

This topic shows detailed information about "Record Trace - IFCID 115 - Archive Wait End DASD".

Record trace - IFCID 115 - Archive Wait End DASD

The field labels shown in the following sample layout of "Record Trace - IFCID 115 - Archive Wait End DASD" are described in the following section.

```
RET            0  ACE            1
QW0115BR           0   QW0115BS           0
QW0115FR           0
```

RET

The return code.

Field Name: QW0115RT

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0115AC

IFCID 116 - Archive Wait End Tape

This topic shows detailed information about "Record Trace - IFCID 116 - Archive Wait End Tape".

Record trace - IFCID 116 - Archive Wait End Tape

The field labels shown in the following sample layout of "Record Trace - IFCID 116 - Archive Wait End Tape" are described in the following section.

```
RET            4  ACE            2
QW0116FR           1   QW0116LR           2
QW0116BU  X'00000003'
```

RET

The return code.

Field Name: QW0116RT

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0116AC

IFCID 117 - Archive Read Start

This topic shows detailed information about "Record Trace - IFCID 117 - Archive Read Start".

Record trace - IFCID 117 - Archive Read Start

The field labels shown in the following sample layout of "Record Trace - IFCID 117 - Archive Read Start" are described in the following section.

```
REQ      RARC
QW0117BR           1   QW0117ER           2
QW0117RR           3   QW0117ST           4
QW0117SH           5
```

REQ

The request type:

RARC
Read archive request

SARC
Schedule archive read

Field Name: QW0117RT

IFCID 118 - Archive Read End

This topic shows detailed information about "Record Trace - IFCID 118 - Archive Read End".

Record trace - IFCID 118 - Archive Read End

The field labels shown in the following sample layout of "Record Trace - IFCID 118 - Archive Read End" are described in the following section.

```
RETURN             1
QW0118RC           2   QW0118ST           3
QW0118SH           4
```

RETURN

The return code.

Field Name: QW0118RT

IFCID 119 - BSDS Write Start

This topic shows detailed information about "Record Trace - IFCID 119 - BSDS Write Start".

Record trace - IFCID 119 - BSDS Write Start

The field labels shown in the following sample layout of "Record Trace - IFCID 119 - BSDS Write Start" are described in the following section.

```
DSID     BSDS0001   ACE          1
QW0119HR  X'0000'   QW0119LR  X'0A000001'
```

DSID

The data set identifier.

Field Name: QW0119DI

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0119AC

IFCID 120 - BSDS Write End

This topic shows detailed information about "Record Trace - IFCID 120 - BSDS Write End".

Record trace - IFCID 120 - BSDS Write End

The field labels shown in the following sample layout of "Record Trace - IFCID 120 - BSDS Write End" are described in the following section.

```
RETURN          0       ACE       17
```

RETURN

The return code.

Field Name: QW0120RT

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0120AC

IFCID 121 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 121 - IBM Service Record".

This record is for IBM service use.

IFCID 122 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 122 - IBM Service Record".

This record is for IBM service use.

IFCID 123 - SRV Record

This topic shows detailed information about "Record Trace - IFCID 123 - SRV Record".

Record trace - IFCID 123 - SRV Record

The field labels shown in the following sample layout of "Record Trace - IFCID 123 - SRV Record" are described in the following section.

```
LENGTH         7         IFCID         2
QW0123FR   E3C5E2E3 F1000000 00000000 00000000
00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000
```

LENGTH

The length of the area.

Field Name: QW0123LN

IFCID

The IFCID of the original entry.

Field Name: QW0123ID

IFCID 124 - SQL Statement Record

This topic shows detailed information about "Record Trace - IFCID 124 - SQL Statement Record".

Record trace - IFCID 124 - SQL Statement Record

The field labels shown in the following sample layout of "Record Trace - IFCID 124 - SQL Statement Record" are described in the following section.

```
CONNECTION TYPE: 'BLANK'            ACE TOKEN   : X'1D702EB0'        THREAD ASID  : X'009E'   ASCB TOKEN  : X'00FBD280'
APPL REQ COUNT :    4193            AGENT NAME  : 'BLANK'            THREAD STATUS: IN DB2    TCB TOKEN :   X'008CCD90'
THREAD TYPE    : DATABASE ACCESS    AGENT TYPE  : 'BLANK'
STATEMENT TYPE : DYNAMIC            STATEMENT IDENTIFIER: X'12345678901234567890'
LOCATION : OMPDA61            COLLECTION: NULLID             PACKAGE: SYSSH200             TOKEN:  X'5359534C564C3031'
NETWORKID: G998CD1D           LUNAME: G773                   UNIQUENESS VALUE: X'C571F0AE3062'          LUWSEQ:     496
ENDUSER  : pioch              WSNAME: IBM-49AF7CD512F        TRANSACT:         perl.exe
QW01246L   X'00'
```

CONNECTION TYPE

The connection type. 'BLANK' indicates that there is no connection type.

Field Name: QW01246Y

ACE TOKEN

The ACE token in hexadecimal.

Field Name: QW01246A

THREAD ASID

The ASID of the thread in hexadecimal.

Field Name: QW01246S

ASCB TOKEN

The ASCB token in hexadecimal.

Field Name: QW01246C

APPL REQ COUNT

The number of calls to DB2 in decimal.

Field Name: QW01246Q

AGENT NAME

When an agent is running a stored procedure, trigger, or user-defined function, this is the unqualified name of the routine. Otherwise, this field is blank.

Field Name: QW0124SP

THREAD STATUS

The status of the thread.

Field Name: QW01246I

TCB TOKEN

The TCB token in hexadecimal.

Field Name: QW01246T

THREAD TYPE

The type of thread.

Field Name: QW01246D

AGENT TYPE

The type of the agent.

Field Name: QW0124AF

STATEMENT TYPE

The statement type.

Field Name: QW0124TK

STATEMENT IDENTIFIER

The statement ID (former Cached Dynamic SQL Identifier).

Field Name: QW0124ST

LOCATION

The name of the location where the thread executes the package.

Field Name: QW0124LN

COLLECTION

The collection name.

Field Name: QW0124CI

PACKAGE

The package identifier.

Field Name: QW0124PN

TOKEN

The consistency token.

Field Name: QW0124CN

NETWORKID

The network identifier.

Field Name: QW0124NI

LUNAME

The logical unit name.

Field Name: QW0124LM

UNIQUENESS VALUE

The instance number.

Field Name: QW0124UV

LUWSEQ

The LUW sequence number.

Field Name: QW0124CC

ENDUSER

The user ID at the end user's workstation.

Field Name: QW0124EI

WSNAME

The workstation name of the end user.

Field Name: QW0124EW

TRANSACT

The transaction name of the end user.

Field Name: QW0124ET

IFCID 125 - RID Pool Processing

This topic shows detailed information about "Record Trace - IFCID 125 - RID Pool Processing".

This record is written when performance class 8 is ON. Monitor privilege is required for reading via IFI. The record contains standard information and one section for each index used to obtain candidate record identifiers (RIDs).

Record trace - IFCID 125 - RID Pool Processing

The field labels shown in the following sample layout of "Record Trace - IFCID 125 - RID Pool Processing" are described in the following section.

```
125 RID POOL       NETWORKID:  NATIVE    LUNAME:  DSNDBC2   LUWSEQ:     1
     PROCESSING    COLLECTION  :      DSNTEP3
                   PLAN NAME   :      DSNTEP3
                   PROGRAM NAME:      DSNTEP3
                   CONSISTENCY TOKEN: X'1A2160C900F63D5F'
                   USED:        YES    NOT USED:           N/A
                   LEGS REORDERED:    YES
                   ADAPT IDX PROCESS: YES
                   RIDS IN FINAL LIST:       22390
                   DBID:  MIX2DB       INDEX RIDS:                132405
                   OBID:  6            THRESHOLD :               1500000
                   ESTIMATE RIDS IN IDX      :              6000000
                   ESTIMATE RIDS IN KEYRANGE :               132363
                   RSN TERMINATED: F   RSN NOT PROBED:
                   RSN REORDERED : P   RSN MRKED FULL: G
```

COLLECTION

Package collection identifier for this query.

Field Name: QW0125PC

PLAN NAME

Plan name for this query.

Field Name: QW0125PL

PROG NAME

Program name for this query.

Field Name: QW0125PN

STATEMENT NUMB

Statement number for this query.

Field Name: QW0125SN

CONSISTENCY TOKEN

Consistency token for this query.

Field Name: QW0125TS

USED

Indicates whether multiple index access paths are used, or whether RID pool processing is invoked.

Field Name: QW0125AT

NOT USED

Indicates why multiple index access paths are not used, or whether RID pool processing is not invoked.

Field Name: QW0125MR or QW0125NS

QW0125MR or QW0125NS (but not both) may be used as the basis to print the value in the report. If QW0125NS is set to “S”, it takes precedence.

LEGS REORDERED

Indicates that the legs of a multiple index access path are reordered. It can have the following values:

- Yes
- No

Field Name: QW0125RE

ADAPT IDX PROCESS

Indicates whether adaptive index processing was done. It can have the following values:

- Yes
- No

Field Name: QW0125AD

RIDS IN FINAL LIST

The number of record identifiers in the final index list. It indicates how many RID sections are printed. Each RID section contains one set of DBID, INDEX RID, OBID, and THRESHOLD data.

This field can also contain `NO STORAGE` , or `MAX EXCEEDED` .

Field Name: QW0125NR

DBID

The database ID. Deduced from the DB2 fields QW0125DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0125DB is shown, or N/A when this value is 0.

Field Name: RT0125DB

INDEX RIDS

The number of record identifiers in the index. This field can also contain one of the following values:

```
NO RETRIEVAL
NO STORAGE
LIMIT EXCEEDED
N/P
```

Field Name: QW0125RI

OBID

The object ID. Deduced from the DB2 fields QW0125OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0125OB is shown, or N/A when this value is 0.

Field Name: RT0125OB

THRESHOLD

The highest value of RIDs allowed for this index.

Field Name: QW0125TH

ESTIMATE RIDS IN IDX

The index probing estimate of the total number of record identifiers (RIDs) in the index (set to MAX BIGINT for full leg).

Field Name: QW0125TI

ESTIMATE RIDS IN KEYRANGE

The index probing estimate of the number of record identifiers (RIDs) within the key range, adjusted for filter factor.

Field Name: QW0125QI

RSN TERMINATED

The reason why a leg of a multiple index access path was terminated:

F
The leg was marked FULL.

T
The leg had less than 32 record identifiers (RIDs).

Field Name: QW0125_TRSN

This field may be left blank.

RSN NOT PROBED

The reason why a leg of a multiple index access path was not probed:

A
All legs fetched all record identifiers (RIDs).

B
This leg fetched all RIDs (< 1 RIDblock).

E
Probing failed.

F
A leg was marked FULL.

K
Probing is not done because a high or low key is missing.

M
A mix of R, I, or U entries is not reordered.

O
Access Path Selection (APS) indicated not to probe.

S
An earlier leg of index intersection (AND) processing was likely to have performed a high degree of filtering.

V
A leg was likely to have performed a high degree of filtering.

Field Name: QW0125_PRSN

This field may be left blank.

RSN REORDERED

The reason why a leg of a multiple index access path was reordered:

P
Probing was performed.

V
The leg was likely to have performed a high degree of filtering.

Field Name: QW0125_ORSN

This field may be left blank.

RSN MRKED FULL

The reason why a leg of a multiple index access path was marked FULL:

G
AGGRESSIVE termination of a leg was done.

L
The predicate contained a non-filtering LIKE clause.

M
Neither index union (OR) processing nor index intersection (AND) processing was done, and the estimated number of RIDS was greater than the RID list logical limit.

P
Index union (OR) processing was done, and the estimated number of record identifiers (RIDs) was greater than 30% of the table, or index intersection (AND) processing was done, and the estimated number of RIDs was greater than 50% of the table.

R
The predicate was a range predicate (non-LIKE).

T
Index intersection (AND) processing was done. It was greater than or equal to 35%, and the most selective leg was processed first.

Field Name: QW0125_FRSN

This field may be left blank.

IFCID 126 - Log Buffer Write

This topic shows detailed information about "Record Trace - IFCID 126 - Log Buffer Write".

Record trace - IFCID 126 - Log Buffer Write

The field labels shown in the following sample layout of "Record Trace - IFCID 126 - Log Buffer Write" are described in the following section.

```
QW0126NS    2     QW0126S1  X'0003'      QW0126S2  X'0004'           QW0126OF  X'0005'   QW0126XX  X'08'
QW0126R1      6   QW0126R2           7   QW0126TS  X'00000000000009'
QW0126DT
0000  E3C5E2E3  40F14040  40404040  40404040   40404040  40404040  40404040  40404040  | TEST 1
0020  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
0040  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
```

IFCID 127 - Page Wait I/O In Prog (Start)

This topic shows detailed information about "Record Trace - IFCID 127 - Page Wait I/O In Prog (Start)".

Record trace - IFCID 127 - Page Wait I/O In Prog (Start)

The field labels shown in the following sample layout of "Record Trace - IFCID 127 - Page Wait I/O In Prog (Start)" are described in the following section.

```
DBID:           TDKURDB            PSID:      TDKURTS1
PAGE NUMBER:    X'00000000'   PAGE NUMBERING: ABS
PARTITION:  1         TYPE OF I/O:      FORCE WRITE
POOL ID:                 0          ACE:        1
TABLE SPACE TYPE: L
```

DBID

The database ID. Deduced from the DB2 fields QW0127DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0127DB is shown, or N/A when this value is 0.

Field Name: RT0127DB

OBID / PSID

For classic segmented table spaces, this value shows the table OBID. For partitioned table spaces, it is the PSID of the table space. Deduced from the DB2 fields QW0127OB, QW0105TN, or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0127OB is shown, or N/A when this value is 0.

Field Name: RT0127OB

PAGE NUMBER

The number of the page being read or written.

Field Name: QW0127PN

PAGE NUMBERING

Indicates how page numbers are shown for partitioned tables:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0127P1

PARTITION

Shows the partition number or 0 if non-partitioned.

Field Name: QW0127PT

TYPE OF I/O

The type of I/O process.

Field Name: QW0127F

POOL ID

The buffer pool internal identifier. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0127BP

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0127AC

TABLE SPACE TYPE

The type of the table space:

L
Non-EA large table

N
Non-large table

V
EA-enabled large table

Field Name: QW0127FG

IFCID 128 - Page Wait I/O In Prog (End)

This topic shows detailed information about "Record Trace - IFCID 128 - Page Wait I/O In Prog (End)".

Record trace - IFCID 128 - Page Wait I/O In Prog (End)

The field labels shown in the following sample layout of "Record Trace - IFCID 128 - Page Wait I/O In Prog (End)" are described in the following section.

```
DBID:           TDKURDB            OBID:      TDKURTS1
PAGE NUMBER:    X'00000000'   PAGE NUMBERING: ABS
PARTITION:  1         TYPE OF I/O:      FORCE WRITE
ACE:              1           STATUS FL: NOT CANCELED
TABLE_SPACE_TYPE: L
```

DBID

The database ID. Deduced from the DB2 fields QW0128DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0128DB is shown, or N/A when this value is 0.

Field Name: RT0128DB

OBID / PSID

For classic segmented table spaces, this value shows the table OBID. For partitioned table spaces, it is the PSID of the table space. Deduced from the DB2 fields QW0128OB, QW0105TN, or QW0107TN.

When present,the name of the object is shown, otherwise the decimal identifier from QW0128OB is shown, or N/A when this value is 0.

Field Name: RT0128OB

PAGE NUMBER

The number of the page being read or written.

Field Name: QW0128PN

PAGE NUMBERING

Indicates how page numbers are shown for partitioned tables:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0128P1

PARTITION

Shows the partition number or 0 if non-partitioned.

Field Name: QW0128PT

TYPE OF I/O

The type of I/O process.

Field Name: QW0128F

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0128AC

STATUS FL

The status flag indicating whether the I/O process was canceled.

Field Name: QW0128S

TABLE SPACE TYPE

The type of the table space:

L
Non-EA large table

N
Non-large table

V
EA-enabled large table

Field Name: QW0128FG

IFCID 129 - CI-S Obtained via IFI Reads

This topic shows detailed information about "Record Trace - IFCID 129 - CI-S Obtained via IFI Reads".

Record trace - IFCID 129 - CI-S Obtained via IFI Reads

The field labels shown in the following sample layout of "Record Trace - IFCID 129 - CI-S Obtained via IFI Reads" are described in the following section.

```
QW0129NS    0     QW0129S1  X'0000'      QW0129S2  X'0000'   QW0129TM  X'0203040506'   QW0129FL  X'0102'
QW0129R1    0     QW0129R2           0   QW0129OF  X'0000'
QW0129DT
0000  80000010  00000010  0000C350  00140028   00460020  00630005  0000A000  00203000  | .........C&.....................
0020  00203000  001EC480  00000000  A0000000   80000000  00000000  E2E8E2C9  C2D44040  | ......D.................SYSIBM
```

IFCID 140 - Audit Auth Failures

This topic shows detailed information about "Record Trace - IFCID 140 - Audit Auth Failures".

Record trace - IFCID 140 - Audit Auth Failures

The field labels shown in the following sample layout of "Record Trace - IFCID 140 - Audit Auth Failures" are described in the following section.

```
AUTH CHECKED : DB2PM
REASON       :          0 STATMNT LENGTH:      65532
PRIV CHECKED : CREATE TABLE             RETCOD:      -1
OBJECT: DATABASE          OPTIONS: X'0400000000000000'
SOURCE OBJECT: DB2PM
SOURCE OWNER : DB2PM
TARGET OBJECT: GRANT
TARGET OWNER : DB2PM
SQL STMT:
ACEE UTOKEN :'BLANK'

RID OF ROW   :  'BLANK'   SECLABEL OF ROW:  'BLANK'
AUTH ID TYPE :PRIMARY OR SECONDARY AUTH ID
```

AUTH CHECKED

The authorization ID being checked.

Field Name: QW0140UR

REASON

The user-defined reason code from the access control authorization exit routine.

Field Name: QW0140RS

STATMNT LENGTH

Is the length of the failing SQL statement plus 4. It is zero (0) if no SQL statement exists.

Field Name: QW0140LL

PRIV CHECKED

The privilege that was checked. Possible values are provided in the DB2 macro DSNDQW02.

Field Name: QW0140PR

RETCOD

The return code from the access control authorization exit routine.

Field Name: QW0140RC

OBJECT

The object type. N/P is printed if there is no object type. Possible values are:

- ACEE
- APPLICATION PLAN
- BUFFERPOOL
- COLLECTION
- DATABASE
- DISTINCT TYPE
- FUNCTION
- JAR
- PACKAGE
- PROCEDURE
- ROW
- SCHEMA
- SEQUENCE
- STORAGE GROUP
- TABLE OR VIEW
- TABLESPACE
- USER AUTH

  System privileges, such as SYSADM or SYSOPR

Field Name: QW0140OB

OPTIONS

The options used in the host to check the SQL statement. The bits of this field are used as indicators. If all bits are 0, the statement is not an SQL statement. The values are:

Bit 1
Host language character string delimiter

0
Apostrophe

1
Quote

Bit 2
Decimal point symbol

0
Period

1
Comma

Bit 3
SQL character string delimiter

0
Apostrophe

1
Quote

Bit 4
Mixed character string indicator

0
No

1
Yes

Bit 5
Host language options indicator

0
Do not use host language options

1
Use host language options

Bits 6 to 8
Host language indicator

001
Assembler

010
Cobol

011
PL/I

100
None - Dynamic SQL

101
Fortran

110
Cobol2

111
Null - See bits 17 to 24 for the language

Bits 9 to 16
Character set being used

00000000
Alphanumeric

00000001
Katakana

Bits 17 to 24
Alternate host language field

B
Assembler

C
Cobol

P
PL/I

F
Fortran

2
Cobol2

D
C

Bits 25 to 28
Time option

0000
None

1000
Local

0100
JIS

0010
ISO/EUR

0001
USA

Bits 29 to 32
Date option

0000
None

1000
Local

0100
EUR

0010
ISO/JIS

0001
USA

Bit 33
Decimal

0
No

1
Yes

Bits 34 to 40
Unused

Bits 41 to 48
Remote option

00000001
SQL(ALL)

00000010
SQL(DB2)

Bits 49 to 56
SQL flag option

00000000
No SQLFLAG option

00000001
SQLFLAG(SAA)

Field Name: QW0140HO

SOURCE OBJECT

The source object name.

Field Name: QW0140SN

SOURCE OWNER

The source object owner.

Field Name: QW0140SC

TARGET OBJECT

The target object name.

Field Name: QW0140TN

TARGET OWNER

The target object owner.

Field Name: QW0140TC

SQL STMT

The SQL statement text. Long SQL text can be truncated.

Field Name: QW0140SQ

ACEE UTOKEN

Shows the ACEE UTOKEN, if it is available. If it is not available, the first word of this field contains one of the following values:

0
The UTOKEN cannot be accessed

-1
An abend occurred during the attempt to access the ACEE.

Field Name: QW0140UT

RID OF ROW

Shows the RID of the row that is updated or deleted if the table has multilevel security.

Field Name: QW0140ID

SECLABEL OF ROW

Shows the security label of the row, for a table with multilevel security.

Field Name: QW0140RL

AUTH ID TYPE

The authorization ID type. Possible values are:

L
A ROLE is used.

blank
The user ID of the primary or the secondary authorization ID is used.

N/P
A blank is shown in the performance database.

N/A
A blank is shown in the performance database.

Field Name: QW0140AT

IFCID 141 - Audit DDL Grant/Revoke

This topic shows detailed information about "Record Trace - IFCID 141 - Audit DDL Grant/Revoke".

Record trace - IFCID 141 - Audit DDL Grant/Revoke

The field labels shown in the following sample layout of "Record Trace - IFCID 141 - Audit DDL Grant/Revoke" are described in the following section.

```
-------- -------- ----------- ----------------- ------ --- --- -------------- ---------------------------------------------------
SKADM    SERVER   C710D9CFD96D skadm            candlelight                   db2jcc_application
SKADM    db2jcc_a DRDA        10:36:43.14373615  15719   1 141 AUDIT DDL      NETWORKID:  G9984CB6  LUNAME:  G981      LUWSEQ:     1
DISTSERV ppli                 N/P                              GRANT         REQUESTING LOCATION:  ::FFFF:9.152.76.
REQUESTING TIMESTAMP: N/P
AR NAME: candlelight          PRDID: JCC V3 R59 M0
GRANTOR: SKADM
REASON:  'BLANK'          RETURN:          0
OBJECT:  TABLE OR VIEW    OPTIONS: X'0400000000000000'
GRANTOR TYPE: PRIMARY OR SECONDARY AUTH ID
SQL STMT:
GRANT ALL ON LE105 TO PUBLIC
```

GRANTOR/REVOKER

The authorization ID of the user (grantor/revoker) who received access. Possible values are:

L
A ROLE is used.

blank
The user ID of the primary or the secondary authorization ID is used.

N/P
A blank is shown in the performance database.

N/A
A blank is shown in the performance database.

Field Name: QW0141OR

REASON

The reason why access was granted.

In the Audit report set this field is only valid for GRANTs. It indicates the authorization level of the grantor. For REVOKEs and unsuccessful GRANTs, N/A is printed.

Possible values are:

- PACKADMA (abbreviation for PACKADM ON ALL COLLECTIONS)
- DBCTRL
- DBADM
- SECADM
- ACCCTRL (abbreviation for ACCESSCTRL)
- SYSCTRL
- DBMAINT
- SYSOPR
- PACKADMS (abbreviation for PACKADM ON A SPECIFIC COLLECTION-ID)
- SYSADM

Field Name: QW0141RE

RETURN

The SQL return code.

Field Name: QW0141CO

OBJECT

The object type. Possible values are:

BUFFERPOOL
Buffer Pool

COLLECTION
Collection

DATABASE
Database

DISTINCT TYPE
Distinct Type

FUNCTION
Function

PACKAGE
Package

SCHEMA
Schema

PROCEDURE
Procedure

APPLICATION PLAN
Application Plan

TABLESPACE
Table Space

STORAGE GROUP
Storage Group

TABLE OR VIEW
Table or View

USER AUTH
System privileges, such as SYSADM or SYSOPR

Field Name: QW0141OB

OPTIONS

The options used in the host to check the SQL statement. The bits of this field are used as indicators. If all bits are 0, the statement is not an SQL statement. The values are:

Bit 1
Host language character string delimiter

0
Apostrophe

1
Quote

Bit 2
Decimal point symbol

0
Period

1
Comma

Bit 3
SQL character string delimiter

0
Apostrophe

1
Quote

Bit 4
Mixed character string indicator

0
No

1
Yes

Bit 5
Host language options indicator

0
Do not use host language options

1
Use host language options

Bits 6 to 8
Host language indicator

001
Assembler

010
Cobol

011
PL/I

100
None - Dynamic SQL

101
Fortran

110
Cobol2

111
Null - See bits 17 to 24 for the language

Bits 9 to 16
Character set being used

00000000
Alphanumeric

00000001
Katakana

Bits 17 to 24
Alternate host language field

B
Assembler

C
Cobol

P
PL/I

F
Fortran

2
Cobol2

D
C

Bits 25 to 28
Time Option

0000
None

1000
Local

0100
JIS

0010
ISO/EUR

0001
USA

Bits 29 to 32
Date Option

0000
None

1000
Local

0100
EUR

0010
ISO/JIS

0001
USA

Bit 33
Decimal

0
No

1
Yes

Bits 34 to 40
Unused

Bits 41 to 48
Remote option

00000001
SQL(ALL)

00000010
SQL(DB2)

Bits 49 to 56
SQL flag option

00000000
No SQLFLAG option

00000001
SQLFLAG(SAA)

Field Name: QW0141HO

GRANTOR TYPE/REVOKER TYPE

The authorization ID of the owner. Possible values are:

A ROLE or ROLE
A role is used.

PRIMARY OR SECONDARY AUTH ID or PRIM/SECOND AUTHID
The user ID of the primary or the secondary authorization ID is used.

N/P or N/A
The field is not present or not applicable. String NONE is shown in the performance database.

N/A
A blank is shown in the performance database.

Field Name: QW0141OT

SQL STMT

The SQL statement text. Long SQL text can be truncated.

Field Name: QW0141TX

IFCID 142 - Audit DDL Create/Alter/Drop

This topic shows detailed information about "Record Trace - IFCID 142 - Audit DDL Create/Alter/Drop".

Audit DDL reports on SQL CREATE, ALTER, and DROP statements executed against an auditable object.

The SQL statement types are AUDIT DDL CREATE, AUDIT DDL ALTER, or AUDIT DDL DROP. These statements are all reported in the same format.

Record trace - IFCID 142 - Audit DDL Create/Alter/Drop

The field labels shown in the following sample layout of "Record Trace - IFCID 142 - Audit DDL Create/Alter/Drop" are described in the following section.

```
AUDIT DDL      NETWORKID:  DEIBMIPS  LUNAME:  IPSAU851  LUWSEQ:     1
UNKNOWN       TABLE NAME   : AUDTB1
TABLE OWNER  : PRL
TABLE CREATOR: PRL
TABLE OWNER TYPE:N/A
OPTIONS      : X'0400000000000000'
DATABASE     : 264
TABLE OBID   :          3
SECLABEL OF MLS TABLE: N/P
MULTILEVEL SECURITY  : N/P
ROW/CLMN ACCESS CTRL : B
SQL STMT:
CREATE TABLE PRL.AUDTB1 (IDCOLUMN INTEGER
GENERATED ALWAYS AS IDENTITY, NNAME VARCHAR
(50) NOT NULL, VNAME CHAR(10) NOT NULL,
ANZAHL INTEGER NOT NULL) AUDIT ALL IN
```

TABLE NAME

The table name being created, altered, or dropped.

Field Name: QW0142TN

TABLE OWNER

The table owner (same as table qualifier).

Field Name: QW0142OW

TABLE CREATOR

The table creator.

Field Name: QW0142CR

TABLE OWNER TYPE

The type of the table owner (grantor or revoker). Possible values are:

L
A ROLE is used.

blank
The user ID of the primary or the secondary authorization ID is used.

N/P
A blank is shown in the performance database.

N/A
A blank is shown in the performance database.

Field Name: QW0142OR

OPTIONS

The options used in the host to check the SQL statement. The bits of this field are used as indicators. If all bits are 0, the statement is not an SQL statement. The values are:

Bit 1
Host language character string delimiter

0
Apostrophe

1
Quote

Bit 2
Decimal point symbol

0
Period

1
Comma

Bit 3
SQL character string delimiter

0
Apostrophe

1
Quote

Bit 4
Mixed character string indicator

0
No

1
Yes

Bit 5
Host language options indicator

0
Do not use host language options

1
Use host language options

Bits 6 to 8
Host language indicator

001
Assembler

010
Cobol

011
PL/I

100
None - Dynamic SQL

101
Fortran

110
Cobol2

111
Null - See bits 17 to 24 for the language

Bits 9 to 16
Character set being used

00000000
Alphanumeric

00000001
Katakana

Bits 17 to 24
Alternate host language field

B
Assembler

C
Cobol

P
PL/I

F
Fortran

2
Cobol2

D
C

Bits 25 to 28
Time Option

0000
None

1000
Local

0100
JIS

0010
ISO/EUR

0001
USA

Bits 29 to 32
Date Option

0000
None

1000
Local

0100
EUR

0010
ISO/JIS

0001
USA

Bit 33
Decimal

0
No

1
Yes

Bits 34 to 40
Unused

Bits 41 to 48
Remote option

00000001
SQL(ALL)

00000010
SQL(DB2)

Bits 49 to 56
SQL flag option

00000000
No SQLFLAG option

00000001
SQLFLAG(SAA)

Field Name: QW0142HO

DATABASE

The database ID. Deduced from the DB2 fields QW0142DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0142DB is shown, or N/A when this value is 0.

Field Name: RT0142DB

TABLE OBID

The object ID. Deduced from the DB2 fields QW0142OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0142OB is shown, or N/A when this value is 0.

Field Name: RT0142OB

SECLABEL OF MLS TABLE

The security label that is used when the table is defined.

Field Name: QW0142SL

MULTILEVEL SECURITY

The Multilevel Security (MLS) table can contain the following values:

YES
For a Create or Drop operation of a table that has multilevel security, or for an Alter operation of a table to add a security label column.

NO
For an Alter operation of a table that has multilevel security.

NON MLS TABLE
The table does not have multilevel security.

N/P
Not present. A blank is shown in the performance database.

N/A
A blank is shown in the performance database.

Field Name: QW0142ML

ROW/CLMN ACCESS CTRL

The access control field contains data about ROW-LEVEL and COLUMN-LEVEL (R/C) ACCESS CONTROL in DDL. It can have the following values:

'R' (ROW)
Activates row-level access control.

'C' (COLUMN)
Activates column-level access control.

'B' (BOTH)
Activates row-level and column-level access control.

' ' (NONE)
Activates no access control.

Field Name: QW0142RC

SQL STMT

The SQL statement text. Long SQL text can be truncated.

Field Name: QW0142TX

IFCID 143 - Audit First Write

This topic shows detailed information about "Record Trace - IFCID 143 - Audit First Write".

Record trace - IFCID 143 - Audit First Write

The field labels shown in the following sample layout of "Record Trace - IFCID 143 - Audit First Write" are described in the following section.

```
DATABASE: DSNBD23A        LOGRBA: X'000000000000'
PAGE SET:      4                  TABLE OBID:       14
```

DATABASE

The database ID. Deduced from the DB2 fields QW0143DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0143DB is shown, or N/A when this value is 0.

Field Name: RT0143DB

LOGRBA

The identifier of the unit of recovery.

Field Name: QW0143UR

PAGESET

The page set name or decimal identifier.

Field Name: RT0143PS

TABLE OBID

The object ID. Deduced from the DB2 fields QW0143OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0143OB is shown or N/A when this value is 0.

Field Name: RT0143OB

IFCID 144 - Audit First Read

This topic shows detailed information about "Record Trace - IFCID 144 - Audit First Read".

Record trace - IFCID 144 - Audit First Read

The field labels shown in the following sample layout of "Record Trace - IFCID 144 - Audit First Read" are described in the following section.

```
DATABASE: DSNDB06         LOGRBA: X'000000000000'
PAGE SET: DSNDSX01                TABLE OBID:        5
```

DATABASE

The database ID. Deduced from the DB2 fields QW0144DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0144DB is shown, or N/A when this value is 0.

Field Name: RT0144DB

LOGRBA

The identifier of the unit of recovery.

Field Name: QW0144UR

PAGESET

The page set name or decimal identifier.

Field Name: QW0144PS

IFCID 145 - Audit DML Statement

This topic shows detailed information about "Record Trace - IFCID 145 - Audit DML Statement".

Record trace - IFCID 145 - Audit DML Statement

The field labels shown in the following sample layout of "Record Trace - IFCID 145 - Audit DML Statement" are described in the following section.

```
-------------------------------------------------------------------------------------------------------------------------------
*** AUDIT LOG RECORD ***

-------------------------------------------------------------------------------------------------------------------------------
SECTION 1 - AUDIT INFORMATION:

LOCATION NAME: DB0B                     PKG COLLCT ID: DSNTEP2                   PROGRAM NAME : DSNTEP2
STMT TIME    : X'18CABFE7169A11C0'      TYPE         : SELECT - QUERY            ISOLATION    : CS
HOST OPTIONS : X'0400000000000000'      SQL CODE     :          0                STMT #       :      1829
STMT ID      :                    50    DBID/OBID #  :          1                MASK/PERM #  :         2

LOCATION NAME (LONG):   DB0B
PKG COLLCT ID (LONG):   DSNTEP2
PROGRAM NAME (LONG) :   DSNTEP2
-------------------------------------------------------------------------------------------------------------------------------
SECTION 2 - AUDIT OBJECTS:

DATABASE: 353                           TABLE OBID:         3
-------------------------------------------------------------------------------------------------------------------------------
SECTION 3 - ROW/COLUMN ACCESS CTRL OBJECTS:

SCHEMA NAME: DB0BSECA
OBJECT NAME: INCOME_BRANCH

SCHEMA NAME: DB0BSECA
OBJECT NAME: RA01_CUSTOMERS

-------------------------------------------------------------------------------------------------------------------------------
SECTION 4 - SQL STATEMENT TEXT:

SELECT * FROM DB2R5.CUSTOMER
-------------------------------------------------------------------------------------------------------------------------------
```

LOCATION NAME

The location name.

Field Name: QW0145LN

PKG COLLCT ID

The package collection identifier.

Field Name: QW0145PC

PROGRAM NAME

The program name.

Field Name: QW0145PN

STMT TIME

The hexadecimal value of the precompiler timestamp.

Field Name: QW0145TS

TYPE

The SQL statement type.

Field Name: QW0145ST

ISOLATION

The isolation level of the DML statement:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

UR
Uncommitted read

XR
Repeatable read with X lock

XS
Read stability with X lock

Field Name: QW0145IS

HOST OPTIONS

The options used in the host to check the SQL statement. The bits of this field are used as indicators. If all bits are 0, the statement is not an SQL statement. The values are:

Bit 1
Host language character string delimiter

0
Apostrophe

1
Quote

Bit 2
Decimal point symbol

0
Period

1
Comma

Bit 3
SQL character string delimiter

0
Apostrophe

1
Quote

Bit 4
Mixed character string indicator

0
No

1
Yes

Bit 5
Host language options indicator

0
Do not use host language options

1
Use host language options

Bits 6 to 8
Host language indicator

001
Assembler

010
Cobol

011
PL/I

100
None - Dynamic SQL

101
Fortran

110
Cobol2

111
Null - See bits 17 to 24 for the language

Bits 9 to 16
Character set being used

00000000
Alphanumeric

00000001
Katakana

Bits 17 to 24
Alternate host language field

B
Assembler

C
Cobol

P
PL/I

F
Fortran

2
Cobol2

D
C

Bits 25 to 28
Time Option

0000
None

1000
Local

0100
JIS

0010
ISO/EUR

0001
USA

Bits 29 to 32
Date Option

0000
None

1000
Local

0100
EUR

0010
ISO/JIS

0001
USA

Bit 33
Decimal

0
No

1
Yes

Bits 34 to 40
Unused

Bits 41 to 48
Remote option

00000001
SQL(ALL)

00000010
SQL(DB2)

Bits 49 to 56
SQL flag option

00000000
No SQLFLAG option

00000001
SQLFLAG(SAA)

Field Name: QW0145HO

SQL CODE

The SQLCODE of the SQL statement.

Field Name: QW0145SC

STMT #

The precompiler statement number.

Field Name: QW0145SN

STMT ID

The SQL unique statement ID.

Field Name: QW0145SI

DBID/OBID #

The number of unique non-zero DBID and OBID in the audited statement.

Field Name: QW0145OB_NUM

MASK/PERM #

The number of masks or permissions enforced in the audited statement.

Field Name: QW0145AC_NUM

LOCATION NAME (LONG)

The location name.

Field Name: QW0145LN

PKG COLLCT ID (LONG)

The package collection identifier.

Field Name: QW0145PC

PROGRAM NAME (LONG)

The program name.

Field Name: QW0145PN

DATABASE

The audit log table DBID in hexadecimal.

Field Name: QW0145DB

TABLE OBID

The audit log table OBID in hexadecimal.

Field Name: QW0145OB

SCHEMA NAME

The name of the access control schema.

Field Name: QW0145AS

OBJECT NAME

The name of the access control object.

Field Name: QW0145AO

SECTION 4 - SQL STATEMENT TEXT (NO LABEL)

The SQL statement text associated with the BIND. If SQL text is not present, N/P is printed. Long SQL text can be truncated.

Field Name: QW0145RT

IFCID 146 - User Record

This topic shows detailed information about "Record Trace - IFCID 146 - User Record".

When present, the IFCID 146 record is printed in the standard hexadecimal dump format. The character format is on the right.

IFCID 147 - Thread Summary

This record only contains data from an Online Monitor trace data set.

IFCID 147 - Data Sharing Accounting Data

This topic shows detailed information about "Record Trace - IFCID 147 - Data Sharing Accounting Data".

Record trace - IFCID 147 - Data Sharing Accounting Data

The field labels shown in the following sample layout of "Record Trace - IFCID 147 - Data Sharing Accounting Data" are described in the following section.

```
DATA SHARING ACCOUNTING DATA
MEMBER NAMES: N/P
```

MEMBER NAMES

For an assisting task, the name of the parallelism coordinator. For a coordinating task, the name of each assisting member.

Field Name: QWDAXCQO

IFCID 147 - Distributed Header Data

This topic shows detailed information about "Record Trace - IFCID 147 - Distributed Header Data".

Place text here

Record trace - IFCID 147 - Distributed Header Data

The field labels shown in the following sample layout of "Record Trace - IFCID 147 - Distributed Header Data" are described in the following section.

```
DISTRIBUTED HEADER DATA
REQUESTING LOCATION   : REQUESTLOCATION1
AR NAME               : SRVNAMPARAMETER1
REQUESTING TIMESTAMP  :                     N/P  PRDID : PRD VID R0 M1
```

REQUESTING LOCATION

The location name of the requester. If the thread is an allied thread (no distributed requests) or the thread is an allied-distributed thread (this location is the requester), OMEGAMON XE for DB2 PE sets this field equal to the local location. If the thread is a database access thread (this location is a server).

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup. For parallel query rollup records, the value will be derived from the parent record.

Field Name: QWHDRQNM

AR NAME

The application requester name.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup. For parallel query rollup records, the value will be derived from the parent record.

Field Name: QWHDSVNM

REQUESTING TIMESTAMP

The timestamp for database access thread (DBAT) records.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup. For parallel query rollup records, the value will be derived from the parent record.

Field Name: QWHDTSTP

PRDID

Shows the product identifier (ID) of the requester. It can have the following values:

DB2
For DB2 UDB for z/OS

SQL/DS
For DB2 UDB for VSE and VM

JDBC DRIVER
For Universal JDBC driver

COMMON SERV
For DB2 UDB for Linux, UNIX, Windows

DB2/400
For DB2 UDB for iSeries

Otherwise, it shows the first 3 characters of the product ID, or N/P if the record was written at the application requester location.

For DDF/RRSAF rollup records, the field will contain a value derived from the last thread to rollup. For parallel query rollup records, the value will be derived from the parent record.

Field Name: QWHDPRID

IFCID 147 - Instrumentation Accounting Data

This topic shows detailed information about "Record Trace - IFCID 147 - Instrumentation Accounting Data".

Note: This report has the same layout as IFCID 003, for details refer to “IFCID 003 - Instrumentation Accounting Data ” on page 524.

IFCID 147 - Instrumentation Accounting Data Overflow

This topic shows detailed information about "Record Trace - IFCID 147 - Instrumentation Accounting Data Overflow".

Note: This report has the same layout as IFCID 003, for details refer to “IFCID 003 - Instrumentation Accounting Data Overflow ” on page 537.

Record trace - IFCID 147 - Instrumentation Accounting Data Overflow

The field labels shown in the following sample layout of "Record Trace - IFCID 147 - Instrumentation Accounting Data Overflow" are described in the following section.

```
                                INSTRUMENTATION ACCOUNTING DATA OVERFLOW

ARCH.LOG(QUIES) SUSP TIME              0.000000   ARCH.LOG(QUIES) SUSP EVENTS              0
ACCUM. READ SUSP TIME                  0.000000   WAIT TRACE READ EVENTS                   0
DRAIN LOCK SUSP TIME                   0.000000   DRAIN LOCK SUSP EVENTS                   0
CLAIM RELEASE SUSP TIME                0.000000   CLAIM RELEASE SUSP EVENTS                0
I/O SERVICE TASK SUSP TIME             0.000000   I/O SERVICE TASK SUSP EVENTS             0
SYSLGRNG SUSP TIME                     0.000000   SYSLGRNG SUSP EVENTS                     0
DS MANAGER SUSP TIME                   0.000000   DS MANAGER SUSP EVENTS                   0
OTHER SERVICE SUSP TIME                0.000000   OTHER SERVICE SUSP EVENTS                0
COMMIT PH1 WRITE I/O TIME              0.000000   COMMIT PH1 WRITE I/O EVENTS              0
ASYNCH. IXL REQ. TIME                  0.000000   ASYNCH. IXL EVENTS                       0
LOB COMPRESSION SUSP TIME              0.000000   LOB COMPRESSION SUSP EVENTS              0
FAST INSERT PIPE WAIT TIME             0.000000   FAST INSERT PIPE WAIT EVENTS             0
```

ARCH.LOG(QUIES) SUSP TIME

The accumulated waiting time due to the processing of ARCHIVE LOG MODE(QUIESCE) commands.

This time does not represent the time required to perform the entire command.

Field Name: QWAXALOG

This is an *exception* field.

ARCH.LOG(QUIES) SUSP EVENTS

The number of ARCHIVE LOG MODE (QUIESCE) commands issued.

Field Name: QWAXALCT

ACCUM. READ SUSP TIME

The accumulated wait time for:

- Archive Log reads
- Active Log reads
- Active Log prefetch reads
- Fast Log apply log reads

Field Name: QWAXAWAR

WAIT TRACE READ EVENTS

DB2 V8: The number of wait trace events processed for archive reads, active reads, and active log prefetch reads.

Field Name: QWAXANAR

DRAIN LOCK SUSP TIME

The accumulated waiting time for a drain lock. This is the time the requester is suspended while waiting to acquire the drain lock.

Field Name: QWAXAWDR

This is an *exception* field.

DRAIN LOCK SUSP EVENTS

The number of wait trace events processed for waits for drain locks.

Field Name: QWAXARND

CLAIM RELEASE SUSP TIME

The accumulated waiting time for a drain waiting for claims to be released. After the drain lock is acquired, the drainer must wait for claim holders to release the object.

Field Name: QWAXAWCL

This is an *exception* field.

CLAIM RELEASE SUSP EVENTS

The number of wait trace events processed for waits for claims to be released.

Field Name: QWAXARNC

I/O SERVICE TASK SUSP TIME

Accumulated waiting time for a synchronous execution unit switch to the DB2 OPEN/CLOSE data set service for the HSM recall service.

This value is an average.

Field Name: QWAXOCSE

I/O SERVICE TASK SUSP EVENTS

Number of wait trace events processed of waits for synchronous execution unit switching to the Open/Close service.

Field Name: QWAXOCNS

SYSLGRNG SUSP TIME

Accumulated wait time for a synchronous execution unit switch to the DB2 SYSLGRNG recording service. This service is sometimes used for Level ID checking for downlevel detection.

This value is an average.

Field Name: QWAXSLSE

SYSLGRNG SUSP EVENTS

Number of wait trace events for a synchronous execution unit switch to the DB2 SYSLGRNG recording service.

Field Name: QWAXSLNS

DS MANAGER SUSP TIME

Accumulated wait time for a synchronous execution unit switch to the DB2 data space manager services. This includes DEFINE DATA SET, EXTEND DATA SET, DELETE DATA SET, RESET DATA SET, and VSAM CATALOG ACCESS.

This value is an average.

Field Name: QWAXDSSE

DS MANAGER SUSP EVENTS

Number of wait trace events for waits for synchronous execution unit switching to the DB2 data space manager services.

Field Name: QWAXDSNS

OTHER SERVICE SUSP TIME

Could be due to a VSAM catalog update. In the distributed environment, it includes the waiting time for the response from the server system. Performance trace for IFCID 46 to 50, 170, and 171 provide more detailed information for analysis.

Field Name: QWAXOTSE

OTHER SERVICE SUSP EVENTS

Number of wait trace events for a synchronous execution unit switch to other DB2 service tasks.

Field Name: QWAXOTNS

COMMIT PH1 WRITE I/O TIME

The accumulated time waiting for phase 1 commit write I/O. An example for this suspension is LOB Table Space with LOG NO Phase 1 commit database synchronous write I/O processing.

Field Name: QWAXAWFC

COMMIT PH1 WRITE I/O EVENTS

The total number of wait trace events for commit phase 1 I/O.

Field Name: ADFCSUSC

ASYNC. IXL REQ. TIME
The accumulated wait time for IXLCACHE and IXLFCOMP requests.

Field Name: QWAXIXLT

ASYNC. IXL EVENTS

Number of wait trace events processed for asynchronous IXLCACHE or IXLFCOMP invocations.

Field Name: QWAXIXLE

LOB COMPRESSION SUSP TIME

The accumulated time waiting for a compression of DB2 large objects (LOB) (DB2 field QWAX_LOBCOMP_WAIT).

Field Name: QWAX_LOBCOMP_WAIT

LOB COMPRESSION SUSP EVENTS

The number of wait trace events processed for DB2 large object (LOB) compressions.

Field Name: QWAX_LOBCOMP_COUNT

FAST INSERT PIPE WAIT TIME

The accumulated wait time for a pipe while this package was executed (DB2 field QPAC_PIPE_WAIT).

Field Name: QPAC_PIPE_WAIT

FAST INSERT PIPE WAIT EVENTS

The number of wait trace events that were processed for waits for a pipe while this package was executed (DB2 field QPAC_PIPEWAIT_COUNT).

Field Name: QPAC_PIPEWAIT_COUNT

IFCID 147 - Logging

This topic shows detailed information about "Record Trace - IFCID 147 - Logging".

Record trace - IFCID 147 - Logging

The field labels shown in the following sample layout of "Record Trace - IFCID 147 - Logging" are described in the following section.

```
!
LOGGING
!LOG RECORDS WRITTEN                 0  BYTES LOGGED
0
```

LOG RECORDS WRITTEN

The number of log records written.

Field Name: QWACLRN

BYTES LOGGED

The number of log record bytes written. This field is calculated from DB2 fields QWACLRAB x QWACLRN.

Field Name: RT0147BW

IFCID 147 - Monitor Detail Data

This topic shows detailed information about "Record Trace - IFCID 147 - Monitor Detail Data".

Record trace - IFCID 147 - Monitor Detail Data

The field labels shown in the following sample layout of "Record Trace - IFCID 147 - Monitor Detail Data" are described in the following section.

```
!                                              MONITOR DETAIL DATA
!API BEGIN ELAPSED TIME                             N/P    API ENDING ELAPSED TIME                          N/P
!API BEGIN CPU TIME                                0.000000    API ENDING CPU TIME                       0.000000
!API BEGIN SRB TIME                                     N/A    API ENDING SRB TIME                           N/A
!IFI BEGIN ELAPSED TIME                                 N/P    IFI ENDING ELAPSED TIME                       N/P
!IFI BEGIN CPU TIME                                0.000000    IFI ENDING CPU TIME                       0.000000
!BEGIN/RESUME CPU TIME                             0.000000    TCB TIME BEFORE ENCLAVE                       N/A
!BEGIN/RESUME TOD TIME                             0.000000
!LOCK - I/O - LATCH BEGIN TIME                          N/P    LOCK - I/O - LATCH ENDING TIME                N/P
!END-OF-TASK CPU TIME                              0.000000    ACCOUNTING ENTRY CPU TIME                 0.000000
!EU SWITCH BEGIN ELAPSED TIME                           N/P    EU SWITCH ENDING ELAPSED TIME                 N/P
!ARCH LOG(QUIESCE) BEGIN TIME                           N/P    ARCH LOG(QUIESCE) ENDING TIME                 N/P
!ACE TOKEN        X'1AFD26A0'   APPL REQUEST COUNT        3    ASCB TOKEN   X'00F96780'  LATCH TOKEN:N/P
!TCB TOKEN        X'008FE920'   AGENT ASID              181    STATUS INDICATOR 1:       THREAD AT PLAN LEVEL
!CONNECTION TYPE  BATCH         LATEST IFCID             0    STATUS INDICATOR 2:       AGENT IS NOT IN EOT TERM
!DBID             0             PREVIOUS IFCID           0    STATUS INDICATOR 3:       CREATE_THREAD IS NOT QUEUED
!OBID             0             LATCH CLASS             00    TSO CONNECTION TYPE:      BACKGROUND
!THREAD TYPE     : N/P          THREAD STATUS: IN DB2          STATUS INDICATOR 5:       AGENT NOT QUEUED FOR EOT TERM
!THREAD TOKEN    : X'00000818'  LUWSEQ       :         1       STATUS INDICATOR 6:       NOT RUNNING STORED PROCEDURE
!NESTING.LVL     :         0                                   STATUS INDICATOR 7:       NOT WAITING FOR STORED PROC.
!NESTING ACTIVITY: NO NESTED ACTIVITY                                                      CONS.TOKEN: X'2020202020202020'
!NETWORKID       : DEIBMIPS     LUNAME: IPSAQA11     UNIQUENESS VALUE: X'D0A24DA3F33A'     ENCL.TOKEN: X'0000000000000000'
!LOCATION            : 'BLANK'
!COLLECTION          : 'BLANK'
!PACKAGE             : 'BLANK'
!STORED PROCEDURE NAME: 'BLANK'
!SCHEMA NAME         : 'BLANK'
```

API BEGIN ELAPSED TIME

The API begin elapsed time in the format day, hour, minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148AB

API ENDING ELAPSED TIME

The API ending elapsed time in the format day, hour, minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148AE

API BEGIN CPU TIME

The API beginning CPU time in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148UB

API ENDING CPU TIME

The API ending CPU time in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148UE

API BEGIN SRB TIME

The API beginning SRB time in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148SB

API ENDING SRB TIME

The API ending SRB time in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148SE

IFI BEGIN ELAPSED TIME

The IFI begin elapsed time in the format day, hour, minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW148IAB

IFI ENDING ELAPSED TIME

The IFI ending elapsed time in the format day, hour, minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW148IAE

IFI BEGIN CPU TIME

The IFI beginning CPU time in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW148IUB

IFI ENDING CPU TIME

The IFI ending CPU time in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW148IUE

BEGIN/RESUME CPU TIME

The start or resume CPU time for a stored procedure, user-defined function, or trigger.

Field Name: QW148ATC

TCB TIME BEFORE ENCLAVE

The accumulated TCB time that is used when running under the control of a trigger. This does not include the time that is used while running in user-defined functions or stored procedures that are called from the trigger.

This CPU time does not include the CPU time that is consumed on an IBM specialty engine.

Field Name: QWACTRTT

This is an *exception* field.

BEGIN/RESUME TOD TIME

The start or resume TOD time for a stored procedure, user-defined function, or trigger.

Field Name: QW148AOD

LOCK - I/O - LATCH BEGIN TIME

The beginning time of the I/O including lock and latch use in the format day, hour, minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148LB

LOCK - I/O - LATCH ENDING TIME

The ending time of the I/O including lock and latch use in the format day, hour, minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148LE

END-OF-TASK CPU TIME

The CPU time from DSN3EOT0 in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148EO

ACCOUNTING ENTRY CPU TIME

The CPU time at entry to a monitoring or accounting class 2 or class 3 wait, in the format minute, second, and millionth of a second. If the value is 0, N/P is printed.

Field Name: QW0148LW

EU SWITCH BEGIN ELAPSED TIME

The beginning of the elapsed time of the wait for the execution unit switch. If the value is 0, N/P is printed.

Field Name: QW0148EB

EU SWITCH ENDING ELAPSED TIME

The end of the elapsed time of the wait for the execution unit switch. If the value is 0, N/P is printed.

Field Name: QW0148EE

ARCH LOG(QUIESCE) BEGIN TIME

The beginning of the elapsed time of the wait for the ARCHIVE LOG MODE (QUIESCE) command. If the value is 0, N/P is printed.

Field Name: QW0148RB

ARCH LOG(QUIESCE) ENDING TIME

The end of the elapsed time of the wait for the ARCHIVE LOG MODE (QUIESCE) command. The end time minus begin time should be the total time the agent is suspended due to the ARCHIVE LOG MODE (QUIESCE) command. If the value is 0, N/P is printed.

Field Name: QW0148RE

ACE TOKEN

The hexadecimal address of the agent control element. Indicates the thread reported here. If the value is 0, N/P is printed.

Field Name: QW0148AC

APPL REQUEST COUNT

The number of attachment facility calls to DB2.

Field Name: QW0148RQ

ASCB TOKEN

The ASCB token in hexadecimal. If the value is 0, N/P is printed.

Field Name: QW0148MA

LATCH TOKEN

The latch token. If the value is 0, N/P is printed.

Field Name: QW0148LA

TCB TOKEN

The TCB token. If the value is 0, N/P is printed.

Field Name: QW0148MT

AGENT ASID

The ASID of the thread.

Field Name: QW0148AS

STATUS INDICATOR 1

Indicates whether the thread is at plan or signon/identify level.

Field Name: QW0148CD

CONNECTION TYPE

The connection type.

Field Name: QW0148TY

LATEST IFCID

The latest IFCID processed.

Field Name: QW0148IL

STATUS INDICATOR 2

Indicates whether the agent is in end-of-task processing.

Field Name: QW0148ES

DBID

The database ID. Deduced from the DB2 fields QW0148DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0148DB is shown, or N/A when this value is 0.

Field Name: RT0148DB

PREVIOUS IFCID

The previous IFCID processed.

Field Name: QW0148IP

STATUS INDICATOR 3

Indicates whether the create thread request is queued.

Field Name: QW0148CQ

OBID

The object ID. Deduced from the DB2 fields QW0148OB, QW0105TN or QW0107TN.

If present, the name of the object is shown, otherwise the decimal identifier from QW0148OB is shown, or N/A if this value is 0.

Field Name: RT0148OB

LATCH CLASS

The latch class in hexadecimal.

Field Name: QW0148LC

TSO CONNECTION TYPE

The TSO connection type.

Field Name: QW0148TS

THREAD TYPE

The type of thread being processed.

Field Name: QW0148DD

THREAD STATUS

The status of the thread being processed.

Field Name: QW0148AI

STATUS INDICATOR 5

Indicates whether the agent is queued for end-of-task processing.

Field Name: QW0148EQ

THREAD TOKEN

The thread token. This token uniquely identifies a specific thread and also appears in the display thread command response.

Field Name: QW148TTK

LUWSEQ

The LUW sequence number.

Field Name: QW0148CC

STATUS INDICATOR 6

Indicates whether the thread is running a stored procedure in DB2.

Field Name: QW0148SN

NESTING.LVL

Nesting level of the stored procedure, user-defined function or trigger, in the range 1 through 16.

Field Name: QW148ALV

STATUS INDICATOR 7

Indicates whether the thread is queued waiting for a stored procedure to be scheduled.

Field Name: QW0148SQ

NESTING ACTIVITY

Nesting activity of the stored procedure, user-define function or trigger, if any.

Field Name: QW148AFG

CONS.TOKEN

The consistency token.

Field Name: QW0148CN

NETWORKID

The network identifier.

Field Name: QW0148NI

LUNAME

The logical unit name.

Field Name: QW0148LM

UNIQUENESS VALUE

The instance number.

Field Name: QW0148UV

ENCL.TOKEN

The enclave token, if under enclave, otherwise zero.

Field Name: QW148ETK

LOCATION

The name of the location where the thread executes the package.

Field Name: QW0148LN

COLLECTION

The collection name.

Field Name: QW0148CI

PACKAGE

The package identifier.

Field Name: QW0148PN

STORED PROCEDURE NAME

The stored procedure name.

Field Name: QW0148SP

SCHEMA NAME

Schema name, under which a stored procedure, user-define function or trigger is executing.

Field Name: QW148SCH

TOKEN

The consistency token.

Field Name: QW0148CN

IFCID 147 - Thread Correlation Data

This topic shows detailed information about "Record Trace - IFCID 147 - Thread Correlation Data".

Record trace - IFCID 147 - Thread Correlation Data

The field labels shown in the following sample layout of "Record Trace - IFCID 147 - Thread Correlation Data" are described in the following section.

```
!                                          THREAD CORRELATION DATA
!*** Long name section:
!ORIGINAL AUTHID : EDVA
!PRIMARY AUTHID  : EDVA
!END USER ID     : EDVA
!*** End of long names
!
!AUTHORIZATION ID: EDVA          CONNECTION NAME : DB2CALL      CORRELATION VALUE: EDVA
!PLAN NAME       : DSNREXX       ORIGINAL AUTH ID: EDVA         CONNECTION TYPE  : DB2 CALL ATTACH
!ACCOUNTING TOKEN: N/A
!END USER ID     : EDVA          TRANSACTION     : EDVA         JOBSTEP NAME     :      N/A
!END USER WST    : DB2CALL
!
!*** Service Area:
!DB2 Version      :       161   Record subversion:         3  QWHC Length      : X'00A4'
```

ORIGINAL AUTHID

The original authorization ID. Possible values are:

- For TSO: the logon ID
- For batch: the user ID on the job statement
- For IMS (message-driven regions): the signon ID, LTERM, ASXBUSR, or PSB name
- For IMS (control regions): the user ID on the job statement, or the RACF started procedure entry if RACF is used
- For CICS: the user ID, TERM ID, TRAN ID, or as specified in the resource control table
- For MVS operator commands and DB2 system internal agents: SYSOPR
- For a distributed application server (AS):
  - If the application requester (AR) is a DB2 system, then this is the same value that was assigned at the AR.

– If the application requester is not a DB2 system, then this is the user ID used to make the initial connection with the application server.

Field Name: QWHCOPID

PRIMARY AUTHID

The primary authorization ID from a connection or signon. The connection authorization exit and the signon authorization exit can change the primary authorization ID so that it differs from the original primary authorization ID (ORIGAUTH). Distributed authorization ID translation can also change the primary authorization ID.

Field Name: QWHCAID

END USER ID

The user ID of the workstation end user. This user ID can be different from the authorization ID used to connect to DB2. This field contains blanks if the client does not supply this information.

Field Name: QWHCEUID

AUTHORIZATION ID

The primary authorization ID from a connection or signon. The connection authorization exit and the signon authorization exit can change the primary authorization ID so that it differs from the original primary authorization ID (ORIGAUTH). Distributed authorization ID translation can also change the primary authorization ID.

Field Name: QWHCAID

CONNECTION NAME

The connection name. Possible values are:

- For batch: BATCH
- For TSO: TSO
- For QMF: DB2CALL
- For utilities: UTILITY
- For DB2 private protocol this is the DB2 subsystem ID
- For IMS: the IMS ID
- For CICS, this is the CICS ID
- For DRDA connections from non-DB2 requesters: SERVER

Field Name: QWHCCN

This is an *exception* field.

CORRELATION VALUE

Correlation ID value:

FOR BATCH
Job name

FOR TSO
Logon ID

FOR IMS/VS
PST#.PSBNAME

FOR CICS
CONNECTION_TYPE.THREAD_TYPE.THREAD_#.TRAN-ID

FOR RRSAF
CORRELATION-ID VALUE FROM SIGNON FUNCTION

For threads using the DB2 private protocol or DRDA from a DB2 requester
This field contains the correlation-id name of the thread at the requesting location.

For threads using DRDA from a non-DB2 requester
This field contains the first 12 characters in the DDM external name (EXTNAM) parameter of the DDM EXCSAT command received as part of the SQL connect.

Field Name: QWHCCV

PLAN NAME

The plan name. It is blank for a DB2 command thread; otherwise:

DSNESPRR
For SPUFI with repeatable read.

DSNESPCS
For SPUFI with cursor stability.

DSNUTIL
For utilities.

DSNTEP2
For DSNTEP2.

DSNBIND
For binding.

The application plan name
For IMS.

The application plan name
For CICS.

A blank plan name
For IMS and CICS commands.

DSQPLAN
For QMF.

The first 8 bytes of the application name
For DRDA connections to the common servers.

Field Name: QWHCPLAN

This is an *exception* field.

ORIGINAL AUTH ID

The original authorization ID. Possible values are:

- For TSO: the logon ID
- For batch: the user ID on the job statement
- For IMS (message-driven regions): the signon ID, LTERM, ASXBUSR, or PSB name
- For IMS (control regions): the user ID on the job statement, or the RACF started procedure entry if RACF is used
- For CICS: the user ID, TERM ID, TRAN ID, or as specified in the resource control table
- For MVS operator commands and DB2 system internal agents: SYSOPR
- For a distributed application server (AS):
  - If the application requester (AR) is a DB2 system, then this is the same value that was assigned at the AR.
  - If the application requester is not a DB2 system, then this is the user ID used to make the initial connection with the application server.

Field Name: QWHCOPID

CONNECTION TYPE

The connecting system type code (in hexadecimal). This field can have a null value. Utilities, for example, do not have a connecting system type.

Field Name: QWHCATYP

ACCOUNTING TOKEN

Accounting correlation token.

This field applies only if CONNECTION TYPE equals CICS ATTACH or RRSAF ATTACH, otherwise N/A is shown.

If connection type is CICS ATTACH, the first eight bytes identify the network name (right padded with blanks), the second eight bytes identify the LU name (right padded with blanks), the final six bytes are the uniqueness value.

If the connection type is RRSAF ATTACH, the field is the value of the parameter accounting token in the RRSAF signon function.

This field is shown as both a character and a hexadecimal string.

Field Name: QWHCTOKN

TOKEN IN HEX

Accounting correlation token.

This field applies only if CONNECTION TYPE equals CICS ATTACH or RRSAF ATTACH, otherwise N/A is shown.

If connection type is CICS ATTACH, the first eight bytes identify the network name (right padded with blanks), the second eight bytes identify the LU name (right padded with blanks), the final six bytes are the uniqueness value.

If the connection type is RRSAF ATTACH, the field is the value of the parameter accounting token in the RRSAF signon function.

This field is shown as both a character and a hexadecimal string.

Field Name: QWHCTOKN

END USER ID

The user ID of the workstation end user. This user ID can be different from the authorization ID used to connect to DB2. This field contains blanks if the client does not supply this information.

Field Name: QWHCEUID

TRANSACTION

The transaction or application name that is run.

Field Name: QWHCEUTX

JOBSTEP NAME

If the thread that is currently running is a TCB, this value is the step name in the JCL that is running the batch job.

Field Name: QWHCJOBSTEP

END USER WST

The end user's workstation name.

Field Name: QWHCEUWN

IFCID 149 - Resource Locking

This record only contains data from an Online Monitor trace data set.

Note: This report has the same layout as IFCID 150, for details refer to “IFCID 150 - Thread Locking” on page 771.

IFCID 150 - Thread Locking

This record only contains data from an Online Monitor trace data set.

IFCID 150 - Global Interest Data

This topic shows detailed information about "Record Trace - IFCID 150 - Global Interest Data".

Record trace - IFCID 150 - Global Interest Data

The field labels shown in the following sample layout of "Record Trace - IFCID 150 - Global Interest Data" are described in the following section.

```
GLOBAL INTEREST DATA
A PLOCK IS HELD    : NO          RESULTANT REQUESTED STATE:  SHARED AND INTENTION EXCLUSIVE, LOWER LEVEL PLOCKS ACQUIRED
SUBSYSTEM NAME     : SYS00006    RESULTANT HELD STATE     :  SHARED AND INTENTION EXCLUSIVE, LOWER LEVEL PLOCKS ACQUIRED
```

A PLOCK IS HELD

Indicates if a P-lock is held. It can have one of the following values:

- YES
- NO
- N/P

Field Name: QW01505P

RESULTANT REQUESTED STATE

The result of the requested lock state. It can have one of the following values:

- UNPROTECTED SHARE
- INTENTION SHARE
- INTENTION EXCLUSIVE
- SHARE
- UPDATE
- SHARE AND INTENTION EXCLUSIVE
- NON-SHARED UPDATE
- EXCLUSIVE
- INTENTION SHARE, LOWER LEVEL PLOCKS ACQUIRED
- INTENTION EXCLUSIVE, LOWER LEVEL PLOCKS ACQUIRED
- SHARED AND INTENTION EXCLUSIVE, LOWER LEVEL PLOCKS ACQUIRED

Field Name: QW01505R

SUBSYSTEM NAME

The name of the subsystem.

Field Name: QW01505S

RESULTANT HELD STATE

The result of the requested P-lock held state. It can have one of the following values:

- UNPROTECTED SHARE
- INTENTION SHARE
- INTENTION EXCLUSIVE
- SHARE
- UPDATE

- SHARE AND INTENTION EXCLUSIVE
- NON-SHARED UPDATE
- EXCLUSIVE
- INTENTION SHARE, LOWER LEVEL PLOCKS ACQUIRED
- INTENTION EXCLUSIVE, LOWER LEVEL PLOCKS ACQUIRED
- SHARED AND INTENTION EXCLUSIVE, LOWER LEVEL PLOCKS ACQUIRED

Field Name: QW01505H

IFCID 150 - Held Lock Data

This topic shows detailed information about "Record Trace - IFCID 150 - Held Lock Data".

Record trace - IFCID 150 - Held Lock Data

The field labels shown in the following sample layout of "Record Trace - IFCID 150 - Held Lock Data" are described in the following section.

```
HELD LOCK DATA
LOCK REQUEST TOKEN : X'0C000002'       LOCK STATE  :  X'00'                   SUBSYSTEM NAME : SYS00003
ACE TOKEN          : X'00000BB9'       LOCK TYPE   :  P-LOCK                  FUNCTION       : LOCK
LOCK DURATION      : X'00'
QW0150RW: X'0C000002'                  QW0150UC: X'00000000'
QW0150SC: (1)     0  (2)     0  (3)     0  (4)     0  (5)     0  (6)     0  (7)     0  (8)     0
```

LOCK REQUEST TOKEN

The lock request token in hexadecimal.

Field Name: QW0150R3

LOCK STATE

The lock state.

Field Name: QW0150ST

SUBSYSTEM NAME

The name of the subsystem.

Field Name: QW0150N4

ACE TOKEN

The hexadecimal address of the agent control element indicating the holder of this lock.

Field Name: QW0150A3

LOCK TYPE

The type of lock.

Field Name: QW0150TL

FUNCTION

The lock function.

Field Name: QW0150F4

LOCK DURATION

The duration for which the lock is held:

MANUAL
Varies depending on the ISOLATION parameter

MANUAL+1
Temporary change of consistency level from CS to RR during bind and DDL

COMMIT
Until commit

COMMIT+1
Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD

ALLOCATION
Until deallocation

PLAN
For the duration of the plan

FREE ALL LOCKS
Until all locks are freed

Field Name: QW0150D4

IFCID 150 - Lock Resource Data

This topic shows detailed information about "Record Trace - IFCID 150 - Lock Resource Data".

Record trace - IFCID 150 - Lock Resource Data

The field labels shown in the following sample layout of "Record Trace - IFCID 150 - Lock Resource Data" are described in the following section.

```
                                        LOCK RESOURCE DATA
LOCK RES TYPE: X'3F'        DBID: 25290      OBID: 51968      RESOURCE ID: X'00000313123456'
HASH TOKEN   : X'00000002'
```

LOCK RES TYPE

The locked resource type.

Note: For data sharing, SKELETON CURSOR TABLE LOCKING and SKELETON PACKAGE TABLE LOCK are LP-locks (an LP-lock has an L-lock component and a P-lock component).

Field Name: QW0150KT

DBID

The database ID. This field is not applicable if the value in LOCK RES TYPE is SKELETON CURSOR TABLE LOCKING , SKELETON PACKAGE TABLE LOCK , COLLECTION , or ALTER BUFFER POOL .

Deduced from the DB2 fields QW0150DB, QW0105DN, or QW0107DN.

If present, the database name is shown, otherwise the decimal identifier from QW0150DB is shown, or N/A if this value is 0.

Field Name: RT0150DB

OBID

The object ID of the table space or pageset involved in the lock. This field is not applicable if the value in LOCK RES TYPE is SKELETON CURSOR TABLE LOCKING , SKELETON PACKAGE TABLE LOCK , or COLLECTION .

Deduced from the DB2 fields QW0149KP, QW0105TN, QW0107TN, QW0149KP, QW0105OB or QW0107OB.

If present, then name of the object is shown. Otherwise the decimal identifier from QW0150KP is shown, or N/A if this value is 0.

Field Name: RT0150OB

RESOURCE ID

The hexadecimal identifier of the small resource. If LOCK RES TYPE is:

DATA SET LOCKING (PARTITION)
Last byte is the partition number

DATA PAGE LOCKING
First 3 bytes are the page number

INDEX PAGE LOCKING
First 3 bytes are the page number

HASH ANCHOR LOCK
First 3 bytes are the page number and the last byte is the anchor point ID

CS-READ DRAIN
Last byte is the partition number (optional)

RR-READ DRAIN
Last byte is the partition number (optional)

WRITE DRAIN
Last byte is the partition number (optional)

ROW LOCK
First 3 bytes are the page number and the last byte is the row ID of the record

INDEX END OF FILE LOCK
Last byte is the partition number (optional)

Note:

- In large partitioned table spaces, the page number covers 4 bytes instead of 3.
- If table spaces use relative page numbers, the resource ID covers 7 bytes. It contains the partition number in the first 2 bytes, the page number in the next 4 bytes, and the record ID in the seventh byte.

This field is not applicable if the value in `LOCK RES TYPE` is `SKELETON CURSOR TABLE LOCKING`, `SKELETON PACKAGE TABLE LOCK`, `TABLE LOCK ` , `COLLECTION`, `ALTER BUFFER POOL`, or `PAGESET LOCK`. If the value is `UTILITY SERIALIZATION LOCK` or `BINDLOCK`, N/A is printed.

Field Name: QW0150KR

HASH TOKEN

The hash token of the resource name.

Field Name: QW0150LH

IFCID 150 - Retained Lock Data

This topic shows detailed information about "Record Trace - IFCID 150 - Retained Lock Data".

Record trace - IFCID 150 - Retained Lock Data

The field labels shown in the following sample layout of "Record Trace - IFCID 150 - Retained Lock Data" are described in the following section.

```
RETAINED LOCK DATA
LOCK REQUEST TOKEN : X'00000003'      LOCK STATE  : X'08'                  SUBSYSTEM NAME : SUBSYS23
```

LOCK REQUEST TOKEN

The lock request token in hexadecimal.

Field Name: QW0150T4

LOCK STATE

The lock state in hexadecimal.

Field Name: QW0150R4

SUBSYSTEM NAME

The name of the subsystem.

Field Name: QW0150N4

IFCID 150 - Suspend Lock Data

This topic shows detailed information about "Record Trace - IFCID 150 - Suspend Lock Data".

Record trace - IFCID 150 - Suspend Lock Data

The field labels shown in the following sample layout of "Record Trace - IFCID 150 - Suspend Lock Data" are described in the following section.

```
SUSPEND LOCK DATA
LOCK REQUEST TOKEN : X'000000FF'       LOCK STATE  :  X'30'                  SUBSYSTEM NAME : SUBSYS11
ACE TOKEN          : X'00000068'       LOCK TYPE   :  RETAINED              FUNCTION       : UNLOCK
LOCK DURATION      : FREE ALL
QW0150RW: X'000000FF'                  QW0150UC: X'00000100'
QW0150SC: (1)     0  (2)     0  (3)     0  (4)     0  (5)     0  (6)     0  (7)     0  (8)     0
```

LOCK REQUEST TOKEN

The lock request token in hexadecimal.

Field Name: QW0150R3

LOCK STATE

The lock state.

Field Name: QW0150ST

SUBSYSTEM NAME

The name of the subsystem.

Field Name: QW0150N4

ACE TOKEN

The hexadecimal address of the agent control element indicating the holder of this lock.

Field Name: QW0150A3

LOCK TYPE

The type of lock.

Field Name: QW0150TL

FUNCTION

The lock function.

Field Name: QW0150F4

LOCK DURATION

The duration for which the lock is held:

MANUAL
Varies depending on the ISOLATION parameter

MANUAL+1
Temporary change of consistency level from CS to RR during bind and DDL

COMMIT
Until commit

COMMIT+1
Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD

ALLOCATION
Until deallocation

PLAN
For the duration of the plan

FREE ALL LOCKS
Until all locks are freed

Field Name: QW0150D4

IFCID 151 - User Record

This topic shows detailed information about "Record Trace - IFCID 151 - User Record".

When present, data is shown in hexadecimal dump format.

IFCID 152 - User Record

This topic shows detailed information about "Record Trace - IFCID 152 - User Record".

When present, data is shown in hexadecimal dump format.

IFCID 153 - User Record

This topic shows detailed information about "Record Trace - IFCID 153 - User Record".

When present, data is shown in hexadecimal dump format.

IFCID 154 - User Record

This topic shows detailed information about "Record Trace - IFCID 154 - User Record".

When present, data is shown in hexadecimal dump format.

IFCID 155 - User Record

This topic shows detailed information about "Record Trace - IFCID 155 - User Record".

When present, data is shown in hexadecimal dump format.

IFCID 156 - User Record

This topic shows detailed information about "Record Trace - IFCID 156 - User Record".

When present, data is shown in hexadecimal dump format.

IFCID 157 - DRDS RDS Interface

This topic shows detailed information about "Record Trace - IFCID 157 - DRDS RDS Interface".

Record trace - IFCID 157 - DRDS RDS Interface

The field labels shown in the following sample layout of "Record Trace - IFCID 157 - DRDS RDS Interface" are described in the following section.

```
DRDS RDS       'BLANK'
INTERFACE     NETWORKID:  DEIBMIPS  LUNAME:  IPSAR721  LUWSEQ:     1
EVENT: RETURN      REQUEST   : N/P
CALL : N/P         PLAN SECTN: N/P
PROGRAM    : N/P
SERVING LOC: N/P
```

EVENT

The type of event.

Field Name: QW0157E

REQUEST

The type of request. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0157O

PGM

The program name. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0157PN

CALL

The type of call. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0157CT

PLAN SECTN

The section number in the plan. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0157SN

SERVING LOCATION

The name of the server location. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0157LN

IFCID 158 - DRDS CNV Interface

This topic shows detailed information about "Record Trace - IFCID 158 - DRDS CNV Interface".

Record trace - IFCID 158 - DRDS CNV Interface

The field labels shown in the following sample layout of "Record Trace - IFCID 158 - DRDS CNV Interface" are described in the following section.

```
DRDS CNV       'BLANK'
INTERFACE     NETWORKID:  DEIBMIPS  LUNAME:  IPSAR721  LUWSEQ:     1
EVENT: RETURN       CALL TYPE : N/P
PROGRAM : N/P
```

EVENT

The type of event.

Field Name: QW0158E

CALL TYPE

The type of call. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0158CT

PGM

The name of the program. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0158PN

PLAN SECTN

The section number within the plan. This field shows N/P if the value in EVENT is RETURN .

Field Name: QW0158SN

IFCID 159 - DRDS Req Site Data

This topic shows detailed information about "Record Trace - IFCID 159 - DRDS Req Site Data".

Record trace - IFCID 159 - DRDS Req Site Data

The field labels shown in the following sample layout of "Record Trace - IFCID 159 - DRDS Req Site Data" are described in the following section.

```
DRDS REQ       'BLANK'
SITE DATA     NETWORKID:  DEIBMIPS  LUNAME:  IPSAR721  LUWSEQ:     1
EVENT  : WAIT RESP
SERVLOC: N/P
CONVID : X'00000002'     GPR15 :          8
```

EVENT

The type of event.

Field Name: QW0159E

SERVLOC

The name of the server location. This field shows N/P if the value in EVENT is `WAIT RESP` .

Field Name: QW0159LN

CONVID

The conversation identification number.

Field Name: QW0159CI

GPR15

The return code in general purpose register 15. This field shows N/P if the value in EVENT is `CREATE CONV` .

Field Name: QW015915

IFCID 160 - DC Requester

This topic shows detailed information about "Record Trace - IFCID 160 - DC Requester".

Record trace - IFCID 160 - DC Requester

The field labels shown in the following sample layout of "Record Trace - IFCID 160 - DC Requester" are described in the following section.

```
EVENT:  ALLOCATE CONVERSATION       MSGTYPE:  N/P         MSG RESPONSE: N/P           MSG LGTH:  N/P
MSGCLASS:  N/P                MSGNO N/P       MSGTIME 03/23/08 04:59:49.649239
QW0160ID  X'21'                QW0160CI  X'00BF3128'          QW0160VI  X'01000003'        QW0160SI  X'0073F4923DC3D965'
QW0160LM  X'E2E8E2C1C4D4D3D4'   QW0160VT  X'4D000000060E2CED'   QW0160DA  X'0000000000000000'
```

EVENT

The type of event.

Field Name: QW0160E

MSGTYPE

The message type. This field is only applicable if the value in EVENT is `RECEIVE RESPONSE MESSAGE` or `SEND REQUEST MESSAGE` .

Field Name: QW0160T

MSG RESPONSE

The message response. This field is only applicable if the value in EVENT is RECEIVE RESPONSE MESSAGE or SEND REQUEST MESSAGE .

Field Name: QW0160R

MSG LGTH

The message length. This field is only applicable if the value in EVENT is RESET CONVERSATION , RECEIVE RESPONSE MESSAGE , or SEND REQUEST MESSAGE .

Field Name: QW0160ML

MSGCLASS

The message class. This field is only applicable if the value in EVENT is RESET CONVERSATION , RECEIVE RESPONSE MESSAGE , SEND REQUEST MESSAGE , or WAIT FOR RESPONSE MESSAGE .

Field Name: QW0160MC

MSGNO

The message number. This field is only applicable if the value in EVENT is RESET CONVERSATION , RECEIVE RESPONSE MESSAGE , SEND REQUEST MESSAGE , or WAIT FOR RESPONSE MESSAGE .

Field Name: QW0160MN

MSGTIME

The timestamp at the start of the VTAM request.

Field Name: QW0160MS

IFCID 161 - DC Server

This topic shows detailed information about "Record Trace - IFCID 161 - DC Server".

Record trace - IFCID 161 - DC Server

The field labels shown in the following sample layout of "Record Trace - IFCID 161 - DC Server" are described in the following section.

```
EVENT:  RECEIVE REQUEST MESSAGE     MSGTYPE:  REQUEST     MSG RESPONSE: DATA          MSG LGTH:        756
MSGCLASS:      4               MSGNO     0     MSGTIME 03/13/08 23:18:23.315984
QW0161ID  X'11'                 QW0161CI  X'1032E128'         QW0161VI  X'01000008'        QW0161SI  X'00233E67363C9EA2'
QW0161LM  X'C9C2D4D9C4C24040'   QW0161VT  X'0000000000000000'   QW0161DA  X'0000000000000000'
```

EVENT

The type of event.

Field Name: QW0161E

MSGTYPE

The message type. This field is only applicable if the value in EVENT is RECEIVE REQUEST MESSAGE or SEND RESPONSE MESSAGE .

Field Name: QW0161T

MSG RESPONSE

The message response. This field is only applicable if the value in EVENT is RECEIVE REQUEST MESSAGE or SEND RESPONSE MESSAGE .

Field Name: QW0161R

MSG LGTH

The message length. This field is only applicable if the value in EVENT is RECEIVE REQUEST MESSAGE or SEND RESPONSE MESSAGE .

Field Name: QW0161ML

MSGCLASS

The message class. This field is only applicable if the value in EVENT is RECEIVE REQUEST MESSAGE or SEND RESPONSE MESSAGE .

Field Name: QW0161MC

MSGNO

The message number. This field is only applicable if the value in EVENT is RECEIVE REQUEST MESSAGE or SEND RESPONSE MESSAGE .

Field Name: QW0161MN

MSGTIME

Message timestamp. This field is only applicable if the value in EVENT is RECEIVE REQUEST MESSAGE or SEND RESPONSE MESSAGE .

Field Name: QW0161MS

IFCID 162 - DTM Request

This topic shows detailed information about "Record Trace - IFCID 162 - DTM Request".

Record trace - IFCID 162 - DTM Request

The field labels shown in the following sample layout of "Record Trace - IFCID 162 - DTM Request" are described in the following section.

```
DTM REQUEST    NETWORKID:  G91E81D0  LUNAME:  D179      LUWSEQ:     6
REQUESTING LOCATION:  9.30.129.208
REQUESTING TIMESTAMP: N/P
AR NAME: gixxer               PRDID: CLNT/SER V8 R1 M4
ACCTKN X'C7F9F1C5F8F1C4F04BC4F1F7F9000F92022652404040'
EVENT: DEALLOCATION INITIATED
LOCATION TYPE: N/P
```

EVENT

The type of event.

Field Name: QW0162E

LOCATION TYPE

The type of location.

Field Name: QW0162LT

LOCATION NAME

The name of the DB2 location where this event occurred.

Field Name: QW0162LN

IFCID 163 - DTM Respond

This topic shows detailed information about "Record Trace - IFCID 163 - DTM Respond".

Record trace - IFCID 163 - DTM Respond

The field labels shown in the following sample layout of "Record Trace - IFCID 163 - DTM Respond" are described in the following section.

```
EVENT:  DBAT CREATED AT SERVER
```

EVENT

The event type.

Field Name: QW0163E

IFCID 164 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 164 - IBM Service Record".

This record is for IBM service use.

IFCID 165 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 165 - IBM Service Record".

This record is for IBM service use.

Record trace - IFCID 165 - IBM Service Record

The field labels shown in the following sample layout of "Record Trace - IFCID 165 - IBM Service Record" are described in the following section.

```
QW0165MN  : X'1122334455667788'   QW0165RC:  64
QW0165MC  : X'C7C5E3C1C4C9D5C6'   QW0165FO:  32
QW0165MQ  : X'1234567890ABCDEF'   QW0165RP:    16
QW0165CI  :         N/A           QW0165RS:     8
QW0165IPV6: X'404040C7D9C1D5E34040404040404040'
```

QW0165MN

This field is for IBM service only.

Field Name: QW0165MN

QW0165RC

This field is for IBM service only.

Field Name: QW0165RC

QW0165MC

This field is for IBM service only.

Field Name: QW0165MC

QW0165FO

This field is for IBM service only.

Field Name: QW0165FO

QW0165MQ

This field is for IBM service only.

Field Name: QW0165MQ

QW0165RP

This field is for IBM service only.

Field Name: QW0165RP

QW0165CI

This field is for IBM service only.

Field Name: QW0165CI

QW0165RS

This field is for IBM service only.

Field Name: QW0165RS

QW0165IPV6

This field is for IBM service only.

Field Name: QW0165IPV6

IFCID 166 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 166 - IBM Service Record".

This record is for IBM service use.

IFCID 167 - Conv Alloc Req Queued

This topic shows detailed information about "Record Trace - IFCID 167 - Conv Alloc Req Queued".

Record trace - IFCID 167 - Conv Alloc Req Queued

The field labels shown in the following sample layout of "Record Trace - IFCID 167 - Conv Alloc Req Queued" are described in the following section.

```
CONVID    X'00000000'  LU NAME:      LUNAME12
CONV ALLOC        24   MODE NAME:    MODENAME
CONV QUEUED       15   CONV LIMIT          25
```

CONVID

The conversation identifier.

Field Name: QW0167CI

LU NAME

The logical unit name.

Field Name: QW0167LU

CONV ALLOC

The conversation allocated.

Field Name: QW0167CA

MODE NAME

The mode name.

Field Name: QW0167MO

CONV QUEUED

The conversation queued.

Field Name: QW0167CQ

CONV LIMIT

The conversation limit.

Field Name: QW0167CL

IFCID 168 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 168 - IBM Service Record".

This record is for IBM service use.

IFCID 169 - DIST Authid Translation

This topic shows detailed information about "Record Trace - IFCID 169 - DIST Authid Translation".

Record trace - IFCID 169 - DIST Authid Translation

The field labels shown in the following sample layout of "Record Trace - IFCID 169 - DIST Authid Translation" are described in the following section.

```
IDENTIFIER TYPE : TRUSTED CONTEXT SYSTEM AUTHID
TRANSL TYPE: INBOUND
RESPOND LINKNAME: RESPLNK1
RESPOND LOC : RESPLOCATION0001
SYST AUTHID : REQAUTH1
TRANS AUTHID: TRLAUTH1
```

IDENTIFIER TYPE

Identifier type of the source ID. Possible values are:

A
AUTHID

L
LOCATION ALIAS

D
DATABASE ALIAS

S
TRUSTED CONTEXT SYSTEM AUTHID

Field Name: QW0169ID

TRANSL TYPE

The type of translation:

INBOUND
The responding DB2 site translates the AUTHID after receiving the data.

OUTBOUND
The requesting DB2 site translates the AUTHID before sending the data.

Field Name: QW0169TY

RESPOND LINKNAME

The logical unit name.

If the value of TRANSLATION TYPE is INBOUND , this is the VTAM LU name of the requester location or row in SYSIBM.SYSIPNAMES.

If the value of TRANSLATION TYPE is OUTBOUND , this is the VTAM LU name of the remote server or

Field Name: QW0169LU

RESPOND LOC

If the value of TRANSLATION TYPE is INBOUND , this is the service location name regardless of whether the server is another DB2. If the value of TRANSLATION TYPE is OUTBOUND , this field contains one of the following values:

- The name of the requesting DB2 location
- *<LUNAME>*
- *NNN.NNN.NNN.NNN*

Field Name: QW0169LO

SYST AUTHID

Either authorization ID or location or alias before translation. Depending on the translation type OUTBOUND and identifier type TRUSTED CONTEXT, this field contains the original value of the authorization ID or the system authorization ID.

Field Name: QW0169AU

TRANS AUTHID

The new value of the authorization ID, location, or alias. Depending on the translation type OUTBOUND and identifier type TRUSTED CONTEXT, this field contains the value of the authorization ID or the translated system authorization ID.

Field Name: QW0169NE

IFCID 170 - Suspend of Agent

This topic shows detailed information about "Record Trace - IFCID 170 - Suspend of Agent".

Record trace - IFCID 170 - Suspend of Agent

The field labels shown in the following sample layout of "Record Trace - IFCID 170 - Suspend of Agent" are described in the following section.

```
ACE:         1
QW0170ID X'01'  QW0170FC X'05'
```

ACE

Indicates the requester. The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0170AC

IFCID 171 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 171 - IBM Service Record".

This record is for IBM service use.

IFCID 172 - Deadlock Data

This topic shows the records available for deadlock data.

IFCID 172 - Deadlock Header

This topic shows detailed information about "Record Trace - IFCID 172 - Deadlock Header".

This record is written every time that DB2 takes action to resolve a deadlock. This record details all of the units of work involved in the deadlock, the resource for which they were contending, and the attributes of their requests. One record is written for each locked resource in the deadlock.

Statistics class 3 or performance class 6 trace must be active.

DB2 can resolve a deadlock either by rolling back a unit of work for one of the agents involved, or by requesting a process to terminate.

There is no correlation between the number of IFCID 172 records written and the number of deadlocks counted by IFCIDs 2 and 3. Deadlocks can be broken without intervention by DB2, as an example when a process times out. Also, multiple IFCID 172 records can be written for a single deadlock.

Record trace - IFCID 172 - Deadlock Header

The field labels shown in the following sample layout of "Record Trace - IFCID 172 - Deadlock Header" are described in the following section.

```
                                    DEADLOCK HEADER
INTERVAL COUNT:     230681   WAITERS INVOLVED:          2   TIME DETECTED: 10/22/08 15:46:20.704974
```

INTERVAL COUNT

The deadlock interval counter.

Field Name: QW0172IT

WAITERS INVOLVED

The number of waiters involved in the deadlock.

Field Name: QW0172NR

TIME DETECTED

The date and time when the deadlock was detected.

Field Name: QW0172TD

IFCID 172 - Unit of Work - Resource

This topic shows detailed information about "Record Trace - IFCID 172 - Unit of Work - Resource".

The content of the LOCK RES TYPE field determines which other fields are printed in this record.

Blocker and waiter information is shown for each resource involved in the deadlock.

Record trace - IFCID 172 - Unit of Work - Resource

The field labels shown in the following sample layout of "Record Trace - IFCID 172 - Unit of Work - Resource" are described in the following section.

```
                                UNIT OF WORK
R E S O U R C E
LOCK RES TYPE: LPL RECOVERY        DBID: 1        OBID: 2     RESOURCE ID: X'00000313123456'
LOCK HASH VALUE: X'005859E8'
```

LOCK RES TYPE

The locked resource type.

Note: For data sharing, `SKELETON CURSOR TABLE LOCKING` and `SKELETON PACKAGE TABLE LOCK` are LP-locks (an LP-lock has an L-lock component and a P-lock component).

Field Name: QW0172FR

DBID

The database ID. This field is not applicable if the value in LOCK RES TYPE is `SKELETON CURSOR TABLE LOCKING` , `SKELETON PACKAGE TABLE LOCK` , or `COLLECTION` . Deduced from the DB2 fields QW0172DB, QW0105DN, or QW0107DN.

If present, the database name is shown, otherwise the decimal identifier from QW0172DB is shown, or N/A if this value is 0.

Field Name: RT0172DB

OBID

The object ID of the resource involved in the lock. This field is not applicable if the value in LOCK RES TYPE is SKELETON CURSOR TABLE LOCKING , SKELETON PACKAGE TABLE LOCK , or COLLECTION .

Deduced from the DB2 fields QW0172KP, QW0105TN, QW0107TN, QW0172KP, QW0105OB, or QW0107OB.

If present, then name of the object is shown. Otherwise the decimal identifier from QW0172KP is shown, or N/A if this value is 0.

Field Name: RT0172OB

RESOURCE ID

The hexadecimal identifier of the small resource. If LOCK RES TYPE is:

DATA PAGE LOCKING
First 3 bytes are the page number

DATA SET LOCKING (PARTITION)
Last byte is the partition number

INDEX PAGE LOCKING
First 3 bytes are the page number

HASH ANCHOR LOCK
First 3 bytes are the page number and the last byte is the anchor point ID

CS-READ DRAIN
Last byte is the partition number (optional)

RR-READ DRAIN
Last byte is the partition number (optional)

WRITE DRAIN
Last byte is the partition number (optional)

ROW LOCK
First 3 bytes are the page number and the last byte is the row ID of the record

INDEX END OF FILE LOCK
Last byte is the partition number (optional)

Note:

- In large partitioned table spaces, the page number covers 4 bytes instead of 3.
- If table spaces use relative page numbers, the resource ID covers 7 bytes. It contains the partition number in the first 2 bytes, the page number in the next 4 bytes, and the record ID in the seventh byte.

This field is not applicable if the value in LOCK RES TYPE is SKELETON CURSOR TABLE LOCKING , SKELETON PACKAGE TABLE LOCK , TABLE LOCK , COLLECTION , or ALTER BUFFER POOL . If the value is UTILITY SERIALIZATION LOCK or BINDLOCK , N/A is printed.

Field Name: QW0172KR

LOCK HASH VALUE

The hash value of the locked resource.

Field Name: QW0172LH

IFCID 172 - Unit of Work - Blocker

This topic shows detailed information about "Record Trace - IFCID 172 - Unit of Work - Blocker".

A blocker is a thread that prevents its victim from acquiring its lock. The blocker might be a holder of the lock, or it might be another waiter (that came in before the victim) that is incompatible with the holder's lock.

Note: If the fields PLAN NAME, CORR ID, CONN, and NETWORKID show an asterisk (*), the blocking request was released by the requester or was timed out between the detection and reporting of the deadlock.

Record trace - IFCID 172 - Unit of Work - Blocker

The field labels shown in the following sample layout of "Record Trace - IFCID 172 - Unit of Work - Blocker" are described in the following section.

```
B L O C K E R
PRIMAUTH    : SYSOPR     PLAN NAME : BLOCKPLA     CORR ID : BLOCKCORRID1          CONN ID : BLOCKCON
NETWORKID   : LUWID 1    LUNAME    : XXXXXXXX     OWNING WORK UNIT:     54979    UNIQUENESS VALUE: X'E7E7E7E7E7E7'
MEMBER      : BLOCKMEM   DURATION  :    PLAN      STATE   : PROTECTED SHARE          ACE  :   2
TRANSACTION : HOLDTRANSACTION NAME 00000000001    WS_NAME : HOLD WORKSTATION 1    END_USER: HOLDENDUSER00001
PROGRAM NAME: PGM00001   LOCATION  : LOCATION00000001                              PCKG/COLL ID: COLLECTIONID000001
CONS TOKEN  : X'C1C2C3C4C5C6C7C8'                 STMT ID : X'1234567890123456'           TYPE: X'0000'
STATUS      :  HOLD
QW0172HF: X'12'
```

PRIMAUTH

The authorization ID of the thread holding the resource.

Field Name: QW0172HB

PLAN NAME

The plan name of the blocker.

Field Name: QW0172HP

CORR ID

The correlation name of the blocker.

Field Name: QW0172HR

CONN ID

The connection ID of the blocker.

Field Name: QW0172HN

NETWORKID

Provides the following information:

- The logical unit of work identifier of the blocker. The data shown is only valid for distributed threads.
- The logical unit name of the blocker. The data shown is only valid for distributed threads.
- The uniqueness value of the blocker. The data shown is only valid for distributed threads.

Field Name: QW0172HL

LUNAME

Provides the following information:

- The logical unit of work identifier of the blocker. The data shown is only valid for distributed threads.
- The logical unit name of the blocker. The data shown is only valid for distributed threads.
- The uniqueness value of the blocker. The data shown is only valid for distributed threads.

Field Name: QW0172HL

OWNING WORK UNIT

The owning unit of work of the blocker.

Field Name: QW0172HO

UNIQUENESS VALUE

Provides the following information:

- The logical unit of work identifier of the blocker. The data shown is only valid for distributed threads.
- The logical unit name of the blocker. The data shown is only valid for distributed threads.
- The uniqueness value of the blocker. The data shown is only valid for distributed threads.

Field Name: QW0172HL

MEMBER

The DB2 member name.

Field Name: QW0172HI

DURATION

The lock duration of the thread blocking the resource.

Field Name: QW0172HD

STATE

The lock state of the thread holding the resource.

Field Name: QW0172HS

ACE

The owning unit of work of the blocker.

Field Name: QW0172HO

TRANSACTION

The transaction or application name that is run.

Field Name: QWHCEUTX

WS_NAME

The end user's workstation name.

Field Name: QWHCEUWN

END_USER

The user ID of the workstation end user. This user ID can be different from the authorization ID used to connect to DB2. This field contains blanks if the client does not supply this information.

Field Name: QWHCEUID

PROGRAM NAME

The name of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q1

LOCATION

Location of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q3

PCKG/COLL ID

Package collection ID of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q2

CONS TOKEN

Consistency token of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q4

STMT ID

Shows the cached statement ID for the thread holding the resource. This field contains zero (0) if the client does not supply this information.

Field Name: QW0172H9

STMT ID

The holder statement ID.

Field Name: QW0172HZ

TYPE

The holder statement information.

Field Name: QW0172HY

STATUS

The status of the blocker.

WAIT
The blocker is waiting for the resource.

HOLD
The blocker is holding the resource.

Field Name: QW0172H2

IFCID 172 - Unit of Work - Waiter

This topic shows detailed information about "Record Trace - IFCID 172 - Unit of Work - Waiter".

Record trace - IFCID 172 - Unit of Work - Waiter

The field labels shown in the following sample layout of "Record Trace - IFCID 172 - Unit of Work - Waiter" are described in the following section.

```
W A I T E R
PRIMAUTH    : 'BLANK'    PLAN NAME : WAITPLAN     CORR ID : WAITCORRID01          CONN ID : WAITCONN
NETWORKID   : LUWID 1    LUNAME    : XXXXXXXX     OWNING WORK UNIT:      51683    UNIQUENESS VALUE: X'E7E7E7E7E7E7E7'
MEMBER      : WAITMEM2   DURATION  :   PLAN       STATE   : SHARED                   ACE  :   3
TRANSACTION : WAITER TRANSACTION NAME             WS_NAME : WAITER WORKSTATION    END_USER: 'BLANK'
PROGRAM NAME: PGM000W1   LOCATION  : LOCATION000000W1                               PCKG/COLL ID: COLLECTIONID0000W1
CONS TOKEN  : X'C1C2C3C4C5C6C7C8'                 STMT ID : X'1234567890123456'          TYPE: X'0000'
DB2S ASIC   :    59073   REQ WORK UNIT:  51683    EB PTR : X'E6E4D9F1'            REQ FUNCTION: CHANGE
WORTH       : X'11'      QW0172WG: X'10'
```

PRIMAUTH

The authorization ID of the thread waiting for the resource.

Field Name: QW0172WB

PLAN NAME

The plan name of the waiter.

Field Name: QW0172WP

CORR ID

The correlation ID of the waiter.

Field Name: QW0172WR

CONN ID

The connection ID of the waiter.

Field Name: QW0172WN

NETWORKID

Provides the following information:

- The logical unit of work identifier of the waiter. The data shown is only valid for distributed threads.
- The logical unit name of the waiter. The data shown is only valid for distributed threads.
- The uniqueness value of the waiter. The data shown is only valid for distributed threads.

Field Name: QW0172WL

LUNAME

Provides the following information:

- The logical unit of work identifier of the waiter. The data shown is only valid for distributed threads.
- The logical unit name of the waiter. The data shown is only valid for distributed threads.
- The uniqueness value of the waiter. The data shown is only valid for distributed threads.

Field Name: QW0172WL

OWNING WORK UNIT

The owning unit of work of the waiter.

Field Name: QW0172WO

UNIQUENESS VALUE

Provides the following information:

- The logical unit of work identifier of the waiter. The data shown is only valid for distributed threads.
- The logical unit name of the waiter. The data shown is only valid for distributed threads.
- The uniqueness value of the waiter. The data shown is only valid for distributed threads.

Field Name: QW0172WL

MEMBER

The waiter's DB2 member name.

Field Name: QW0172WI

DURATION

The lock duration of the thread waiting for the resource.

MANUAL
Varies depending on the ISOLATION parameter (QW0172DR=x'20')

MANUAL+1
Temporary change of consistency level from CS to RR during bind and DDL (QW0172DR=x'21')

COMMIT
Until commit (QW0172DR=x'40')

COMMIT+1
Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD (QW0172DR=x'41')

ALLOCATION
Until deallocation (QW0172DR=x'60')

PLAN
For the duration of the plan (QW0172DR=x'80')

UTIL
For the duration of the utility execution (QW0172DR=x'81')

INTEREST
Duration used for P-locks (QW0172DR=x'FE')

FREE ALL
Until all locks are freed (QW0172DR=x'FF')

N/A
Not applicable for NOTIFY SUSPEND

Field Name: QW0172WD

STATE

The lock state of the thread waiting for the resource.

Field Name: QW0172WS

ACE

The owning unit of work of the waiter.

Field Name: QW0172WO

TRANSACTION

The transaction or application name that is run.

Field Name: QWHCEUTX

WS_NAME

The end user's workstation name.

Field Name: QWHCEUWN

END_USER

The user ID of the workstation end user. This user ID can be different from the authorization ID used to connect to DB2. This field contains blanks if the client does not supply this information.

Field Name: QWHCEUID

PROGRAM NAME

The name of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q5

LOCATION

Package collection ID of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q6

PCKG/COLL ID

Location of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q7

CONS TOKEN

Consistency token of the program that is in control at the time of the deadlock. It need not be the program that acquired the lock.

Field Name: QW0172Q8

STMT ID

Shows the cached statement ID for the thread waiting for the resource. This field contains zero (0) if the client does not supply this information.

Field Name: QW0172W9

STMT ID

The waiter statement ID.

Field Name: QW0172WZ

TYPE

The waiter statement information.

Field Name: QW0172WY

DB2S ASIC

The DB2S ASIC of the waiter. A unique number allocated to the requesting work unit of the waiter. The EB pointer of the waiter.

Field Name: QW0172AS

REQ WORK UNIT

The waiter's requesting work unit.

Field Name: QW0172UW

EB PTR

The EB pointer of the waiter.

Field Name: QW0172WE

REQ FUNCTION

The function requested by the waiter.

Field Name: QW0172WF

WORTH

The worth value DB2 assigns to the waiter.

Field Name: QW0172WA

IFCID 173 - Class 2 Time

This topic shows detailed information about "Record Trace - IFCID 173 - Class 2 Time".

When present, data for this IFCID is printed in dump format, otherwise `NO DATA` is printed.

Record trace - IFCID 173 - Class 2 Time

The field labels shown in the following sample layout of "Record Trace - IFCID 173 - Class 2 Time" are described in the following section.

```
AUTH ID       : THID01PACKAGEID000000001PACKNAM1PLAN0001CURSORNAME00000001
PACKAGE COLL ID: THID01PACKAGEID000000001PACKNAM1PLAN0001CURSORNAME00000001
PACKAGE NAME   : THID01PACKAGEID000000001PACKNAM1PLAN0001CURSORNAME00000001
CURSOR NAME    : THID01PACKAGEID000000001PACKNAM1PLAN0001CURSORNAME00000001
PLAN NAME      : PLAN0001   SECTION NUMBER :         3   STATEMENT NUMBER:         4      CACHED STMNT ID: X'00000004'
QW0173UT: X'00000001'    QW0173AT: X'00000002'
```

AUTH ID

The authorization ID.

Field Name: QW0173ID

PACKAGE COLL ID

The package collection ID.

Field Name: QW0173PC

PACKAGE NAME

The package name.

Field Name: QW0173PK

CURSOR NAME

The cursor name, if there is a cursor.

Field Name: QW0173CN

PLAN NAME

The plan name.

Field Name: QW0173PL

SECTION NUMBER

The section number in the plan.

Field Name: QW0173SN

STATEMENT NUMBER

The statement number in the plan.

Field Name: QW0173ST

CACHED STMNT ID

The cached statement ID. Zero (0) indicates that this information is not supplied.

Field Name: QW0173CS

IFCID 174 - Arch Log CMD Sus Start

This topic shows detailed information about "Record Trace - IFCID 174 - Arch Log CMD Sus Start".

Record trace - IFCID 174 - Arch Log CMD Sus Start

The field labels shown in the following sample layout of "Record Trace - IFCID 174 - Arch Log CMD Sus Start" are described in the following section.

```
ACE:   1
QW0174EB  X'024391B8'    QW0174UR  X'0242C168'
```

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0174AC

IFCID 175 - Arch Log CMD Sus End

This topic shows detailed information about "Record Trace - IFCID 175 - Arch Log CMD Sus End".

Record trace - IFCID 175 - Arch Log CMD Sus End

The field labels shown in the following sample layout of "Record Trace - IFCID 175 - Arch Log CMD Sus End" are described in the following section.

```
ACE:   1
QW0175EB  X'024391B8'    QW0175UR  X'0242C168'
```

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0175AC

IFCID 177 - Package Allocation

This topic shows detailed information about "Record Trace - IFCID 177 - Package Allocation".

Record trace - IFCID 177 - Package Allocation

The field labels shown in the following sample layout of "Record Trace - IFCID 177 - Package Allocation" are described in the following section.

```
PACKAGE        NETWORKID:  G91E81D0  LUNAME:  D179      LUWSEQ:     2
ALLOCATION    REQUESTING LOCATION:  9.30.129.208
REQUESTING TIMESTAMP: N/P
AR NAME: gixxer               PRDID: CLNT/SER V8 R1 M4
ACCTKN X'C7F9F1C5F8F1C4F04BC4F1F7F9000F92022652404040'
LOCATION          : DSND81B
COLLECTION ID     : AIXPGMS
PACKAGE ID        : SQLEMBT
CONSISTENCY TOKEN: X'5A4276344E644C54'
VERSION NAME      : N/P
DYNAMICRULES      : RUN
PLAN              : DISTSERV
ISOLATION         : CS
ACQUIRE           : USE
RELEASE           : COMMIT
REOPTIMIZATION    : NO
DEFERPREPARE      : NO
KEEPDYNAMIC       : NO
DBPROTOCOL        : DRDA
OPT_HINT_IDENT    : 'BLANK'
IMMEDWRITE        :  NO
```

LOCATION

The location of the package. This field shows 'BLANK' if the local location is not defined.

Field Name: QW0177LO

COLLECTION ID

The collection name.

Field Name: QW0177CO

PACKAGE ID

The package identifier.

Field Name: QW0177PI

CONSISTENCY TOKEN

The consistency token (timestamp) of the program.

Field Name: QW0177CT

VERSION NAME

The version. This field shows N/P if the record does not contain a valid version.

Field Name: QW0177VN

DYNAMICRULES

The value of the DYNAMICRULES option on the BIND/REBIND command:

RUN
Runtime rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

BIND
Bind-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

N/P in this field indicates that DYNAMICRULES was not specified.

Field Name: QW0177DY

PLAN

The name of the plan under which the package is running.

Field Name: QW0177PL

ISOLATION

The isolation level of the package:

RR
Repeatable read

CS
Cursor stability

RS
Read stability

UR
Uncommitted read

Field Name: QW0177IS

ACQUIRE

The acquire level of the package.

Field Name: QW0177AQ

RELEASE

The release level of the package.

Field Name: QW0177RL

REOPTIMIZATION

Indicates whether reoptimization was requested:

YES
REOPT(VARS) was specified to reoptimize the access path of the SQL statement at run time.

NO
NOREOPT(VARS) was specified to optimize the access path of the SQL statement only at bind time.

Field Name: QW0177RO

DEFERPREPARE

Indicates whether the preparation of dynamic SQL statements was deferred:

YES
DEFER(PREPARE) was specified to defer the preparation of the dynamic SQL statements that refer to remote objects until run time.

NO
NODEFER(PREPARE) was specified to prepare the dynamic SQL statements at bind time.

Field Name: QW0177DP

KEEPDYNAMIC

Indicates whether DB2 keeps (KEEPDYNAMIC(YES)) or discards (KEEPDYNAMIC(NO)) prepared SQL statements at commit points.

Field Name: QW0177KD

DBPROTOCOL

Protocol. Possible values are:

DRDA

PRIVATE

Field Name: QW0177PR

OPT_HINT_IDENT

Query optimization hint identifier, the default is blanks.

Field Name: QW0177OH

IMMEDWRITE

Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data-sharing environment.

Group buffer pool dependent pages can be written out to DASD or SYSTEM pagesets. Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abort for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback, and are written out at the end of the abort.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect DB2 performance due to coupling facility overhead.

N/P
The DB2 subsystem is not part of a data sharing group.

Field Name: QW0177WI

IFCID 178 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 178 - IBM Service Record".

This record is for IBM service use.

IFCID 179 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 179 - IBM Service Record".

This record is for IBM service use.

IFCID 180 - DC Communication Buffers

This topic shows detailed information about "Record Trace - IFCID 180 - DC Communication Buffers".

The format of this record depends on the format of the network protocol.

Record trace - IFCID 180 - DC Communication Buffers

The field labels shown in the following sample layout of "Record Trace - IFCID 180 - DC Communication Buffers" are described in the following section.

```
If SNA:
-------

TYPE OF EVENT   : SENT AN FMH-5 TO ALLOCATE A CONVERSATION
NETWORK PROTOCOL: SNA          CONVERSATION ID  : X'00000010'   SESSION   : X'1000000000000000'
MSG LENGTH      :         52
MSG/FMH-5       :       TRACEXXXX1XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXXZ


If TCP/IP V4:
-------------

TYPE OF EVENT   : RECEIVED DISTRIBUTED DATA MESSAGE
NETWORK PROTOCOL: TCP/IP V4       SOCKET DESCRIPTOR: X'00000010'   IP ADDRESS: X'1000000000000000D3D4E7E7E7E7E7E9'
LOCAL PORT      : X'A7A7'     PARTNER PORT     : X'A7A7'
MSG LENGTH      :         52
MSG/FMH-5       :       TRACEXXXX1XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXXZ


If TCP/IP V6:
-------------

TYPE OF EVENT   : RECEIVED A DISTRIBUTED DATA MESSAGE
NETWORK PROTOCOL: TCP/IP V6   SOCKET DESCRIPTOR: X'00000010'   IP ADDRESS: X'1000000000000000D3D4E7E7E7E7E7E9'
LOCAL PORT      : X'A7A7'     PARTNER PORT     : X'A7A7'
MSG LENGTH      :         52
MSG/FMH-5       :       TRACEXXXX1XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXXZ
```

TYPE OF EVENT

The type of event:

R
A distributed data message was received.

S
A distributed data message was sent.

F
An FMH-5 on an incoming conversation was received (only possible for VTAM conversations).

A
An FMH-5 to allocate a conversation was sent (only possible for VTAM conversations).

Field Name: QW0180E

NETWORK PROTOCOL

The type of network protocol:

- SNA
- TCP/IP IPV4
- TCP/IP IPV6

Field Name: QW0180NP

SESSION ID or IP ADDRESS(V4), LOCAL PORT(V4), PARTNER PORT(V4)

For SNA: this field contains the session ID. For TCP/IP: If QWHSRN is lower than 91, this field contains the 32-bit IPV4 IP address, followed by the 16-bit local port number, followed by the 16-bit partner port number.

Field Name: QW0180SI

IPADDRESS (V6)

The IP address for TCP/IP:

- If QWHSRN is lower than or equal to 91, this field contains the IP address in internal form.
- IF QW0180NP is equal to '01'B, this field contains an IPV4 IP address, which can be mapped.
- If QW0180NP is equal to '10'B, this field contains a 128-bit IPV6 IP address.

Field Name: QW0180IP

MODE

For SNA: the entry name of the log mode.

Field Name: QW0180LM

LOCAL PORT (V6)

The local port.

Field Name: QW0180LP

PARTNER PORT (V6)

The partner port.

Field Name: QW0180PP

MSG LENGTH

The length of the variable length area mapped by QW0180DS.

Field Name: QW0180DL

MSG/FMH-5

The variable length message or FMH-5 data. (The password in the FMH-5 or the TCP/IP message is changed to blanks.)

Field Name: QW0180DS

IFCID 181 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 181 - IBM Service Record".

This record is for IBM service use.

IFCID 182 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 182 - IBM Service Record".

This record is for IBM service use.

IFCID 183 - DRDS RDS/SCC Interface

This topic shows detailed information about "Record Trace - IFCID 183 - DRDS RDS/SCC Interface".

This record provides information about the type of request being processed at the requester.

This record is produced only for DRDA requests.

Record trace - IFCID 183 - DRDS RDS/SCC Interface

The field labels shown in the following sample layout of "Record Trace - IFCID 183 - DRDS RDS/SCC Interface" are described in the following section.

```
DRDS RDS/SCC   'BLANK'
INTERFACE     NETWORKID:  DEIBMIPS  LUNAME:  IPSAR721  LUWSEQ:     1
EVENT TYPE : RETURN TO RDS/SCC
FUNCTION   : CONNECT RESET FOR BIND
LOCATION   : LOCATIONNAME0002
COLLECTION : COLLECTIONNAME0002
PACKAGE ID : PROGNAM2
SQL STATEMENT NUMBER:          0
SQL STATEMENT TYPE:    80  RETURN CODE:         77
```

EVENT TYPE

The type of event.

Field Name: QW0183E

FUNCTION

The type of function.

Field Name: QW0183FN

LOCATION

The location name of the application server.

Field Name: QW0183LN

COLLECTION

The collection name.

Field Name: QW0183CO

PACKAGE ID

The package ID.

Field Name: QW0183PN

SQL STATEMENT TYPE

The SQL statement type:

003
OPEN

004
FETCH

005
CLOSE

014
PREPARE

015
EXECUTE

016
EXECUTE IMMEDIATE

017
DESCRIBE

018
EXPLAIN

231
SELECT

232
INSERT

233
DELETE

234
UPDATE

239
SELECT

259
SET CURRENT SQLID

268
GRANT

271
REVOKE

276
REMOTE SQL

277
ROLLBACK

278
LOCK

308
CREATE VIEW

310
COMMIT

666
INTOPEN

710
CREATE DATABASE

716
CREATE TABLESPACE

719
CREATE STOGROUP

721
CREATE TABLE

726
CREATE INDEX

728
CREATE SYNONYM

729
DROP VIEW

730
DROP SYNONYM

731
DROP INDEX

732
DROP TABLE

733
DROP TABLESPACE

734
DROP DATABASE

735
DROP STOGROUP

736
ALTER STOGROUP

738
ALTER TABLESPACE

739
ALTER INDEX

740
ALTER TABLE

741
COMMENT ON

742
LABEL ON

745
SET CURRENT PACKAGESET

746
SET HOST VAR

747
CONNECT TO

748
CONNECT RESET

749
CONNECT

750
IMPLICIT CONNECT

755
CREATE ALIAS

759
DROP ALIAS

761
DROP PACKAGE/PROGRAM

763
ALTER DATABASE

768
SET CURRNT DEGREE

769
CONNECT TO TYPE 2

770
CONN RESET TYPE 2

771
CONNECT TYPE 2

772
SET CONNECTION

773
RELEASE LOCATION

774
RELEASE CURRENT

775
RELEASE ALL

776
RELEASE ALL SQL

777
RELEASE ALL PRIV.

781
SET CURRENT RULES

782
CALL

Field Name: QW0183ST

SQL STATEMENT NUMBER

The SQL statement number.

Field Name: QW0183SN

RETURN CODE

The return code.

Field Name: QW0183RC

IFCID 184 - DC Communication Buffers

This topic shows detailed information about "Record Trace - IFCID 184 - DC Communication Buffers".

Record trace - IFCID 184 - DC Communication Buffers

The field labels shown in the following sample layout of "Record Trace - IFCID 184 - DC Communication Buffers" are described in the following section.

```
TYPE OF EVENT   : RECEIVED A DISTRIBUTED DATA MESSAGE
NETWORK PROTOCOL: TCP/IP V4     SOCKET DESCRIPTOR: X'01010101'     IP ADDRESS: X'0101010101010101'
LOCAL PORT      : X'C9D5'       PARTNER PORT     : X'C6D6'
MSG LENGTH      :        255
MESSAGE TEXT    :
```

TYPE OF EVENT

The type of event can be one of the following:

- MSG RECEIVED
- MSG SENT
- MSG CONTINUED

Field Name: QW0184E

NETWORK PROTOCOL

The partner port.

Field Name: QW0184PP

SOCKET DESCRIPTOR

The descriptor of the TCP/IP socket in hexadecimal.

Field Name: QW0184SD

IP ADDRESS

The IP Address or Port in hexadecimal.

Field Name: QW0184SI

LOCAL PORT

The local port.

Field Name: QW0184LP

PARTNER PORT

The partner port.

Field Name: QW0184PP

MESSAGE LENGTH

The length of the message.

Field Name: QW0184DL

MESSAGE TEXT

The text of the message.

Field Name: QW0184DS

IFCID 185 - READs Data Capture Start

This topic shows detailed information about "Record Trace - IFCID 185 - READs Data Capture Start".

When present, data is printed in hexadecimal dump format, otherwise `NO DATA` is printed.

IFCID 186 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 186 - IBM Service Record".

This record is for IBM service use.

IFCID 188 - READs Data Capture End

This topic shows detailed information about "Record Trace - IFCID 188 - READs Data Capture End".

Record trace - IFCID 188 - READs Data Capture End

The field labels shown in the following sample layout of "Record Trace - IFCID 188 - READs Data Capture End" are described in the following section.

```
REQUEST TYPE       : ALWAYS           READS REQUEST FLAG:  X'40'                DESCRIBES         :             1
LONGEST LOG READ   : ACTIVE LOG       BEGIN REQUEST RBA  : X'0000000000000000'  DESCRIBE ELAPSED  :      1.000000
LOG READS RETURNED :             4    END REQUEST RBA    : X'0000000000000000'
LOG READS PERFORMED:             5                                             TABLES RETURNED   :             8
LOG READ ELAPSED   :      0.000000    LOG RECS RETURNED  :          3           DATA ROWS RETURNED:             6
LOG EXTRACT ELAPSED:      0.000000    LOG RECS CAPTURED  :          2           DATA DESCR.RET    :             7
QW0188RT           9   QW0188RS          10
```

REQUEST TYPE

The type of request from the WQALCDCD field of the IFI qualification area.

Field Name: QW0188TP

READS REQUEST FLAG

The reads request flag. If the value is x'40', reads were required because more data was available than would fit in the user return area. If this occurs frequently, consider increasing the size of the user return area.

Field Name: QW0188FL

DESCRIBES

The number of data capture describes.

Field Name: QW0188MB

LONGEST LOG READ

The portion of the log read that took the longest amount of time.

Field Name: QW0188PL

BEGIN REQUEST RBA

The beginning RBA of the requested log range.

Field Name: QW0188BR

DESCRIBE ELAPSED

The elapsed time of the data capture describe.

Field Name: QW0188BT

LOG READS RETURNED

The total number of log records from which data rows are returned for this single READs request.

Field Name: QW0188RD

END REQUEST RBA

The end RBA of the requested log range.

Field Name: QW0188ER

LOG READS PERFORMED

The number of log reads performed.

Field Name: QW0188LR

TABLES RETURNED

The number of data capture tables returned.

Field Name: QW0188TB

LOG READ ELAPSED

The elapsed time of the longest log read.

Field Name: QW0188LL

LOG RECS RETURNED

The total number of log records retrieved by one or more reads requests for IFCID 185 for a single SQL change. If the value in this field is less than the value in LOG RECS CAPTURED, then additional log records must be retrieved to obtain all log records involved in the SQL change.

Field Name: QW0188RR

DATA ROWS RETURNED

The number of data rows returned.

Field Name: QW0188DR

LOG EXTRACT ELAPSED

The log extraction elapsed time for IFCID 185 requests.

Field Name: QW0188LT

LOG RECS CAPTURED

The total number of log records captured on the log for this particular SQL change.

Field Name: QW0188LC

DATA DESCR.RET

The number of data descriptions returned.

Field Name: QW0188DD

IFCID 190 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 190 - IBM Service Record".

This record is for IBM service use.

IFCID 191 - DDM Level 6B Objects

This record can contain six types of data section. One header section and one 6B DSS section are always present. The other sections are only printed if they are present.

IFCID 191 - Command and/or Reply Section

This topic shows detailed information about "Record Trace - IFCID 191 - Command and/or Reply Section".

Record trace - IFCID 191 - Command and/or Reply Section

The field labels shown in the following sample layout of "Record Trace - IFCID 191 - Command and/or Reply Section" are described in the following section.

```
COMMAND AND/OR REPLY SECTION
EYECATCHER  DRDACDTA   PARSE STATUS DRDASUCC  CODE POINT   X'2415'   RELATIVE NUMBER     2
OFFSETS:      RPY/RQS/OBJ     PARSE FAIL     FD SECTION     RT SECTION     LT SECTION     EA SECTION
619             0             341              0              0             379
```

EYECATCHER

The type of data in this section:

DRDACMND
Command data

DRDARPLY
Reply data

DRDAHCMD
Command data

DRDAHRPY
Reply data

DRDARDTA
Reply data

DRDACDTA
Command data

Field Name: QW0191RE

PARSE STATUS

The parse status:

DRDASUCC
The parse is successful.

DRDAFAIL
The parse is unsuccessful.

Field Name: QW0191PS

CODE POINT

The code point.

Field Name: QW0191C3

RELATIVE NUMBER

The relative number of the data stream structure carrier.

Field Name: QW0191NM

RPY/RQS/OBJ

Offset to the start of RPY/RQS/OBJ DSS within the IFCID 191 record.

Field Name: QW0191OF

PARSE FAIL

Offset relative to the IFCID 191 record point at which parse failed.

Field Name: QW0191FO

FD SECTION

Offset relative to the IFCID 191 record to the LATE DESCRIPTOR section.

Field Name: QW0191D1

RT SECTION

Offset relative to the IFCID 191 record to the RDTA DATA section.

Field Name: QW0191D2

LT SECTION

Offset relative to the IFCID 191 record to the FD LIDLST section.

Field Name: QW0191D3

EA SECTION

Offset relative to the IFCID 191 record to the ZEDA DATA section.

Field Name: QW0191D4

IFCID 191 - DB2 ZEDA

This topic shows detailed information about "Record Trace - IFCID 191 - DB2 ZEDA".

DB2 ZEDA is available if the pointer EA SECTION is set on the COMMAND AND/OR REPLY section.

Record trace - IFCID 191 - DB2 ZEDA

The field labels shown in the following sample layout of "Record Trace - IFCID 191 - DB2 ZEDA" are described in the following section.

```
DB2 ZEDA
EYECATCHER  DRDAZEDA
DB2 ZEDA DATA
0000  000000E8  E9C5C4C1  00010000  00000000   800004B8  04B804B0  04B80000  00000000  ! ...YZEDA.........................
0020  00000220  202AE0D8  00000000  00000000   00000000  00000000  00000000  00000000  ! ......nQ.........................
0040  00000000  00000000  00000000  00000000   00000220  200143D0  00000220  200143D8  ! .....................n.......Q
0060  00000000  00000000  00000000  00000000   E5C3C800  00503391  00000000  00000000  ! ................VCH..&.j........
0080  00000000  00000000  00000000  00000000   00000000  00000000  01C001C1  00000000  ! ..........................?.A....
00A0  0000000A  00250001  0000000A  00000000   10000040  00000000  00000000  00000000  ! ...................  .............
00C0  00000000  00000025  00000000  00000000   00000000  00000000  00000000  00000000  ! ................................
00E0  00000000  00000000                                                               ! ........
```

EYECATCHER

The type of data in this section:

DRDACMND
Command data

DRDARPLY
Reply data

DRDAHCMD
Command data

DRDAHRPY
Reply data

DRDARDTA
Reply data

DRDACDTA
Command data

Field Name: QW0191RE

IFCID 191 - Header Section

This topic shows detailed information about "Record Trace - IFCID 191 - Header Section".

Record trace - IFCID 191 - Header Section

The field labels shown in the following sample layout of "Record Trace - IFCID 191 - Header Section" are described in the following section.

```
HEADER SECTION
LOCATION  M05EC10A           VERSION     1  OBJ LEN.          0  REASON  X'00D351FF'       RECORD      1 OF TOTAL      1
MODULE  DSNLZRPA   SOURCE      1   ERROR TOKEN  X'C4E2D5D3E9D9D7C1'    DDM COMMAND CODE POINT  X'2001'  DB2 PARSE STATE  P1
RN RECEIVED          1  OBJDSS RECEIVED           0  DSS TOTAL          1
ERROR TYPE  X'02F5F8F0F1F70000'  DIMENSION      5  PARSE TRACE ARRAY  (1) 02,09 (2) 05,02 (3) 06,06 (4) 02,00 (5) 07,01
```

LOCATION

The name of the remote location.

Field Name: QW0191LN

VERSION

The version number for all sections.

Field Name: QW0191VS

OBJ LEN.

The length of the failed object.

Field Name: QW0191FL

REASON

The reason code.

Field Name: QW0191RS

RECORD

The sequence number for this IFCID 191 record out of the total number of IFCID 191 records.

Field Name: QW0191NO

OF TOTAL

The total number of IFCID 191 records.

Field Name: QW0191TO

MODULE

The module name.

Field Name: QW0191MN

SOURCE

The source ID in the module.

Field Name: QW0191MI

ERROR TOKEN

The unique error token.

Field Name: QW0191TK

DDM COMMAND CODE POINT

The DDM command code point.

Field Name: QW0191C1

DB2 PARSE STATE

The DB2 parse state:

P1
Application requester parse

P2
Application server parse

Field Name: QW0191PA

RN RECEIVED

The number of relay messages received.

Field Name: QW0191RN

OBJDSS RECEIVED

The number of object data stream structures received.

Field Name: QW0191ON

DSS TOTAL

The total number of data stream structures.

Field Name: QW0191DN

ERROR TYPE

The type of error:

0
SQLSTATE is SQLCA generated

1
Reply message sent

Field Name: QW0191ER

DIMENSION

The dimension of PARSE TRACE ARRAY .

Field Name: QW0191TN

PARSE TRACE ARRAY

The last five top level parse traces. These are shown in the format STATE, EVENTS.

Field Name: QW0191PT

IFCID 191 - Late Descriptor Section

This topic shows detailed information about "Record Trace - IFCID 191 - Late Descriptor Section".

Record trace - IFCID 191 - Late Descriptor Section

The field labels shown in the following sample layout of "Record Trace - IFCID 191 - Late Descriptor Section" are described in the following section.

```
LATE DESCRIPTOR SECTION
LATE DESCRIPTORS PROCESSED          1  SQLDTAGRP TRIPLETS          1       L1  X'D0' L2  X'E0' L3  X'E4' L4  X'F0'
GEOMETRY STATUS  X'F800'
```

LATE DESCRIPTORS PROCESSED

The number of late environmental descriptors processed.

Field Name: QW0191LD

SQLDTAGRP TRIPLETS

The total number of data stream structures.

Field Name: QW0191GN

L1

SQLDTAGRP local ID extracted.

Field Name: QW0191L1

L2

SQLCADTA local ID extracted.

Field Name: QW0191L2

L3

SQLDTA local ID extracted.

Field Name: QW0191L3

L4

SQLDTARD local ID extracted.

Field Name: QW0191L4

GEOMETRY STATUS

The FD:OCA geometry status. This field is a bit mask. The hexadecimal value of the field is printed.

- If bit 0 is on, the status of SQLDTAGRP is OK.
- If bit 1 is on, the status of SQLCADTA is OK.
- If bit 2 is on, the status of SQLDTA is OK.
- If bit 3 is on, the status of SQLDTARD is OK.

Field Name: QW0191GO

IFCID 191 - 6B DSS Section

This topic shows detailed information about "Record Trace - IFCID 191 - 6B DSS Section".

Record trace - IFCID 191 - 6B DSS Section

The field labels shown in the following sample layout of "Record Trace - IFCID 191 - 6B DSS Section" are described in the following section.

```
6B DSS SECTION
EYECATCHER  DRDAOBJ    TYPE  X'3000'
------------------------------------------------------------------------------------------------------------------------
6B DSS DATA
0000  00422412  00310010  07780005  0101330C   70509100  00002501  017FFF07  78000502  ! ................ &j......"......
0020  01D00676  D050000A  07780005  0301E406   71E4D000  01000D14  7A000000  05C1C1C1  ! ."..."&........U..U"......:....AAA
0040  C1C1001C  24150976  D0000000  1A000409   71E05400  01D00001  0671F0E0  0000      ! AA......"........"..."....0"..
```

EYECATCHER

The type of data in this section:

DRDACMND
Command data

DRDARPLY
Reply data

DRDAHCMD
Command data

DRDAHRPY
Reply data

DRDARDTA
Reply data

DRDACDTA
Command data

Field Name: QW0191RE

IFCID 192 - DDM Level 6A Header Errors

DDM level 6A header errors show the data from IFCID 192.

IFCID 192 - Current 6A Header

This topic shows detailed information about "Record Trace - IFCID 192 - Current 6A Header".

OFFSET

Offset into the data stream of the current DDM level 6A header (that is, the invalid DDM header).

Field Name: QW0192CO

GDS LENGTH

Generalized data stream (GDS) length field.

Field Name: QW0192CL

DDM CONST

The DDM constant.

Field Name: QW0192CI

FLAG

The DDM flag byte.

Field Name: QW0192CF

REQ CORR

The DDM request correlator.

Field Name: QW0192CC

IFCID 192 - DDM Level 6A Header Errors

This topic shows detailed information about "Record Trace - IFCID 192 - DDM Level 6A Header Errors".

Record trace - IFCID 192 - DDM Level 6A Header Errors

The field labels shown in the following sample layout of "Record Trace - IFCID 192 - DDM Level 6A Header Errors" are described in the following section.

```
REMOTE LOCATION: SYD1               VERSION NUMBER:     1  CSECT: TDG
ERROR TYPE: PROTOCOL    SEVERITY: X'00000001' ERROR CODE: X'00000002'
OFFSET     GDS LENGTH   DDM CONST    FLAG      REQ CORR
CURRENT  6A HEADER   X'00000003'         6      X'D0'       X'00'          0
PREVIOUS 6A HEADER   X'00000000'         0      X'00'       X'00'          0
FIRST 250
0000  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0020  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0040  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0060  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0080  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00A0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00C0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00E0  00000000  00000000  00000000  00000000   00000000  00000000  0000              | ..........................
```

REMOTE LOCATION

The name of the remote location.

Field Name: QW0192LN

VERSION NUMBER

The version number for the IFCID 192 records.

Field Name: QW0192VN

CSECT

The CSECT that detected the error.

Field Name: QW0192CS

ERROR TYPE

The DDM error type returned.

Field Name: QW0192ER

SEVERITY

The DDM severity code returned.

Field Name: QW0192SV

ERROR CODE

The DDM error code returned. For DDM protocol errors, this is the DDM PRCCNVCD value. For DDM syntax errors, this is the DDM SYNERRCD value.

Field Name: QW0192CD

IFCID 192 - Previous 6A Header

This topic shows detailed information about "Record Trace - IFCID 192 - Previous 6A Header".

OFFSET

Offset into the data stream of the current DDM level 6A header (that is, the last valid DDM header).

Field Name: QW0192PO

GDS LENGTH

Generalized data stream (GDS) length field.

Field Name: QW0192PL

DDM CONST

The DDM constant.

Field Name: QW0192PI

FLAG

The DDM flag byte.

Field Name: QW0192PF

REQ CORR

The DDM request correlator.

Field Name: QW0192PC

IFCID 193 - UOW/SQLCODE Mismatch

This topic shows detailed information about "Record Trace - IFCID 193 - UOW/SQLCODE Mismatch".

Record trace - IFCID 193 - UOW/SQLCODE Mismatch

The field labels shown in the following sample layout of "Record Trace - IFCID 193 - UOW/SQLCODE Mismatch" are described in the following section.

```
REMOTE LOCATION: SYD1                VERSION:     1
CSECT: TDG                       SQLCODE:         0
COMMAND SENT: ROLLBACK  UOW DISPOSITION: ROLLBACK
```

REMOTE LOCATION

The location name of the server.

Field Name: QW0193LN

VERSION

The version number of this trace record.

Field Name: QW0193VS

CSECT

The CSECT that detected the error.

Field Name: QW0193CS

SQLCODE

The SQL code returned by the server.

Field Name: QW0193SC

COMMAND SENT

The command sent to the server.

Field Name: QW0193CO

UOW DISPOSITION

The unit of work (UOW) disposition reported by the server.

Field Name: QW0193UW

IFCID 194 - Invalid SNA FMH-5 Received

This topic shows detailed information about "Record Trace - IFCID 194 - Invalid SNA FMH-5 Received".

Record trace - IFCID 194 - Invalid SNA FMH-5 Received

The field labels shown in the following sample layout of "Record Trace - IFCID 194 - Invalid SNA FMH-5 Received" are described in the following section.

```
REMOTE LOCATION: SYD2              VERSION NUMBER:    1  CSECT: TDG     SNA SENSE CODE: X'E3C4C740'
FMH5 DATA:
0000  E3C5E2E3  40F14040
TEST 1
```

REMOTE LOCATION

The name of the remote location.

Field Name: QW0194LN

VERSION NUMBER

The version number of this trace record.

Field Name: QW0194VN

CSECT

The CSECT that detected the error.

Field Name: QW0194CS

SNA SENSE CODE

The SNA sense code describing the error.

Field Name: QW0194SN

FMH5 DATA

The invalid SNA FMH-5 record.

Field Name: QW0194DS

IFCID 195 - SQLDA Discrepancy

This topic shows detailed information about "Record Trace - IFCID 195 - SQLDA Discrepancy".

Record trace - IFCID 195 - SQLDA Discrepancy

The field labels shown in the following sample layout of "Record Trace - IFCID 195 - SQLDA Discrepancy" are described in the following section.

```
REMOTE LOCATION: xxxxxxxxxxxxxxxxx  VERSION:    99999
MODULE: xxxxxxxx  ID: 99999   FIELD IN ERROR: xxxxxxxx
COLUMN: 9999999999          EXISTING SQLDA: 9999999999
NEW SQLDA: 9999999999
```

REMOTE LOCATION

The name of the remote location.

Field Name: QW0195LN

VERSION

The version number of this trace record.

Field Name: QW0195VI

MODULE

The name of the module.

Field Name: QW0195MN

ID

The source ID in the module.

Field Name: QW0195UI

FIELD IN ERROR

The field in error:

SQLD
The number of entries in SQLD

SQLTYPE
Data type

SQLLEN
Data length

SQLDATA
CCSID

Field Name: QW0195FD

COLUMN

The column number for the field in error.

Field Name: QW0195NO

EXISTING SQLDA

The contents in the existing SQLDA field.

Field Name: QW0195SE

NEW SQLDA

The contents in the new SQLDA field.

Field Name: QW0195SN

IFCID 196 - Timeout Data

IFCID 196 provides information on a lock request that resulted in the timeout of its DB2 task because one or more other tasks were holding incompatible locks on the requested resource. DB2 always obtains (GETMAINS) storage for this record even if the user did not activate Statistics trace class 3 or performance trace class 6.

IFCID 196 - Holder

This topic shows detailed information about "Record Trace - IFCID 196 - Holder".

The header label is "H O L D E R" when the task holds the lock. The header label is "W A I T E R" when the task is a higher priority waiter of the lock.

Record trace - IFCID 196 - Holder

The field labels shown in the following sample layout of "Record Trace - IFCID 196 - Holder" are described in the following section.

```
H O L D E R
PRIMAUTH  : D022280     PLAN NAME: DISTSERV          CORR ID: D8HDIA000                    CONN: SERVER
NETWORKID : GA11DE90       LUNAME: P984           INSTANCE: 06DC47093936       OWNING WORK UNIT: X'14B200'
LOCK STATE: INTENT EXCLUSIVE                 LOCK DURATION: COMMIT                     MEMBER: D8H0
TRANSACT  : D8HDIA000                          WS_NAME: ihls04                  END_USER: d022280
STMT ID   : X'000002AB'                      STMT TYPE: N/A
QW0196HA  : X'01'        QW0196HF: X'A0'
```

PRIMAUTH

The authorization ID of the thread holding the resource.

Field Name: QW0196HB

PLAN NAME

The holder's plan name or, if there is contention with a retained lock, the word SYSTEM.

Field Name: QW0196HP

CORR ID

The holder's correlation ID or, if there is contention with a retained lock, the word SYSTEM.

Field Name: QW0196HR

CONN

The holder's connection ID or, if there is contention with a retained lock, the word SYSTEM.

Field Name: QW0196HN

LUWID - NETWORKID, LUNAME, INSTANCE

This field contains an asterisk (*) if the lock holder is not a database access thread (DBAT). It provides the input for the:

- Holder's network ID or, if there is contention with a retained lock, the word SYSTEM.
- Holder's LU name or, if there is contention with a retained lock, the word SYSTEM.
- Holder's LUW instance or, if there is contention with a retained lock, the word SYSTEM.

Note: This field is only valid for distributed threads.

Field Name: QW0196HL

OWNING WORK UNIT

The holder's owning work unit. This value is printed in hexadecimal.

If there is contention with a retained lock, this field is set to X'00 '.

Field Name: QW0196HO

LOCK STATE

The holder's lock state.

Field Name: QW0196HS

LOCK DURATION

The lock duration of the holder:

MANUAL
Varies depending on the ISOLATION parameter (QW0196HD=x'20')

MANUAL+1
Temporary change of consistency level from CS to RR during bind and DDL (QW0196HD=x'21')

COMMIT
Until commit (QW0196HD=x'40')

COMMIT+1
Past commit; applies to locks needed to maintain the position for a cursor opened WITH HOLD (QW0196HD=x'41')

ALLOCATION
Until deallocation (QW0196HD=x'60')

PLAN
For the duration of the plan (QW0196HD=x'80')

UTIL
For the duration of the utility execution (QW0196HD=x'81')

INTEREST
Duration used for P-locks (QW0196HD=x'FE')

FREE ALL
Until all locks are freed (QW0196HD=x'FF')

x'00'
Contention with a retained lock (QW0196HD=x'00x')

Field Name: QW0196HD

MEMBER

The holder's DB2 member name. For non-data sharing environments, N/P is shown in this field.

Field Name: QW0196HI

TRANSACT

The transaction or application name that is run.

Field Name: QWHCEUTX

WS_NAME

The end user's workstation name.

Field Name: QWHCEUWN

END_USER

The user ID of the workstation end user. This user ID can be different from the authorization ID used to connect to DB2. This field contains blanks if the client does not supply this information.

Field Name: QWHCEUID

STMT ID

The cached statement ID for the statement holding the resource. A value of zero indicates that the client did not supply this information.

Field Name: QW0196H9

STMT TYPE

STATIC
The statement is of type static.

DYNAMIC
The statement is of type dynamic.

Field Name: QW0196HY

IFCID 196 - Timeout Header

This topic shows detailed information about "Record Trace - IFCID 196 - Timeout Header".

Record trace - IFCID 196 - Timeout Header

The field labels shown in the following sample layout of "Record Trace - IFCID 196 - Timeout Header" are described in the following section.

```
TIMEOUT HEADER
NUMBER OF HOLDERS/WAITERS:          1     LOCK HASH VALUE: X'0102FB25'
LOCK RES TYPE: TABLE LOCK                          DBID: A100XAAC           OBID: 507     RESOURCE ID: X'00000313123456'
REQUESTED FUNCTION: CHANGE        REQUESTED STATE: EXCLUSIVE                 REQUESTED DURATION: COMMIT
REQUESTED FLAGS    : B'00110010'  REQUESTED OWNING WORK UNIT: X'14B2008E1D328E80'
ZPARM INTERVAL     :  600         INTERVAL COUNTER: 1
WTR STMT ID        : X'00001287'                                          WTR STMT TYPE     : N/A
```

NUMBER OF HOLDERS/WAITERS

The number of agents causing the timeout.

Field Name: QW0196NU

LOCK HASH VALUE

The hash value of the locked resource.

Field Name: QW0196RH

LOCK RES TYPE

The locked resource type.

Note: For data sharing, `SKELETON CURSOR TABLE LOCKING` and `SKELETON PACKAGE TABLE LOCK` are LP-locks (an LP-lock has an L-lock component and a P-lock component).

Field Name: QW0196RN

DBID

The database ID. This field is not applicable if the value in LOCK RES TYPE is `SKELETON CURSOR TABLE LOCKING` , `SKELETON PACKAGE TABLE LOCK` , `COLLECTION` , or `ALTER BUFFER POOL` .

Deduced from the DB2 fields QW0196KD, QW0105DN or QW0107DN.

If present, the database name is shown, otherwise the decimal identifier from QW0196KD is shown or N/A if this value is 0.

Field Name: RT0196DB

OBID

The object ID. This field is not applicable if the value in LOCK RES TYPE is `SKELETON CURSOR TABLE LOCKING` , `SKELETON PACKAGE TABLE LOCK` , `COLLECTION` , or `ALTER BUFFER POOL` .

Deduced from the DB2 fields QW0196KP, QW0105TN or QW0107TN.

If present, the object name is shown, otherwise the decimal identifier from QW0196KP is shown or N/A if this value is 0.

Field Name: RT0196OB

RESOURCE ID

The hexadecimal identifier of the small resource. If LOCK RES TYPE is:

DATA PAGE LOCKING
First 3 bytes are the page number

DATA SET LOCKING (PARTITION)
Last byte is the partition number

INDEX PAGE LOCKING
First 3 bytes are the page number

HASH ANCHOR LOCK
First 3 bytes are the page number and the last byte is the anchor point ID

CS-READ DRAIN
Last byte is the partition number (optional)

RR-READ DRAIN
Last byte is the partition number (optional)

WRITE DRAIN
Last byte is the partition number (optional)

ROW LOCK
First 3 bytes are the page number and the last byte is the row ID of the record

INDEX END OF FILE LOCK
Last byte is the partition number (optional)

Note:

- In large partitioned table spaces, the page number covers 4 bytes instead of 3.
- If table spaces use relative page numbers, the resource ID covers 7 bytes. It contains the partition number in the first 2 bytes, the page number in the next 4 bytes, and the record ID in the seventh byte.

This field is not applicable if the value in LOCK RES TYPE is `SKELETON CURSOR TABLE LOCKING` , `SKELETON PACKAGE TABLE LOCK` , `COLLECTION` , `TABLE LOCK` , or `ALTER BUFFER POOL` . If the value is `UTILITY SERIALIZATION LOCK` or `BINDLOCK` , N/A is printed.

Field Name: QW0196KR

REQUESTED FUNCTION

The victim's type of request.

Field Name: QW0196WU

REQUESTED STATE

The victim's lock state.

Field Name: QW0196WS

REQUESTED DURATION

The victim's lock duration.

Field Name: QW0196WD

REQUESTED FLAGS

The victim's lock flag.

Field Name: QW0196WF

REQUESTED OWNING WORK UNIT

The victim's owning work unit.

Field Name: QW0196WO

ZPARM INTERVAL

The timeout interval of the ZPARM value.

Field Name: QW0196TI

INTERVAL COUNTER

The timeout counter for this thread.

Field Name: QW0196TC

WTR STMT ID

The cached statement ID for the statement waiting for the resource. A value of zero indicates that the client did not supply this information.

Field Name: QW0196W9

WTR STMT TYPE

The waiter statement information. Possible values are:

STATIC
The statement is of type static.

DYNAMIC
The statement is of type dynamic.

Field Name: QW0196WY

IFCID 197 - DB2 Messages

This topic shows detailed information about "Record Trace - IFCID 197 - DB2 Messages".

This IFCID enables monitoring of DB2 messages. If this trace is enabled, all console messages will be written to IFCID 197 records. This record is written when performance trace class 18 is on.

Note: Not all messages are written to the message log. DISPLAY commands, for example, are filtered out and are not shown in the log.

Record trace - IFCID 197 - DB2 Messages

The field labels shown in the following sample layout of "Record Trace - IFCID 197 - DB2 Messages" are described in the following section.

```
MESSAGE ID  : DSNJ003I
MESSAGE TEXT: 861 DSNJOFF3 FULL ARCHIVE LOG VOLUME DSNAME=DSNB61.ARCHLOG1.D11109.T0055474.A0002586,
STARTRBA=0026D1E34000, ENDRBA=0026D6483FFF, STARTTIME=C7A4992E13D6, ENDTIME=C7A49938F9E5, UNIT=DASD,
COPY1VOL=OMPSM2, VOLSPAN=00, CATLG=YES.
```

MESSAGE ID

The message ID.

Field Name: QW0197ID

MESSAGE Text

The message text can consist of up to 2500 bytes.

Field Name: QW0197TX

IFCID 198 - Buffer Manager Page Access

This topic shows detailed information about "Record Trace - IFCID 198 - Buffer Manager Page Access".

Record trace - IFCID 198 - Buffer Manager Page Access

The field labels shown in the following sample layout of "Record Trace - IFCID 198 - Buffer Manager Page Access" are described in the following section.

```
DBID        : DB2PM      PSID: PROCESS     BPID: X'00'
FUNCTION    : GET PAGE
PAGE STATUS : PAGE HIT IN BUFFERPOOL
ACCESS      : RANDOM     PAGE: X'00000001' ACE :     1
PAGE REFRESH: N/A
PARTITION   :          0 PAGE NUMBERING: N/A
```

DBID

The database ID. Deduced from the DB2 fields QW0198DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0198DB is shown or N/A if this value is 0.

Field Name: RT0198OB

PSID

The page set object identifier. When present, this is the page set object name, otherwise the decimal identifier from QW0198OB is shown.

Field Name: RT0198PS

BPID

The buffer pool identifier.

Field Name: QW0198BP

FUNCTION

The page request function code.

Field Name: QW0198FC

PAGE STATUS

The page status in the buffer pool.

Field Name: QW0198PS

ACCESS

The page access type. This is only applicable if the value in FUNCTION is GET PAGE or RELEASE PAGE .

Field Name: QW0198AT

PAGE

The page number.

Field Name: QW0198PN

ACE

The relative number of the agent control element address in the ACE cross-reference table. This table is printed at the end of each location for every trace specified.

Field Name: QW0198AC

PAGE REFRESH

Page refresh status in case of a missed page in the virtual buffer pool. Possible values:

- FROM GROUP BUFFER POOL
- FROM DASD

Field Name: QW0198PR

PARTITION

The partition number. This field contains 0 if the request is non-partitioned.

Field Name: QW0198PT

PAGE NUMBERING

Indicates how page numbers are shown:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0198P1

IFCID 199 - Buffer Pool Statistics at Data Set Level

This topic shows detailed information about "Record Trace - IFCID 199 - Buffer Pool Statistics at Data Set Level".

Record trace - IFCID 199 - Buffer Pool Statistics at Data Set Level

The field labels shown in the following sample layout of "Record Trace - IFCID 199 - Buffer Pool Statistics at Data Set Level" are described in the following section.

```
INTERVAL STATIME COMPLETED: 02/09/19 08:51:48.206479
-------------------------------------------------------------------------------------------------------------------
DBID:             452          DBNAME     : 452           GBP DEPENDENT  :    NO   LAST IN SEQUENCE       NO
OBID:               2          OBNAME     : 2             TYPE OF DATASET:    DATA
BPID:             BP0          SHADOW COPY: NO            PARTITION      :       1
                                                          LAST STATISTICS: 02/09/19 08:14:50.720136

SYNC.I/O FOR WRITE AND READ               ASYNC.I/O FOR WRITE, READ, CASTOUT     BUFFER POOL CACHED PAGES
AVG. DELAY I/O (USEC)              40     AVG. DELAY I/O (USEC)           17     VPOOL CACHE CURR.            1759
MAX. DELAY I/O (USEC)             979     MAX. DELAY I/O (USEC)         1575     VPOOL CACHE CHANGED             0
TOTAL I/O PAGES                  7727     TOTAL I/O PAGES           28765645
                                          TOTAL I/O COUNT            1798520
ZHYPERLINK READ
AVG. DELAY I/O (USEC)              39
MAX. DELAY I/O (USEC)             393
TOTAL I/O PAGES                  7706

CURRENT GETPAGES            60177764
```

INTERVAL STATIME COMPLETED

Stores the clock value at the end of the statistics interval.

Field Name: QW0199TS

DBID

Internal identifier of the database where the tablespace or indexspace resides.

The ID can be used to match column DBID of table SYSIBM.SYSDATABASE in the DB2 catalog.

Be aware the value in the catalog may have changed since the time the DB2 trace record was written.

Field Name: QW0199DB

DBNAME

Internal identifier of the database where the tablespace or indexspace resides.

The ID can be used to match column DBID of table SYSIBM.SYSDATABASE in the DB2 catalog.

Be aware the value in the catalog may have changed since the time the DB2 trace record was written.

Field Name: QW0199DB

GBP DEPENDENT

Indicates whether the pageset is group buffer pool dependent. This is possible only if DB2 has been set up for data sharing.

Field Name: QW0199GD

LAST IN SEQUENCE

Indicates if this is the last IFCID 0199 record.

Field Name: QW0199LS

OBID

The internal identifier of the pageset. This can be either a table space or an index space.

For a table space the ID can be used to match column 'PSID' in SYSIBM.SYSTABLESPACE of the catalog.

For an index space the ID can be used to match column 'ISOBID' in SYSIBM.SYSINDEXES.

Be aware the value in the catalog may have changed since the time the DB2 trace record was written.

Field Name: QW0199OB

OBNAME

The internal identifier of the pageset. This can be either a table space or an index space.

For a table space the ID can be used to match column 'PSID' in SYSIBM.SYSTABLESPACE of the catalog.

For an index space the ID can be used to match column 'ISOBID' in SYSIBM.SYSINDEXES.

Be aware the value in the catalog may have changed since the time the DB2 trace record was written.

Field Name: QW0199OB

TYPE OF DATASET

Indicates whether the data set is a data table or an index space.

Field Name: QW0199ID

BPID

Identifies the buffer pool to which the information in this section refers:

- Values 0 through 49 are identifiers for BP0 through BP49.
- Values 80 through 89 are identifiers for BP32K through BP32K9.
- Values 100 through 109 are identifiers for BP8K through BP8K9.
- Values 120 through 129 are identifiers for BP16K through BP16K9.

Field Name: QW0199BP

SHADOW COPY

Indicates if it is a shadow data set.

Field Name: QW0199SD

PARTITION

For a partitioned table space or index space, this is the partition number. For a nonpartitioned table space or index space, this is the data set number.

Field Name: QW0199DN

LAST STATISTICS

The timestamp of the last time this data set was externalized in the data set Statistics record. If this is the first time, this data set appears in the Statistics record, this timestamp represents the time when the data set was opened.

Field Name: QW0199SC

SYNC.I/O FOR WRITE AND READ – AVG. DELAY I/O (USEC)
Average synchronous I/O delay for pages in the pageset, in microseconds.

Field Name: QW0199S1

SYNC.I/O FOR WRITE AND READ – MAX. DELAY I/O (USEC)
Maximum synchronous I/O delay for pages in the pageset, in microseconds.

Field Name: QW0199S2

SYNC.I/O FOR WRITE AND READ - TOTAL I/O PAGES

The number of synchronous I/Os for the pageset in the reported interval.

Field Name: QW0199SP

ASYNC.I/O FOR WRITE, READ, CASTOUT – AVG. DELAY I/O (MS)
Average asynchronous I/O delay for pages in the pageset, in microseconds.

Field Name: QW0199A1

ASYNC.I/O FOR WRITE, READ, CASTOUT – AVG. DELAY I/O (MS)
Average asynchronous I/O delay for pages in the pageset, in microseconds.

Field Name: QW0199A2

ASYNC.I/ASYNC.I/O FOR WRITE, READ, CASTOUT - TOTAL I/O PAGES

Number of pages read or written asynchronously for the pageset in the reported interval.

Field Name: QW0199AP

ASYNC.I/ASYNC.I/O FOR WRITE, READ, CASTOUT - TOTAL I/O COUNT

The number of asynchronous I/Os for the pageset during the reported interval.

Field Name: QW0199AC

BUFFER POOL CACHED PAGES - VPOOL CACHE CURR.

Number of pageset pages in the virtual buffer pool.

Field Name: QW0199VP

BUFFER POOL CACHED PAGES - VPOOL CACHED CHANGED

Number of changed page set pages in the virtual buffer pool.

Field Name: QW0199VD

ZHYPERLINK READ – AVG. DELAY I/O (USEC)
Average delay for zHyperLink read I/O for pages in the pageset, in microseconds.

Field Name: QW0199Z1

ZHYPERLINK READ – MAX. DELAY I/O (USEC)
Maximum delay for zHyperLink read I/O for pages in the pageset, in microseconds.

Field Name: QW0199Z2

ZHYPERLINK READ – TOTAL I/O PAGES
The number of pages in the pageset read using zHyperLink during the reported interval.

Field Name: QW0199ZP

CURRENT GETPAGES

The current number of Getpage requests.

Field Name: QW0199GP

IFCID 201 - Alter Buffer Pool

This topic shows detailed information about "Record Trace - IFCID 201 - Alter Buffer Pool".

This IFCID records the status of a buffer pool before and after an ALTER BUFFERPOOL command.

Record trace - IFCID 201 - Alter Buffer Pool

The field labels shown in the following sample layout of "Record Trace - IFCID 201 - Alter Buffer Pool" are described in the following section.

```
BUFFERPOOL ID:    25 NAME: BP25     ALTER COMMAND: ALTER     RETURN CODE:          0 REASON CODE:          0

OLD STATUS                                        NEW STATUS
----------------------                            ----------------------
VPOOL SIZE           :                    0       VPOOL SIZE           :                   10
VPOOL SEQ THRESH     :                   80       VPOOL SEQ THRESH     :                   80
VPOOL DWT THRESH     :                   30       VPOOL DWT THRESH     :                   30
VPOOL VDWT THRESH                                 VPOOL VDWT THRESH
      PERCENTAGE     :                    5             PERCENTAGE     :                    5
      BUFFERS        :                    0             BUFFERS        :                    0
VPOOL PLL SEQ THRESH :                   50       VPOOL PLL SEQ THRESH :                   50
ASSISTAN. SEQ THRESH :                    0       ASSISTAN. SEQ THRESH :                    0
PAGE STEAL METHOD    :                  LRU       PAGE STEAL METHOD    :                  LRU
AUTOSIZE             :                   NO       AUTOSIZE             :                   NO
FRAMESIZE            :                   4K       FRAMESIZE            :                   4K
VPOOL SIZE MIN       :                    0       VPOOL SIZE MIN       :                    0
VPOOL SIZE MAX       :                    0       VPOOL SIZE MAX       :                    0
SIM POOL SIZE        :                  200       SIM POOL SIZE        :                  300
SIM POOL SEQ THRESH  :                   50       SIM POOL SEQ THRESH  :                   75
```

BUFFERPOOL ID

The buffer pool internal identifier. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0201BP

NAME

Buffer pool name.

Field Name: QDBPNM

ALTER COMMAND

This field indicates how the buffer pool was altered. Possible values:

ALTER
The ALTER BUFFERPOOL command was used.

AUTOSIZE
The AUTOMATIC AUTOSIZING (AUTOSIZE(YES) option on ALTER BUFFERPOOL was previously specified.

Field Name: QW0201CD

RETURN CODE

The return code for the ALTER BUFFERPOOL command.

Field Name: QW0201RT

REASON CODE

The reason code returned from an unsuccessful ALTER BUFFERPOOL command.

Field Name: QW0201RE

VPOOL SIZE (OLD)

The size of the old virtual pool.

Field Name: QW0201OP

VPOOL SIZE (NEW)

The size of the new virtual buffer pool.

Field Name: QW0201NP

VPOOL SEQ THRESH

The old and new virtual pool sequential steal threshold.

Old status taken from the DB2 field QW0201OT.

New status taken from the DB2 field QW0201NT.

Field Name: RT0201VS

VPOOL DWT THRESH

The old and new virtual pool deferred write threshold (DWT).

Old status taken from the DB2 field QW0201OD.

New status taken from the DB2 field QW0201ND.

Field Name: RT0201VD

VPOOL VDWT THRESH - PERCENTAGE

The vertical deferred write threshold for the virtual buffer pool expressed as percentage.

Old status taken from the DB2 field QW0201OV.

New status taken from the DB2 field QW0201NV.

Field Name: RT0201PC

VPOOL VDWT THRESH - BUFFERS

The vertical deferred write threshold for the virtual buffer pool expressed as an absolute number of buffers. It is only used if VERTICAL DEFERRED WRITE THRESHOLD (PERCENTAGE) is 0.

Old status taken from the DB2 field QW0201OJ.

New status taken from the DB2 field QW0201NJ.

Field Name: RT0201BU

VPOOL PLL SEQ THRESH

The old and new virtual pool parallel sequential threshold.

Old status taken from the DB2 field QW0201OQ.

New status taken from the DB2 field QW0201NQ.

Field Name: RT0201VP

ASSISTAN. SEQ THRESH

The assisting parallel sequential threshold before and after the ALTER BUFFERPOOL command was issued.

Old status taken from the DB2 field QW0201OX.

New status taken from the DB2 field QW0201NX.

Field Name: RT0201AS

PAGE STEAL METHOD

Identifies the page stealing algorithm (PGSTEAL) that is used for the virtual buffer pool. It controls when and whether performance-critical objects in buffer pools are removed from buffer pools when the space is needed by other objects. Possible values are:

LRU
Least recently used (LRU) objects are removed first. This means it takes away pages that are not used so that more recently used pages can remain in the virtual buffer pool. This is used by default.

FIFO
First-In-First-Out (FIFO) means that the oldest objects are removed first. This results in a small decrease in the cost of a Getpage operation. It can reduce internal DB2 latch contention in environments that require very high concurrency.

NONE
Objects are not removed from buffer pool (no page stealing). This setting provides the highest availability for business-critical objects.

Old status taken from the DB2 field QW0201OK.

New status taken from the DB2 field QW0201NK.

Field Name: RT0201PS

AUTOSIZE

The old and new status of the AUTOSIZE attribute.

Old status taken from the DB2 field QW0201OZ.

New status taken from the DB2 field QW0201NZ.

Field Name: RT0201AT

FRAMESIZE (OLD)

The size of the old frame (4 KB,1 MB, or 2 GB).

Field Name: QW0201OC

FRAMESIZE (NEW)

The new frame size (4 KB, 1MB, or 2GB).

Field Name: QW0201NC

VPOOL SIZE MIN (OLD)

The minimum size of the old virtual pool.

Field Name: QW0201OA

VPOOL SIZE MIN (NEW)

The minimum size of the new virtual pool.

Field Name: QW0201NA

VPOOL SIZE MAX (OLD)

The maximum size of the old virtual pool.

Field Name: QW0201OB

VPOOL SIZE MAX (NEW)

The maximum size of the new virtual pool.

Field Name: QW0201NB

SIM POOL SIZE (OLD)

The old number of simulated buffers specified for the simulated buffer pool.

Field Name: QW0201OS

SIM POOL SIZE (NEW)

The new number of simulated buffers specified for the simulated buffer pool.

Field Name: QW0201NS

SIM POOL SEQ THRESH (OLD)

The old sequential steal threshold for the simulated buffer pool, expressed as a percentage of the total simulated buffer pool size.

Field Name: QW0201OH

SIM POOL SEQ THRESH (NEW)

The new sequential steal threshold for the simulated buffer pool, expressed as a percentage of the total simulated buffer pool size.

Field Name: QW0201NH

IFCID 202 - Buffer Pool Attributes

This topic shows detailed information about "Record Trace - IFCID 202 - Buffer Pool Attributes".

Record trace - IFCID 202 - Buffer Pool Attributes

The field labels shown in the following sample layout of "Record Trace - IFCID 202 - Buffer Pool Attributes" are described in the following section.

```
BUFFERPOOL ID : BP0      VPOOL SIZE          : 5000    VPOOL VDWT THRESH BUF:  0
PSTEAL METHOD : LRU      VPOOL    SEQ THRESH :   80    VPOOL VDWT THRESH (%):  5
PGFIX ATTRIB  :  NO      PARALLEL SEQ THRESH :   50    VPOOL DWT THRESH     : 30
AUTOSIZE      :  NO      ASS PAR  SEQ THRESH :    0
FRAMESIZE     :  4K      VPOOL SIZE MIN      :    0    VPOOL SIZE MAX        : 0
SIM POOL SIZE : 200      SIM POOL SEQ THRESH :   50

QDBPSLA : 49879
```

BUFFERPOOL ID

Buffer pool name.

Field Name: QDBPNM

VPOOL SIZE

The size of the virtual buffer pool.

Old status taken from the DB2 field QW0201OP.

New status taken from the DB2 field QW0201NP.

Field Name: QDBPVPSZ

VPOOL VDWT THRESH BUF

The vertical deferred write threshold (VDWQT), shown as the number of buffers in the virtual buffer pool that might be occupied by updated pages from a single page set.

Field Name: QDBPVDQB

PSTEAL METHOD

Identifies the page stealing algorithm (PGSTEAL) that is used for the virtual buffer pool. It controls when and whether performance-critical objects in buffer pools are removed from buffer pools when the space is needed by other objects. Possible values are:

LRU
Least recently used (LRU) objects are removed first. This means it takes away pages that are not used so that more recently used pages can remain in the virtual buffer pool. This is used by default.

FIFO
First-In-First-Out (FIFO) means that the oldest objects are removed first. This results in a small decrease in the cost of a Getpage operation. It can reduce internal DB2 latch contention in environments that require very high concurrency.

NONE
Objects are not removed from buffer pool (no page stealing). This setting provides the highest availability for business-critical objects.

Field Name: QDBPPGST

VPOOL SEQ THRESH

Virtual pool sequential threshold (VPSEQT). This threshold is a percentage of the virtual buffer pool that might be occupied by sequentially accessed pages. The pages can be in the state updated, in use, or available. Therefore, each page might count regarding exceeding any other buffer pool threshold.

The default value for VPSEQT is 80%. You can change this value to a value from 0% to 100% by using the VPSEQT option of the ALTER BUFFERPOOL command.

VPSEQT is checked before stealing a buffer for a sequentially accessed page instead of accessing the page in the virtual buffer pool. If the threshold is exceeded, DB2 tries to steal a buffer that holds a sequentially accessed page rather than one that holds a randomly accessed page.

If you set VPSEQT to 0%, sequential pages cannot occupy space in the virtual buffer pool. In this case, prefetch is disabled, and sequentially accessed pages are discarded when they are released. You can, however, set the value for HPSEQT to a value above zero and the value for VPSEQT to zero. If you set VPSEQT to 100%, sequential pages can monopolize the entire virtual buffer pool.

Field Name: QDBPVPSH

VPOOL VDWT THRESH (%)

Vertical deferred write threshold (VDWQT). This threshold is similar to the deferred write threshold but it applies to the number of updated pages for one single page set in the buffer pool. If the percentage or number of updated pages for the data set exceeds the threshold, writes up to 128 pages are scheduled for that data set.

VDWQT can be specified in one of the following ways:

- As a percentage of the virtual buffer pool that might be occupied by updated pages from one single page set. The default value for this threshold is 5%. You can change the percentage to any value from 0% to 90%.
- As the total number of buffers in the virtual buffer pool that might be occupied by updated pages from one single page set. You can specify the number of buffers from 0 to 9999. If you want to use the number of buffers as your threshold, you must set the percentage threshold to 0.

Field Name: QDBPVDQT

PGFIX ATTRIB

Indicates whether a page is fixed in real storage when it is first used. It can have one of the following values: YES or NO.

Field Name: QDBPPFIX

PARALLEL SEQ THRESH

Virtual buffer pool parallel sequential threshold (VPPSEQT). This threshold is a part of the virtual buffer pool that might support parallel operations. It is measured as a percentage of the sequential steal threshold (VPSEQT). Setting VPPSEQT to zero disables parallel operation.

The default value for this threshold is 50% of the sequential steal threshold (VPSEQT). You can change the default value to any value from 0% to 100% by using the VPPSEQT option on the ALTER BUFFERPOOL command.

Field Name: QDBPPSQT

VPOOL DWT THRESH

This threshold is a percentage of the virtual buffer pool that might be occupied by unavailable pages, including updated pages and pages in use.

The default value for QWQT is 30%. You can change this value to any value from 0% to 90% using the DWQT option of the ALTER BUFFERPOOL command.

DB2 checks QWQT when an update to a page is complete. If the percentage of unavailable pages in the virtual buffer pool exceeds QWQT, write operations are scheduled for up to 128 pages per data set to decrease the number of unavailable buffers to 10% below QWQT. For example, if QWQT is 50%, the number of unavailable buffers is reduced to 40%.

When the limit of QWQT is reached, data sets containing the oldest updated pages are written asynchronously. DB2 continues to write pages until the ratio goes below the QWQT.

Field Name: QDBPDWQT

AUTOSIZE

Indicates if the AUTOSIZE option is activated on the ALTER BUFFERPOOL command.

Field Name: QDBPASIZ

ASS PAR SEQ THRESH

Virtual buffer pool assisting parallel sequential threshold (VPXPSEQT). This threshold is a part of the virtual buffer pool that might support parallel operations initiated from another DB2 in the data sharing group. It is measured as a percentage of VPPSEQT.

Setting VPXPSEQT to zero (default) prevents DB2 from supporting sysplex query parallelism at run time for queries that use this buffer pool.

You can change the default value to any value from 0% to 100% using the VPXPSEQT option of the ALTER BUFFERPOOL command.

Field Name: QDBPXSQT

FRAMESIZE

The frame size.

Field Name: QDBPFRAM

VPOOL SIZE MIN

The minimum size of the virtual pool.

Field Name: QDBPVPMI

VPOOL SIZE MAX

The maximum size of the virtual pool.

Field Name: QDBPVPMA

SIM POOL SIZE

The number of simulated buffers allocated in the simulated buffer pool.

Field Name: QDBPSPSZ

SIM POOL SEQ THRESH

The sequential steal threshold for the simulated buffer pool, expressed as a percentage of the total simulated buffer pool size.

Field Name: QDBPSPST

QDBPSLA (Prior to DB2 11)

This field is for IBM service.

Field Name: QDBPSLA

IFCID 203 - DDF Heuristic COMMIT/ROLLBK

This topic shows detailed information about "Record Trace - IFCID 203 - DDF Heuristic COMMIT/ROLLBK".

This record reports a heuristic decision that has forced a COMMIT or ROLLBACK for a distributed indoubt thread. The record is produced when a RECOVER INDOUBT command is issued and a remote participant in a distributed thread reports a heuristic rollback or commit during the resynchronization process.

Record trace - IFCID 203 - DDF Heuristic COMMIT/ROLLBK

The field labels shown in the following sample layout of "Record Trace - IFCID 203 - DDF Heuristic COMMIT/ROLLBK" are described in the following section.

```
DECISION SOURCE: LOCAL   DECISION REPORTED: COMMIT    REMOTE DECISION LOCATION: 'BLANK'

AFFECTED THREAD:
NETID: USIBMSY   LUNAME: SY00CDB2  INSTANCE: X'A73916396F69'  LUW SEQ:     1  URID: X'0000154E0AA4'

COORDINATOR LOCATION: M05EC00C
PARTICIPANT LOCATIONS:
N/P
```

DECISION SOURCE

The source of the decision.

Field Name: QW0203LR

DECISION REPORTED

The decision that was reported.

Field Name: QW0203CA

REMOTE DECISION LOCATION

The location, LU name, or IP address (*NNN.NNN.NNN*) of the location that sent the decision.

Field Name: QW0203LO

NETID

The NETID portion of logical unit of work ID (LUWID).

Field Name: QW0203NT

LUNAME

The LU name portion of the logical unit of work ID (LUWID).

Field Name: QW0203LU

INSTANCE

The instance number portion of the logical unit of work ID (LUWID).

Field Name: QW0203IN

LUW SEQ

The LUW sequence number (commit count) portion of the logical unit of work ID (LUWID).

Field Name: QW0203CM

URID

The recovery log RBA (URID) for the thread.

Field Name: QW0203UR

COORDINATOR LOCATION

The location name, LU name, or IP address (*NNN.NNN.NNN*) of the coordinator.

Field Name: QW0203CO

PARTICIPANT LOCATIONS

The location name of the participants in this unit of work that were accessed directly by this DB2 subsystem.

Field Name: QW0203PA

IFCID 204 - DDF Partner Cold Start

This topic shows detailed information about "Record Trace - IFCID 204 - DDF Partner Cold Start".

This record is written when DB2 tries to reconnect to a remote system that requests a cold start. A cold start means that the remote system has no memory of the work that was in progress when the previous

connection failed. This record is only produced when DB2 has memory of threads whose outcome must be resolved.

Record trace - IFCID 204 - DDF Partner Cold Start

The field labels shown in the following sample layout of "Record Trace - IFCID 204 - DDF Partner Cold Start" are described in the following section.

```
LOCATION: <SY00DDB2>      OLD RECOVERY LOG: SY00DDB2
NEW RECOVERY LOG: SY00DDB2
AFFECTED THREADS:
NETID: USIBMSY  LUNAME: SY10DDB2 INSTANCE: X'A729F42DE443'  LUW SEQ:     4
TOKEN:          1 URID: X'000000000000' ROLE: COORDINATOR   STATUS: COMMITTED
```

LOCATION

The location, LU name, or IP address (*NNN.NNN.NNN*) of the remote partner that had the cold start.

Field Name: QW0204LO

OLD RECOVERY LOG

The partner's recovery log name before the cold start.

Field Name: QW0204OR

NEW RECOVERY LOG

The partner's recovery log name after the cold start.

Field Name: QW0204NR

NETID

The NETID portion of the logical unit of work ID (LUWID).

Field Name: QW0204NT

LUNAME

The LU name portion of the logical unit of work ID (LUWID).

Field Name: QW0204LU

INSTANCE

The instance number portion of the logical unit of work ID (LUWID).

Field Name: QW0204IN

LUW SEQ

The LUW sequence number (commit count) portion of the logical unit of work ID (LUWID).

Field Name: QW0204CM

TOKEN

The local token representing the logical unit of work ID (LUWID).

Field Name: QW0204TK

URID

The recovery log RBA (URID) for the thread.

Field Name: QW0204UR

ROLE

The role of DB2 in the LUW.

Field Name: QW0204RL

STATUS

The status of the local DB2 thread.

Field Name: QW0204TS

IFCID 205 - DDF Warm Start Log Name Error Information

This topic shows the data available for IFCID 205.

IFCID 205 - As Remembered by DB2

This topic shows detailed information about "Record Trace - IFCID 205 - As Remembered by DB2".

Record trace - IFCID 205 - As Remembered by DB2

The field labels shown in the following sample layout of "Record Trace - IFCID 205 - As Remembered by DB2" are described in the following section.

```
AS REMEMBERED BY DB2     PROTOCOL: PRESUMED ROLLBACK PS HEADER USE: FLAGS  LUNAME EXCHANGE: YES
```

PROTOCOL

The protocol used previously as remembered by DB2.

Field Name: QW0205DP

PS HEADER USE

Indicates how the PS header was previously used as remembered by DB2.

Field Name: QW0205DF

LUNAME EXCHANGE

Indicates whether the LU name of the conversation correlator was exchanged in the sync point protocol previously used as remembered by DB2.

Field Name: QW0205DC

IFCID 205 - As Remembered by Partner

This topic shows detailed information about "Record Trace - IFCID 205 - As Remembered by Partner".

Record trace - IFCID 205 - As Remembered by Partner

The field labels shown in the following sample layout of "Record Trace - IFCID 205 - As Remembered by Partner" are described in the following section.

```
AS REMEMBERED BY PARTNER  PROTOCOL: PRESUMED NOTHING  PS HEADER USE: NONE   LUNAME EXCHANGE: NO
```

PROTOCOL

The protocol used previously as remembered by the partner.

Field Name: QW0205PP

PS HEADER USE

Indicates how the PS header was previously used as remembered by the partner.

Field Name: QW0205PF

LUNAME EXCHANGE

Indicates whether the LU name of the conversation correlator was exchanged in the sync point protocol previously used as remembered by the partner.

Field Name: QW0205PC

IFCID 205 - DDF Warm Start Log Name Error

This topic shows detailed information about "Record Trace - IFCID 205 - DDF Warm Start Log Name Error".

This record is written when a remote site uses a recovery log name that is different to the last log name used.

Record trace - IFCID 205 - DDF Warm Start Log Name Error

The field labels shown in the following sample layout of "Record Trace - IFCID 205 - DDF Warm Start Log Name Error" are described in the following section.

```
LOCATION: USIBMSYSTDB2       OUR RECOVERY LOG      : LOG NUMBER 1
OUR LOG AS REMEMBERED : LOG NUMBER 2
PARTNER WARM START LOG: LOG NUMBER 3
PARTNER PREVIOUS LOG  : LOG NUMBER 4
```

LOCATION

The location or LU name of the remote partner that had the warm start.

Field Name: QW0205LO

OUR RECOVERY LOG

The name of the local DB2 subsystem's recovery log.

Field Name: QW0205OR

OUR LOG AS REMEMBERED

The name of the local DB2 subsystem's recovery log as remembered by the partner. This field shows 'BLANK' unless the exchange of log names was initiated by the partner.

Field Name: QW0205NR

PARTNER WARM START LOG

The name of the partner's warm start recovery log.

Field Name: QW0205WR

PARTNER PREVIOUS LOG

The name of the partner's previous recovery log.

Field Name: QW0205PR

IFCID 206 - DDF Protocol Error

This topic shows detailed information about "Record Trace - IFCID 206 - DDF Protocol Error".

Record trace - IFCID 206 - DDF Protocol Error

The field labels shown in the following sample layout of "Record Trace - IFCID 206 - DDF Protocol Error" are described in the following section.

```
REMOTE LOCATION: USIBMSYSTDB2TEST  LAST OPERATION: SEND     DB2 ROLE: PARTICIPANT  DETECTING SITE: REMOTE
AFFECTED THREAD:
NETID: THENETID  LUNAME:T_LUNAME  INSTANCE: X'C9D5E2E3D5D6
COMMIT COUNT:     5   TOKEN: X'FFFFFFFF'
URID : X'E4D9C9C4F0F6'
LAST MESSAGE:
SENT  :
0000  E2E3C1D9  E340D6C6  40D3C1E2  E340D4C5   E2E2C1C7  C540E2C5  D5E36060  60606060  | START OF LAST MESSAGE SENT------
0020  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0040  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0060  60606060  60606060  60606060  60606060   60606060  60606060  60606060  6060      | --------------------------------
RCVD  :
0000  E2E3C1D9  E36DD6C6  6DD3C1E2  E36D                                               | START_OF_LAST_
VTAM RPL:
0000  E2E3C1D9  E36DD6C6  6DE5E3C1  D46DD9D7   D3606060  60606060  60606060  60606060  | START_OF_VTAM_RPL----------------
0020  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0040  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0060  C5D4C46D  D6C66DE5  E3C1D4D3  6DD9D7D3                                           | EMD_OF_VTAML_RPL

EXT   :
0000  E2E3C1D9  E36DD6C6  6DE5E3C1  D46DD9D7   D36DC5E7  E3C5D5E2  C9D6D560  60606060  | START_OF_VTAM_RPL_EXTENSION-----
0020  60606060  60606060  60606060  60606060   60606060  60606060  60606060  60606060  | --------------------------------
0040  60606060  60606060  60606060  60606060   60606060  60606060  606060C5  D5C46DD6  | ----------------------------END_O
0060  C66DE5E3  C1D460C5  E7E3C5D5  E2C9D6D5                                           | F_VTAM-EXTENSION

QW0206DI  --DIAGNOSE--                QW0206PV    0
```

REMOTE LOCATION

The location name or LU name of the remote partner involved in the protocol error.

Field Name: QW0206LO

LAST OPERATION

Indicates whether the last network operation was a send or receive.

Field Name: QW0206SR

DB2 ROLE

The role of DB2 in the logical unit of work (LUW).

Field Name: QW0206RL

DETECTING SITE

The site which detected the error.

Field Name: QW0206DT

NETID

The NETID portion of the logical unit of work ID (LUWID).

Field Name: QW0206NT

LUNAME

The LU name portion of the logical unit of work ID (LUWID).

Field Name: QW0206LU

INSTANCE

The instance number portion of the logical unit of work ID (LUWID).

Field Name: QW0206IN

COMMIT COUNT

The LUW sequence number (commit count) portion of the logical unit of work ID (LUWID).

Field Name: QW0206CM

TOKEN

The local token representing the logical unit of work ID (LUWID).

Field Name: QW0206TK

URID

The recovery log RBA (URID) for the thread.

Field Name: QW0206UR

SENT

The last message sent by this DB2 site during the compare states exchange.

Field Name: QW0206MS

RCVD

The last message received by this DB2 site during the compare states exchange.

Field Name: QW0206MR

VTAM RPL

The VTAM RPL associated with the last compare states message received during the compare states exchange.

Field Name: QW0206VR

EXT

The VTAM RPL extension which describes the LU 6.2 verb indicators for the last message received.

Field Name: QW0206VX

IFCID 207 - DDF Heuristic Damage

This topic shows detailed information about "Record Trace - IFCID 207 - DDF Heuristic Damage".

This record reports when heuristic damage is detected during the two-phase commit resynchronization. Heuristic damage occurs when a user forces an indoubt unit of work to commit or roll back and the user's choice conflicts with the outcome chosen by the coordinator of the unit of work.

Record trace - IFCID 207 - DDF Heuristic Damage

The field labels shown in the following sample layout of "Record Trace - IFCID 207 - DDF Heuristic Damage" are described in the following section.

```
WHERE OCCURRED: SYD1              LOCAL LOCATION: SYD2              UPSTREAM COORDINATOR: SYD3
CICS/IMS COORDINATOR: 'BLANK'

AFFECTED THREADS:
NETID: NETID    LUNAME: LUNAME   INSTANCE: X'C9D5E2E3C1D5' LUW SEQ:     1 TOKEN: X'00000002' URID: X'E4D9C9C44040'

ROLE:  BOTH        DAMAGE SITE ACTION: ROLLBACK LOCAL SITE ACTION: COMMIT   UPSTREAM SITE ACTION: NO UPSTREAM SITE
DAMAGE SITE RECOVERY LOG   : DATA 1
LOCAL SITE RECOVERY LOG    : DATA 2
UPSTREAM SITE RECOVERY LOG : DATA 3
```

WHERE OCCURRED

The location, LU name, or IP address (*NNN.NNN.NNN*) of the location where heuristic damage occurred.

Field Name: QW0207HN

LOCAL LOCATION

The name of this location (the location writing this IFCID).

Field Name: QW0207TN

UPSTREAM COORDINATOR

The location, LU name, or IP address (*NNN.NNN.NNN*) of the upstream coordinator of this location. This field shows 'BLANK' if this location has no upstream coordinator.

Field Name: QW0207UN

CICS/IMS COORDINATOR

The connection name of the local CICS or IMS coordinator. This field shows 'BLANK' if no local CICS or IMS coordinator exists.

Field Name: QW0207CO

NETID

The NETID portion of the logical unit of work ID (LUWID).

Field Name: QW0207NT

LUNAME

The LU name portion of the logical unit of work ID (LUWID).

Field Name: QW0207LU

INSTANCE

The instance number portion of the logical unit of work ID (LUWID).

Field Name: QW0207IN

LUW SEQ

The LUW sequence number (commit count) portion of the logical unit of work ID (LUWID).

Field Name: QW0207CM

TOKEN

The local token representing the logical unit of work ID (LUWID).

Field Name: QW0207TK

URID

The recovery log RBA (URID) for the thread.

Field Name: QW0207UI

ROLE

The role of DB2 in the LUW.

Field Name: QW0207RL

DAMAGE SITE ACTION

The action taken by the site with the heuristic damage.

Field Name: QW0207HA

LOCAL SITE ACTION

The action taken by the local site.

Field Name: QW0207TA

UPSTREAM SITE ACTION

The action taken by the upstream coordinator if one exists.

Field Name: QW0207UA

DAMAGE SITE RECOVERY LOG

The recovery log name of the site where the heuristic damage occurred.

Field Name: QW0207HR

LOCAL SITE RECOVERY LOG

The recovery log name of the local location.

Field Name: QW0207TR

UPSTREAM SITE RECOVERY LOG

The recovery log name of the upstream coordinator (if an upstream coordinator exists).

Field Name: QW0207UR

IFCID 208 - DDF Syncpoint Protocol Error

This topic shows detailed information about "Record Trace - IFCID 208 - DDF Syncpoint Protocol Error".

Record trace - IFCID 208 - DDF Syncpoint Protocol Error

The field labels shown in the following sample layout of "Record Trace - IFCID 208 - DDF Syncpoint Protocol Error" are described in the following section.

```
REMOTE LOCATION: M05EC00C          LAST OPERATION: RECEIVE  DB2 ROLE: PARTICIPANT  DETECTING SITE: LOCAL
LOCAL THREAD STATUS: INDOUBT      ASSUMED REMOTE THREAD STATUS: ROLLED BACK?
AFFECTED THREAD:
NETID: USIBMSY   LUNAME:SY00CDB2  INSTANCE: X'A73916396F69'  COMMIT COUNT:     1   TOKEN: X'00000002'
URID : X'0000154B5278'
LAST MESSAGE:
SENT  :
0000  0001040A                                                                  | ....
RCVD  :
0000  0001060A  0806                                                            | ......
VTAM RPL:
0000  00006270  82A53958  02A57940  00000000   00000024  00000000  007E0F38  00000000  | ...&bv...v` .............=......
0020  7F6CB038  00000000  08000000  00000000   00000008  00000800  00020000  00000000  | "%..............................
0040  00000000  22000000  00000000  7F66117C   00000000  00000000  00000000  00000000  | ............"..@................
0060  00000000  00000000  7F70C258  00000000                                    | ........"&B.....

EXT   :
0000  C1D7D7C3  70110000  01000003  7F661038   00000000  00000000  00000000  08000000  | APPC&.......".....................
0020  0017D45D  2A99736F  00000000  80000800   E2E8F0F0  C3C4C2F2  C9C2D4D9  C4C24040  | ..M).r.?........SY00CDB2IBMRDB
0040  11000000  09000000  00000000  7F66110C   00000000  00000000  00000000  00000000  | ............"....................
0060  00000000  00000000  00000000  00000000                                    | ................

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```

REMOTE LOCATION

The location name or LU name of the remote partner involved in the protocol error.

Field Name: QW0208LO

LAST OPERATION

Indicates whether the last network operation was a send or receive.

Field Name: QW0208SR

DB2 ROLE

The role of DB2 in the LUW.

Field Name: QW0208RL

DETECTING SITE

The site which detected the error.

Field Name: QW0208DT

LOCAL THREAD STATUS

The status of the local DB2 thread.

Field Name: QW0208TS

ASSUMED REMOTE THREAD STATUS

The assumed status of the remote thread.

Field Name: QW0208PS

NETID

The NETID portion of the logical unit of work ID (LUWID).

Field Name: QW0208NT

LUNAME

The LU name portion of the logical unit of work ID (LUWID).

Field Name: QW0208LU

INSTANCE

The instance number portion of the logical unit of work ID (LUWID).

Field Name: QW0208IN

COMMIT COUNT

The LUW sequence number (commit count) portion of the logical unit of work ID (LUWID).

Field Name: QW0208CM

TOKEN

The local token representing the logical unit of work ID (LUWID).

Field Name: QW0208TK

URID

The recovery log RBA (URID) for the thread.

Field Name: QW0208UR

SENT

The last message sent by this DB2 site during sync point processing.

Field Name: QW0208MS

RCVD

The last message received by this DB2 site during sync point processing.

Field Name: QW0208MR

VTAM RPL

The VTAM RPL associated with the last compare states message received during the compare states exchange.

Field Name: QW0208VR

EXT

The VTAM RPL extension which describes the LU 6.2 verb indicators for the last message received.

Field Name: QW0208VX

IFCID 209 - DDF Syncpoint Comm Failure

This topic shows detailed information about "Record Trace - IFCID 209 - DDF Syncpoint Comm Failure".

This record is written when a communication failure occurs after phase 1 of the SNA commit process. The thread that experiences the communication failure might still be indoubt at the participant location.

Record trace - IFCID 209 - DDF Syncpoint Comm Failure

The field labels shown in the following sample layout of "Record Trace - IFCID 209 - DDF Syncpoint Comm Failure" are described in the following section.

```
REMOTE PARTNER LOCATION: M05EC00C

INVOLVED THREAD:
NETID: USIBMSY  LUNAME: SY30ADB2 INSTANCE: X'A72012826B27' LUW SEQ:     1 TOKEN: X'0000000A' URID: X'000014A5CDB0'
ROLE: COORDINATOR   LOCAL THREAD STATUS:  ROLLED BACK
```

REMOTE PARTNER LOCATION

The location, LU name, or IP address (*NNN.NNN.NNN*) of the remote partner involved in the communication error.

Field Name: QW0209LO

NETID

The NETID portion of the logical unit of work ID (LUWID).

Field Name: QW0209NT

LUNAME

The LU name portion of the logical unit of work ID (LUWID).

Field Name: QW0209LU

INSTANCE

The instance number portion of the logical unit of work ID (LUWID).

Field Name: QW0209IN

LUW SEQ

The LUW sequence number (commit count) portion of the logical unit of work ID (LUWID).

Field Name: QW0209CM

TOKEN

The local token representing the logical unit of work ID (LUWID).

Field Name: QW0209TK

URID

The recovery log RBA (URID) for the thread.

Field Name: QW0209UR

ROLE

The role of DB2 in the logical unit of work (LUW).

Field Name: QW0209RL

LOCAL THREAD STATUS

The status of the local DB2 thread.

Field Name: QW0209TS

IFCID 210 - Warm Start Log Name Change

This topic shows detailed information about "Record Trace - IFCID 210 - Warm Start Log Name Change".

This record is written when a remote site warm starts with a recovery log name that is different from its previous recovery log name. DB2 has no threads that require resolution, so the new recovery log name is accepted.

Record trace - IFCID 210 - Warm Start Log Name Change

The field labels shown in the following sample layout of "Record Trace - IFCID 210 - Warm Start Log Name Change" are described in the following section.

```
LOCATION: SYD2              WARM START RECOVERY LOG: CURRENT RECOVERY LOG
PREVIOUS RECOVERY LOG : PREVIOUS RECOVERY LOG
```

LOCATION

The location, LU name, or IP address (*NNN.NNN.NNN*) of the remote partner that sent the warm start indication.

Field Name: QW0210LO

WARM START RECOVERY LOG

The name of the partner's warm start recovery log.

Field Name: QW0210WR

PREVIOUS RECOVERY LOG

The name of the partner's previous recovery log.

Field Name: QW0210PR

IFCID 211 - Claim Data

This topic shows detailed information about "Record Trace - IFCID 211 - Claim Data".

This record contains information about making and releasing a claim. One record is written for each request to make a claim or release a claim.

Record trace - IFCID 211 - Claim Data

The field labels shown in the following sample layout of "Record Trace - IFCID 211 - Claim Data" are described in the following section.

```
DBID:   DSNDB06    PSID:  DSNDTX01      PARTITION NO.:    0    CLAIM REQUEST TYPE: ACQUIRE   CLAIM CLASS: RR READ
CLAIM DURATION: HELD UNTIL COMMIT   CLAIM RESULT: LOGICAL CLAIM NEEDED
REASON IF CLAIM UNSUCCESSFUL: RESOURCE IS STOPPED
```

DBID

The database identifier of the object of the claim request. This field contains 0 if the request is for a release of all claims.

Field Name: QW0211DB

PSID

The page set identifier of the object of the claim request. This field contains 0 if the request is for a release of all claims.

Field Name: QW0211PS

PARTITION NO.

The partition number of the object of the claim request. This field contains 0 if the request is for a release of all claims or if the table space or index space is not partitioned (and the claim request is at the page set level rather than the logical partition level).

Field Name: QW0211PT

CLAIM REQUEST TYPE

The claim request type.

Field Name: QW0211RQ

CLAIM CLASS

The claim class.

Field Name: QW0211CC

CLAIM DURATION

The claim duration. This field shows 'BLANK' if the claim is released.

Field Name: QW0211DU

CLAIM RESULT

The result of the claim request.

Field Name: QW0211RC

REASON IF CLAIM UNSUCCESSFUL

The reason for an unsuccessful claim. This field is only printed if the value in CLAIM RESULT is UNSUCCESSFUL .

Field Name: QW0211RS

IFCID 212 - Drain Data

This topic shows detailed information about "Record Trace - IFCID 212 - Drain Data".

This record contains information about requesting and releasing a drain or a pseudo drain. One record is written for each drain or release request on a claim class. Another record is written for a drain that is only waiting for the claimers to release claims and not acquiring a drain lock (pseudo drain).

Record trace - IFCID 212 - Drain Data

The field labels shown in the following sample layout of "Record Trace - IFCID 212 - Drain Data" are described in the following section.

```
DBID    CATD3DB1   PSID   CATD3TS2     PARTITION NO.     2    DRAIN REQUEST TYPE: DRAIN     CLAIM CLASS: WRITE
DRAIN LOCK MODE: EXCLUSIVE               DRAIN RESULT:   SUCCESSFUL
```

DBID

The database identifier of the object of the drain request. This field contains 0 if the request is for a release of all drains.

Field Name: QW0212DB

PSID

The page set identifier of the object of the drain request. This field contains 0 if the request is for a release of all drains.

Field Name: QW0212PS

PARTITION NO.

The partition number of the object of the drain request. This field contains 0 if the request is for a release of all drains or if the table space or index space is non-partitioned (and the drain request is at the page set level rather than the logical partition level).

Field Name: QW0212PT

DRAIN REQUEST TYPE

The drain request type.

Field Name: QW0212RQ

CLAIM CLASS

The claim class.

Field Name: QW0212CC

DRAIN LOCK MODE

The mode of the drain lock requested. This field shows 'BLANK' if the drain is released or no lock is requested.

Field Name: QW0212MO

DRAIN RESULT

The result of the drain request.

Field Name: QW0212RC

REASON IF DRAIN UNSUCCESSFUL

The reason for an unsuccessful drain. This field is only printed if the value in CLAIM RESULT is UNSUCCESSFUL .

Field Name: QW0212RS

IFCID 213 - Drain Lock Wait Start

This topic shows detailed information about "Record Trace - IFCID 213 - Drain Lock Wait Start".

This record contains information about the beginning of a wait for a drain lock. For drain locks, this record is written instead of IFCID 44.

Record trace - IFCID 213 - Drain Lock Wait Start

The field labels shown in the following sample layout of "Record Trace - IFCID 213 - Drain Lock Wait Start" are described in the following section.

```
LOCK HASH VALUE: X'00000000'                    LOCK NAME LENGTH:    8         LOCK QUALIFIER: X'0020'
LOCK RES TYPE: CS-READ DRAIN LOCK                 DBID: 1                OBID: 2           PARTITION:     3
IRLM FUNCTION:  LOCK                        STATE: X'00'                DURATION: X'00'
REASON SUSP: LATCH CONTENTION
QW0213FL  X'00'
```

LOCK HASH VALUE

The hash value of the locked resource.

Field Name: QW0213LH

LOCK NAME LENGTH

The length of the lock name.

Field Name: QW0213LK

LOCK QUALIFIER

The lock qualifier.

Field Name: QW0213KQ

LOCK RES TYPE

The locked resource type or the type of locking operation.

Field Name: QW0213KT

DBID

The database ID of the object of the claim request.

Field Name: QW0213DB

PSID

The page set identifier of the object of the claim request.

Field Name: QW0213PS

PARTITION NO.

The partition number of the object of the lock request. This field contains 0 if the table space or index space is not partitioned (and the lock request is at the page set level rather than the logical partition level).

Field Name: QW0213PT

IRLM FUNCTION

The IRLM function.

Field Name: QW0213FC

STATE

The lock state.

Field Name: QW0213ST

REASON SUSP

The reason for the suspension.

Field Name: QW0213WS

IFCID 214 - Drain Lock Wait End

This topic shows detailed information about "Record Trace - IFCID 214 - Drain Lock Wait End".

This record contains information about the end of a wait for a drain lock. For drain locks, this record is written instead of IFCID 45.

Record trace - IFCID 214 - Drain Lock Wait End

The field labels shown in the following sample layout of "Record Trace - IFCID 214 - Drain Lock Wait End" are described in the following section.

```
DRAIN LOCK <-- NETWORKID:  DEIBMIPS  LUNAME:  IPSAQ811  LUWSEQ:     1
WAIT END      REASON FOR RESUME              :  NORMAL RESUME
REASON FOR SUSPEND             :  X'80'
IRLM LATCH CONTENTION         :  YES
IRLM QUEUED REQUEST           :   NO
LOCAL RESOURCE CONTENTION     :   NO
GLOBAL RESOURCE CONTENTION    :   NO
INTER-SYSTEM MESSAGE SENDING  :   NO
INTER-SYSTEM MESSAGE SENDING  :   NO
GLOBAL CONTENTION EXTENT       :  X'20'
XES GLOBAL CONTENTION         :   NO
IRLM GLOBAL CONTENTION        :   NO
FALSE CONTENTION              :   NO
QW0214W4   NO   QW0214W6   NO   QW0214W8   NO
QW0214X1   NO   QW0214X2   NO   QW0214X5   NO
QW0214X6   NO   QW0214X7   NO   QW0214X8   NO
```

REASON FOR RESUME

The reason for the lock resume.

Field Name: QW0214R

REASON FOR SUSPEND

The reason for the suspension. The nonserviceability values are:

Field Name: QW0214SR

IRLM LATCH CONTENTION

Indicates whether IRLM latch contention occurred.

Field Name: QW0214W1

IRLM QUEUED REQUEST

Indicates whether IRLM queued request occurred.

Field Name: QW0214W2

LOCAL RESOURCE CONTENTION

Indicates whether local resource contention occurred.

Field Name: QW0214W3

GLOBAL RESOURCE CONTENTION

Indicates whether intersystem communication was required to resolve an IRLM request.

Field Name: QW0214W5

INTER-SYSTEM MESSAGE SENDING

Indicates whether any intersystem messages were sent.

Field Name: QW0214W7

GLOBAL CONTENTION EXTENT

The extent of global contention. This is applicable only if the value in GLOBAL RESOURCE CONTENTION is YES . The nonserviceability values are:

Field Name: QW0214XR

XES GLOBAL CONTENTION

Indicates whether XES global resource contention occurred.

Field Name: QW0214X3

IRLM GLOBAL CONTENTION

Indicates whether IRLM global resource contention occurred.

Indicates whether there was IRLM or XES global resource contention.

Field Name: QW0214X4

IFCID 215 - Claim Count 0 Wait Start

This topic shows detailed information about "Record Trace - IFCID 215 - Claim Count 0 Wait Start".

This IFCID records the beginning of a wait for the number of pending claims to reach 0.

Record trace - IFCID 215 - Claim Count 0 Wait Start

The field labels shown in the following sample layout of "Record Trace - IFCID 215 - Claim Count 0 Wait Start" are described in the following section.

```
CLAIM CNT 0--> 'BLANK'
WAIT START    NETWORKID:  DEIBMIPS  LUNAME:  IPSAQ811  LUWSEQ:     1
DBID: 1        PSID: 2        PARTITION NO.     3
CLAIM CLASS: RR READ          CLAIM COUNT:     20
```

DBID

The database identifier of the object of the drain request.

Field Name: QW0215DB

PSID

The page set identifier of the object of the drain request.

Field Name: QW0215PS

PARTITION NO.

The partition number of the object of the drain request. This field contains 0 if the object is a non-partitioned table space or non-partitioned index being drained at the page set level.

Field Name: QW0215PT

CLAIM CLASS

The claim class.

Field Name: QW0215CC

CLAIM COUNT

The number of claims pending for this resource.

Field Name: QW0215CT

IFCID 216 - Claim Count 0 Wait End

This topic shows detailed information about "Record Trace - IFCID 216 - Claim Count 0 Wait End".

This IFCID records the end of a wait for a claim count to reach 0.

Record trace - IFCID 216 - Claim Count 0 Wait End

The field labels shown in the following sample layout of "Record Trace - IFCID 216 - Claim Count 0 Wait End" are described in the following section.

```
CLAIM CNT 0<-- 'BLANK'
WAIT END      NETWORKID:  DEIBMIPS  LUNAME:  IPSAQ811  LUWSEQ:     1
DBID: 1        PSID: 2        PARTITION NO.     3
CLAIM CLASS: RR READ  REASON FOR RESUME: TIMEOUT
```

DBID

The database identifier of the object of the drain request.

Field Name: QW0216DB

PSID

The page set identifier of the object of the drain request.

Field Name: QW0216PS

PARTITION NO.

The partition number of the object of the drain request. This field contains 0 if the object is a non-partitioned table space or non-partitioned index being drained at the page set level.

Field Name: QW0216PT

CLAIM CLASS

The claim class.

Field Name: QW0216CC

REASON FOR RESUME

The reason for the resume.

Field Name: QW0216R

IFCID 217 - Storage Pools

This record only contains data for IFCID 217.

IFCID 217 - Agent Local Storage Pool Sizes

This topic shows detailed information about "Record Trace - IFCID 217 - Agent Local Storage Pool Sizes".

Record trace - IFCID 217 - Agent Local Storage Pool Sizes

The field labels shown in the following sample layout of "Record Trace - IFCID 217 - Agent Local Storage Pool Sizes" are described in the following section.

```
AGENT LOCAL STORAGE POOL SIZES
TOTAL POOL STORAGE    :                0                          STORAGE CLASS     :          21
CONNECTION NAME       :  DA61          CORRELATION ID    :  010.CS16K5          PLAN NAME         :  'BLANK'
WORKSTATION NAME      :  N/P           TRANSACTION NAME  :  N/P                 MVS SUBPOOL       :           0
FIXED STORAGE POOL    :  NO            VARIA STORAGE POOL:  YES                 OWNING ASID       :         261
AUTHORIZATION ID      : 'BLANK'                                                 USERID            : N/P

QW02173H: X'0000020050A4DA30'          QW02173F: B'01100000'                  QW02173C: N/A
```

TOTAL POOL STORAGE

Total storage in the agent local pool.

Field Name: QW02173T

STORAGE CLASS

Storage class for agent local pools.

Field Name: QW02173L

CONNECTION NAME

The connection name. Possible values are:

- For batch: BATCH
- For TSO: TSO
- For QMF: DB2CALL
- For utilities: UTILITY
- For DB2 private protocol this is the DB2 subsystem ID
- For IMS: the IMS ID
- For CICS, this is the CICS ID
- For DRDA connections from non-DB2 requesters: SERVER

Field Name: QW0217QN

CORRELATION ID

Correlation identifier.

Field Name: QW0217QR

PLAN NAME

The plan name. It is blank for a DB2 command thread; otherwise:

DSNESPRR
For SPUFI with repeatable read.

DSNESPCS
For SPUFI with cursor stability.

DSNUTIL
For utilities.

DSNTEP2
For DSNTEP2.

DSNBIND
For binding.

The application plan name
For IMS.

The application plan name
For CICS.

A blank plan name
For IMS and CICS commands.

DSQPLAN
For QMF.

The first 8 bytes of the application name
For DRDA connections to the common servers.

Field Name: QW0217QP

WORKSTATION NAME

The end user's workstation name.

Field Name: QW0217QW

TRANSACTION NAME

The transaction or application name that is run.

Field Name: QW0217QX

MVS SUBPOOL

MVS subpool.

Field Name: QW0217BP

FIXED STORAGE POOL

Indicates if the storage pool is fixed.

Field Name: QW02173X

VARIA STORAGE POOL

Indicates if the storage pool is variable.

Field Name: QW02173R

AUTHORIZATION ID

The primary authorization ID from a connection or signon. The connection authorization exit and the signon authorization exit can change the primary authorization ID so that it differs from the original primary authorization ID (ORIGAUTH). Distributed authorization ID translation can also change the primary authorization ID.

Field Name: QW0217QC

USERID

The user ID of the workstation end user. This user ID can be different from the authorization ID used to connect to DB2. This field contains blanks if the client does not supply this information.

Field Name: QW0217QD

QW02173H

This field is for IBM service.

Field Name: QW02173H

QW02173F

Storage pool flags:

- Fixed storage pool
- Variable storage pool
- More agent storage pool data in one or more ifcid 0217 records after this one.
- This is the last ifcid 0217 record in this sequence of agent storage pool data.
- This is a parent task for parallelism.
- This is a child task for parallelism.

Field Name: QW02173F

QW02173C

This field is for IBM service.

Field Name: QW02173C

IFCID 217 - DBM1 Storage Pool Sizes

This topic shows detailed information about "Record Trace - IFCID 217 - DBM1 Storage Pool Sizes".

Record trace - IFCID 217 - DBM1 Storage Pool Sizes

The field labels shown in the following sample layout of "Record Trace - IFCID 217 - DBM1 Storage Pool Sizes" are described in the following section.

```
DBM1 STORAGE POOL SIZES
TOTAL POOL STORAGE    :              4096                                  STORAGE CLASS     :           2
MVS SUBPOOL           :       231    DESCRIPTION       :  CMD WORK POOL - DSN9SCNP
FIXED STORAGE POOL    :  NO          VARIA STORAGE POOL:  YES               OWNING ASID       :         263

QW0217PH: X'000000001ED258F0'        QW0217FL: B'01100000'
```

TOTAL POOL STORAGE

Total amount of DBM1 storage available for pools.

Field Name: QW0217ST

STORAGE CLASS

Storage class.

Field Name: QW0217CL

MVS SUBPOOL

MVS subpool.

Field Name: QW0217BP

DESCRIPTION

Storage pool description.

Field Name: QW0217DE

FIXED STORAGE POOL

Indicates if the storage pool is fixed.

Field Name: QW02173X

VARIA STORAGE POOL

Indicates if the storage pool is variable.

Field Name: QW02173R

QW0217PH

Contains QW0217PH.

Field Name: QW0217PH

QW0217FL

Storage pool flags.

Fixed storage pool

Variable storage pool

More DBM1 local data follows, in one or more ifcid 0217 records after this one.

This is the last ifcid 0217 record in this sequence of local DBM1 data. ifcid 0217 records with agent local storage pool data follow.

Field Name: QW0217FL

IFCID 217 - Storage Manager Pool Statistics

This topic shows detailed information about "Record Trace - IFCID 217 - Storage Manager Pool Statistics".

Record trace - IFCID 217 - Storage Manager Pool Statistics

The field labels shown in the following sample layout of "Record Trace - IFCID 217 - Storage Manager Pool Statistics" are described in the following section.

```
                                STORAGE MANAGER POOL STATISTICS

DB2 V10 TOKEN                         :          0
```

DB2 V10 TOKEN

The size of the common storage area (CSA) above the 16 MB line.

Field Name: QW0217TK

IFCID 218 - Lock Avoidance Summary

This topic shows detailed information about "Record Trace - IFCID 218 - Lock Avoidance Summary".

This record indicates whether a successful lock avoidance test occurred during a given unit of work. The record is externalized at the agent at each commit or rollback.

Record trace - IFCID 218 - Lock Avoidance Summary

The field labels shown in the following sample layout of "Record Trace - IFCID 218 - Lock Avoidance Summary" are described in the following section.

```
LOCK AVOID DURING UNIT OF WORK: YES      NO. PAGE SET SUBRECORDS:     4
DBID: INSQDB   PSID: EVENTS   LOCK AVOID DURING UNIT OF WORK: YES
DBID: DSNDB06  PSID: SYSDBAUT LOCK AVOID DURING UNIT OF WORK: NO
```

LOCK AVOID DURING UNIT OF WORK

Indicates whether there was a successful lock avoidance test during this unit of work.

Field Name: QW0218CT

NO. PAGE SET SUBRECORDS

The number of page set subrecords contained in this record. The fields DBID, PSID, and LOCK AVOID DURING UNIT OF WORK are repeated for each page set that has a lock avoidance test.

Field Name: QW0218N

DBID

The database ID.

Field Name: QW0218PD

PSID

The page set ID.

Field Name: QW0218PP

LOCK AVOID DURING UNIT OF WORK

Indicates whether there was a successful lock avoidance test for this page set during this unit of work.

Field Name: QW0218PC

IFCID 219 - Utility LISTDEF List Information

This topic shows detailed information about "Record Trace - IFCID 219 - Utility LISTDEF List Information".

Record trace - IFCID 219 - Utility LISTDEF List Information

The field labels shown in the following sample layout of "Record Trace - IFCID 219 - Utility LISTDEF List Information" are described in the following section.

```
LIST NAME:  LOCATION_NUMBER001  LIST TYPE:  T    LIST SIZE: 69287
```

LIST NAME

Name of list definition information.

Field Name: QW0219LN

LIST TYPE

Type of LISTDEF information:

T
Table space list.

I
Index space list.

M
Mixed list.

Field Name: QW0219LT

LIST SIZE

Number of entries in the LISTDEF.

Field Name: QW0219LS

IFCID 220 - Utility Data Set Information

This topic shows detailed information about "Record Trace - IFCID 220 - Utility Data Set Information".

This record is written when a data set is closed.

Record trace - IFCID 220 - Utility Data Set Information

The field labels shown in the following sample layout of "Record Trace - IFCID 220 - Utility Data Set Information" are described in the following section.

```
DD NAME:  LOCATION  DATASET NAME:  MYDATASET.NAME.CAN.BE.UP.TO.FORTY.FOUR.CHARS   TEMPLATE NAME:  MYTEMPLA
NO. READS:  12334  NO. WRITES:  67458  NO. CHECKS:  39171  NO. EOVS:  30125 I/O WAIT TIME:  91683
OPEN TIME STAMP:  14/09/00;5  DEVICE TYPE:  D
```

DD NAME

Data definition.

Field Name: QW0220DD

DATA SET NAME

Data set name.

Field Name: QW0220DN

TEMPLATE NAME

Template name.

Field Name: QW0220TN

NO. READS

Number of READ operations.

Field Name: QW0220RD

NO. WRITES

Number of WRITE operations.

Field Name: QW0220WR

NO. CHECKS

Number of checks.

Field Name: QW0220CH

NO. EOVS

Number of End of Volumes.

Field Name: QW0220EV

I/O WAIT TIME

I/O wait time in milliseconds.

Field Name: QW0220WT

OPEN TIME STAMP

Time the data set was opened.

Field Name: QW0220OT

DEVICE TYPE

Device type:

D
DASD.

T
Tape.

Field Name: QW0220DT

IFCID 221 - Parallel Group Execution

This topic shows the data available for IFCID 221.

IFCID 221 - Buffer Pool Constrained Data (Section Type C)

This topic shows detailed information about "Record Trace - IFCID 221 - Buffer Pool Constrained Data (Section Type C)".

Record trace - IFCID 221 - Buffer Pool Constrained Data (Section Type C)

The field labels shown in the following sample layout of "Record Trace - IFCID 221 - Buffer Pool Constrained Data (Section Type C)" are described in the following section.

```
BUFFERPOOL CONSTRAINED DATA
LENGTH: X'0010'
DBID   PSID   TYPE   BPID   WITH_SECT.E
0      0    W        7         0
0      0    W        7         0
```

LENGTH

The total length of all entries.

Field Name: QW0221CL

DBID

The database identifier.

Field Name: QW0221DB

PSID

The page set identifier.

Field Name: QW0221PS

TYPE

The type of page set:

T
Table space

I
Index

W
Work file

Field Name: QW0221TY

BPID

The buffer pool identifier.

Field Name: QW0221BP

WITH_SECT.E

The number of detail buffer pool constrained data sections to follow in section type E.

Field Name: QW0221DN

IFCID 221 - Detail Buffer Pool Constrained Data (Section Type E)

This topic shows detailed information about "Record Trace - IFCID 221 - Detail Buffer Pool Constrained Data (Section Type E)".

LENGTH

The total length of all entries.

Field Name: QW0221CL

DB2_MEMBER

The name of the DB2 member.

Field Name: QW0221MN

CONSTRAINED

Indicates whether the DB2 member is constrained.

Field Name: QW0221CS

IFCID 221 - Parallel Data

This topic shows detailed information about "Record Trace - IFCID 221 - Parallel Data".

Record trace - IFCID 221 - Parallel Data

The field labels shown in the following sample layout of "Record Trace - IFCID 221 - Parallel Data" are described in the following section.

```
PARALLEL DATA
LOCATION NAME     : 'BLANK'
PKG COLLECTION ID : 'BLANK'
PROGRAM NAME      : 'BLANK'
STMT.NO :       1077952576   QUERYBLOCK NUMBER :      16448          CONS.TOKEN     : X'4040404040404040'
PLANNED(BIND) DEGREE: 16448   REP.SECTION TYPE  : N/P                PARALL.GROUP NO: 16448
PLANNED(RUN)  DEGREE: 16448   ACTUAL(RUN) DEGREE:      16448          REP.SECTIONS   : 16448
TYPE OF PARALLELISM : X'40'   NUMBER OF MEMBERS : 1077952576          REASON         : X'40'       RECORD 16448 OF 16448
HI/LO PARTITION TYPE: LOGICAL
```

LOCATION NAME

The location name or RDB name.

Field Name: QW0221LN

PKG COLLECTION ID

The package collection ID.

Field Name: QW0221PC

PROGRAM NAME

The program name.

Field Name: QW0221PN

STMT.NO

The statement number. It is the same as the QUERYNO in the PLAN_TABLE, if the PLAN_TABLE exists.

Field Name: QW0221SN

QUERYBLOCK NUMBER

The query block number. It is the same as the QBLOCKNO in the PLAN_TABLE, if the PLAN_TABLE exists.

Field Name: QW0221QN

CONS.TOKEN

The timestamp (consistency token).

Field Name: QW0221TS

PLANNED(BIND) DEGREE

The planned degree of parallelism at bind time. Parallelism decisions are made at bind time. However, the value in this field is 0 if the statement has host variables, because host variables cause the parallelism decision to be made at run time. See field PLANNED(RUN) DEGREE.

Field Name: QW0221PD

REP.SECTION TYPE

The type of the repeating section.

Field Name: QW0221TP

PARALL.GROUP NO

The parallel group number.

Field Name: QW0221GN

PLANNED(RUN) DEGREE

The planned degree of parallelism at run time. The value in this field is equal to the value in PLANNED(BIND) DEGREE unless the statement contains host variables.

Field Name: QW0221RD

ACTUAL(RUN) DEGREE

The actual degree of parallelism at run time, taking into account only those DB2 members that have enough buffer pool storage.

Field Name: QW0221AD

REP.SECTIONS

The number of repeating sections contained in this record.

Field Name: QW0221N

TYPE OF PARALLELISM

The type of parallelism:

CP
CPU query parallelism

I/O
I/O query parallelism

SYS
Sysplex query parallelism

Field Name: QW0221MO

NUMBER OF MEMBERS

The number of DB2 members on which a query was executed during sysplex query parallel processing.

Field Name: QW0221XC

REASON

The reason for deriving the planned (runtime) degree of parallelism:

NORMAL
The planned runtime degree is derived from the planned bind time degree.

HOSTVAR
Host variable partitioning.

NO ESA
No ESA sort support.

CURSOR
The cursor might be used for an update or deletion.

EMPTY
The parallel group is empty.

MVS/ESA
MVS/ESA enclave services are not available.

Field Name: QW0221RN

RECORD

The position of this record in the series of IFCID 221 records.

Field Name: QW0221TR

OF

The total number of IFCID 221 records in this series.

Field Name: QW0221NR

HI/LO PARTITION TYPE

Type of partition for low and high pages in the partition range. Possible values are:

LOGICAL
Logical low and high pages.

PHYSICAL
Physical low and high pages.

Field Name: QW0221ZZ

IFCID 221 - Section Type D

This topic shows detailed information about "Record Trace - IFCID 221 - Section Type D".

Record trace - IFCID 221 - Section Type D

The field labels shown in the following sample layout of "Record Trace - IFCID 221 - Section Type D" are described in the following section.

```
LOW PAGE RANGE:  X'000000'  STATUS: EMPTY
LOW KEY RANGE:
0000  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0020  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0040  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0060  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0080  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00A0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00C0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00E0  00000000  00000000  00000000  00000000                                             | ................
HIGH PAGE RANGE: X'000000'
HIGH KEY RANGE:
0000  BFFFFEBF  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0020  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0040  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0060  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
0080  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00A0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00C0  00000000  00000000  00000000  00000000   00000000  00000000  00000000  00000000  | ................................
00E0  00000000  00000000  00000000  00000000                                             | ................
```

LOW PAGE RANGE

If the partitioning scheme uses a page range, the low page number of the page range.

Field Name: QW0221PL

STATUS

The status of this partition range:

NORMAL
A parallel task is created for this partition range.

EMPTY
No parallel task is created for this page range.

Field Name: QW0221AN

LOW KEY RANGE

If the partitioning scheme uses a key range, the first 240 bytes of the low boundary key range.

Field Name: QW0221KL

HIGH PAGE RANGE

If the partitioning scheme uses a page range, the high page number of the page range.

Field Name: QW0221PH

HIGH KEY RANGE

If the partitioning scheme uses a key range, the first 240 bytes of the high boundary key range.

Field Name: QW0221KH

IFCID 222 - Parallel Group Elapsed Time

This topic shows detailed information about "Record Trace - IFCID 222 - Parallel Group Elapsed Time".

This record contains parallel group elapsed time information.

Record trace - IFCID 222 - Parallel Group Elapsed Time

The field labels shown in the following sample layout of "Record Trace - IFCID 222 - Parallel Group Elapsed Time" are described in the following section.

```
RECORD     1 OF     1
LOCATION: M05EC003          PACKAGE: PRODCOLL            PROGRAM: CSF3SP04           CON.TOKEN: X'15B995940B8DACAA'
STATEMENT NO:     84  QUERY BLOCK NO:     1  PARALLEL GROUP NO:      1  REPEAT.GRPS:     2
PIPE CREATION: 12/18/08 16:35:47.148952  PIPE TERMINATION: 12/18/08 16:35:47.493512  PIPE ELAPSED:         0.344560
QW0222FM      0   QW0222CS      0   QW0222PR         103 QW0222OD      0
.....................................................................................................................
SUB-PIPE CREATION   : 12/18/08 16:35:47.242775  SUB-PIPE ELAPSED:          0.076436
SUB-PIPE TERMINATION: 12/18/08 16:35:47.319211  TASK TOKEN      : X'7B450138'        MEMBER      : 'BLANK'
QW0222SR          21   QW0222OR           0   QW0222CT           0
.....................................................................................................................
SUB-PIPE CREATION   : 12/18/08 16:35:47.319217  SUB-PIPE ELAPSED:          0.059854
SUB-PIPE TERMINATION: 12/18/98 16:35:47.379071  TASK TOKEN      : X'7B45015C'        MEMBER      : 'BLANK'
QW0222SR          82   QW0222OR           0   QW0222CT           0
```

RECORD

The position of this record in the series of IFCID 222 records.

Field Name: QW0222TR

OF

The total number of IFCID 222 records in this series.

Field Name: QW0222NR

LOCATION

The location name or RDB name.

Field Name: QW0222LN

PACKAGE

The package collection ID.

Field Name: QW0222PC

PROGRAM

The program name.

Field Name: QW0222PN

CON.TOKEN

The timestamp (consistency token).

Field Name: QW0222TS

STATEMENT NO

The statement number.

Field Name: QW0222SN

QUERY BLOCK NO

The query block number.

Field Name: QW0222QN

PARALLEL GROUP NO

The parallel group number.

Field Name: QW0222GN

REPEAT.GRPS

The number of repeat groups in the section.

Field Name: QW0222RN

PIPE CREATION

The time of pipe creation in DB2 timestamp format.

Field Name: QW0222PS

PIPE TERMINATION

The time of pipe termination in DB2 timestamp format.

The elapsed time between pipe creation and pipe termination in DB2 timestamp format.

Field Name: QW0222PE

SUB-PIPE CREATION

The time of subpipe creation in DB2 timestamp format.

Field Name: QW0222SS

SUB-PIPE ELAPSED

The elapsed time between subpipe creation and subpipe termination in DB2 timestamp format.

The time of subpipe termination in DB2 timestamp format.

Field Name: QW0222SE

TASK TOKEN

The task token associated with the subpipe.

Field Name: QW0222TK

MEMBER

The name of the DB2 member that supplies the data.

Field Name: QW0222SM

IFCID 223 - Lock Avoidance Detail

This topic shows detailed information about "Record Trace - IFCID 223 - Lock Avoidance Detail".

This record shows lock avoidance information for each successful test.

Record trace - IFCID 223 - Lock Avoidance Detail

The field labels shown in the following sample layout of "Record Trace - IFCID 223 - Lock Avoidance Detail" are described in the following section.

```
LOCK RES TYPE:  ROW LOCK
DBID: DSNDB06             OBID: SYSUSER
TABLE_SPACE_TYPE: N
RESOURCE ID: X'00000313'
PARTITION:      0       PAGE NUMBERING: ABS
QW0223U   X'008500331ACA3460'
QW0223O   X'008500331ACA33A0'
QW0223CL  X'00'
```

LOCK RES TYPE

The resource type being accessed.

Field Name: QW0223KT

DBID

The database ID.

Field Name: QW0223KD

OBID

Object id of the page set or table record.

Field Name: QW0223KP

TABLE_SPACE_TYPE

The type of the table space:

L
Non-EA large table

N
Non-large table

R
Partitioned by range (PBR) universal table spaces (UTS) that use relative page numbers

V
EA-enabled large table

Field Name: QW0223TY

RESOURCE ID

The ID of the small resource.

Field Name: QW0223KR

PARTITION

Shows the partition number or 0 if non-partitioned.

Field Name: QW0223PT

PAGE NUMBERING

Indicates how page numbers are shown for partitioned tables:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0223P1

IFCID 224 - Select Procedure Bypassed

This topic shows detailed information about "Record Trace - IFCID 224 - Select Procedure Bypassed".

This record is written at the end of a unit of work. It records the total columns for which an invalid select procedure was encountered. Invalid select procedures are bypassed by DB2 and can cause performance degradation.

Record trace - IFCID 224 - Select Procedure Bypassed

The field labels shown in the following sample layout of "Record Trace - IFCID 224 - Select Procedure Bypassed" are described in the following section.

```
SPROC BYPASSED 'BLANK'
NETWORKID:  DEIBMIPS  LUNAME:  IPSAR721  LUWSEQ:     1
PACKAGE   : PLANNAM2
COLLECTION: COLLECTIONNAME0002
COLUMNS   :        128
```

COLUMNS

The select procedure bypass column count. This is the total number of columns (rows * columns) for which a select procedure was bypassed because the select procedure was invalidated by applying service to DB2.

Field Name: QW0224CL

PACKAGE

Package name.

Field Name: QW0224PN

COLLECTION ID

Collection identifier.

Field Name: QW0224CI

IFCID 225 - Storage MGR Pool Summary

This topic shows the data available for IFCID 225.

IFCID 225 - Address Space Summary - DBM1

This topic shows detailed information about "Record Trace - IFCID 225 - Address Space Summary - DBM1".

Note: This report has the same layout as “ IFCID 225 - Address Space Summary - DIST ” on page 859.

IFCID 225 - Address Space Summary - DIST

This topic shows detailed information about "Record Trace - IFCID 225 - Address Space Summary - DIST".

Record Trace - IFCID 225 - Address Space Summary - DIST

The field labels shown in the following sample layout of "Record Trace - IFCID 225 - Address Space Summary - DIST" are described in the following section.

```
ADDRESS SPACE SUMMARY - DIST

EXTENDED REGION SIZE (MAX)         :          1587544064    24-BIT LOW PRIVATE                 :              221184
24-BIT HIGH PRIVATE                :              450560    31-BIT EXTENDED LOW PRIVATE        :            69603328
31-BIT EXTENDED HIGH PRIVATE       :            38600704    CURR HIGH ADDR 24-BIT PRIV REGION  :         X'0003C000'

CURR HIGH ADDR 31-BIT PRIV REGION  :         X'270E9000'    31-BIT RESERVED FOR MUST COMPLETE  :           158754406
31-BIT RESERVED FOR MVS            :            25827760    STORAGE CUSHION WARNING TO CONTRACT:           158754406
TOTAL 31-BIT GETMAINED STACK       :             4341760    TOTAL 31-BIT STACK IN USE          :             3997696
TOTAL 31-BIT VARIABLE POOL         :            12836864    TOTAL 31-BIT FIXED POOL            :               86016
TOTAL 31-BIT GETMAINED             :             1002384    AMOUNT OF AVAILABLE 31-BIT         :          1479335936
SYSTEM AGENT STACK STORAGE IN USE  :             1234567

TOTAL 64-BIT VARIABLE POOL         :            10162176    TOTAL 64-BIT FIXED                 :             7503872
TOTAL 64-BIT GETMAINED             :           438127168    TOTAL 64-BIT PRIVATE FOR STOR MANAG:             1925120

REAL 4K FRAMES IN USE              :                20577   AUXILIARY SLOTS IN USE             :               41227
```

```
64-BIT REAL 4K FRAMES IN USE       :                12129    64-BIT 4K AUX SLOTS IN USE         :                27055
ABOVE VALUE W/O BP STORAGE         :                10000    ABOVE VALUE W/O BP STORAGE         :                 4096

HWM 64-BIT REAL 4K FRAMES IN USE   :                43047    HWM 64-BIT AUX SLOTS IN USE        :                27059

HWM PRIVATE DISC. PAGES            :                    5

QW0225CTLP (S)                     : OFF                    QW0225CTLS (S)                     : OFF
```

EXTENDED REGION SIZE (MAX)

The maximum amount of MVS private storage available above the 16 MB line.

Field Name: QW0225RG

24-BIT LOW PRIVATE

The amount of private MVS storage below the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Field Name: QW0225LO

24-BIT HIGH PRIVATE

The amount of private MVS storage below the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Field Name: QW0225HI

31-BIT EXTENDED LOW PRIVATE

The amount of private MVS storage above the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Field Name: QW0225EL

31-BIT EXTENDED HIGH PRIVATE

The amount of private MVS storage above the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Field Name: QW0225EH

CURR HIGH ADDR 24-BIT PRIV REGION

The current high address of the 24-bit private region.

Field Name: QW0225TP

CURR HIGH ADDR 31-BIT PRIV REGION

The current high address of the 31-bit private region.

Field Name: QW0225EP

31-BIT RESERVED FOR MUST COMPLETE

Storage reserved for operation that must complete before DB2 is allowed to stop.

Field Name: QW0225CR

31-BIT RESERVED FOR MVS

The amount of storage available for operating system activity.

Field Name: QW0225MV

STORAGE CUSHION WARNING TO CONTRACT

The amount of free storage, in megabytes, available in the DBM1 data space.

Field Name: QW0225SO

TOTAL 31-BIT GETMAINED STACK

Total GETMAINED storage allocated for program stack use.

Field Name: QW0225GS

TOTAL 31-BIT STACK IN USE

The amount of stack storage that is in use.

Field Name: QW0225SU

TOTAL 31-BIT VARIABLE POOL

Total storage used by all variable pools. This includes storage used by:

- System agents
- Local agents
- RID pool
- Pipe manager subpool
- Local dynamic statement cache control blocks
- Local dynamic statement cache statement pool
- Buffer and data manager trace tables
- A list of objects in restricted state including the new PRO state. If consumption of this storage pool is high, review restrictive exception state of database objects and check whether they can be resolved or reduced.

Field Name: QW0225VR

TOTAL 31-BIT FIXED POOL

Total amount of fixed storage.

Field Name: QW0225FX

TOTAL 31-BIT GETMAINED

Total storage acquired by GETMAIN. This includes space for virtual pools, EDM pool, compression dictionary, castout buffers, and the data space lookaside buffer, and data space buffer pool control blocks.

This figure can be different from the sum of GETMAIN storage items shown in the statistics DBM1 storage, because DB2 does not produce grouping statistics for all GETMAIN storage.

Field Name: QW0225GM

AMOUNT OF AVAILABLE 31-BIT

The total amount of storage available for storage manager pools.

Field Name: QW0225AV

SYSTEM AGENT STACK STORAGE IN USE

The amount of 31-bit stack storage that is in use for system agents. This is a subset of QW0225SU.

Field Name: QW0225SS

TOTAL 64-BIT VARIABLE POOL

Amount of variable storage available above the 2 GB bar.

Field Name: QW0225VA

TOTAL 64-BIT FIXED

The total amount of fixed storage above the 2 GB bar.

Field Name: QW0225FA

TOTAL 64-BIT GETMAINED

Total storage acquired by GETMAIN. This includes space for the compression dictionary, and statement and DBD cache that can be used by the Environmental Descriptor Manager (EDM).

This figure can be different from the sum of GETMAIN storage items shown in the statistics DBM1 storage, because DB2 does not produce grouping statistics for all GETMAIN storage.

Field Name: QW0225GA

TOTAL 64-BIT PRIVATE FOR STOR MANAG

Total 64-bit storage allocated for storage manager control structures.

Field Name: QW0225SM

REAL 4K FRAMES IN USE

Number of real-storage frames (4K) in use for 31- and 64-bit private pools.

Field Name: QW0225RL

AUXILIARY SLOTS IN USE

Number of auxiliary slots (4K) in use for 31- and 64-bit private pools.

Field Name: QW0225AX

64-BIT REAL 4K FRAMES IN USE

The number of real 4K frames in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: QW0225HVPAGESINREAL

64-BIT 4K AUX SLOTS IN USE

The number of auxiliary 4K slots in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: QW0225HVAUXSLOTS

ABOVE VALUE W/O BP STORAGE

Number of real-storage frames (4K) in use for 64-bit private pools. This is a subset of QW0225HVPagesInReal and does not include buffer pool storage.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225PRISTG_REAL

ABOVE VALUE W/O BP STORAGE

Number of auxiliary slots (4K) in use for 64-bit private pools. This does not include buffer pool storage. This field only includes auxiliary slots occupied by pages that are paged out.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225PRISTG_AUX

HWM 64-BIT REAL 4K FRAMES IN USE

The number of real 4K frames in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: QW0225HVGPAGESINREAL

HWM 64-BIT AUX SLOTS IN USE

High water mark for the number of auxiliary 4K slots in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: QW0225HVGAUXSLOTS

HWM PRIVATE DISC. PAGES

High water mark value showing number of private discarded pages eligible for Page Steal. If QW0225DPGS is set to NO this field be zero.

Field Name: QW0225PriStg_dpage

QW0225CTLP (S)

This field is for IBM service.

Field Name: QW0225CTLP

QW0225CTLS (S)

This field is for IBM service.

Field Name: QW0225CTLS

IFCID 225 - IRLM Pool Statistics

This topic shows detailed information about "Record Trace - IFCID 225 - IRLM Pool Statistics".

Record trace - IFCID 225 - IRLM Pool Statistics

The field labels shown in the following sample layout of "Record Trace - IFCID 225 - IRLM Pool Statistics" are described in the following section.

```
                                    IRLM POOL STATISTICS

ABOVE THE BAR VALUES:
ATB CSA CURRENT                 :                  0     ATB CSA HIGH WATER MARK           :                  0
ATB PRIVATE CURRENT             :                  5     ATB PRIVATE HIGH WATER MARK       :                  5
ATB PRIVATE MAX AVAILABILITY    :               1844

BELOW THE BAR VALUES:
BTB PRIVATE CURRENT             :            5773596     BTB PRIVATE HIGH WATER MARK       :            5773596
BTB PRIVATE MAX AVAILABILITY    :            5773596

ECSA:
ECSA CURRENT                    :            1856551     ECSA HIGH WATER MARK              :            2015271
```

ATB CSA CURRENT

The total amount of 64-bit common storage that is currently in use by IRLM pools.

Field Name: QW0225I_ABCSA

ATB CSA HIGH WATER MARK

The high-water mark of 64-bit common storage allocated by IRLM pools.

Field Name: QW0225I_ABCSH

ATB PRIVATE CURRENT

The total amount of 64-bit private storage in use by IRLM pools.

Field Name: QW0225I_ABPVT

ATB PRIVATE HIGH WATER MARK

The high-water mark of 64-bit private storage allocated by IRLM pools.

Field Name: QW0225I_ABPVH

ATB PRIVATE MAX AVAILABILITY

The threshold of virtual 64-bit private storage available for normal IRLM execution. Only requests for storage by "must complete" tasks will be granted if this threshold is exceeded.

Field Name: QW0225I_APMAX

BTB PRIVATE CURRENT

The total amount of 31-bit private storage currently in use by IRLM pools.

Field Name: QW0225I_BBPVT

BTB PRIVATE HIGH WATER MARK

The high-water mark of 31-bit private storage allocated by IRLM pools.

Field Name: QW0225I_BBPVH

BTB PRIVATE MAX AVAILABILITY

The threshold of 31-bit private storage available for normal IRLM execution. Only requests for storage by "must complete" tasks will be granted if this threshold is exceeded.

Field Name: QW0225I_BPMAX

ECSA CURRENT

The total amount of Extended Common Service Area (ECSA) storage in use by IRLM pools.

Field Name: QW0225I_BBECSA

ECSA HIGH WATER MARK

The high-water mark of ECSA storage allocated by IRLM pools.

Field Name: QW0225I_BBECSAH

IFCID 225 - Statement Cache / XPROC Detail

This topic shows detailed information about "Record Trace - IFCID 225 - Statement Cache / XPROC Detail".

Record trace - IFCID 225 - Statement Cache / XPROC Detail

The field labels shown in the following sample layout of "Record Trace - IFCID 225 - Statement Cache / XPROC Detail" are described in the following section.

```
                                        STATEMENT CACHE / xPROC Detail

ALLOCATED STOR FOR DYN SQL STMTS     :                 N/A   REQUESTED STOR FOR DYN SQL STMTS     :                 N/A
ALLOCATED STOR FOR STATIC SQL STMTS  :                 N/A   HWM REQUESTED STOR FOR DYN SQL STMTS :                 N/A
ALLOCATED STOR FOR STMT DEPENDENCIES :               47001

TOTAL 31-BIT XPROC DYNAMIC SQL                :     860160   ALLOCATED 31-BIT XPROC DYNAMIC SQL            :          0
TOTAL 31-BIT XPROC STATIC SQL                 :          0   HWM ALLOCATED 31-BIT XPROC DYNAMIC SQL        :          0

STATEMENTS IN 64-BIT AGENT LOCAL POOLS (ALP)   :          0   HWM STMT COUNT IN 64-BIT ALP AT HIGH STOR TIME :          0

ALLOCATED STMT CACHE IN 64-BIT ALP   :                    0   HWM ALLOCATED STMT CACHE 64-BIT ALP  :                0
TIMESTAMP OF HWM AFTER LAST 225 REC: 12/21/10 09:41:48.731613 TOTAL 64-BIT STMT CACHE BLKS 2G      :          2174976

QW0225F1:                    0                                QW0225F2:                    0
```

ALLOCATED STOR FOR DYN SQL STMTS

The total shareable storage allocated for dynamic SQL statements used by active threads.

Field Name: QW0225SC8

REQUESTED STOR FOR DYN SQL STMTS

The total shareable storage requested for dynamic SQL statements used by active threads.

Field Name: QW0225LS8

ALLOCATED STOR FOR STATIC SQL STMTS

The total shareable storage allocated for static SQL statements.

Field Name: QW0225SX8

HWM REQUESTED STOR FOR DYN SQL STMTS

A statistics interval high-water mark of requested shareable storage for dynamic SQL statements used by active threads.

Field Name: QW0225HS8

ALLOCATED STOR FOR STMT DEPENDENCIES

The amount of storage allocated above the 2 GB bar to support object dependencies on statements that are in the Dynamic Statement Cache.

Field Name: QW0225DMH

TOTAL 31-BIT XPROC DYNAMIC SQL

The amount of storage allocated for the local cache storage pool below the bar.

Note: For DB2 10, the storage is allocated for executable code sequences of dynamic SQL statements.

Field Name: QW0225SC

ALLOCATED 31-BIT XPROC DYNAMIC SQL

The amount of storage used for thread copies in the local cache storage pool below the bar. This is a subset of the total allocated storage for thread copies QW0225SC.

Note: For DB2 10, the storage is used for executable code sequences of dynamic SQL statements.

Field Name: QW0225LS

TOTAL 31-BIT XPROC STATIC SQL

The amount of storage allocated below the bar for executable code sequences of static SQL statements.

Field Name: QW0225SX

HWM ALLOCATED 31-BIT XPROC DYNAMIC SQL

A statistics interval high-water mark of allocated storage for thread copies in the local cache storage pool below the bar.

Note: For DB2 10, the high water mark is related to executable code sequences of dynamic SQL statements.

Field Name: QW0225HS

STATEMENTS IN 64-BIT AGENT LOCAL POOLS (ALP)

The number of dynamic SQL local cache statements used by active threads. This value is related to shared agent local variable pools above the bar.

Field Name: QW0225LC

HWM STMT COUNT IN 64-BIT ALP AT HIGH STOR TIME

The number of dynamic SQL local cache statements used by active threads at high storage time. This value is related to shared agent local variable pools above the bar.

Field Name: QW0225HC

ALLOCATED STMT CACHE IN 64-BIT ALP

The total non-shareable storage requested for dynamic SQL statements used by active threads. This value is related to shared agent local variable pools above the bar.

Field Name: QW0225L2

HWM ALLOCATED STMT CACHE 64-BIT ALP

This value is related to shared agent local variable pools above the bar.

Field Name: QW0225H2

TIMESTAMP OF HWM AFTER LAST 225 REC

The timestamp at high-water storage.

Field Name: QW0225HT

TOTAL 64-BIT STMT CACHE BLKS 2G

The total statement cache storage blocks above the bar (64-bit shared variable pool).

Field Name: QW0225S2

QW0225F1

This field is for IBM service.

Field Name: QW0225F1

QW0225F2

This field is for IBM service.

Field Name: QW0225F2

IFCID 225 - Shared/Common Storage Summary

This topic shows detailed information about "Record Trace - IFCID 225 - Shared/Common Storage Summary".

Record Trace - IFCID 225 - Shared/Common Storage Summary

The field labels shown in the following sample layout of "Record Trace - IFCID 225 - Shared/Common Storage Summary" are described in the following section.

```
                                          SHARED/COMMON STORAGE SUMMARY

31-BIT COMMON FIXED POOL STORAGE     :             1060864   31-BIT COMMON VARIABLE POOL STORAGE  :
684032
31-BIT COMMON GETMAINED STORAGE      :               96501   EXTENDED CSA SIZE                    :
315187200

64-BIT COMMON FIXED POOL STORAGE     :             2629632   64-BIT COMMON VARIABLE POOL STORAGE  :
71323648
64-BIT COMMON GETMAINED STORAGE      :              200512   64-BIT COMMON STORAGE-STOR MGR CTRL  :
1400832

64-BIT SHARED VARIABLE POOL STORAGE  :            29487104   64-BIT SHARED FIXED POOL STORAGE     :
3067904
64-BIT SHARED GETMAINED STORAGE      :             4958896   64-BIT SHARED STORAGE-STOR MGR CTRL  :
4677632
64-BIT SHARED SYSTEM AGENT STACK (AS):           268435456   64-BIT SHARED SYSTEM AS IN USE       :
75759616
64-BIT SHARED NON-SYSTEM AS          :           805306368   64-BIT SHARED NON-SYSTEM AS IN USE   :
0

SHARED MEMORY OBJECTS                :                12
64-BIT SHARED MEMORY PAGES           :           754974720   HWM FOR 64-BIT SHARED BYTES          :
3092376453120
64-BIT SHARED PAGES BACKED IN REAL   :                4366   AUX SLOTS USED FOR 64-BIT SHARED STOR:
35154
64-BIT PAGES PAGED IN FROM AUX STOR  :              167232   64-BIT PAGES PAGED OUT TO AUX STOR   :
223401

64-BIT SHARED STG REAL 4K FRMS IN USE:                 803   64-BIT SHARED STG 4K AUX SLOTS IN USE:
5678
64-BIT STACK  STG REAL 4K FRMS IN USE:                 200   64-BIT STACK  STG 4K AUX SLOTS IN USE:
3362
64-BIT COMMON STG REAL 4K FRMS IN USE:                 142   64-BIT COMMON STG 4K AUX SLOTS IN USE:
1043

LOG MGR WRITE BUFFER FRAMES IN REAL  :                1010   LOG MANAGER CONTROL FRAMES IN REAL   :
24
LOG MGR WRITE BUFFER FRAMES IN AUX   :                   1   LOG MANAGER CONTROL FRAMES IN AUX    :
0

DISCARD PAGES USED                   :                 YES
HWM 64-BIT SHR STG DISC. PAGES       :                3476
HWM 64-BIT SHR STACK STG DISC. PAGES :                1221
HWM 64-BIT COMMON STG DISC. PAGES    :                2345

QW0225_WARN                          :                   1   QW0225_REALAVAIL                     :
```

```
92796
QW0225_REALAVAILLO                :                1240   QW0225_REALAVAILOK                :
2952
QW0225_ESQAS                      :           146112512   QW0225_ESQA_Alloc                 :
36460240
QW0225_ESQA_HWM                   :            40098656   QW0225_ECSA_Alloc                 :
103727624
QW0225_ECSA_HWM                   :           105048816   QW0225_ECSA_Conv                  :
0
QW0225_RS                         :                   0
QW0225CTGP                        :                 OFF   QW0225DISC                        :
OFF
QW0225LFAREA                      :                 OFF
```

31-BIT COMMON FIXED POOL STORAGE

The amount of storage allocated for 31-bit common fixed pool storage.

Field Name: QW0225FC

31-BIT COMMON VARIABLE POOL STORAGE

The amount of storage allocated for 31-bit common variable pool storage.

Field Name: QW0225VC

31-BIT COMMON GETMAINED STORAGE

The amount of storage allocated for 31-bit common getmained storage.

Field Name: QW0225GC

EXTENDED CSA SIZE

The size of the common storage area (CSA) above the 16 MB line.

Field Name: QW0225EC

64-BIT COMMON FIXED POOL STORAGE

The amount of storage allocated for 64-bit common fixed pool storage.

Field Name: QW0225FCG

64-BIT COMMON VARIABLE POOL STORAGE

The amount of storage allocated for 64-bit common variable pool storage.

Field Name: QW0225VCG

64-BIT COMMON GETMAINED STORAGE

The amount of storage allocated for 64-bit common getmained storage.

Field Name: QW0225GCG

64-BIT COMMON STORAGE-STOR MGR CTRL

The amount of storage allocated for 64-bit common storage for storage manager control structures.

Field Name: QW0225SMC

64-BIT SHARED VARIABLE POOL STORAGE

The amount of virtual shared variable storage above the 2 GB bar.

Field Name: QW0225SV

64-BIT SHARED FIXED POOL STORAGE

The amount of total fixed virtual shared storage above the 2 GB bar.

Field Name: QW0225SF

64-BIT SHARED GETMAINED STORAGE

The amount of virtual shared storage acquired by GETMAIN above the 2 GB bar.

Field Name: QW0225SG

64-BIT SHARED STORAGE-STOR MGR CTRL

The amount of 64-bit shared storage allocated for storage manager control structures.

Field Name: QW0225SMS

64-BIT SHARED SYSTEM AGENT STACK (AS)

The amount of 64-bit shared storage allocated for system agent stack use.

Field Name: QW0225GSG_SYS

64-BIT SHARED SYSTEM AS IN USE

The amount of 64-bit shared system agent stack that is in use.

Field Name: QW0225SUG_SYS

64-BIT SHARED NON-SYSTEM AS

The amount of 64-bit shared storage allocated for non-system agent stack use.

Field Name: QW0225GSG

64-BIT SHARED NON-SYSTEM AS IN USE

The amount of 64-bit shared non-system agent stack that is in use.

Field Name: QW0225SUG

SHARED MEMORY OBJECTS

The number of shared memory objects allocated for this MVS LPAR.

Field Name: QW0225SHRNMOMB

64-BIT SHARED MEMORY PAGES

The number of 64-bit shared memory pages allocated for this MVS LPAR (this count includes hidden pages).

Field Name: QW0225SHRPAGES

HWM FOR 64-BIT SHARED BYTES

High water mark for number of 64-bit shared bytes for this MVS LPAR.

Field Name: QW0225SHRGBYTES

64-BIT SHARED PAGES BACKED IN REAL

The number of 64-bit shared pages backed in real storage (4K pages) for this MVS LPAR.

Field Name: QW0225SHRINREAL

AUX SLOTS USED FOR 64-BIT SHARED STOR

The number of auxiliary slots used for 64-bit shared storage for this MVS LPAR.

Field Name: QW0225SHRAUXSLOTS

64-BIT PAGES PAGED IN FROM AUX STOR

The number of 64-bit shared pages paged in from auxiliary storage for this MVS LPAR.

Field Name: QW0225SHRPAGEINS

64-BIT PAGES PAGED OUT TO AUX STOR

The number of 64-bit shared pages paged out to auxiliary storage for this MVS LPAR.

Field Name: QW0225SHRPAGEOUTS

64-BIT SHARED STG REAL 4K FRMS IN USE

The number of real-storage frames (4K) in use for 64-bit shared storage. This does not include shared stack storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225SHRSTG_REAL

64-BIT SHARED STG 4K AUX SLOTS IN USE

The number of auxiliary slots (4K) in use for 64-bit shared storage. This does not include shared stack storage. This is recorded at the subsystem level. This field only includes auxiliary slots occupied by pages that are paged out.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225SHRSTG_AUX

64-BIT STACK STG REAL 4K FRMS IN USE

The number of real-storage frames (4K) in use for 64-bit shared stack storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225SHRSTKSTG_REAL

64-BIT STACK STG 4K AUX SLOTS IN USE

The number of auxiliary slots (4K) in use for 64-bit shared stack storage. This is recorded at the subsystem level. This field only includes auxiliary slots occupied by pages that are paged out.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225SHRSTKSTG_AUX

64-BIT COMMON STG REAL 4K FRMS IN USE

The number of real-storage frames (4K) in use for 64-bit common storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225COMSTG_REAL

64-BIT COMMON STG 4K AUX SLOTS IN USE

The number of auxiliary slots (4K) in use for 64-bit common storage. This is recorded at the subsystem level. This field only includes auxiliary slots occupied by pages that are paged out.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: QW0225COMSTG_AUX

LOG MGR WRITE BUFFER FRAMES IN REAL

The number of real-storage frames (4K) in the 64-bit common area in use for Log Manager write buffers.

Field Name: QW0225_LMWRITE_REAL

LOG MANAGER CONTROL FRAMES IN REAL

The number of real-storage frames (4K) in the 64-bit common area in use for Log Manager control blocks.

Field Name: QW0225_LMCTRL_REAL

LOG MGR WRITE BUFFER FRAMES IN AUX

The number of auxiliary slots (4K) in the 64-bit common area in use for Log Manager write buffers.

Field Name: QW0225_LMWRITE_AUX

LOG MANAGER CONTROL FRAMES IN AUX

The Number of auxiliary slots (4K) in the 64-bit common area in use for Log Manager control blocks.

Field Name: QW0225_LMCTRL_AUX

DISCARD PAGES USED

Flag which indicates that this record contains return values for the following fields: QW0225ShrStkstg_dpage, QW0225PriStg_dpage, QW0225ShrStg_dpage, QW0225ComStg_dpage.

Field Name: Q225DPGS

HWM 64-BIT SHR STG DISC. PAGES

High water mark value showing number of shared discarded pages eligible for page steal. If QW0225DPGS is set to NO this field be zero. .

Field Name: QW0225ShrStg_dpage

HWM 64-BIT SHR STACK STG DISC. PAGES

High water mark value showing number of shared stack discarded pages eligible for page steal. If QW0225DPGS is set to NO this field be zero.

Field Name: QW0225ShrStkstg_dpage

HWM 64-BIT COMMON STG DISC. PAGES

High water mark value showing number of high common discarded pages eligible for page steal. If QW0225DPGS is set to NO this field be zero.

Field Name: QW0225ComStg_dpage

QW0225_ECSA_CONV

This field is for IBM service.

Field Name: QW0225_ECSA_CONV

QW0225LFAREA

This field is for IBM service (DB2 Field: QW0225LFAREA).

Field Name: QW0225LFAREA

QW0225_RS

This field is for IBM service (DB2 field: QW0225_RS).

Field Name: QW0225_RS

IFCID 225 - Storage Pool Details

This topic shows detailed information about "Record Trace - IFCID 225 - Storage Pool Details".

Record trace - IFCID 225 - Storage Pool Details

The field labels shown in the following sample layout of "Record Trace - IFCID 225 - Storage Pool Details" are described in the following section.

```
                                        STORAGE POOL DETAILS

31-BIT DBM1 PRIVATE VARIABLE POOLS:
AGENT LOCAL STORAGE                :             2162688   SYSTEM AGENT STORAGE               :             2109440
BUFFER MANAGER STORAGE BLOCKS      :              651264

64-BIT POOLS:
SHARED AGENT LOCAL (VARIABLE POOL) :            27615232   SHARED SYSTEM AGENT (VARIABLE POOL) :            26210304
RID POOL STORAGE (FIXED POOL)      :                   0   COMPRESSION DICT (DBM1 PRIVATE)     :                   0
ARRAY VARIABLE STORAGE             :                   0
```

AGENT LOCAL STORAGE

The amount of storage allocated for agent-related local storage. This storage is used for operations such as sort.

Background and Tuning Information

Sorting requires a large amount of virtual storage because there can be multiple copies of the data being sorted at a given time.

DB2 Sort uses two kinds of storage pool for various internal control structures and data records, an agent-related local storage pool and a global sort pool. To take advantage of the 64-bit addressability for larger storage pool, some high level sort control structures are kept in agent-related storage below the 2 GB bar, which contain 64-bit pointers to areas in the global sort pool above the 2 GB bar. The sort pool above 2 GB contains sort tree nodes and data buffers.

Field Name: QW0225AL

SYSTEM AGENT STORAGE

Storage used by system agents.

Field Name: QW0225AS

BUFFER MANAGER STORAGE BLOCKS

Storage used for page set control blocks.

Field Name: QW0225BB

SHARED AGENT LOCAL (VARIABLE POOL)

The amount of storage allocated for agent-related 64-bit local storage (DB2 field: QW0225ALG).

Field Name: QW0225ALG

SHARED SYSTEM AGENT (VARIABLE POOL)

The amount of 64-bit storage used by system agents (DB2 field: QW0225ASG).

Field Name: QW0225ASG

RID POOL STORAGE (FIXED POOL)

Storage for RID list processing such as list prefetch, index ANDing, and ORing.

Field Name: QW0225RP

COMPRESSION DICT (DBM1 PRIVATE)

Storage space allocated for the compression dictionary.

Field Name: QW0225CD

ARRAY VARIABLE STORAGE

The amount of storage in use for array variables.

Field Name: QW0225AR

IFCID 225 - Thread Information

This topic shows detailed information about "Record Trace - IFCID 225 - Thread Information".

Record trace - IFCID 225 - Thread Information

The field labels shown in the following sample layout of "Record Trace - IFCID 225 - Thread Information" are described in the following section.

```
THREAD INFORMATION

ACTIVE THREADS                          :         2    ACTIVE AND DISCONNECTED DBATS          :         0
CASTOUT ENGINES                         :         0    DEFERRED WRITE ENGINES                 :        16
GBP WRITE ENGINES                       :         0    PREFETCH ENGINES                       :        23
P-LOCK/NOTIFY EXIT ENGINES              :         0    PARALLEL CHILD THREADS                 :        22
```

ACTIVE THREADS

The number of active allied threads.

Field Name: QW0225AT

ACTIVE AND DISCONNECTED DBATS

The number of active and disconnected DBAT threads.

Field Name: QW0225DB

CASTOUT ENGINES

Number of engines available for data-sharing castout processing.

Field Name: QW0225CE

DEFERRED WRITE ENGINES

Number of engines used for deferred write operations.

Field Name: QW0225DW

GBP WRITE ENGINES

Number of engines for group buffer pool writes.

Field Name: QW0225GW

PREFETCH ENGINES

Number of engines used for sequential, list, and dynamic prefetch.

Field Name: QW0225PF

P-LOCK/NOTIFY EXIT ENGINES

Number of data sharing P-Lock engines and Notify Exit engines.

Field Name: QW0225PL

PARALLEL CHILD THREADS

The number of active parallel child threads.

Field Name: QW0225PT

IFCID 226 - Page Latch Contention Start

This topic shows detailed information about "Record Trace - IFCID 226 - Page Latch Contention Start".

This IFCID records the beginning of an agent suspend to wait for a page latch that is currently held by another agent.

Record trace - IFCID 226 - Page Latch Contention Start

The field labels shown in the following sample layout of "Record Trace - IFCID 226 - Page Latch Contention Start" are described in the following section.

```
DBID: DSNDB07   PSID: DSN4K00
PAGE NUMBER: X'000001'    LATCH TYPE:  X
PARTITION:      0       PAGE NUMBERING: ABS
TABLE_SPACE_TYPE: N
BUFFERPOOL ID:    7     ACE TOKEN   1
```

DBID

The database ID. Deduced from the DB2 fields QW0226DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0226DB is shown or N/A when this value is 0.

Field Name: RT0226DB

PSID

The page set object identifier. When present, this is the page set object name, otherwise the decimal identifier from QW0226OB is shown.

Field Name: RT0226OB

PAGE NUMBER

The number of the page being read or written. If the value in TABLE_SPACE_TYPE is L or V, the page number covers 4 bytes instead of 3.

Field Name: QW0226PN

LATCH TYPE

The type of latch.

Field Name: QW0226F

PARTITION

Shows the partition number or 0 if non-partitioned.

Field Name: QW0226PT

PAGE NUMBERING

Indicates how page numbers are shown for partitioned tables:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0226P1

TABLE SPACE TYPE

The type of the table space:

L
Non-EA large table

N
Non-large table

R
Partitioned by range (PBR) universal table spaces (UTS) that use relative page numbers

V
EA-enabled large table

Field Name: QW0226FG

BUFFERPOOL ID

The buffer pool internal identifier. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0226BP

ACE TOKEN

The agent control element token of the requester.

Field Name: QW0226AC

IFCID 227 - Page Latch Contention End

This topic shows detailed information about "Record Trace - IFCID 227 - Page Latch Contention End".

This IFCID records the end of an agent suspend wait for a page latch that was currently held by another agent.

Record trace - IFCID 227 - Page Latch Contention End

The field labels shown in the following sample layout of "Record Trace - IFCID 227 - Page Latch Contention End" are described in the following section.

```
DBID: DSNDB07   PSID: DSN4K00
PAGE NUMBER: X'000001'    CANCEL STATUS:  N
PARTITION:      1       PAGE NUMBERING: ABS
ACE TOKEN:   1         TABLE_SPACE_TYPE:  N
```

DBID

The database ID. Deduced from the DB2 fields QW0227DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0227DB is shown or N/A when this value is0.

Field Name: RT0227DB

PSID

The page set object identifier. When present this is the page set object name, otherwise it is the decimal identifier from QW0227OB.

Field Name: RT0227OB

PAGE NUMBER

The number of the page being read or written. If the value in TABLE_SPACE_TYPE is L or V, the page number covers 4 bytes instead of 3.

Field Name: QW0227PN

CANCEL STATUS

Indicates whether the latch requester was canceled.

Field Name: QW0227F

PARTITION

Shows the partition number or 0 if non-partitioned.

Field Name: QW0227PT

PAGE NUMBERING

Indicates how page numbers are shown for partitioned tables:

REL
Indicates that relative page numbers are shown in the partition.

ABS
Indicates that absolute page numbers are shown in the partition.

N/A
Not applicable.

Field Name: QW0227P1

ACE TOKEN

The agent control element token of the requester.

Field Name: QW0227AC

TABLE SPACE TYPE

The type of the table space:

L
Non-EA large table

N
Non-large table

V
EA-enabled large table

Field Name: QW0227FG

IFCID 228 - Archive Deallocation Start

This topic shows detailed information about "Record Trace - IFCID 228 - Archive Deallocation Start".

Record trace - IFCID 228 - Archive Deallocation Start

The field labels shown in the following sample layout of "Record Trace - IFCID 228 - Archive Deallocation Start" are described in the following section.

```
QW0228DV          1   QW0228DI  X'C6D9C5C4F1404040'
```

IFCID 229 - Archive Deallocation End

This topic shows detailed information about "Record Trace - IFCID 229 - Archive Deallocation End".

Record trace - IFCID 229 - Archive Deallocation End

The field labels shown in the following sample layout of "Record Trace - IFCID 229 - Archive Deallocation End" are described in the following section.

```
QW0229DV          1   QW0229CC  'BLANK'
```

IFCID 230 - Group Buffer Pool Attributes

This topic shows detailed information about "Record Trace - IFCID 230 - Group Buffer Pool Attributes".

Each repeating section contains information about each group buffer pool to which this DB2 data sharing member is currently connected.

Record trace - IFCID 230 - Group Buffer Pool Attributes

The field labels shown in the following sample layout of "Record Trace - IFCID 230 - Group Buffer Pool Attributes" are described in the following section.

```
GROUP BUFFERPOOL ID      :          0  ERROR FLAGS                 :      X'00'
ALLOCATED GBPOOL SIZE (4K):       768  CURRENT DIR TO DATA RATIO    :         5  CLASS CASTOUT THRESH (%)  :         10
ACTUAL # OF DIR ENTRIES  :      1414  PENDING DIR TO DATA RATIO    :         5  CLASS CASTOUT THRESH (PGS):          0
ACTUAL # OF DATA ENTRIES :       282  GBP CHECKPOINT INTERVAL (MIN):         5  GBP CASTOUT THRESH (%)    :         50
DIRECTORY-ENTRY-RECLAIM  :          0  DATA-ENTRY-RECLAIM           :      7054  AUTOREC                   :         NO
TOTAL-CHANGED            :         54  XI-DIRECTORY-ENTRY-RECLAIM   :         0  GBP CACHE                 :        YES
MODE                     :    SIMPLEX
SEC-GBP ALLOC            :        N/A  SEC-GBP ALLOC DIRECTORIES    :       N/A  SEC-GBP DATA ENTRIES      :        N/A

QBGBERC                  :          0  QBGBERS                      :         0
```

GROUP BUFFERPOOL ID

Group buffer pool name.

Field Name: QBGBGN

ERROR FLAGS

Indicates whether errors occurred during data collection:

X'00'
There were no errors.

X'01'
An error occurred when the group buffer pool attributes were read from the SCA.

X'02'
An addressing error occurred when the DB2 control blocks were accessed. The data collection process did not obtain serialization.

Field Name: QBGBFLGS

ALLOCATED GBPOOL SIZE (4K)

The allocated size of the group buffer pool in 4 KB blocks.

Field Name: QBGBGSZ

CURRENT DIR TO DATA RATIO

The current directory entry to data entry ratio.

For ALTER GROUPBUFFERPOOL commands, this field reports the value specified in the RATIO keyword.

Field Name: QBGBGR1

CLASS CASTOUT THRESH (%)

The threshold at which the class castout is to be initiated. It is expressed as a percentage of the size of the group buffer pool.

For ALTER GROUPBUFFERPOOL commands, it reports the value specified in the CLASST keyword.

Field Name: QBGBGCT

ACTUAL # OF DIR ENTRIES

The actual number of allocated directory entries.

Field Name: QBGBGDR

PENDING DIR TO DATA RATIO

The pending directory entry to data entry ratio.

Field Name: QBGBGR2

CLASS CASTOUT THRESH (PGS)

The threshold at which the castout is to be initiated for the group buffer pool. It is expressed as a percentage of the size of the group buffer pool.

For ALTER GROUPBUFFERPOOL commands, it reports the value specified in the GBPOOLT keyword.

Field Name: QBGBGGT

ACTUAL # OF DATA ENTRIES

The actual number of allocated data entries.

Field Name: QBGBGDT

GBP CHECKPOINT INTERVAL (MIN)

The time interval, in minutes, between successive group buffer pool checkpoints.

For ALTER GROUPBUFFERPOOL commands, it reports the value specified in the GBPCHKPT keyword.

Field Name: QBGBGCK

GBP CASTOUT THRESH (%)

The threshold at which the castout is to be initiated for the group buffer pool. It is expressed as a percentage of the size of the group buffer pool.

For ALTER GROUPBUFFERPOOL commands, it reports the value specified in the GBPOOLT keyword.

Field Name: QBGBGGT

DIRECTORY-ENTRY-RECLAIM

The number of times that a page name assignment required that a coupling facility directory entry be reclaimed (stolen).

Field Name: QBGBDRR

DATA-ENTRY-RECLAIM

The number of times that a page name assignment required that a coupling facility data entry be reclaimed (stolen).

Field Name: QBGBDTR

AUTOREC

Indicates whether automatic recovery takes place in the event of a structure failure or a loss of connectivity. When automatic recovery is active, all members of the group are recovered to the group buffer pool.

Field Name: QBGBGAS

TOTAL-CHANGED

The number of allocated data entries that are currently in **changed** state. This is a **snapshot** value and is not cumulative.

Field Name: QBGBTCC

XI-DIRECTORY-ENTRY-RECLAIM

The number of times that a directory entry was stolen and one or more XI signals had to be sent because the page in the directory was cached in one or more DB2 buffer pools.

Field Name: QBGBRXI

GBP CACHE

GBP cache attribute. Possible values are:

YES
GBP is used for both data caching and cross-invalidation.

NO
GBP is used for cross-invalidation only.

Field Name: QBGBGCS

MODE

Simplex or duplex mode indicator.

Field Name: QBGBDUP

SEC-GBP ALLOC

The allocated size of the secondary GBP when the GBP is DUPLEX.

This field is not shown when MODE is SIMPLEX.

Field Name: QBGBGSZ2

SEC-GBP ALLOC DIRECTORIES

Number of allocated directory entries in the secondary GBP when MODE is DUPLEX.

Field Name: QBGBGDR2

SEC-GBP DATA ENTRIES

The allocated data entries in the secondary GBP when MODE is DUPLEX.

Field Name: QBGBGDT2

IFCID 231 - Parallel Group Task Time

This topic shows detailed information about "Record Trace - IFCID 231 - Parallel Group Task Time".

Place text here

Record trace - IFCID 231 - Parallel Group Task Time

The field labels shown in the following sample layout of "Record Trace - IFCID 231 - Parallel Group Task Time" are described in the following section.

```
STATEMENT NO:       1224  QUERY BLOCK NO:     1  PARALLEL GROUP NO:     1  REPEAT.GRPS:     2    RECORD     1 OF     1
GROUP CREATION: 09/24/08 12:40:57.760418  GROUP TERMINATION: 09/24/08 12:42:11.261163  GROUP ELAPSED:      1:13.500745
QW0231NG           1   QW0231NT          30
.....................................................................................................................
TASK SEQ. NUMBER:          1              TASK TOKEN  : X'6B9C08D0'
TASK CREATION    : 09/24/08 12:40:57.763105  TASK ELAPSED:      1:08.763455
TASK TERMINATION: 09/24/08 12:42:06.526560  CPU TIME    :        38.214432
MEMBER           : Q42Q                     CPU SU CONS :      32074          QW0231AC   311849464
TASK SEQ. NUMBER:          2              TASK TOKEN  : X'6B9C57A0'
TASK CREATION    : 09/24/08 12:40:57.765344  TASK ELAPSED:      1:08.529116
TASK TERMINATION: 09/24/08 12:42:06.294460  CPU TIME    :        37.548378
MEMBER           : Q42Q                     CPU SU CONS :      31515          QW0231AC   311862600
```

STATEMENT NO

The statement number. If the PLAN_TABLE exists, this is the same as QUERYNO in the PLAN_TABLE.

Field Name: QW0231SN

QUERY BLOCK NO

The query block number. If the PLAN_TABLE exists, this is the same as QBLOCKNO in the PLAN_TABLE.

Field Name: QW0231QN

PARALLEL GROUP NO

The parallel group number. If the PLAN_TABLE exists, this is the same as ACCESS_PGROUP_ID in the PLAN_TABLE.

Field Name: QW0231GN

REPEAT.GRPS

The number of repeat groups in the section.

Field Name: QW0231RN

RECORD

The position of this record in the series of IFCID 222 records.

Field Name: QW0231TR

OF

The total number of IFCID 231 records in this series.

Field Name: QW0231NR

GROUP CREATION

The time of group creation in DB2 timestamp format.

Field Name: QW0231CT

GROUP TERMINATION

The time of group termination in DB2 timestamp format.

Field Name: QW0231ET

GROUP ELAPSED

The elapsed time between group creation and group termination in DB2 timestamp format.

Field Name: RT0231GE

TASK SEQ. NUMBER

The task sequence number.

Field Name: QW0231TQ

TASK TOKEN

The task token.

Field Name: QW0231TK

TASK CREATION

The time of task creation in DB2 timestamp format.

Field Name: QW0231TC

TASK ELAPSED

The elapsed time between task creation and task termination in DB2 timestamp format. If this value is negative, N/C is printed.

Field Name: RT0231EL

TASK TERMINATION

The time of task termination in DB2 timestamp format.

Field Name: QW0231TT

CPU TIME

Task CPU execution time.

Field Name: QW0231TX

MEMBER

The name of the DB2 member on which the task was executed.

Field Name: QW0231TM

CPU SU CONS

The CPU service units that the task consumed.

Field Name: QW0231SU

IFCID 233 - Call User Routine

This topic shows detailed information about "Record Trace - IFCID 233 - Call User Routine".

IFCID 233 signals the start or end of a call to a user routine (stored procedure or user-defined function) at a DB2 server.

This record is written when performance trace class 3 is active. MONITOR1 PRIVILEGE is required for reading via IFI.

This record traces the caller's information.

Record trace - IFCID 233 - Call User Routine

The field labels shown in the following sample layout of "Record Trace - IFCID 233 - Call User Routine" are described in the following section.

```
LOCATION NAME: PMODA11
COLLECTION ID: NULLID
PROGRAM NAME : SYSSTAT
SCHEMA NAME  : MTS
ROUTINE NAME : SP_UDF_NESTED
VERSION NAME : V1
ROUTINE TYPE : PROCEDURE
CONSISTENCY TOKEN: X'5359534C564C3031'  ENTRY/EXIT TYPE:  ENTERING
NESTING LEVEL:          0

STATEMENT NO :                   1    TYPE         : STATIC                  ROUTINE ID   : X'0000000080000455'
STATEMENT ID :               255762    CONV INTO HEX: X'000000000003E712'
```

LOCATION NAME

The location name.

Field Name: QW0233LN

COLLECTION ID

The package collection identifier.

Field Name: QW0233PC

PROGRAM NAME

The program name.

Field Name: QW0233PN

SCHEMA NAME

The name of the schema associated with this routine.

Field Name: QW0233SC

ROUTINE NAME

The specific name of the routine.

Field Name: QW0233PR

VERSION NAME

The name of the version.

Field Name: QW0233VER

ROUTINE TYPE

The routine type can have the following values:

PROCEDURE
The routine is a stored procedure

FUNCTION
The routine is a User-Defined Function

Field Name: QW0233TY

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0233TS

ENTRY/EXIT TYPE

The entry or exit event type can have the following values:

ENTERING
The agent is entering a routine.

RETURNED
The agent has returned from a routine.

Field Name: QW0233EX

NESTING LEVEL

The nesting level of the routine.

Field Name: QW0233NL

STATEMENT NO

The statement number of the statement executed.

Field Name: QW0233SN

TYPE

The statement type. Possible values are DYNAMIC or STATIC.

Field Name: QW0233STY

ROUTINE ID

The routine identifier.

Field Name: QW0233RID

STATEMENT ID

The unique identifier of the currently executing statement. It is shown as an integer and in hexadecimal format.

Field Name: QW0233SID

CONV INTO HEX

The unique identifier of the currently executing statement. It is shown as an integer and in hexadecimal format.

Field Name: QW0233SID

IFCID 234 - Calling Agent Auth IDs

This topic shows detailed information about "Record Trace - IFCID 234 - Calling Agent Auth IDs".

This IFCID returns the authorization ID information for the calling agent.

Record trace - IFCID 234 - Calling Agent Auth IDs

The field labels shown in the following sample layout of "Record Trace - IFCID 234 - Calling Agent Auth IDs" are described in the following section.

```
PRIM AUTHID:  USERID01
SQL  AUTHID:  SQLAUTHID01
SEC  AUTHID:  SQLAUTHID02
SEC  AUTHID:  SQLAUTHID03
```

PRIM AUTHID

The primary authorization ID.

Field Name: QW0234PN

SQL AUTHID

The SQL authorization ID.

Field Name: QW0234AN

SEC AUTHID

The secondary authorization ID.

Field Name: QW0234SN

IFCID 236 - DDF SNA XLN Protocol Error

This topic shows detailed information about "Record Trace - IFCID 236 - DDF SNA XLN Protocol Error".

Record trace - IFCID 236 - DDF SNA XLN Protocol Error

The field labels shown in the following sample layout of "Record Trace - IFCID 236 - DDF SNA XLN Protocol Error" are described in the following section.

```
REMOTE LOCATION: LOCATIONNAME0001
LAST OPERATION : SEND
LAST MESSAGE:
SENT  : LASTMESSAGESENT000000000000000000000000000000000AXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXBXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXCXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXEXXXXXXXXXXXXXXZ
RCVD  : LASTMESSAGERECEIVED000000000000000000000000000000000AXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXBXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXCXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXDXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXEXXXXXXXXXXXXXXZ
VTAM RPL: VTAMRPLSENT000000000000000000000000000000000000XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXZ
EXT   : VTAMRPLEXTENSION000000000000000000000000000000000XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXZ
```

REMOTE LOCATION

The location name or LU name of the remote partner involved in the protocol error.

Field Name: QW0236LO

LAST OPERATION

Indicates whether the last network operation was a send or receive.

Field Name: QW0236SR

SENT

The last message sent by this DB2 site during the XLN exchange.

Field Name: QW0236MS

RCVD

The last message received by this DB2 site during the XLN exchange.

Field Name: QW0236MR

VTAM RPL

The VTAM RPL associated with the last XLN message received during the exchange log names (XLN).

Field Name: QW0236VR

EXT

The VTAM RPL extension which describes the LU 6.2 verb indicators for the last message received.

Field Name: QW0236VX

IFCID 237 - Set Current Degree

This topic shows detailed information about "Record Trace - IFCID 237 - Set Current Degree".

This record is generated when an SQL SET CURRENT DEGREE statement is executed.

Record trace - IFCID 237 - Set Current Degree

The field labels shown in the following sample layout of "Record Trace - IFCID 237 - Set Current Degree" are described in the following section.

```
PREV DEGREE: 1    NEW DEGREE: ANY  STATUS: SUCCESSFUL
```

PREV DEGREE

The previous (current) degree.

Field Name: QW0237OI

NEW DEGREE

The new (attempted) degree.

Field Name: QW0237NI

STATUS

The status of the statement.

Field Name: QW0237ST

IFCID 238 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 238 - IBM Service Record".

This record is for IBM service use.

IFCID 239 - Overflow Package/DBRM

This topic shows the data available for IFCID 239.

IFCID 239 - Buffer Manager Accounting Data

This topic shows detailed information about "Record Trace - IFCID 239 - Buffer Manager Accounting Data".

Record trace - IFCID 239 - Buffer Manager Accounting Data

The field labels shown in the following sample layout of "Record Trace - IFCID 239 - Buffer Manager Accounting Data" are described in the following section.

```
                                        BUFFER MANAGER ACCOUNTING DATA
BUFFER POOL ID                     0  SYNCHRON. READ                     261
GETPAGES                       31016  SEQ. PREFETCH                     1913
GETPAGES FAILED                    0  LIST PREFETCH                        0
BUFFER UPDATES                     0  DYNAMIC PREFETCH                     0
SYNCHRON.WRITE                     0  PAGES READ ASYN-PAR              26991
ZHYPERLINK READ                    0  ZHYPERLINK CPU TIME                  0
DASD CACHE READ HITS               0
```

BUFFER POOL ID

The buffer pool ID used by this thread.

Field Name: QBACPID

SYNCHRON. READ

The number of synchronous read I/O operations. DB2 increments this counter for each media manager synchronous physical read. Asynchronous I/O requests are not counted.

Field Name: QBACRIO

GETPAGES

The number of Getpage requests. This counter is incremented by successful Getpage requests for queries processed in parallel for each thread and for all successful and unsuccessful Getpage requests for queries that are not processed in parallel.

Background and Tuning Information

Reducing the number of Getpages can improve DB2 performance by reducing the number of synchronous page reads. With fewer Getpages, the requested page is more likely to be returned from the buffer pool. CPU usage is also reduced.

Check the ratio of Getpages to SQL DML statements, as a rule of thumb, try and keep this ratio below six for a typical online transaction SQL.

You might need to modify the database and query design, for example:

- Add indexes to tables to reduce the number of pages scanned.
- Reassess the number of tables used and denormalize them, if necessary.

  As an example, a large table with many columns can result in several pages being fetched to satisfy a simple query requesting just a few columns. Splitting such a table into several tables with fewer columns, tailored to queries, will result in fewer pages returned for each query.
- Use correlated rather than non-correlated queries to force the use of an index.

Field Name: QBACGET

This is an *exception* field.

SEQ. PREFETCH

The number of SEQUENTIAL PREFETCH requests. This is incremented for each PREFETCH request. Each request can result in an I/O read. If it does, up to 64 pages can be read for SQL and up to 128 pages for utilities. For SQL, depending on the buffer pool size, a request does not result in an I/O if all the requested pages are already in the buffer pool.

DB2 can use sequential prefetch if the data is accessed in sequential order even though sequential prefetch was not requested at bind time. This is known as sequential detection and is not included in the sequential prefetch count. Sequential detection is included in dynamic prefetch requests field.

Background and Tuning Information

Table space scans and nonmatching index scans generally use sequential prefetch.

Field Name: QBACSEQ

This is an *exception* field.

GETPAGES FAILED

The number of times that a page requested for a query processed in parallel was unavailable because an I/O was in progress or the page was not found in the buffer pool. The agent does not wait, but control returns to the agent.

This counter is used only when queries are processed in parallel.

Background and Tuning Information

If this value is close to zero, most pages are already in the buffer pool, and wait time for synchronous I/O is small.

This counter can be high when, for example, there is a cluster index scan and the data is not truly clustered by the index key. In this instance, data pages are not accessed in their true order and the cluster ratio is not valid. Use the Runstats utility to update it.

The value of this field is also used to determine how many sequential prefetches of one page were scheduled.

Field Name: QBACNGT

LIST PREFETCH

The number of LIST PREFETCH requests.

Special Considerations:

1. List prefetch allows DB2 to access data pages efficiently even if the needed data pages are not contiguous. It can be used with single index access and is always used with multiple index access.
2. List prefetch is always used to access data from the inner table during a hybrid join.
3. Data pages are read in quantities equal to the sequential prefetch quantity, which depends on the buffer pool size and is usually 64 pages.
4. During bind time DB2 does not use list prefetch if the estimated number of RIDs to be processed would take more than 50% of the RID pool. During execution time, list prefetch processing terminates if DB2 detects that more than 25% of the rows in the table need to be accessed. If list prefetch is terminated, it is indicated in IFCID 125.

Field Name: QBACLPF

This is an *exception* field.

BUFFER UPDATES

The number of times a buffer update occurs. This is incremented every time a page is updated and is ready to be written to DASD. If the same page is updated twice, for example, the number is incremented by 2.

This number is kept for all types of pages including data pages and work-file pages.

Background and Tuning Information

A nonzero value indicates any of the following activities:

- SQL INSERT, UPDATE, or DELETE
- Merge scan join
- Internal sort activity on the work files

Check the access path to determine whether sort activity can be minimized or avoided.

Field Name: QBACSWS

This is an *exception* field.

DYNAMIC PREFETCH

The number of (dynamic) PREFETCH requests. This is triggered by sequential detection. This includes prefetches for segmented table spaces.

Background and Tuning Information

Dynamic prefetch is typically used for a SELECT or UPDATE that is run repeatedly, accessing the index for each access.

If sequential prefetch, list prefetch, and dynamic prefetch reads have large values, check whether the access path can be improved.

Field Name: QBACDPF

This is an *exception* field.

SYNCHRON.WRITE

The number of immediate (synchronous) write I/O operations.

Background and Tuning Information

Although an immediate write is rare, a small nonzero value is acceptable. A large value indicates that the system needs tuning.

Field Name: QBACIMW

This is an *exception* field.

PAGES READ ASYN-PAR

The number of asynchronous pages read by prefetch that the agent triggered.

Background and Tuning Information

This is used to determine the buffer pool hit ratio: (Getpage requests - Synchronous reads - Asynchronous pages read) / Getpage requests.

Field Name: QBACSIO

This is an *exception* field.

ZHYPERLINK CPU TIME

The amount of CPU time used for successful zHyperLink reads. zHyperLink I/O is synchronous with respect to the CPU, thus CPU time accumulates from the beginning of the I/O until it completes.

Field Name: QBACSYIT

ZHYPERLINK READ

The number of DASD reads done using zHyperLink.

Field Name: QBACSYI

DASD CACHE READ HITS

The number of I/Os where the requested pages were found in the DASD subsystem cache. These I/Os could have potentially been successful if zHyperLink was used to do the I/O.

Field Name: QBACIOC

IFCID 239 - General Package Overflow Accounting Data

This topic shows detailed information about "Record Trace - IFCID 239 - General Package Overflow Accounting Data".

Record trace - IFCID 239 - General Package Overflow Accounting Data

The field labels shown in the following sample layout of "Record Trace - IFCID 239 - General Package Overflow Accounting Data" are described in the following section.

```
GENERAL PACKAGE OVERFLOW ACCOUNTING DATA
NUMBER OF PACKAGES     1          FIRST SECTION     2         LAST SECTION     3
```

NUMBER OF PACKAGES

The number of packages.

Field Name: QPKGPKGN

FIRST SECTION

The number of the first section in this record.

Field Name: QPKGPKNF

LAST SECTION

The number of the last section in this record.

Field Name: QPKGPKNL

IFCID 239 - Locking Data

This topic shows detailed information about "Record Trace - IFCID 239 - Locking Data".

Record trace - IFCID 239 - Locking Data

The field labels shown in the following sample layout of "Record Trace - IFCID 239 - Locking Data" are described in the following section.

```
                                        LOCKING DATA
DEADLOCKS                 1  LOCK REQUEST          12  LOCK SUSPENSIONS            2  CLAIM REQUESTS              17
TIMEOUTS                  3  UNLOCK REQUEST        13  IRLM LATCH SUSPENS.        11  CLAIM REQ. FAILED           18
ESCALATIONS(SHR)          4  QUERY REQUEST         14  OTHER SUSPENSIONS           8  DRAIN REQUESTS              19
ESCALATIONS(EXC)          5  CHANGE REQUEST        15                                 DRAIN REQ. FAILED           20
MAXIMUM PAGE/ROW LOCKS HELD                        6  OTHER REQUEST              16
```

DEADLOCKS

The number of times deadlocks were detected. This number should be low, ideally 0.

Background and Tuning Information

Deadlocks occur when two or more application processes each hold locks on resources that the others need, without which they cannot proceed. Ensure that all applications accessing the same tables access them in the same order.

To improve concurrency:

- Use row level locking instead of page level locking to minimize deadlocks.
- For small tables use page level locking with MAXROWS 1.

To minimize deadlocks:

- Delay updates to just before commit.
- Use SELECT with the FOR UPDATE clause to use U lock.
- Adjust the deadlock detection cycle parameter DEADLOK in the IRLM procedure.

This field is incremented once for each deadlock encountered. There is no correlation between this field and the deadlock events reported in the Locking report set or the number of IFCID 172 records written. This field reports all deadlocks, regardless of how they were resolved. The locking report and record trace IFCID 172 show only those deadlocks that were resolved by DB2.

Field Name: QTXADEA

This is an *exception* field.

LOCK REQUEST

The number of requests to lock a resource.

Field Name: QTXALOCK

This is an *exception* field.

LOCK SUSPENSIONS

The number of times a lock could not be obtained and the unit of work was suspended.

Background and Tuning Information

This number should be low, ideally 0.

The number of lock suspensions is a function of the lock requests. Lock suspensions (or conflicts) can happen on either LOCK REQUEST or CHANGE REQUEST.

Suspensions are highly dependent on the application and table space locking protocols.

Field Name: QTXASLOC

This is an *exception* field.

CLAIM REQUESTS

The number of claim requests.

Field Name: QTXACLNO

This is an *exception* field.

TIMEOUTS

The number of times a unit of work was suspended for a time exceeding the timeout value. This number should be low, ideally 0.

Field Name: QTXATIM

This is an *exception* field.

UNLOCK REQUEST

The number of requests to unlock a resource.

This value can be less than the number of lock requests because DB2 can release several locks with a single unlock request.

Field Name: QTXAUNLK

IRLM LATCH SUSPENS.

The number of latch suspensions.

Field Name: QTXASLAT

CLAIM REQ. FAILED

The number of unsuccessful claim requests.

Field Name: QTXACLUN

ESCALATIONS(SHR)

The number of times the maximum page locks per table space are exceeded, and the table space lock escalates from a page lock (IS) to a table space lock (S) for this thread. You can specify the number of locks allowed per table space with the LOCKS PER TABLE(SPACE) parameter on the DB2 install panel DSNTIPJ.

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than normal.

Field Name: QTXALES

This is an *exception* field.

QUERY REQUEST

The number of query requests.

Field Name: QTXAQRY

This is an *exception* field.

OTHER SUSPENSIONS

The number of suspensions caused by something other than lock or latch.

Field Name: QTXASOTH

This is an *exception* field.

DRAIN REQUESTS

The number of drain requests.

Field Name: QTXADRNO

This is an *exception* field.

ESCALATIONS(EXC)

The number of times the maximum page locks per table space are exceeded and the table space lock escalates from a page lock (IX) to a table space lock (X).

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than it normally does.

A useful rule of thumb is to compare the number of escalations (shared and exclusive) to the successful escalations (those that did not cause deadlocks and timeouts). If this value, or the number Lock escalations - shared and if the number of timeouts or deadlocks is also not 0, the timeout or deadlock is probably caused by the escalation.

If many escalations cause deadlocks and timeouts, the recommendation is to change the escalation threshold value. Use of ANY is extremely useful to prevent unnecessary and expensive page locks, for example locking all pages in a tablespace.

Lock escalations, shared or exclusive, should not be expected in a transaction environment.

Field Name: QTXALEX

This is an *exception* field.

CHANGE REQUEST

The number of change requests.

Field Name: QTXACHG

This is an *exception* field.

DRAIN REQ. FAILED

The number of unsuccessful drain requests.

Field Name: QTXADRUN

This is an *exception* field.

MAXIMUM PAGE/ROW LOCKS HELD

The maximum number of page or row locks concurrently held against all table spaces by a single application during its execution. This count is a high-water mark. It cannot exceed the LOCKS PER USER parameter on panel DSNTIPJ.

Field Name: QTXANPL

This is an *exception* field.

OTHER REQUEST

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

Field Name: QTXAIRLM

This is an *exception* field.

IFCID 239 - Package/DBRM Accounting Data

This topic shows detailed information about "Record Trace - IFCID 239 - Package/DBRM Accounting Data".

Record trace - IFCID 239 - Package/DBRM Accounting Data

The field labels shown in the following sample layout of "Record Trace - IFCID 239 - Package/DBRM Accounting Data" are described in the following section.

```
                                        PACKAGE/DBRM ACCOUNTING DATA
LOCATION: OMPDB51            COLLECTION      : TDKDB                          PACKAGE ID   : AUTONOMOUS_STP_WPA
TOKEN:  X'196533D11EA395F9'  SECTION NMB     :     1       TYPE         :  ROLLUP   SCHEMA NAME  : TDKDB
SQL STMTS              2     USED BY STOR.PROC:   YES       NON-ZERO CLASS 8:  YES   ACTIVITY NAME: AUTONOMOUS_STP_WPA
SUCC AUTH CHECK :     N/P    LAST EXECUTED:       N/P       NON-ZERO CLASS 7:  YES   ACTIVITY TYPE: NATIVE SQL PROC
PACKAGE SWITCH  :         1  ROLLED NBR THRDS:          1
CLASS 7 BEGINNING STORE CLOCK TIME                     N/P   ENDING STORE CLOCK TIME                      N/P
        BEGINNING TCB CPU TIME                         N/P   ENDING TCB CPU TIME                          N/P
        TOTAL ELAPSED TIME                      33.939619   DB2 ENTRY/EXIT                                 2
        TOTAL TCB TIME                           0.000623   SE CPU TIME                           0.000000
CLASS 8 LOCK/LATCH SUSP TIME                           N/A   LOCK/LATCH SUSP EVENTS                       N/A
        WAIT TIME LOCAL LOCKS                   33.937330   LOCAL LOCK WAIT TRACE EVENTS                   2
        DB2 LATCH SUSP TIME                      0.000000   LATCH WAIT TRACE EVENTS                        0
        SYNCHRONOUS I/O SUSP TIME                0.000000   SYNCHRONOUS I/O SUSP EVENTS                    0
        OTHER READ SUSP TIME                     0.000000   OTHER READ SUSP EVENTS                         0
        OTHER WRITE SUSP TIME                    0.000000   OTHER WRITE SUSP EVENTS                        0
        SERV.TASK SWITCH SUSP TIME               0.001654   SERV.TASK SWITCH SUSP EVENTS                   6
        ARCH.LOG(QUIES) SUSP TIME                0.000000   ARCH.LOG(QUIES) SUSP EVENTS                    0
        ACCUM. READ SUSP TIME                    0.000000   WAIT TRACE READ EVENTS                         0
        DRAIN LOCK SUSP TIME                     0.000000   DRAIN LOCK SUSP EVENTS                         0
        CLAIM RELEASE SUSP TIME                  0.000000   CLAIM RELEASE SUSP EVENTS                      0
        PAGE LATCH SUSP TIME                     0.000000   PAGE LATCH SUSP EVENTS                         0
        NOTIFY MESSAGES SUSP TIME                0.000000   NOTIFY MESSAGE EVENTS                          0
        GLOBAL CONTENT. PARENT SUSP TIME         0.000000   GLOBAL CONTENT. PARENT EVENTS                  0
                                                            UDF EXECUTED                                   0
                                                            STORED PROCEDURE EXECUTED                      0
        TCP/IP LOB XML TIME                      0.000000   TCP/IP LOB XML EVENTS                          0
        ACCELERATOR SUSP TIME                    0.000000   ACCELERATOR EVENTS                             0
        PARALLEL QUERY SYNC WAIT TIME         8:42.707964   PARALLEL QUERY SYNC WAIT EVENTS                0
        FAST INSERT PIPE WAIT TIME               0.000000   FAST INSERT PIPE WAIT EVENTS                   0
```

LOCATION

The location name.

If this field is blank in trace or report, the package or DBRM was executed locally. If it is not blank, all times represent the time spent locally to execute the remote package for this APPL_DIR requester.

This field is invalid (N/P) if summary rollup data is present.

Field Name: QPACLOCN

This is an *exception* field.

COLLECTION

The package collection ID. This field does not apply to DBRMs. If the program name cannot be identified, this field is not present in report or trace.

This field is invalid if summary rollup data is present. It can have the following value in:

- Accounting trace and report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: QPACCOLN

This is an *exception* field.

PACKAGE ID

The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by Db2), the following value is shown *ROLSUM*.

Field Name: QPACPKID

This is an *exception* field.

TOKEN

The program (package or DBRM) consistency token.

This field is invalid (N/A) if summary rollup data is present.

Field Name: QPACCONT

SECTION NMB

The number of this particular data section in the series.

Field Name: QPACRECN

TYPE

The program type. It can be DBRM (field name QPACDBRM) or package (field name QPACPACK).

It can have the following value:

- ROLSUM
- ROLLUP
- PACKAGE

Field Name: QPACFLGS

SCHEMA NAME

Schema name of the nested activity.

If the package is defined for a trigger, stored procedure, or user-defined function, then this field contains the name of the schema to which the nested activity belongs. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM tables: blank

This field is invalid if summary rollup data is present.

Field Name: QPACASCH

SQL STMTS

The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

Field Name: QPACSQLC

This is an *exception* field.

USED BY STOR.PROC

Indicates whether this package was loaded by a stored procedure.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACINSP

NON-ZERO CLASS 8

Indicates if Class 8 data is in this record.

Field Name: QPACCLS8

ACTIVITY NAME

The name of the nested activity.

This field contains the name of the nested activity if the package is defined for a:

- Trigger
- Stored procedure
- User-defined function (UDF)
- Native SQL procedure
- Non-inline UDF

In a data block that reports totals it is set to ALL NAMES. This field is invalid if summary rollup data is present.

It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM tables: blank

Field Name: QPACAANM

SUCC AUTH CHECK

Indicates whether a successful package EXECUTE authorization check was made and Db2 catalog access was avoided.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACPAC

LAST EXECUTED

This package or DBRM is either currently executing or is the most recently executed package or DBRM. This field is invalid if unique or summary rollup data is present.

Field Name: QPACCRNT

NON-ZERO CLASS 7

There is nonzero accounting class 7 data in this QPAC data instance.

Field Name: QPACCLS7

ACTIVITY TYPE

The type of activity. The following values indicate how the package was loaded:

ALL TYPES
In a data block that reports totals it is set to ALL TYPES.

STORED PROC
When running an external procedure

TRIGGER
When running a trigger

UDF
When running a user-defined function

NATIVE SQL PROC
When running a native SQL procedure

NATIVE UDF
When running a native UDF procedure (a non-inline user-defined function)

NONNESTED
Indicates that none of the above values is true

MULTIPLE
Indicates that packages with the same key but with different activity types were running

N/P
Invalidated in case of rollup summary

The nested activity values that are shown in column NEST_ACTIVITY_TYPE of the table DB2PMFACCT_PROGRAM are:

S
For Stored Procedure

T
For Trigger

U
For UDF

Q
For native SQL procedure

D
For Native UDF

N
For nonnested (other)

blank
For invalidated in case of rollup summary

This field is invalid if unique or summary rollup data is present.

Field Name: QPACAAFG

PACKAGE SWITCH

The number of times package was invoked from a different package. For the first package run by an application, the initial call counts as a package switch. If this package called a nested package (such as a trigger, UDF, or stored procedure), a switch will **not** be counted upon return from such a package.

Field Name: QPACSWITCH

ROLLED NBR THREADS

This value can be one of the following:

- In general, the number of threads to roll data into this QPAC data section. Non-rollup QPACs have a value of 1 and rollup QPACs have a value of 1 or more. This number is used as a divisor for calculating averages for package class 7, 8, or 10 times and events.
- If REPORT ORDER (ACTNAME) is specified, the number of threads to roll data into this QPAC data section of a special activity type depends on the following:
  - If IFCID 233 or 380 is available, the number of threads to roll data into this QPAC data section for stored procedures (SP) is counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, the number of threads to roll data into this QPAC data section for user-defined functions (UDF) is counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381, is collected, the total number of threads to roll data into this QPAC data section is counted. The sum also includes the number of subprograms.

Field Name: QPACRLNU

CLASS 7: BEGINNING STORE CLOCK TIME

The store clock time at entry to Db2 for the most recent execution of this package or DBRM.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACSCB

CLASS 7: ENDING STORE CLOCK TIME

The store clock time at exit from Db2 after the most recent execution of this package or DBRM.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACSCE

CLASS 7: BEGINNING TCB CPU TIME

The CPU time at entry to Db2 for the most recent execution of this package or DBRM. This time does not include the CPU time consumed on an IBM specialty engine.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACBJST

CLASS 7: ENDING TCB CPU TIME

The CPU time at exit from Db2 for the most recent execution of this package or DBRM. This time does not include CPU consumed on an IBM specialty engine.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACEJST

CLASS 7: TOTAL ELAPSED TIME

The total elapsed time for executing the package or DBRM.

Field Name: QPACSCT

CLASS 7: DB2 ENTRY/EXIT

The number of Db2 entries or exits processed during the execution of the package or DBRM.

In Accounting reports this is shown twice; as a total and as an average.

Field Name: QPACARNA

CLASS 7: TOTAL TCB TIME

The class 7 CPU time for all executions of the package or DBRM. This time does not include the:

- Class 7 time for parallel tasks
- CPU time that is consumed on an IBM specialty engine

Field Name: QPACTJST

This is an *exception* field.

CLASS 7: SE CPU TIME

The total CPU time for all executions of this package or DBRM that was consumed on an IBM specialty engine (SE).

Note: All CPU times of an IBM specialty engine that are reported in Db2 trace records are already normalized by Db2 to the speed of the general purpose processor.

Field Name: QPACCLS7_ZIIP

CLASS 8: LOCK/LATCH SUSP TIME

The accumulated lock elapsed wait time that occurred while executing this package.

Background and Tuning Information

OMEGAMON for Db2 PE might adjust this value if the thread was suspended when performance data was gathered.

If the suspension time is high, investigate locking activity.

Field Name: QPACAWTL

This is an *exception* field.

CLASS 8: LOCK/LATCH SUSP EVENTS

The number of wait trace events processed for waits for lock while executing this package.

Field Name: QPACARNL

CLASS 8: WAIT TIME LOCAL LOCKS

The accumulated latch elapsed wait time for latch suspensions that occurred while executing this package.

Field Name: QPACAWLH

CLASS 8: LOCAL LOCK WAIT TRACE EVENTS

The number of wait trace events processed for page latch contention while executing this package.

Field Name: QPACANLH

CLASS 8: DB2 LATCH SUSP TIME

The accumulated lock elapsed wait time that occurred while executing this package.

Background and Tuning Information

OMEGAMON for Db2 PE might adjust this value if the thread was suspended when performance data was gathered.

If the suspension time is high, investigate locking activity.

Field Name: QPACAWTL

This is an *exception* field.

CLASS 8: LATCH WAIT TRACE EVENTS

The number of wait trace events processed for waits for lock while executing this package.

Field Name: QPACARNL

CLASS 8: SYNCHRONOUS I/O SUSP TIME

The accumulated elapsed wait time for I/O suspensions under this thread during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON for Db2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Field Name: QPACAWTI

This is an *exception* field.

CLASS 8: SYNCHRONOUS I/O SUSP EVENTS

The number of wait trace events processed for I/O.

Field Name: QPACARNE

CLASS 8: OTHER READ SUSP TIME

The accumulated waiting time for a read I/O performed under a thread other than this one during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON for Db2 PE might adjust this value if the thread was suspended when performance data was gathered.

This field includes waits caused by sequential prefetch, list prefetch, dynamic prefetch, and synchronous read I/O performed by other threads.

If the value in this field is high, the problem could be an I/O bound query using prefetch or an I/O contention. The application is accessing data from a busy data set, volume, or control unit and is continually being suspended. Consult the DBA and MVS systems programmer.

Field Name: QPACAWTR

This is an *exception* field.

CLASS 8: OTHER READ SUSP EVENTS

The number of suspensions due to read I/O.

Field Name: QPACARNR

CLASS 8: OTHER WRITE SUSP TIME

The accumulated waiting time due to a write I/O performed for another thread during the execution of a package or DBRM.

Background and Tuning Information

If the value in this field is high, the problem could be I/O contention. The application is accessing data from a busy data set, volume, or control unit and is continually being suspended. Consult the DBA and MVS systems programmer to resolve possible data set placement problems.

Field Name: QPACAWTW

This is an *exception* field.

CLASS 8: OTHER WRITE SUSP EVENTS

The number of suspensions due to write I/O.

Field Name: QPACARNW

CLASS 8: SERV.TASK SWITCH SUSP TIME

The accumulated waiting time due to a synchronous execution unit switch to Db2 services from this thread during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON for Db2 PE might adjust this value if the thread was suspended when its performance data was gathered.

This value includes the waits because of an OPEN/CLOSE data set, SYSLGRNG update, DATASPACE MANAGER services, DEFINE, EXTEND, and DELETE data set, AUTONOMOUS PROCEDURE, and DDF Requester waiting for Server reply and VSAM Catalog update.

Field Name: QPACAWTE

This is an *exception* field.

CLASS 8: SERV.TASK SWITCH SUSP EVENTS

The number of wait trace events processed for Db2 service tasks.

Field Name: QPACARNS

CLASS 8: ARCH.LOG(QUIES) SUSP TIME

The accumulated waiting time caused by processing ARCHIVE LOG(QUIESCE) commands during the execution of the package or DBRM. This number represents the amount of time that an individual thread was suspended because of the command, not the time it took for the entire command to complete.

Background and Tuning Information

OMEGAMON for Db2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Avoid issuing the -ARCHIVE LOG QUIESCE command during peak periods.

Field Name: QPACALOG

CLASS 8: ARCH.LOG(QUIES) SUSP EVENTS

The number of ARCHIVE LOG MODE (QUIESCE) commands issued.

Field Name: QPACALCT

CLASS 8: DRAIN LOCK SUSP TIME

The accumulated waiting time due to a drain lock.

Field Name: QPACAWDR

CLASS 8: DRAIN LOCK SUSP EVENTS

The number of wait trace events processed for waits for drain locks.

Field Name: QPACARND

CLASS 8: CLAIM RELEASE SUSP TIME

The accumulated waiting time for a drain waiting for claims to be released during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON for Db2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Field Name: QPACAWCL

CLASS 8: CLAIM RELEASE SUSP EVENTS

The number of wait trace events processed for waits for claims to be released.

Field Name: QPACARNC

CLASS 8: PAGE LATCH SUSP TIME

The accumulated waiting time caused by a page latch contention.

Field Name: QPACAWTP

CLASS 8: PAGE LATCH SUSP EVENTS

The number of page latch wait trace events processed.

Field Name: QPACARNH

CLASS 8: NOTIFY MESSAGES SUSP TIME

The accumulated elapsed waiting time due to suspensions caused by sending notify messages to other members in the data sharing group. Messages are sent, for example, when database descriptors are changed due to DDL.

This value is only calculated if accounting class 8 is active and Db2 is a member of a Db2 data sharing group.

Field Name: QPACAWTG

CLASS 8: NOTIFY MESSAGES EVENTS

The number of wait trace events processed for sending notify messages to other members in the data sharing group.

Field Name: QPACARNG

CLASS 8: GLOBAL CONTENT. PARENT SUSP TIME

The accumulated wait time due to global contention for parent L-Locks. Parent L-Locks are any of the following L-Lock types: database, tablespace, table, or partition.

Field Name: QPACAWTJ

CLASS 8: GLOBAL CONTENT. PARENT EVENTS

The number of wait trace entry/exit events processed for waits for global lock contention for parent L-Locks.

Field Name: QPACARNJ

CLASS 8: UDF EXECUTED

The number of user-defined functions scheduled.

Field Name: QPACUDNU

CLASS 8: STORED PROCEDURE EXECUTED

The number of stored procedures scheduled.

Field Name: QPACSPNS

CLASS 8: TCP/IP LOB XML TIME

The number of wait trace events that were processed for waits for TCP/IP LOB and XML materialization while this package or DBRM was running.

Field Name: QPACALBC

CLASS 8: TCP/IP LOB XML EVENTS

The accumulated wait time for TCP/IP LOB and XML materialization while running this package or DBRM.

Field Name: QPACALBW

ACCELERATOR SUSP TIME

The accumulated wait time for requests to an accelerator while executing this package.

Field Name: QPACAACW

ACCELERATOR EVENTS

The number of wait trace events processed for requests to an accelerator while executing this package.

Field Name: QPACAACC

PARALLEL QUERY SYNC WAIT TIME

The accumulated time waiting for parallel query processing to synchronize between parent and child tasks.

Field Name: QPAC_PQS_WAIT

PARALLEL QUERY SYNC WAIT EVENTS

The number of times the parallel query processing suspended because it was waiting for the synchronization of the parent/child.

Field Name: QPAC_PQS_COUNT

FAST INSERT PIPE WAIT TIME

The accumulated wait time for a pipe while this package was executed (Db2 field QPAC_PIPE_WAIT).

Field Name: QPAC_PIPE_WAIT

FAST INSERT PIPE WAIT EVENTS

The number of wait trace events that were processed for waits for a pipe while this package was executed (Db2 field QPAC_PIPEWAIT_COUNT).

Field Name: QPAC_PIPEWAIT_COUNT

IFCID 239 - RDS Package Accounting

This topic shows detailed information about "Record Trace - IFCID 239 - RDS Package Accounting".

Record trace - IFCID 239 - RDS Package Accounting

The field labels shown in the following sample layout of "Record Trace - IFCID 239 - RDS Package Accounting" are described in the following section.

```
RDS PACKAGE ACCOUNTING
SELECTS    :         1  INSERTS    :         4  UPDATES    :         7  DELETES    :        10
DESCRIBES  :         2  PREPARES   :         5  OPENS      :         8  CLOSES     :        11
FETCHS     :         3  LOCK TABLES:         6  SQL CALLS  :         9
```

SELECTS

The number of SQL SELECT statements executed.

Field Name: QPSELECT

This is an *exception* field.

INSERTS

The number of INSERT statements executed.

Field Name: QPINSRT

This is an *exception* field.

UPDATES

The number of UPDATE statements executed.

Field Name: QPUPDTE

This is an *exception* field.

DELETES

The number of DELETE statements executed.

Field Name: QPDELET

This is an *exception* field.

DESCRIBES

The number of data capture describes.

Field Name: QPDESC

PREPARES

The number of full prepare requests.

Field Name: QPPREP

OPENS

The number of full open requests.

Field Name: QPOPEN

CLOSES

The number of close requests.

Field Name: QPCLOSE

FETCHS

The number of fetch requests.

Field Name: QPFETCH

LOCK TABLES

The number of lock tables.

Field Name: QPLOCK

SQL CALLS

The number of SQL calls.

Field Name: QPCALL

IFCID 239 - Resource Limit Facility

This topic shows detailed information about "Record Trace - IFCID 239 - Resource Limit Facility".

Record trace - IFCID 239 - Resource Limit Facility

The field labels shown in the following sample layout of "Record Trace - IFCID 239 - Resource Limit Facility" are described in the following section.

```
RESOURCE LIMIT FACILITY
RES LIMIT SCOPE          7            RLF TABLE ID              NN       LIMIT IN CPU 16 MICROSEC             9
RES LIMIT TYPE   INFINITE              LIMIT IN SERVICE UNITS          8  HIGHEST CPU 16 MICROSEC USED        10
QTXAFLG1 (S) :   X'80'
```

RES LIMIT SCOPE

Indicates how the resource limit was established. A value of 0 shows that the resource limit facility was not started.

Field Name: QTXAPREC

RLF TABLE ID

The identifier of the resource limit specification table.

Field Name: QTXARLID

LIMIT IN CPU 16 MICROSEC

The CPU time limit, in microseconds, set by the resource limit facility.

Field Name: QTXACLMT

RES LIMIT TYPE

Indicates how the type of resource limit was established: infinite, zero, or limit.

Note: Label **QTXAFLG1** presents the first flag byte in hexadecimal:

X'80'
Infinite limit

X'40'
No run or zero limit

Field Name: QTXAFLG1

LIMIT IN SERVICE UNITS

The maximum number of CPU service units to be used. Normally, the value is not 0 if the RES LIMIT TYPE is LIMIT. A value of 0 indicates no limit.

Field Name: QTXASLMT

HIGHEST CPU 16 MICROSEC USED

The highest CPU time used by a single DB2 call, in microseconds. Note that there can be many DB2 calls for one SQL statement.

Field Name: QTXACHUS

QTXAFLG1 (S)

Indicates how the type of resource limit was established: infinite, zero, or limit.

Note: Label **QTXAFLG1** presents the first flag byte in hexadecimal:

X'80'
Infinite limit

X'40'
No run or zero limit

Field Name: QTXAFLG1

IFCID 247 - SQLDA Data and Input Host Variable Data

This topic shows detailed information about "Record Trace - IFCID 247 - SQLDA Data and Input Host Variable Data".

IFCID 247 records SQLDA data and INPUT HOST VARIABLE data are related to a user application program. Each host variable is traced individually as it is moved from the user application area to the DB2 address space.

For dynamic SQL statements of length 5000 or less, you can use these records in combination with records from IFCID 064 and IFCID 063 to determine which statements are associated with which host variables. To do this, you need to match the statement number in this record to the statement number in an IFCID 064 record. An IFCID 063 Record that follows the IFCID 064 record that has the same CORRELATION ID and ACE values contains the SQL statement associated with the host variables.

Record trace - IFCID 247 - SQLDA Data and Input Host Variable Data

The field labels shown in the following sample layout of "Record Trace - IFCID 247 - SQLDA Data and Input Host Variable Data" are described in the following section.

```
INPUT HOST VARIABLE TRACING
LOCATION NAME: PMO5D851
COLLECTION ID: ADBL410
PROGRAM NAME : ADB2REE
STATEMENT NUMBER  :      2536      CONSISTENCY TOKEN      : X'1725896E1B46AEB8'
LENGTH EACH SQLDA ENTRY:    12      NUMBER ENTRIES IN SQLDA:     1       FORMAT SQLDA        : B'1000'
.....................................................................................................
SQLDA ENTRY
SQLDA NAME: 'BLANK'                          SQLDA ENTRY NUMBER:          1   DATA TYPE     :   452   LENGTH:    18
ADDRESS TO DATA         : X'1E44B692'        PRECISION (IF DEC):        N/A   SCALE (IF DEC):   N/A
ADDRESS TO NULL INDICATOR: X'FF000000'       NULL INDICATOR    : NO
.....................................................................................................
SQLDA DATA SECTION
LENGTH OF DATAREA: X'0012'
SQLDA DATA:
0000  43555252  454E5420  53455256  45522020   2020                                | .....+.....
```

LOCATION NAME

Location name.

Field Name: QW0247LN

COLLECTION ID

Package collection identifier.

Field Name: QW0247PC

PROGRAM NAME

Program name.

Field Name: QW0247PN

STATEMENT NUMBER

Statement number.

Field Name: QW0247SN

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0247TS

LENGTH EACH SQLDA ENTRY

Length of each SQLDA entry.

Field Name: QW0247LE

NUMBER ENTRIES IN SQLDA

Number of entries in the SQL data area.

Field Name: QW0247NE

FORMAT SQLDA

The format of the SQLDA. Possible values are:

0 - COMPRESSED
Is a compressed form of the SQLDA.

1 - COMPLETE
Is a complete SQLDA containing the data type, address, and address of the indicator variable for each host variable.

2 - FIXED LENGTH
Is a variable length character format containing the length of the string and text.

? - UNKNOWN

Is shown, if none of the above field names is used.

Field Name: QW0247FE

SQLDA NAME

SQLDA name, if Format 1 SQLDA. The first two bytes are the length of the NAME and are not shown.

Field Name: QW0247NA

SQLDA ENTRY NUMBER

SQLDA entry number.

Field Name: QW0247NO

DATA TYPE

Is derived as described in *DB2 SQL Reference* , based on the SQLTYPE:

384, 385
DATE

388, 389
TIME

392, 393
TIMESTAMP

448, 449
VARYING LENGTH CHARACTER STRING

452, 453
FIXED-LENGTH CHARACTER STRING

456, 457
LONG VARYING CHARACTER STRING

480, 481
FLOATING POINT

484, 485
PACKED DECIMAL

496, 497
LARGE INTERGER

500, 501
SMALL INTEGER

Note:

- Any other SQLTYPES are shown as: NON DISPLAYABLE DATA
- Values are shown in DB2 internal format.

Field Name: QW0247TY

LENGTH

Length of data for this entry. If the field type is decimal (484 or 485), the length is not applicable.

Field Name: QW0247LD

ADDRESS TO DATA

The address of the host variable in the application address space.

Field Name: QW0247PT

PRECISION (IF DEC)

If the field type is decimal (484 or 485), this is the precision.

Field Name: QW0247LP

SCALE (ID DEC)

If the field is decimal (484 or 485), this is the scale.

Field Name: QW0247LS

ADDRESS TO NULL INDICATOR

The address of the indicator variable, if the value in QW0247TY is odd (NULLABLE).

Field Name: QW0247IN

NULL INDICATOR

Null indicator values:

- YES, if X'00'
- NO, if X'FF'

Field Name: QW0247NL

LENGTH OF DATAREA

Field Name: QW0247LL

SQLDA DATA

Field Name: QW0247DA

IFCID 248 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 248 - IBM Service Record".

This record is for IBM service use.

IFCID 249 - EDM Pool Invalidate DBD

This topic shows detailed information about "Record Trace - IFCID 249 - EDM Pool Invalidate DBD".

This record traces DBD invalidations. A DBD is invalidated in the data sharing environment when one DB2 subsystem changes a DBD that needed, it is read, resulting in multiple copies of the DBD in the EDM pool.

Record trace - IFCID 249 - EDM Pool Invalidate DBD

The field labels shown in the following sample layout of "Record Trace - IFCID 249 - EDM Pool Invalidate DBD" are described in the following section.

```
DBID           : USIBMSYSTDB2
DATABASE NAME  : DSNDB01
DB2 MEMBER NAME: AAAAAAAA
```

DBID

The database ID. Deduced from the DB2 fields QW0249ID, and QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0249ID is shown or N/A when this value is 0.

Field Name: RT0249DB

DATABASE NAME

The database name.

Field Name: QW0249NM

DB2 MEMBER NAME

The name of the DB2 member causing the invalidation.

Field Name: QW0249MC

IFCID 250 - Connect/Rebuild Connect/Disconnect Group Bpool

This topic shows detailed information about "Record Trace - IFCID 250 - Connect/Rebuild Connect/Disconnect Group Bpool".

This record is written for a group buffer pool (coupling facility cache structure) connect, rebuild, or disconnect event.

The DESCRIPTION column indicates what event occurred. The format of this record and data shown depends on the event being reported.

Record trace - IFCID 250 - Connect/Rebuild Connect/Disconnect Group Bpool

The field labels shown in the following sample layout of "Record Trace - IFCID 250 - Connect/Rebuild Connect/Disconnect Group Bpool" are described in the following section.

```
|-------------------------------------------------------------------------------------------------------------------------------
|STRUCTURE NAME: DSNCAT_GBP0       GROUP BP NAME: GBP0       RETURN CODE:          0  REASON CODE: X'00000000'
|.................................................................................................................................
|STRUCTURE SIZE:        384  DIRECTORY ENTRIES :       1468  ALLOCATION  : NO             MAX NUMBER CASTOUT    :  1024
|DATA ELEMENTS :        293  MAX STRUCTURE SIZE:        384  CONNECT TYPE: NEW CONNECTION  EXCLUSION LIST HONORED: YES
|QW0250F1  B'00000000000000000000000000000000'
|-------------------------------------------------------------------------------------------------------------------------------

IFCID 250 - Connect & Rebuild Connect
Failure (Authorization)  Record
|-------------------------------------------------------------------------------------------------------------------------------
|STRUCTURE NAME: DSNCAT_GBP0       GROUP BP NAME: GBP0       RETURN CODE:          0  REASON CODE: X'00000000'
|.....................................................................................................................
|SAF RETURN CODE: 9999999999  SAF REASON CODE: X'HHHHHHHH'
|-------------------------------------------------------------------------------------------------------------------------------

IFCID 250 - Connect & Rebuild Connect
Failure (No Suitable Coupling Facility)  Record

|-------------------------------------------------------------------------------------------------------------------------------
|STRUCTURE NAME: DSNCAT_GBP0       GROUP BP NAME: GBP0       RETURN CODE:          0  REASON CODE: X'00000000'
|.....................................................................................................................
|COUPLING FACILITY NAME: XXXXXXXX  COUPLING FACILITY REASON: STRUCTURE ATTRIBUTES INCONSISTENT
|MIN CONTROL SPACE : 9999999999  TOTAL SPACE : 9999999999  TOTAL CONTROL SPACE: 9999999999  TOTAL FREE SPACE: 9999999999
|FREE CONTROL SPACE: 9999999999  STORAGE SIZE:      99999  MAXIMUM ELEMENT    :        999  MAXIMUM CASTOUT :      99999
|-------------------------------------------------------------------------------------------------------------------------------

IFCID 250 - Disconnect

|-------------------------------------------------------------------------------------------------------------------------------
|STRUCTURE NAME: DSNCAT_GBP0       GROUP BP NAME: GBP0       RETURN CODE:          0  REASON CODE: X'00000000'
|.....................................................................................................................
|DISCONNECT TYPE: FAILED-PERSISTENT
|-------------------------------------------------------------------------------------------------------------------------------
```

STRUCTURE NAME

The name of the coupling facility structure.

Field Name: QW0250SN

GROUP BP NAME

The group buffer pool name.

Field Name: QW0250GN

RETURN CODE

The return code.

The reason code.

Field Name: QW0250RC

STRUCTURE SIZE

The structure size, that is, the number of 4 KB blocks. The actual size might be less than the requested size due to insufficient space in the preference list facilities.

Field Name: QW0250SZ

DIRECTORY ENTRIES

The number of allocated directory entries.

Field Name: QW0250DR

ALLOCATION

Indicates whether this connect caused a structure allocation.

Field Name: QW0250CA

MAX NUMBER CASTOUT

The maximum number of castout classes.

Field Name: QW0250CO

DATA ELEMENTS

The number of data elements allocated. For DB2 group buffer pools, the size of the data elements is 4 KB. Each data entry consists of one or more data elements.

Field Name: QW0250DT

MAX STRUCTURE SIZE

The maximum structure size saved at the time the structure was allocated. The maximum structure size is obtained from the active policy at the time the structure is allocated.

Field Name: QW0250SM

CONNECT TYPE

The type of connection.

Field Name: QW0250CD

EXCLUSION LIST HONORED

Indicates whether the exclusion list was honored.

This field is only applicable if the value in ALLOCATION is YES . Otherwise, N/A is printed in this field.

Field Name: QW0250F2

SAF RETURN CODE

The system authorization facility (SAF) return code.

Field Name: QW0250X1

SAF REASON CODE

The SAF reason code.

Field Name: QW0250X2

COUPLING FACILITY NAME

The coupling facility name.

Field Name: QW0250ZN

COUPLING FACILITY REASON

The reason why the coupling facility was not suitable.

Field Name: QW0250ZR

MIN CONTROL SPACE

The minimum control space required (in 4 KB blocks) to allocate the structure for which connect was requested.

Field Name: QW0250ZM

TOTAL SPACE

The total space in the coupling facility in 4 KB blocks, including control and noncontrol space.

Field Name: QW0250ZG

TOTAL CONTROL SPACE

The total control space in the coupling facility in 4 KB blocks.

Field Name: QW0250ZH

TOTAL FREE SPACE

The total free space in 4 KB blocks, including control and noncontrol space.

Field Name: QW0250ZI

FREE CONTROL SPACE

The free control space in 4 KB blocks.

Field Name: QW0250ZJ

STORAGE SIZE

The storage increment size in 4 KB blocks.

Field Name: QW0250ZK

MAXIMUM ELEMENT

The maximum element characteristic. DB2 always requests a 4 KB element size. Therefore, this field should always equal 4.

Field Name: QW0250ZL

MAXIMUM CASTOUT

The maximum number of castout classes for a structure using this coupling facility.

Field Name: QW0250ZO

DISCONNECT TYPE

The type of disconnect.

Field Name: QW0250DD

IFCID 251 - Buffer Manager PSET/Part P-Lock Request

This topic shows detailed information about "Record Trace - IFCID 251 - Buffer Manager PSET/Part P-Lock Request".

Record trace - IFCID 251 - Buffer Manager PSET/Part P-Lock Request

The field labels shown in the following sample layout of "Record Trace - IFCID 251 - Buffer Manager PSET/Part P-Lock Request" are described in the following section.

```
P-LOCK TYPE     : PAGESET/PARTITION   DBID: DSNDB06    OBID: DSNAPH01      PARTITION NMBR  :     0     BP ID: X'00'
IRLM FUNC CODE  : LOCK                       OBJECT TYPE : INDEXSPACE    REQUESTED STATE : SHARED
CONDITIONAL     : YES                        RESTART     : YES           MODIFY          : NO
DATABASE NAME   : DSNDB06                    PAGESET NAME: DSNAPH01      DB2 MEMBER NAME : 'BLANK'
OLD HELD STATE  : NOT HELD                                               NEW HELD STATE  : SHARED
OLD CACHED STATE: NOT HELD                                               NEW CACHED STATE: SHARED
QW0251TK  X'00000000'      QW0251RC  X'00000000'     QW0251RS  X'00000000'     QW0251PC  X'0000'      QW0251F2  X'00'
QW0251PA  X'800000'
```

P-LOCK TYPE

The P-lock type.

Field Name: QW0251KT

DBID

The database ID. Deduced from the DB2 fields QW0251KD, and QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0251KD is shown or N/A when this value is 0.

Field Name: RT0251DB

OBID

The object ID. Deduced from the DB2 fields QW0251KP, QW0105TN or QW0107TN.

when present, the name of the object is shown, otherwise the decimal identifier from QW0251KP is shown or N/A if this value is 0.

Field Name: RT0251OB

PARTITION NMBR.

The partition number. If this is a non-partitioned page set, 0 is printed in this field.

Field Name: QW0251KR

BP ID

The internal buffer pool ID (0-49 and 80-89).

Field Name: QW0251KU

IRLM FUNC CODE

The IRLM function code.

Field Name: QW0251IF

OBJECT TYPE

The object type.

Field Name: QW0251OB

REQUESTED STATE

The requested lock state if the value in IRLM FUNC CODE is `LOCK` or `CHANGE` . If the value is `CHANGE FROM P-LOCK EXIT` , then this is the P-lock state requested by the other member causing the P-lock exit of this member. In this case, this field is 0 if the request from the other member was not in conflict with the state of this member.

Field Name: QW0251ST

CONDITIONAL

Indicates whether the request was conditional.

Field Name: QW0251C1

RESTART

Indicates whether there was a restart lock request.

If the lock is currently retained on behalf of this DB2, a restart request causes the lock to be changed from retained to active. If the lock is not retained, the lock grant process is as normal.

Field Name: QW0251C6

MODIFY

Indicates whether this is a modify lock.

Field Name: QW0251C7

DATABASE NAME

The database name.

Field Name: QW0251DN

PAGESET NAME

The page set name.

Field Name: QW0251PN

DB2 MEMBER NAME

The DB2 member name that depends on the value in IRLM FUNC CODE:

- When `CHANGE FROM P-LOCK EXIT` this is the name of the database in conflict with the P-lock state currently held by this member.
- If it is not `CHANGE FROM P-LOCK EXIT` and the P-lock was rejected, this is the name of the database in conflict with this request

Field Name: QW0251DB

HELD STATE

Old and new P-lock held state. Old state taken from the DB2 field QW0251OS. New state taken from the DB2 field QW0251NS.

Field Name: RT251HS

CACHED STATE

Old and new P-lock cached state. Old state taken from the DB2 field QW0251OC. New state taken from the DB2 field QW0251NC.

Field Name: RT251CS

IFCID 252 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 252 - IBM Service Record".

This record is for IBM service use.

IFCID 254 - Coupling Facility Cache Structure Statistics

This topic shows detailed information about "Record Trace - IFCID 254 - Coupling Facility Cache Structure Statistics".

Record trace - IFCID 254 - Coupling Facility Cache Structure Statistics

The field labels shown in the following sample layout of "Record Trace - IFCID 254 - Coupling Facility Cache Structure Statistics" are described in the following section.

```
GROUP BUFFER POOL NAME             GBP0     EXPLICIT XI COUNTER           0
READ HIT                              0     CHANGED PAGE WRITE HIT        0     XI DIRECTORY ENTRY RECLAIM       0
READ MISS DIRECTORY HIT               0     CLEAN PAGE WRITE HIT          0     CASTOUT                          0
READ MISS ASSIGNMENT SUPPRESSED       0     WRITE MISS CACHE FULL         0     DIRECTORY ENTRY                  0
READ MISS NAME ASSIGNED               0     DIRECTORY ENTRY RECLAIM       0     DATA ENTRY                       0
READ MISS CACHE FULL                  0     DATE ENTRY RECLAIM            0     TOTAL CHANGED                    0
SEC-GBP CHANGED PAGE WRITE HIT        0     SEC-GBP DIRECTORY ENTRY       0     SEC-GBP TOTAL CHANGED            0
SEC-GBP WRITE MISS CACHE FULL         0     SEC-GBP DATA ENTRY            0
```

GROUP BUFFER POOL NAME

The name of the group buffer pool.

Field Name: QW0254GN

EXPLICIT XI COUNTER

The number of times a request was made to the group coupling facility to explicitly cross invalidate a page and a number of XI signals were sent because the page was cached in one or more DB2 buffer pools.

Field Name: QW0254CI

READ HIT

The number of coupling facility read requests in which data was returned.

Field Name: QW0254RH

CHANGED PAGE WRITE HIT

The number of coupling facility write requests for changed pages that has successfully completed.

Field Name: QW0254WH

XI DIRECTORY ENTRY RECLAIM

The number of times that a directory entry was stolen and XI signals had to be sent because the page for the directory entry was cached in one or more DB2 buffer pools.

Field Name: QW0254XR

READ MISS DIRECTORY HIT

The number of coupling facility read requests for a page in which data was not returned but the page name was already assigned in the coupling facility directory (SES did not have to assign a directory entry for the page).

Field Name: QW0254RD

CLEAN PAGE WRITE HIT

The number of facility write requests for clean pages successfully completed.

Field Name: QW0254WC

CASTOUT

The number of castout operations performed.

Field Name: QW0254CC

READ MISS ASSIGNMENT SUPPRESSED

The number of times that a coupling facility read request specified a page for which no directory entry exists and no directory entry is created. DB2 does not create a directory entry if it does not need to register the page to the coupling facility for cross invalidation (XI); that is when no other DB2 member in the group has R/W interest in the page set/partition.

Field Name: QW0254RS

WRITE MISS CACHE FULL

The number of coupling facility write requests that could not complete due to a lack of coupling facility storage resources.

Field Name: QW0254WF

DIRECTORY ENTRY

The number of allocated directory entries (not cumulative).

Field Name: QW0254DE

READ MISS NAME ASSIGNED

The number of times that a coupling facility read request specified a page for which a directory entry was created.

Field Name: QW0254RN

DIRECTORY ENTRY RECLAIM

The number of times that a page name assignment required a coupling facility directory entry to be reclaimed (stolen).

Field Name: QW0254DR

DATA ENTRY

The number of allocated data entries (not cumulative).

Field Name: QW0254TE

READ MISS CACHE FULL

The number of times that a coupling facility read request specified a page for which no directory entry exists and no directory entry is created due to the lack of storage in the group buffer pool. A non-zero value in this field indicates that the backing coupling facility cache structure size might be too small to support the current workload.

Field Name: QW0254RF

DATA ENTRY RECLAIM

The number of times that a page name assignment required a coupling facility data entry to be reclaimed (stolen).

Field Name: QW0254TR

TOTAL CHANGED

The snapshot value of the current number of changed pages.

Field Name: QW0254TC

SEC-GBP CHANGED PAGE WRITE HIT

The number of successful coupling facility write requests for changed pages.

Field Name: QW02542W

SEC-GBP WRITE MISS CACHE FULL

The number of unsuccessful coupling facility write requests because of insufficient coupling facility storage resources.

Field Name: QW02542F

SEC-GBP DIRECTORY ENTRY

The number of allocated directory entries. This is a snapshot value.

Field Name: QW02542D

SEC-GBP DATA ENTRY

The number of allocated data entries. This is a snapshot value.

The number of allocated data entries that are currently in *changed* state. This is a snapshot value.

Field Name: QW02542C

IFCID 255 - Buffer Refresh Due to XI

This topic shows detailed information about "Record Trace - IFCID 255 - Buffer Refresh Due to XI".

This record is written when a buffer refresh was caused by the cross invalidation (XI) of a data page in the group buffer pool. Cross invalidation occurs when a DB2 member of a data sharing group updates a data page and writes the newly changed page to the group buffer pool. All DB2 members that have this data page cached in their buffer pools are notified that the page was invalidated. If a member needs that data page, it must be refreshed.

Record trace - IFCID 255 - Buffer Refresh Due to XI

The field labels shown in the following sample layout of "Record Trace - IFCID 255 - Buffer Refresh Due to XI" are described in the following section.

```
DBID:       NO   PIECE NUMBER:   X'00'
OBID: 4          PAGE NUMBER :   X'000002'
BPID:   0        ACE TOKEN   :   N/P
TYPE: SYNCH      FROM: GBPOOL
```

DBID

The database ID. Deduced from the DB2 fields QW0255DB, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0225DB is shown or N/A when this value is 0.

Field Name: RT0255DB

PIECE NUMBER

The data set number of the page set.

Field Name: QW0255PN

OBID

The object ID. Deduced from the DB2 fields QW0255OB, QW0105TN or QW0107TN.

When present, the name of the object is shown, otherwise the decimal identifier from QW0142OB is shown or N/A if this value is 0.

Field Name: RT0255OB

PAGE NUMBER

The relative page number within the data set.

Field Name: QW0255PG

BPID

The internal buffer pool ID.

Field Name: QW0255BP

ACE TOKEN

Ace token of the requester. This address ties the coupling facility read requests for prefetch to the allied agent or database access thread.

Field Name: QW0255AC

TYPE

Indicates whether the buffer refresh was synchronous or asynchronous.

Field Name: QW0255AS

FROM

Indicates whether data was returned from the group buffer pool or DASD.

Field Name: QW0255DR

IFCID 256 - Alter Group Buffer Pool

This topic shows detailed information about "Record Trace - IFCID 256 - Alter Group Buffer Pool".

This record shows the old and the new status of the altered group buffer pool.

Record trace - IFCID 256 - Alter Group Buffer Pool

The field labels shown in the following sample layout of "Record Trace - IFCID 256 - Alter Group Buffer Pool" are described in the following section.

```
BUFFER POOL   GROUP BUFFER POOL ID: GBP0
                                              OLD      NEW
              DIRECTORY TO DATA RATIO        :      5        1
              CLASS CASTOUT THRESHOLD (%)    :     10       10
              CLASS CASTOUT THRESHOLD (PAGES):      0        0
              GBP CASTOUT THRESHOLD (%)      :     50       50
              GBP CHECKPOINT INTERVAL (MIN)  :      5        5
              GBP CACHE SETTING              :    YES      YES
              AUTOREC                        :    YES      YES
```

GROUP BUFFER POOL ID

The DB2 group buffer pool ID.

Field Name: QW0256GB

DIRECTORY TO DATA RATIO

The directory entry to data entry ratio. This is the value specified in the RATIO keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NR.

Old status deduced from the DB2 field QW0256OR.

Field Name: RT0256DR

CLASS CASTOUT THRESHOLD (%)

The threshold at which the class castout is to be initiated. It is expressed as a percentage of the group buffer pool size. This is the value specified in the CLASST keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NC.

Old status deduced from the DB2 field QW0256OC.

Field Name: RT0256CT

CLASS CASTOUT THRESHOLD (PAGES) (OLD)

The old class castout threshold based on the number of pages.

Field Name: QW0256ON

CLASS CASTOUT THRESHOLD (PAGES) (NEW)

The new class castout threshold based on the number of pages.

Field Name: QW0256NN

GBP CASTOUT THRESHOLD (%)

The threshold at which the castout is to be initiated for the group buffer pool. This is the value specified in the GBPOOLT keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NG.

Old status deduced from the DB2 field QW0256OG.

Field Name: RT0256GT

GBP CHECKPOINT INTERVAL (MIN)

The time interval (in minutes) between successive group buffer pool checkpoints. This is the value specified in the GBPCHKPT keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NK.

Old status deduced from the DB2 field QW0256OK.

Field Name: RT0256CI

GBP CACHE SETTING

GBPCACHE value before and after the ALTER GROUPBUFFERPOOL command was issued. This field specifies whether DB2 should write changed pages for the group buffer pool dependant pageset or partitions directly to DASD and use the group buffer pool only for sending XI signals.

New status deduced from the DB2 field QW0256NB.

Old status deduced from the DB2 field QW0256OB.

Field Name: RT0256CS

AUTOREC

A flag indicating how the AUTOREC option of the ALTER GROUPBUFFERPOOL command has been set. It specifies whether DB2 should automatically recover if GBP fails. The old value specifies the

AUTOREC value before the ALTER GBP command was issued. The new value specifies the AUTOREC value after the ALTER GBP command was issued.

New status deduced from the DB2 field QW0256NA.

Old status deduced from the DB2 field QW0256OA.

Field Name: RT0256AR

IFCID 257 - IRLM Notify Req Detail

This topic shows detailed information about "Record Trace - IFCID 257 - IRLM Notify Req Detail".

This record shows the inter-DB2 notify message sending detail. IRLM notify requests are used to communicate among members of a DB2 data sharing group.

Record trace - IFCID 257 - IRLM Notify Req Detail

The field labels shown in the following sample layout of "Record Trace - IFCID 257 - IRLM Notify Req Detail" are described in the following section.

```
LOCK RES TYPE: N/P                                DBID: 3328              OBID: 255       RESOURCE ID: X'03C7D9D6'
STATE: X'00'                  NUMBER OF HOLDERS:      0  OPERATION: RECEIVE  REQUEST: SYNCH
QW0257TK  X'80CF0000'   QW0257RM   10   QW0257FC  195      QW0257RC X'00000000'   QW0257RS  X'0000'
.................................................................
QW0257LL          70
QW0257MS
0000  2400002C  C294A287  C4C2F2E5  F0F4F0F1   ADE01D31  D0655204
0020  00000000  00000000  80000000  00000000   00000000  00000000
0040  00000000  0000
```

LOCK RES TYPE

The locked resource type.

Note: For data sharing, SKELETON CURSOR TABLE LOCKING and SKELETON PACKAGE TABLE LOCK are LP-locks (an LP-lock has an L-lock component and a P-lock component).

Field Name: QW0021KT

DBID

The database ID. This field is not applicable if the value in LOCK RES TYPE is:

```
SKELETON CURSOR TABLE LOCKING
UTILITY SERIALIZATION LOCK
SKELETON PACKAGE TABLE LOCK
COLLECTION
BINDLOCK
ALTER BUFFER POOL
GROUP BUFFERPOOL START/STOP LOCK
GROUP BUFFER POOL LEV CASTOUT P-LOCK
CATMAINT MIGRATION LOCK
CATMAINT CONVERT CATALOG LOCK
CATMAINT CONVERT DIRECTORY LOCK
```

Field Name: QW0021KD

OBID

The object ID. This field is not applicable if the value in LOCK RES TYPE is:

```
SKELETON CURSOR TABLE LOCKING
UTILITY SERIALIZATION LOCK
SKELETON PACKAGE TABLE LOCK
COLLECTION
BINDLOCK
ALTER BUFFER POOL
GROUP BUFFERPOOL START/STOP LOCK
DDF CDB P-LOCK
GROUP BUFFER POOL LEV CASTOUT P-LOCK
DBD P-LOCK
CATMAINT MIGRATION LOCK
CATMAINT CONVERT CATALOG LOCK
CATMAINT CONVERT DIRECTORY LOCK
```

Field Name: QW0021KP

RESOURCE ID

The hexadecimal identifier of the small resource. If LOCK RES TYPE is:

DATA PAGE LOCKING
First 3 bytes are the page number

PARTITION LOCKING
Last byte is the partition number

INDEX PAGE LOCKING
First 3 bytes are the page number

HASH ANCHOR LOCK
First 3 bytes are the page number and the last byte is the anchor point ID

CS-READ DRAIN
Last byte is the partition number (optional)

RR-READ DRAIN
Last byte is the partition number (optional)

WRITE DRAIN
Last byte is the partition number (optional)

ROW LOCK
First 3 bytes are the page number and the last byte is the row ID of the record

INDEX END OF FILE LOCK
Last byte is the partition number (optional)

PAGESET/PARTITION P-LOCK
First byte is the 1-based partition number (optional)

PAGE P-LOCK
First byte is the 1-based partition number (optional) and the last 3 bytes are the relative page number

PAGESET/PARTITION LEV CASTOUT P-LOCK
First byte is the 1-based partition number (optional)

Note:

- In large partitioned table spaces, the page number covers 4 bytes instead of 3.
- If table spaces use relative page numbers, the resource ID covers 7 bytes. It contains the partition number in the first 2 bytes, the page number in the next 4 bytes, and the record ID in the seventh byte.

For all other lock resource types, the resource ID is not applicable.

Field Name: QW0021KR

STATE

The lock state. This field is only applicable if the value in OPERATION is SEND . Otherwise, N/A is printed in this field.

Field Name: QW0257ST

NUMBER OF HOLDERS

The number of lock holders notified. This field is only applicable if the value in OPERATION is SEND . Otherwise, N/A is printed in this field.

Field Name: QW0257NU

OPERATION

The notify operation.

Field Name: QW0257OP

REQUEST

Indicates whether the request was synchronous or asynchronous. This field is only applicable if the value in OPERATION is SEND . Otherwise, N/A is printed in this field.

Field Name: QW0257FL

IFCID 258 - Data Set Extend Activity

This topic shows detailed information about "Record Trace - IFCID 258 - Data Set Extend Activity".

This record is written every time a data set is extended.

Record trace - IFCID 258 - Data Set Extend Activity

The field labels shown in the following sample layout of "Record Trace - IFCID 258 - Data Set Extend Activity" are described in the following section.

```
DATA SET NAME     : SYSIBM.SYSTABLE.TEST1.ORG.V610.VOLK.G003V001                TIMESTAMP   : 06/30/08 08:10:15.123456
DATABASE NAME     : DATASETN                  DBID             :        11
TABLESPACE NAME   : TABLESPN                  PSID             :        22
PRIMARY QUANTITY  :       1000                SEC. QUANTITY    :       200
HIGH ALLOC BEFORE :      11000                HIGH ALLOC AFTER :     22000       MAX DS SIZE :      33000
EXTENTS BEFORE    :        512                EXTENTS AFTER    :       256       MAX EXTENTS :       1024
VOLUMES BEFORE    :          5                VOLUMES AFTER    :         6       MAX VOLUMES :          7
```

DATA SET NAME

Data set name.

Field Name: QW0258DS

TIMESTAMP

The timestamp when the Data Set Extend Activity is completed. It shows the date and time in DB2 timestamp format.

Field Name: QW0258TS

DATABASE NAME

Database name.

Field Name: QW0258DN

DBID

Database identifier.

Field Name: QW0258DB

TABLESPACE NAME

Table or index space name.

Field Name: QW0258TN

PSID

Page set identifier.

Field Name: QW0258PS

PRIMARY QUANTITY

Primary allocation quantity in 4 KB units.

Field Name: QW0258PQ

SEC. QUANTITY

Secondary allocation quantity in 4 KB units.

Field Name: QW0258SQ

HIGH ALLOC BEFORE

High allocated space before the extend in 4KB units.

Field Name: QW0258HB

HIGH ALLOC AFTER

High allocated space after the extend in 4 KB units.

Field Name: QW0258HA

MAX DS SIZE

Maximum size fo the data set in 4 KB units.

Field Name: QW0258MS

EXTENTS BEFORE

Number of extends before the reported extend.

Field Name: QW0258XB

EXTENTS AFTER

Number of extends after the reported extend.

Field Name: QW0258XA

MAX EXTENTS

The maximum number of extents for the VSAM data set.

Field Name: QW0258XM

VOLUMES BEFORE

Number of volumes before the extend.

Field Name: QW0258VB

VOLUMES AFTER

Number of volumes before the extend.

Field Name: QW0258VA

MAX VOLUMES

Maximum number of volumes in the VSAM data set.

Field Name: QW0258VM

IFCID 259 - Buffer Manager Pg P-Lock Req

This topic shows detailed information about "Record Trace - IFCID 259 - Buffer Manager Pg P-Lock Req".

Record trace - IFCID 259 - Buffer Manager Pg P-Lock Req

The field labels shown in the following sample layout of "Record Trace - IFCID 259 - Buffer Manager Pg P-Lock Req" are described in the following section.

```
P-LOCK TYPE     : PAGE               DBID: TPCCE1     OBID: TODLN000      PARTITION NMBR  : 0         BP ID    : X'00'
IRLM FUNC CODE  : LOCK                  OBJECT TYPE : TABLESPACE    MODIFY          : NO        PAGE NMBR:  23
DB2 MEMBER NAME : 'BLANK'      CONDITIONAL: YES     RESTART: NO            REQUESTED STATE : SHARED
OLD HELD STATE  : NOT HELD                                             NEW HELD STATE  : NOT HELD
QW0259EV  X'D3'     QW0259TK  X'00000000'     QW0259RC  X'00000008'     QW0259RS  X'40000000'     QW0259PC  X'0000'
```

P-LOCK TYPE

The P-lock type. This field can only have one value: PAGE.

Field Name: QW0259KT

DBID

The database ID. Deduced from the DB2 fields QW0259KD, QW0105DN or QW0107DN.

When present, the database name is shown, otherwise the decimal identifier from QW0259KD is shown or N/A if this value is 0.

Field Name: RT0259DB

OBID

The database ID. Deduced from the DB2 fields QW0259KP, QW0105TN or QW0107TN.

When present, the object identifier is shown, otherwise the decimal identifier from QW0259KP is shown or N/A if this value is 0.

Field Name: RT0259OB

PARTITION NMBR

The partition number. If this is a nonpartitioned page set, 0 is printed in this field.

Field Name: QW0259KR

BP ID

The internal buffer pool ID (0-49 and 80-89).

Field Name: QW0259KU

IRLM FUNC CODE

The IRLM function code.

Field Name: QW0259IF

OBJECT TYPE

The object type.

Field Name: QW0259OB

MODIFY

Indicates whether this is a modify lock.

Field Name: QW0259C7

PAGE NMBR

The relative page number.

Field Name: QW0259KQ

DB2 MEMBER NAME

The DB2 member name that depends on the value in IRLM FUNC CODE:

- When CHANGE FROM P-LOCK EXIT this is the name of the database in conflict with the P-lock state currently held by this member.
- If it is not CHANGE FROM P-LOCK EXIT and the P-lock was rejected, this is the name of the database in conflict with this request

Field Name: QW0259DB

CONDITIONAL

Indicates whether the request was conditional.

Field Name: QW0259C1

RESTART

Indicates whether there was a restart lock request.

If the lock is currently retained on behalf of this DB2, a restart request causes the lock to be changed from retained to active. If the lock is not retained, the lock grant process is as normal.

Field Name: QW0259C6

REQUESTED STATE

The requested lock state if the value in IRLM FUNC CODE is LOCK or CHANGE . If the value is CHANGE FROM P-LOCK EXIT , then this is the P-lock state requested by the other member causing the P-lock exit of this member.

Field Name: QW0259ST

OLD HELD STATE

The previously held P-LOCK state.

Field Name: QW0259PS

NEW HELD STATE

The newly held P-LOCK state.

Field Name: QW0259NS

IFCID 260 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 260 - IBM Service Record".

This record is for IBM service use.

IFCID 261 - Group Buffer Pool Checkpoint

This topic shows detailed information about "Record Trace - IFCID 261 - Group Buffer Pool Checkpoint".

Record trace - IFCID 261 - Group Buffer Pool Checkpoint

The field labels shown in the following sample layout of "Record Trace - IFCID 261 - Group Buffer Pool Checkpoint" are described in the following section.

```
BUFFERPOOL ID          :         0
CASTOUT P-LOCKS        :         0   NEW RECOVERY LRSN: X'ADE91D00AD07'    START TIME         : 12/13/08 12:06:
INIT BY SPECIAL CASTOUT:         0   OLD RECOVERY LRSN: X'ADE91B349E86'    ELAPSED TIME       : 00:00:00.659423
INIT W/O SENDING MSG   :         0   NEW MINIMUM LRSN : X'ADE8EE38F414'    READ DIRECTORY INFO:          1
INIT BY  SENDING MSG   :         0   OLD MINIMUM LRSN : X'ADE8EE38F414'    DIRECTORY ENTRIES  :          0
```

BUFFERPOOL ID

The internal identifier of the buffer pool. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0261BP

CASTOUT P-LOCKS

The number of page sets or partition castout P-locks obtained by the GBP checkpoint process.

Field Name: QW0261PD

NEW RECOVERY LRSN

The global recovery record sequence number (LRSN) for this GBP checkpoint.

Field Name: QW0261NL

START TIME

The date and time at which GBP checkpoint processing started. The RECORD TIME field shows when processing ended.

Field Name: QW0261TS

INIT BY SPECIAL CASTOUT

The number of page sets and partitions for which a castout had to be initiated by a special castout process because the castout owner did not exist for the page set or partition.

Field Name: QW0261PS

OLD RECOVERY LRSN

The global recovery log record sequence number (LRSN) of the GBP checkpoint prior to this one.

Field Name: QW0261OL

ELAPSED TIME

The duration of the GBP checkpoint process. Calculated by QW0261TS - QWHSSTCK.

Field Name: RT0261ET

INIT W/O SENDING MSG

The number of page sets and partitions for which a castout was locally initiated without a message being sent.

Field Name: QW0261PL

NEW MINIMUM LRSN

The minimum restart/redo point for this GBP checkpoint.

Field Name: QW0261NM

READ DIRECTORY INFO

The number of coupling facility requests to read directory information.

Field Name: QW0261RD

INIT BY SENDING MSG

The number of page sets and partitions for which a castout was initiated by sending a message to the castout owner.

Field Name: QW0261PN

OLD MINIMUM LRSN

The minimum restart/redo point of the GBP checkpoint prior to this one.

Field Name: QW0261OM

DIRECTORY ENTRIES

The number of directory entries for changed pages processed.

Field Name: QW0261DP

IFCID 262 - GBPOOLT Castout Threshold Processing

This topic shows detailed information about "Record Trace - IFCID 262 - GBPOOLT Castout Threshold Processing".

GBPOOLT castout threshold processing shows the data from IFCID 262. This IFCID contains statistics related to the GBPOOLT castout threshold processing for a GBP. It is only written if the GBPOOLT threshold has been reached.

This record is only written in a data sharing environment.

Record trace - IFCID 262 - GBPOOLT Castout Threshold Processing

The field labels shown in the following sample layout of "Record Trace - IFCID 262 - GBPOOLT Castout Threshold Processing" are described in the following section.

```
BUFFERPOOL ID          : 9999999999
READ CASTOUT CLASS     : 9999999999   CASTOUT P-LOCKS      : 9999999999  START TIME  : mm/dd/yy hh:mm:ss.nnnnnn
READ CASTOUT STATISTICS: 9999999999   CHANGED PAGES CASTOUT: 9999999999  ELAPSED TIME: hh:mm:ss.nnnnnn
INIT BY  SENDING MSG   : 9999999999   CHANGED PAGES IN GBP : 9999999999  FIRST CASTOUT CLASS: 99999
INIT W/O SENDING MSG   : 9999999999   CHANGED PAGES GBPOOLT: 9999999999  LAST  CASTOUT CLASS: 99999
```

BUFFERPOOL ID

The internal identifier of the buffer pool. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0262BP

READ CASTOUT CLASS

The number of coupling facility read castout class requests.

Field Name: QW0262RC

CASTOUT P-LOCKS

The number of page set or partitions castout P-locks obtained by the GBPOOLT process.

Field Name: QW0262PD

START TIME

The date and time at which the GBP castout started. The RECORD TIME field shows when processing ended.

Field Name: QW0262TS

READ CASTOUT STATISTICS

The number of coupling facility requests to cast out statistics.

Field Name: QW0262RS

CHANGED PAGES CASTOUT

The number of changed page names that were passed to the page set and partition castout owner for castout.

Field Name: QW0262CP

ELAPSED TIME

The duration of the GBP castout process. Calculated by QW0262TS - QWHSSTCK.

Field Name: RT0262ET

INIT BY SENDING MSG

The number of page sets and partitions for which castout was initiated by sending a notify message to the castout owner.

Field Name: QW0262PN

CHANGED PAGES IN GBP

The number of changed pages in group buffer pool.

Field Name: QW0262DP

FIRST CASTOUT CLASS

The first castout class processed.

Field Name: QW0262FC

INIT W/O SENDING MSG

The number of changed pages and partitions for which castout was locally initiated without a message being sent to the castout owner.

Field Name: QW0262PL

CHANGED PAGES GBPOOLT

The number of changed pages required to reach the GBPOOLT.

Field Name: QW0262GT

LAST CASTOUT CLASS

The last castout class processed. Sometimes the value in this field is smaller than the one in the FIRST CASTOUT CLASS field. This can happen if DB2 wraps around at the end of the castout class numbers.

Field Name: QW0262LC

IFCID 263 - Page Set and Partition Castout Detail

This topic shows detailed information about "Record Trace - IFCID 263 - Page Set and Partition Castout Detail".

This record shows page set and partition castout statistics. It is written by the page set or partition castout owner after the castout engine completed servicing the castout request.

This record is only written in a data sharing environment.

Record trace - IFCID 263 - Page Set and Partition Castout Detail

The field labels shown in the following sample layout of "Record Trace - IFCID 263 - Page Set and Partition Castout Detail" are described in the following section.

```
BUFFERPOOL ID          :         0   CASTOUT REASON     : GROUP BUFFER POOL CHECKPOINT
DATABASE ID            :         1   PAGE SET OBJECT ID :         68   START TIME         : 12/11/08 11:24:20.123456
PARTITION NUMBER       :         0   PRIVATE BUFFER     :         32   ELAPSED TIME       : 00:00:00.123456
CASTOUT DATA REQUESTS  :         2   UNLOCK FOR CASTOUT :          1   READ CASTOUT CLASS :          8
DELETE NAME REQUESTS   :         0   WRITE I/O REQUESTS :          1   SEC-GBP DEL NAME LIST  :      3
TIME DEL-NAME GBP      :  123456789   DEL-NAME GBP       :      12345
TIME DEL-NAME SEC-GBP  :  123456789   DEL-NAME SEC-GBP   :      12345
QW0263FL               :      X'C1'   QW0263S1           :         XX   QW0263S2              :         XX
```

BUFFERPOOL ID

The internal identifier of the buffer pool. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0263BP

CASTOUT REASON

The reason why the castout was invoked.

- CLASS THRESHOLD
- GROUP BUFFER POOLT THRESHOLD
- GROUP BUFFER POOL CHECKPOINT
- GROUP BUFFER REBUILD
- SYNCHRONOUS CASTOUT
- CONVERTED TO NON-GBP-DEPENDENT OR ASYNCH. CASTOUT

Field Name: QW0263RS

DATABASE ID

The ID of the database.

Field Name: QW0263DB

PAGE SET OBJECT ID

The ID of the page set object.

Field Name: QW0263PS

START TIME

The date and time at which castout processing started.

Field Name: QW0263TS

PARTITION NUMBER

The partition number. It is 0 if this is a non-partitioned page set.

Field Name: QW0263PT

PRIVATE BUFFER

The number of private buffer allocated to this engine (in 4K increments).

Field Name: QW0263PB

ELAPSED TIME

The duration of the castout process. The RECORD TIME field shows when this process ended. Calculated by QW0263TS - QWHSSTCK.

Field Name: RT0263ET

CASTOUT DATA REQUESTS

The number of coupling facility requests to cast out data.

Field Name: QW0263CD

UNLOCK FOR CASTOUT

The number of coupling facility requests to unlock for a castout.

Field Name: QW0263UN

READ CASTOUT CLASS

The number of coupling facility requests to read a castout class.

Field Name: QW0263RC

DELETE NAME REQUESTS

The number of coupling facility requests to delete a name.

Field Name: QW0263DN

WRITE I/O REQUESTS

The number of write I/O requests.

Field Name: QW0263IO

GBP DEL NAME LIST

The number of IXLCACHE delete_name_list requests to the secondary group buffer pool when the GBP MODE is DUPLEX.

Field Name: QW02632D

TIME DEL-NAME GBP

Duration of DELETE_NAME to primary GBP.

Field Name: QW0263TD

DEL-NAME GBP

The number of times a DELETE_NAME request was reissued to the primary GBP.

Field Name: QW0263RD

TIME DEL-NAME SEC-GBP

Duration of DELETE_NAME to the secondary GBP.

Field Name: QW02632T

DEL-NAME SEC-GBP

The number of times a DELETE_NAME request was reissued to the secondary GBP for duplexing.

Field Name: QW02632R

IFCID 265 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 265 - IBM Service Record".

This record is for IBM service use.

IFCID 266 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 266 - IBM Service Record".

This record is for IBM service use.

IFCID 267 - CF Rebuild/Alter/Start

This topic shows detailed information about "Record Trace - IFCID 267 - CF Rebuild/Alter/Start".

This record shows the start of a coupling facility (CF) rebuild or alter, which is indicated by the OPERATION field. A rebuild or alter is reported in the same format.

Record trace - IFCID 267 - CF Rebuild/Alter/Start

The field labels shown in the following sample layout of "Record Trace - IFCID 267 - CF Rebuild/Alter/Start" are described in the following section.

```
OPERATION     : X
STRUCTURE NAME: XXXXXXXXXXXXXXX
REQUESTED SIZE: nnnnnnnn
QW0267ME  nnnnnnnn   QW0267ML  nnnnnnnn
QW0267F1  X'hh'      QW0267ER  X'hhhh'
QW0267LR  X'hhhh'    QW0267F2  X'hhhh'
```

OPERATION

The operation for the DB2 data sharing coupling facility structures:

F
The rebuild due to the coupling facility structure failure or loss of connectivity to the coupling facility.

O
The MVS rebuild initiated by the MVS operator command SETXCF START, REBUILD

M
The rebuild caused by the maximum number of lock structure users being reached.

A
The dynamic expansion or contraction initiated by the MVS operator command SETXCF START, ALTER

D
Rebuild started to establish DUPLEX

P
Duplexing being stopped, falling back to primary.

W
Duplexing being stopped, switching to secondary.

S
Dynamic expand/contract initiated by MVS SETXCF START,ALTER operator command against a secondary group buffer pool.

Field Name: QW0267RS

STRUCTURE NAME

The name of the CF structure.

Field Name: QW0267NM

REQUESTED SIZE

The requested size of the CF structure in 4 KB increments. This field is valid only if the value in the REASON is ALTER COMMAND .

Field Name: QW0267SZ

IFCID 268 - CF Rebuild/Alter End

This topic shows detailed information about "Record Trace - IFCID 268 - CF Rebuild/Alter End".

This record shows the end of a coupling facility (CF) alter or rebuild. This end record matches the start record, IFCID 267.

Record trace - IFCID 268 - CF Rebuild/Alter End

The field labels shown in the following sample layout of "Record Trace - IFCID 268 - CF Rebuild/Alter End" are described in the following section.

```
OPERATION       : x                 START TIME     : mm/dd/yy hh:mm:ss.nnnnnn
OPERATION RESULT: x                 ELAPSED TIME   : hh:mm:ss.nnnnnn
REASON STOPPED  : x                 DIRECTORY COUNT: nnnnnnnn
STRUCTURE NAME  : xxxxxxxxxxxxxxxx  ELEMENT COUNT  : nnnnnnnn
MINIMUM SIZE    : nnnnnnnn          CURRENT SIZE   : nnnnnnnn
FLAGS           : X'hh'
```

OPERATION

The operation for the DB2 data sharing coupling facility structures:

F
The rebuild due to the coupling facility structure failure or loss of connectivity to the coupling facility.

O
The MVS rebuild initiated by the MVS operator command `SETXCF START, REBUILD`

M
The rebuild caused by the maximum number of lock structure users being reached.

A
The dynamic expansion or contraction by the MVS operator command `SETXCF START, REBUILD`

D
Rebuild started to establish DUPLEX

P
Duplexing being stopped, falling back to primary.

W
Duplexing being stopped, switching to secondary.

S
Dynamic expand/contract initiated by MVS SETXCF START,ALTER operator command against a secondary group buffer pool.

Field Name: QW0268FC

START TIME

The date and time of the start of the rebuild.

Field Name: QW0268BT

OPERATION RESULT

The result of the operation:

0
The operation completed successfully.

N
The expansion or contraction completed successfully, however, the allocated size is smaller than the requested size.

S
The rebuild, expansion, or contraction was stopped.

Field Name: QW0268RC

REASON STOPPED

The reason why the rebuild, expansion, or contraction was stopped:

C
Duplexing rebuild stopped because of insufficient connectivity due to a change in the set of connectors

F
Structure failed before the operation completed

G
An MVS service failed before the operation completed

I
New structure does not provide connectivity which is better than or equivalent to the current structure

J
The structure alter request could not complete due to a rebuild initiated for the structure

K
Rebuild process was stopped because of failure on connect to the new structure

L
Lost connectivity to the structure

N
New structure does not provide better connectivity than the current structure for a LossConn rebuild

O
Operator requested to stop

P
Duplexing was stopped by new CFRM policy

R
Resource manager requested to stop

S
Invalid ratio specified

T
Rebuild process was stopped because the new lock structure is full

U
Rebuild process was stopped because of failure of a required IRLM in the group

W
Rebuild stopped due to successful group function level change--complete rebuild is not required

X
Rebuild stopped due to unsuccessful completion of group function level change

This field is only valid if the value in OPERATION RESULT is S .

Field Name: QW0268RS

DIRECTORY COUNT

If the structure was altered, this is the current directory count of the directory entries. If the GBP was rebuilt, this field is not used. For the SCA and lock structure, this is a serviceability field.

Field Name: QW0268DN

STRUCTURE NAME

The name of the CF structure.

Field Name: QW0268NM

ELEMENT COUNT

If the structure was altered, this is the current count of the elements. For an GBP with a 8 KB page size, the element count equals the data entry count. For a GBP with a 16 KB page size, the element count is eight times the data entry count. If the GBP was rebuilt, this field is not used. For the SCA and lock structure, this is a serviceability field.

Field Name: QW0268TN

MINIMUM SIZE

If the structure was altered, this is the current minimum structure in increments of 4 KB. If the GBP was rebuilt, this is number of pages cast out by this member.

Field Name: QW0268MS

CURRENT SIZE

If the structure was altered, this is the current structure size in increments of 4 KB. If the GBP was rebuild, this is number of pages written to the new structure by this member.

Field Name: QW0268CS

IFCID 269 - Trusted/Context Trace

This topic shows detailed information about "Record Trace - IFCID 269 - Trusted/Context Trace".

This record is produced, if a trusted connection is established or reused.

Record trace - IFCID 269 - Trusted/Context Trace

The field labels shown in the following sample layout of "Record Trace - IFCID 269 - Trusted/Context Trace" are described in the following section.

```
SYSOPR   D951     N/P          'BLANK'          'BLANK'                      'BLANK'
SYSOPR   D951     'BLANK'     13:05:30.60674075     54   1 269 TRUSTED       NETWORKID:  D951      LUNAME:  D951      LUWSEQ:     1
'BLANK'  'BLANK'              N/P                                CONTEXT TRACE
|-------------------------------------------------------------------------------------------------------------------------------
|CONNECTION TYPE: ESTABLISHED     STATUS: FAILED    SQLCODE:      20360   OBJECT OWNER: N/P
|SECURITY LABEL : N/P
|
|TRUSTED CONTEXT NAME: CON1
|SYSTEM AUTHID USED  : KOZS
|ROLE ASSOCIATED     : MYROLE
|TCP/IP ADDRESS      : ADDR1
|SERVAUTH NAME       : XXX3XXXXXXXXX4XXXXXXXXXZ
|ENCRYPTION          : CCCCCCCCCCCCc
|JOB NAME            : DDDDDDDDD
|REUSE AUTHID        : EEEEEEEEE
|USER ROLE           : my USER ROLE
|PROFILE NAME        : MYPROFILE
|-------------------------------------------------------------------------------------------------------------------------------
```

CONNECTION TYPE

The type of trusted connection. Possible values are:

ESTABLISHED or ESTABLISH TRUSTED CONNECTION
If a trusted connection is established.

REUSED or REUSE TRUSTED CONNECTION
If a trusted connection is reused.

Field Name: QW0269TY

STATUS

The status of the trusted connection:

SUCCESS
If a trusted connection was established or reused successfully.

FAILED or FAILURE
If a trusted connection failed, when it was tried to be established or reused.

If the status is neither SUCCESS nor FAILURE, the value itself is shown.

Field Name: QW0269ST

SQLCODE

The SQL code returned after running the SQL statement.

Field Name: QW0269SQ

OBJECT OWNER

The owner of the objects that are created using the trusted context:

ROLE
The role.

AUTHID
The AUTHORIZATION ID.

Field Name: QW0269OT

SECURITY LABEL

The security label.

Field Name: QW0269SL

TRUSTED CONTEXT NAME

The trusted context name.

Field Name: QW0269TC

SYSTEM AUTHID USED

The system authorization ID that is used to establish the trusted connection.

Field Name: QW0269SA

ROLE ASSOCIATED

The default role associated with the context.

Field Name: QW0269RC

TCP/IP ADDRESS

The actual communication TCP/IP address used for connection.

Field Name: QW0269AD

SERVAUTH NAME

The SERVAUTH name of the TCP/IP security zone.

Field Name: QW0269SR

ENCRYPTION

The encryption value to be associated with the encryption trust attribute for a trusted context. Possible values are:

- NONE
- LOW
- HIGH

Field Name: QW0269EC

JOB NAME

The job name for a local application.

Field Name: QW0269JN

REUSE AUTHID

The authorization ID under which a trusted connection is reused.

Field Name: QW0269RA

USER ROLE

The user role.

Field Name: QW0269RU

PROFILE NAME

The RACF profile name that contains the authorization IDs that can use the connection in the trusted context.

Field Name: QW0269PR

IFCID 270 - Trusted/Context Trace

This topic shows detailed information about "Record Trace - IFCID 270 - Trusted/Context Trace".

This record is produced, if a trusted connection is created or altered.

Record trace - IFCID 270 - Trusted/Context Trace

The field labels shown in the following sample layout of "Record Trace - IFCID 270 - Trusted/Context Trace" are described in the following section.

```
STATEMENT TYPE: CREATE   SQLCODE:         11   SQL STMT LENGTH:         12
SQL STATEMENT : CREATE MYTAB
```

STATEMENT TYPE

The type of trusted context. Possible values are:

CREATE TRUSTED CONTEXT or CREATE
If a trusted context is created.

ALTER TRUSTED CONTEXT or ALTER
If a trusted context is altered.

Field Name: QW0270TY

SQLCODE

The SQL return code from the CREATE or ALTER TRUSTED CONTEXT statement.

Field Name: QW0270SQ

SQL STMT LENGTH

The length of the SQL statement.

Field Name: QW0270SL

SQL STATEMENT

The SQL statement (truncated at 4000 bytes).

Field Name: QW0270SS

IFCID 271 - Row Level and Column Level Access Control

This topic shows detailed information about "Record Trace - IFCID 271 - Row Level and Column Level Access Control".

This IFCID records the following events:

- When a row permission or column mask is created.
- When a row permission or column mask is dropped.
- When a row permission or column mask is altered.

Record trace - IFCID 271 - Row Level and Column Level Access Control

The field labels shown in the following sample layout of "Record Trace - IFCID 271 - Row Level and Column Level Access Control" are described in the following section.

```
-------------------------------------------------------------------------------------------------------------------
STATEMENT TYPE: CREATE     OBJECT .......: ROW PERMISSION    SQLCODE ......:        -1    STMT LENGTH ..:        78
SQL STATEMENT : THIS IS A SQL STATEMENT TEXT TO VERIFY ITS CORRECT PRESENTATION IN BATCH AUDIT
-------------------------------------------------------------------------------------------------------------------
```

TYPE

Identifies the SQL statement type:

CREATE or C
Creates row permission or column mask.

DROP or D
Drops row permission or column mask.

ALTER or A
Alters row permission or column mask.

Otherwise, a hexadecimal value is shown.

Field Name: QW0271TY

OBJECT

Identifies the object type:

- Row permission (R)
- Column mask (M)

Otherwise, a hexadecimal value is shown.

Field Name: QW0271OB

SQLCODE

The SQL code from the execution of the CREATE, DROP, or ALTER statement.

Field Name: QW0271SQ

STMT LENGTH

The length of the SQL statement.

Field Name: QW0271SL

SQL STATEMENT

The SQL statement text associated with the table access. The maximum length is 4000 bytes. Long SQL text can be truncated.

Field Name: QW0271SS

IFCID 272 - Associate Locators

This topic shows detailed information about "Record Trace - IFCID 272 - Associate Locators".

Record trace - IFCID 272 - Associate Locators

The field labels shown in the following sample layout of "Record Trace - IFCID 272 - Associate Locators" are described in the following section.

```
LOCATION NAME     : LOCATION01XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
PKG COLLECTION ID : COLLECTION01XXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXZ
PROGRAM NAME      : PROGRAM001XXXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXZ
STO PROC LOCATION : LOCATION OF STORED PROCEDURE 01XXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXZ
STO PROC QUALIFIER: QUALIFIER OF STORED PROCEDURE 01XXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXZ
STO PROC NAME     : STORED PROCEDURE NAME 01XXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXZ
STATEMENT NUMBER  :       4711  NUMBER OF LOCATORS:       128  CONSISTENCY TOKEN: X'BB07511CB1000000'
```

LOCATION

The location name where the stored procedure executes.

Field Name: QW0272LN

PKG COLLECTION ID

The Package collection identificator. This is BLANK when the statement executes without a package.

Field Name: QW0272PC

PROGRAM NAME

The program name.

Field Name: QW0272PG

STO PROC LOCATION

The location of the stored procedure.

Field Name: QW0272LP

STO PROC QUALIFIER

The qualifier of the stored procedure.

Field Name: QW0272QN

STO PROC NAME

The name of the stored procedure.

Field Name: QW0272PN

STATEMENT NUMBER

The statement number of ASSOCIATE LOCATORS statement.

Field Name: QW0272SN

NUMBER OF LOCATORS

The number of locators referenced in the ASSOCIATE LOCATORS statement.

Field Name: QW0272NL

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0272TS

IFCID 273 - Allocate Cursor

This topic shows detailed information about "Record Trace - IFCID 273 - Allocate Cursor".

Record trace - IFCID 273 - Allocate Cursor

The field labels shown in the following sample layout of "Record Trace - IFCID 273 - Allocate Cursor" are described in the following section.

```
LOCATION NAME     : LOCATION01XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
PKG COLLECTION ID : PACKAGE001XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
PROGRAM NAME      : PROGRAM001XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
STO PROC LOCATION : LOCATION OF STORED PROCEDURE 01XXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
STO PROC QUALIFIER: QUALIFIER OF STORED PROCEDURE 01XXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
STO PROC NAME     : STORED PROCEDURE NAME 01XXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
ALLOCATED CURSOR  : ALLOCATE CURSOR NAME01XXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
REAL CURSOR NAME  : REAL CURSOR NAME 001XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0X
XXXXXXXX1XXXXXXXXX2XXXXXXXZ
STATEMENT NUMBER  :       4711  LOCATOR VALUE     :        815  CONSISTENCY TOKEN : X'F2F0F0F4C6C5C2F1'
QUERY COMMAND ID  : QRYCMDID    QUERY INSTANCE ID : QRYINSID
```

LOCATION NAME

The location name where the store procedure executes.

Field Name: QW0273LN

PKG COLLECTION ID

The Package collection identificator. This is BLANK when the statement executes without a package.

Field Name: QW0273PC

PROGRAM NAME

The program name.

Field Name: QW0273PG

STO PROC LOCATION

The location of the stored procedure.

Field Name: QW0273LP

STO PROC QUALIFIER

The qualifier of the stored procedure.

Field Name: QW0273QN

STO PROC NAME

The name of the stored procedure.

Field Name: QW0273PN

ALLOCATED CURSOR

The name of the ALLOCATE CURSOR statement.

Field Name: QW0273CN

REAL CURSOR NAME

The name of cursor in the stored procedure.

Field Name: QW0273RN

STATEMENT NUMBER

The statement number of ALLOCATE CURSOR statement.

From QW0273SN or QW0273TS.

Field Name: RT0325SN

LOCATOR VALUE

The value of the locator associated with the result set for which this cursor is defined.

Field Name: QW0273LV

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0273TS

QUERY COMMAND ID

The ID of the query command.

Field Name: QW0273CID

QUERY INSTANCE ID

The ID of the query instance.

Field Name: QW0273QID

IFCID 305 - Table Check Constraint

This topic shows detailed information about "Record Trace - IFCID 305 - Table Check Constraint".

Record trace - IFCID 305 - Table Check Constraint

The field labels shown in the following sample layout of "Record Trace - IFCID 305 - Table Check Constraint" are described in the following section.

```
EDVA     BATCH    D08B6272DA5C EDVA            BATCH                                EDVAWKL
EDVA     EDVAWKL  TSO          10:05:31.62662556     17   1 305 TABLE CHECK    NETWORKID:  DEIBMIPS  LUNAME:  IPUAQC61  LUWSEQ:     1
DSNTEP2  'BLANK'              N/P                           CONSTRAINT    NAME:       'BLANK'
                                                                           TEXT:
                                                                           DBID: 6         OBID: 17
                                                                           OPERATION: ENFORCE
                                                                           RESULT: OK
                                                                           RECORD IDENTIFIER: N/A
                                                                           TABLE_SPACE_TYPE : N/A
                                                                           CHARACTERS: N/A
...

EDVA     BATCH    D0AEE0499CB1 EDVA            BATCH                                EDVAWKL
EDVA     EDVAWKL  TSO          15:35:09.09492137     85   2 305 TABLE CHECK    NETWORKID:  DEIBMIPS  LUNAME:  IPUAQC61  LUWSEQ:     2
DSNTEP2  'BLANK'              N/P                           CONSTRAINT    NAME:       F2
                                                                           TEXT:
                                                                           DBID: 276       OBID: 19
                                                                           OPERATION: ENFORCE
                                                                           RESULT: REJ
                                                                           RECORD IDENTIFIER: X'00000201'
                                                                           TABLE_SPACE_TYPE : R
                                                                           PARTITION:       2
                                                                           CHARACTERS:
                                                                             X'00800000000000003E900E5F0404040'
                                                                             X'40404040404040404040404040404040'
```

NAME

The check constraint name.

Field Name: QW0305CN

TEXT

The first 30 characters of the check constraint text.

Field Name: QW0305CT

DBID

The DBID of the database for the table on which the check constraint is defined.

Field Name: QW0305DB

OBID

The OBID of the table on which the check constraint is defined.

Field Name: QW0305OB

OPERATION

The operation that is utilizing the check constraint function:

CREATE
A check constraint is defined with a CREATE TABLE operation.

ALTER ADD
A check constraint is defined with an ALTER TABLE operation.

ALTER ADD ENFORCE
A check constraint is enforced during an ALTER TABLE operation.

ALTER DROP
A check constraint is removed with an ALTER TABLE operation.

ENFORCE
A check constraint is enforced. DB2 checks that a row does not violate a check constraint.

Field Name: QW0305OP

RESULT

The result of the enforced check constraint:

REJ
The check constraint was rejected due to a check constraint violation.

OK
No check constraint was violated.

Field Name: QW0305RS

RECORD IDENTIFIER

The record identifier (RID) of the record that failed the check constraint. This field is only valid if the value in RESULT is REJ .

Field Name: QW0305ID

TABLE_SPACE_TYPE

The type of the table space:

L
Non-EA large table

N
Non-large table

R
Partitioned by range (PBR) universal table spaces (UTS) that use relative page numbers

V
EA-enabled large table

Field Name: QW0305TY

PARTITION

Shows the partition number if TABLE_SPACE_TYPE is R.

Field Name: QW0305PT

CHARACTERS

The first 30 characters of the rejected record (shown in text and hexadecimal format) that failed the check constraint condition. This field is only valid if the value in RESULT is REJ . Otherwise, N/A is printed in this field.

Field Name: QW0305RR

IFCID 311 - Global Temp Table Usage

This topic shows detailed information about "Record Trace - IFCID 311 - Global Temp Table Usage".

Record trace - IFCID 311 - Global Temp Table Usage

The field labels shown in the following sample layout of "Record Trace - IFCID 311 - Global Temp Table Usage" are described in the following section.

```
TEMP TAB CREATOR  : 'BLANK'    TEMP TAB NAME: TTAB1               PACK LOCATION NAME: 'BLANK'
PROGRAM NAME      : DSNTEP3    CURSOR NAME  : N/A                 PACK COLLECTION ID: DSNTEP3
PACKAGE VERSION   : N/P
CURSOR HOLD STATUS: HO    WORKFILE TYPE: TT       OPERATION: TYPE
---- SERVICEABILITY FIEDS: -------------------------
QW0311CA:                                  QW0311TA:
QW0311CL:  WTTD
```

TEMP TAB CREATOR

The creator of the global temporary table.

Field Name: QW0311QN

TEMP TABLE NAME

The name of the global temporary table.

Field Name: QW0311TN

PACK LOCATION NAME

The package location name for the query that uses the global temporary table.

Field Name: QW0311LN

PROGRAM NAME

The program name for the query that uses the global temporary table.

Field Name: QW0311PN

CURSOR NAME

The cursor name for fetches. This field is only applicable if the value in WORKFILE TYPE is RC . Otherwise, N/A is printed.

Field Name: QW0311CN

PACK COLLECTION ID

The package collection identifier for the query that uses the global temporary table.

Field Name: QW0311PC

PACK VERSION

The package version for the query that uses the global temporary table.

Field Name: QW311PVF

CURSOR HOLD STATUS

The cursor hold status:

HO
The cursor is held through commit.

'BLANK'
The cursor is not held through commit.

Field Name: QW0311HO

WORKFILE TYPE

The work-file type:

TT
Temporary table

C
Cursor on a temporary table

TR
Transition table

CT
Cursor on transition table.

Field Name: QW0311TY

OPERATION

The operation using the global temporary table:

AT
Alter the temporary table.

CI
Create the temporary table instantiation. A work file is created for the temporary table.

OC
Open the cursor on a temporary table.

D
Delete work files for temporary table.

DA
Delete all rows from the temporary table, but leave the work-file structures intact.

CC
Close cursor on the temporary table.

Field Name: QW0311OP

QW0311CA

This field is for IBM service use.

Field Name: QW0311CA

QW0311TA

This field is for IBM service use.

Field Name: QW0311TA

IFCID 313 - Uncommitted Unit of Recovery

This topic shows detailed information about "Record Trace - IFCID 313 - Uncommitted Unit of Recovery".

Uncommitted unit of recovery (UR) shows data from IFCID 313. It reflects the same information given in the DB2 messages DSNR035I and DSNR036I.

Record trace - IFCID 313 - Uncommitted Unit of Recovery

The field labels shown in the following sample layout of "Record Trace - IFCID 313 - Uncommitted Unit of Recovery" are described in the following section.

```
                  10:14:49.79222814    555   1 313 UNCOMMITED     N/P
                  N/P                          UNIT OF RECOV NETWORKID:  DKBD0N01  LUNAME:  BDP0DTST  LUWSEQ:     6
-------------------------------------------------------------------------------------------------------------------
UNCOMMITTED URID : X'404040402D291B439AFE'                   CHKPTS TAKEN  :          0    TYPE OF UR/UW: FL
NETWORKID        : DKBD0N01         LUNAME       : BDP0DTST   INSTANCE      : CB6E8EBE3DF1  COMMIT COUNT :          6
CONNECTION ID    : RRSAF            CORRELATION ID: TOPRYD    MESSAGE NUMBER: DSNJ031I
PLAN NAME        : BDBSBATC         LOG RECS WRTN :     300000 THRESHOLD TYPE: LOG RECORDS
AUTHORIZATION ID : UBIFAP
END USER USERID  : UBIFAP
TRANSACTION      : TOPRYD
WORKSTATION      : RRSAF
```

UNCOMMITTED URID

The ID of the uncommitted unit of recovery.

Field Name: QW0313ID

CHKPTS TAKEN

For inflight units of recovery (UR), the number of checkpoints taken since the beginning of the UR. For indoubt URs, this field is set to `-1` .

Field Name: QW0313CK

TYPE OF UR/UW

The type of uncommitted unit of recovery (UR/UW):

FL
Inflight UR

DU
Indoubt UR

RR
Repeatable read

Field Name: QW0313TY

LUWID - NETWORKID, LUNAME, INSTANCE, COMMIT COUNT

The logical unit of work ID (LUWID) identifies the thread within the network. It consists of the:

- Fully qualified network name
- Logical unit name

- Logical unit of work (LUW) instance number
- Logical unit of work (LUW) sequence number which identifies the last COMMIT scope, in which the logical unit participated

Field Name: QW0313LU

CONNECTION ID

The connection ID.

Field Name: QW0313CN

CORRELATION ID

The correlation ID.

Field Name: QW0313CR

MESSAGE NUMBER

The number of the DB2 message reflecting the information in this IFCID.

Field Name: QW0313MG

PLAN NAME

Plan Name from URE, if the UR is active, from RURE, if the UR is inactive (indoubt).

Field Name: QW0313PN

LOG RECS WRTN

Shows one of the following:

- The number of log records written
- The total number of minutes that the reader has been running

Field Name: QW0313LW

THRESHOLD TYPE

The type of threshold reached:

C
Checkpoints

L
Log records

Field Name: QW0313TH

AUTHORIZATION ID

Authorization ID from URE, if the UR is active, from RURE, if the UR is inactive (indoubt).

Field Name: QW0313AI

END USER USERID

End-user ID from CCB, if the UR is active. End user information is not available for indoubt URs.

Field Name: QW0313EU

TRANSACTION

End-user transaction name from CCB, if the UR is active. End user information is not available for indoubt URs.

Field Name: QW0313ET

WORKSTATION

End-user workstation name from CCB if the UR is active. End user information is not available for indoubt URs.

Field Name: QW0313EW

IFCID 314 - Authorization Exit Parameters

This topic shows detailed information about "Record Trace - IFCID 314 - Authorization Exit Parameters".

It is generated after the authorization exit is called and shows the contents of the parameter list.

This record can be useful when debugging an authorization exit.

Record trace - IFCID 314 - Authorization Exit Parameters

The field labels shown in the following sample layout of "Record Trace - IFCID 314 - Authorization Exit Parameters" are described in the following section.

```
ADDRESS EXPL     : X'000000AA'   EXIT RETURN CODE:          4   STO CLOCK BEFORE EXIT CALL: 02-05-34 00:29:23.181759
ADDRESS WORK AREA: X'000000BB'   EXIT REASON CODE:          8   STO CLOCK AFTER  EXIT CALL: 02-05-34 00:29:23.182511
AUTH ID                : N/P
UNQUALIFIED OBJECT NAME: N/P
OBJECT OWNER           : N/P
RELATED INFO 1         : N/P
RELATED INFO 2         : N/P
LENGTH WORK AREA :        204
ACEE UTOKEN      : UTOKEN01XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXZ
PARAMETER LIST   :
0000  C1C2C3C4  C5C6C7C8  C9404040  40404040   40404040  40404040  40404040  40404040  | ABCDEFGHI
0020  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
0040  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
0060  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
0080  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
00A0  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
00C0  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
00E0  40404040  40404040  40404040  40404040   40404040  40404040  40404040  40404040  |
```

ADDRESS EXPL

The address of the exit parameter list.

Field Name: QW0314EL

EXIT RETURN CODE

The return code from the exit:

0
Access allowed.

4
Check the DB2 authorization.

8
Access denied.

12
Unable to determine authorization. Do not call the exit again.

Field Name: QW0314RC

STO CLOCK BEFORE EXIT CALL

The store clock value before the exit was called.

Field Name: QW0314BC

ADDRESS WORK AREA

The address of the work area.

Field Name: QW0314WA

EXIT REASON CODE

The reason code from the user-defined exit.

Field Name: QW0314RS

STO CLOCK AFTER EXIT CALL

The store clock value after the exit was called.

Field Name: QW0314AC

AUTH ID

The authorization ID that is checked by DB2.

Field Name: QW0314UN

UNQUALIFIED OBJECT NAME

The unqualified object name.

Field Name: QW0314BN

OBJECT OWNER

The object owner or qualifier.

Field Name: QW0314ON

RELATED INFO 1

Shows other related information in field 1.

Field Name: QW03141N

RELATED INFO 2

Shows other related information in field 2.

Field Name: QW03142N

LENGTH WORK AREA

The length of the work area.

Field Name: QW0314WL

ACEE UTOKEN

Shows the ACEE UTOKEN, if it is available. If it is not available, the first word of this field contains one of the following values:

0
The UTOKEN cannot be accessed

-1
An abend occurred during the attempt to access the ACEE.

Field Name: QW0314UT

PARAMETER LIST

The list of parameters specific to the exit.

Field Name: QW0314PL

IFCID 316 - SQL Statement Statistics

This topic shows detailed information about "Record Trace - IFCID 316 - SQL Statement Statistics".

IFCID 316 reports on the contents of the prepared SQL statement cache. This record is only written when an IFI application requests IFCID 316 through the READS interface.

It provides one record for each qualifying SQL statement in the cache. These multiple records are placed in the output area provided by the IFI application. The IFI application can specify qualification criteria for which statements should be reported.

Record Trace - IFCID 316 - SQL Statement Statistics

The field labels shown in the following sample layout of "Record Trace - IFCID 316 - SQL Statement Statistics" are described in the following section.

```
STATEMENT NAME           : X'00650B786B4536444B3A2A490000003C'                 STATEMENT IDENTIFIER     :        593
LITERAL REPLACEMENT      : NO                                                  LINE NUMBER              :          0
STATUS                   : INVALIDATED BY DROP OR ALTER                        ELIGIBLE FOR ACCELERATOR  :  YES

TIME STATISTICS COLLECTION START: 12/20/10 16:34:52.484040
TIME STATEMENT STORED IN CACHE  : 12/22/10 11:36:42.874097    IN STORE CLOCK FORMAT     : X'C710D9CFD18F1F1A'
TIME STATEMENT UPDATED IN CACHE : 12/22/10 11:36:42.874778    IN STORE CLOCK FORMAT     : X'20101222113642874778'

STATEMENT COPIES         :                    0             STATEMENT EXECUTIONS      :                    1
SYNCH BUFFER READS       :                    0             SYNCH BUFFER WRITES       :                    0
CURRENT USERS            :                    0             GETPAGE OPERATIONS        :                    2
TABLESPACE SCANS         :                    0             PARALLEL GROUPS CREATED   :                    0
ROWS EXAMINED            :                    0             ROWS PROCESSED            :                    1
SORTS                    :                    0             INDEX SCANS               :                    0
ACCUMULATED CPU TIME     :        0.000210                  ACCUMULATED ELAPSED TIME  :        0.000218

STABILIZED STMT ID       :                  121             HASH-ID VERSION           :                    1
HASH-ID                  : X'70746202756906194 25A2A4A5B2E2332'
STABILIZATION GROUP NAME  : HONG1DEF

                                          RID LIST SECTION
(HJA=HYBRID JOIN APPEND, IA=INDEX ACCESS, OV=OVERFLOW, RL=RID LIST)
RL NOT USED LIMIT EXCEEDED:                   0             RL NOT USED NO STOR AVAIL :                    0
RL OV - NO POOL STOR AVAIL:                   0             RL OV - RIDS EXCEED LIMIT :                    0
HJA - NO POOL STOR AVAI   :                   0             HJA - RIDS EXCEED LIMIT   :                    0
RL RETRIEVAL IA SKIPPED   :                   0

                                       ACCUMULATED WAIT TIMES
READ BY OTHER THREAD     :        0.005985                  SYNCH EXECUTION UNIT SWITCH:             N/P
WRITE BY OTHER THREAD    :             N/P                  SYNCHRONOUS I/O           :        0.008773
GLOBAL LOCKS             :             N/P                  LOCK AND LATCH REQ        :             N/P
LATCH REQUEST            :             N/P                  PAGE LATCH                :             N/P
DRAIN LOCK               :             N/P                  DRAIN WAITING FOR CLAIM REL:            N/P
LOG WRITER               :             N/P
WAIT CHILD L-LOCKS       :        0.100000                  WAIT OTHER L-LOCKS        :        0.100000
WAIT P/P P-LOCKS         :        0.100000                  WAIT PAGE P-LOCKS         :        0.100000
WAIT OTHER P-LOCKS       :        0.100000                  WAIT PIPE                 : N/A
WAIT PARALLEL QUERIES    : N/A

CURRENT DATA BIND OPTION  : NO                              CURSOR WITH HOLD          : NO
CURRENT PRECISION SPEC REG: DEC15                           DYNAMIC RULES BIND OPTION  : RUN
CURRENT DEGREE SPECIAL REG: 1                               ISOLATION BIND OPTION     : CURSOR STABILITY
CURRENT RULES SPECIAL REG : DB2                             DSG MEMBER                : 'BLANK'

TRANSACTION NAME         : db2jcc_application
SIGNON USER ID           : skadm
WORKSTATION ID           : candlelight
PROGRAM NAME             : SYSLH200
USER ID                  : SKADM
USER GROUP               : SKADM
OBJECT QUALIFIER         : SKADM
REFERENCED TABLE QUALIFIER: SKADM
REFERENCED TABLE NAME    : LE105
USER PROVIDED ID STRING  : N/P
CURRENT SCHEMA           : SKADM

LENGTH OF SQL STATEMENT  :        60
SQL STATEMENT - FIRST 60 BYTES : INSERT INTO LE105 (ID, NAME, SALARY) VALUES(1 ,'dummy', 100)

                                            ACCELERATOR DATA

ACCELERATOR NAME      :    SIM35
TIME STATEMENT STORED IN CACHE : 11/13/14 16:29:47.365140
STATEMENT IDENTIFIER  :                  18
MEMBER NAME           : 'BLANK'
ACCELERATOR EXECUTIONS :                  1             ACCUMULATED # ROWS RETURNED  :                    7
ACCUMULATED CPU TIME      :         0.000001            ACCUMULATED # BYTES RETURNED :               454257
ACCUMULATED ELAPSED TIME  :         0.042998            ACCUMULATED EXECUTION TIME   :             0.118118
ACCUMULATED QUEUE WAIT TIME:        0.000000            WAIT TIME FOR DB2            :             0.401856
WAIT TIME FOR 1ST ROW     :         0.061247            ACCUMULATED WAIT FOR HTAP    :             0.334567
HTAP TIMEOUTS             :                0
```

STATEMENT NAME

The name of the statement generated by DB2.

Field Name: QW0316NM

STATEMENT IDENTIFIER

The unique identifier of the statement. A number is generated to uniquely identify a statement in the prepared statement cache.

Field Name: QW0316TK

LITERAL REPLACEMENT

Indicates the cache literal replacement. Possible values are:

NO
No literal replacement was done.

REPLACE
Literals were replaced in the statement.

DUPLICATE
Literals were replaced in the statement, but the cached statement is a duplicate of another statement in the cache. A match with the other statement in the cache failed only because the literal reuse criteria were not met.

Field Name: QW0316LR

LINE NUMBER

The precompiler line number of the initial PREPARE statement.

Field Name: QW0316LX

STATUS

The status of the statement. If any of the following flags are set, the statement has actually been removed from the cache but current users might still have an active copy. DB2 will continue to track the statement until the use-count and copy-count are zero.

It can be one of the following:

- INVALIDATED BY DROP OR ALTER
- INVALIDATED BY REVOKE
- REMOVED FROM CACHE BY LRU
- INVALIDATED BY UTILITIES

Field Name: QW0316FL

ELIGIBLE FOR ACCELERATOR

The statement is eligible for the execution on an accelerator (DB2 field: QW0316ELI).

Field Name: 316ELI

TIME STATISTICS COLLECTION START

Shows the time stamp when the statistics collection began.

Field Name: QW0316TS

TIME STATEMENT STORED IN CACHE

The date and time when the statement was inserted into the cache (in DB2 timestamp format).

Field Name: QW0316TM

IN STORE CLOCK FORMAT

The date or time when the statement was inserted into the cache (in store clock format) (DB2 field: QW0316TM2).

Field Name: RT316TM2

TIME STATEMENT UPDATED IN CACHE

The date and time when the statement was updated, in internal format (DB2 field: QW0316UT2).

Field Name: RT316UT2

IN STORE CLOCK FORMAT

The date or time when the statement statistic was updated (in store clock format) (DB2 field: QW0316UT1).

Field Name: RT316UT1

STATEMENT COPIES

The number of copies of the statement owned by all threads in the system.

Note: This includes QW0316US and any copies owned by plans or packages bound with KEEPDYNAMIC(YES) that were not used in their current unit of work. These users prepared the statement in a previous unit of work and still have it in a prepared state.

Field Name: QW0316CP

STATEMENT EXECUTIONS

The number of statement executions.

Note: For a cursor statement, this is the number of OPENS.

Field Name: QW0316NE

SYNCH BUFFER READS

The number of synchronous buffer read operations performed for the statement.

Field Name: QW0316NB

SYNCH BUFFER WRITES

The number of synchronous buffer write-operations performed for statement.

Field Name: QW0316NW

CURRENT USERS

Number of current users of the SQL statement.

Note: These users have prepared or executed the statement during their current unit of work.

Field Name: QW0316US

GETPAGE OPERATIONS

The number of Getpage operations performed for a statement.

Field Name: QW0316NG

TABLESPACE SCANS

The number of scan operations for table spaces that are performed for a statement.

Field Name: QW0316NT

PARALLEL GROUPS CREATED

The number of parallel groups that are created for a statement.

Field Name: QW0316NL

ROWS EXAMINED

The number of rows that are examined for the statement.

Field Name: QW0316NR

ROWS PROCESSED

The number of rows that are processed for the statement. For example, the number of rows returned for a SELECT statement, or the number of rows affected by an INSERT, UPDATE, or DELETE statement.

Field Name: QW0316NP

SORTS

The number of sort operations performed for a statement.

Field Name: QW0316NS

INDEX SCANS

The number of index scans performed for a statement.

Field Name: QW0316NI

ACCUMULATED CPU TIME

The accumulated CPU time.

Field Name: QW0316CT

ACCUMULATED ELAPSED TIME

Shows the accumulated elapsed time used for a statement.

Field Name: QW0316AE

STABILIZED STMT ID

The ID of the dynamic statement that could be stabilized by the catalog (DB2 field: QW0316_SDQ_STMTID).

Field Name: Q316SDQI

HASH-ID VERSION

The version of the hash ID of the dynamic query (DB2 field: QW0316_QUERY_HASH_VER).

Field Name: Q316QHVE

HASH-ID

The hash ID of a stabilized dynamic query.

Field Name: Q316QHID

STABILIZATION GROUP NAME

The name of the stabilization group. This is the group ID of the stabilization dynamic query (DB2 field: QW0316_STBLGRP).

Field Name: Q316STBG

RL NOT USED LIMIT EXCEEDED

The number of times that a RID list was not used, because the number of:

- RIDs would have exceeded one or more internal DB2 limits
- RID blocks exceeded the value set by the MAXTEMPS_RID system parameter.

Field Name: QW0316RT

RL NOT USED NO STOR AVAIL

The number of times that a RID list was not used because there was not enough storage. This also applies if the work file storage was not available.

Field Name: QW0316RS

RL OV - NO POOL STOR AVAIL

The number of times a RID list was overflowed to a work file because no RID pool storage was available to hold the list of RIDs (DB2 field: QW0316WFRIDS).

Field Name: RT316IDS

RL OV - RIDS EXCEED LIMIT

The number of times a RID list was overflowed to a work file because the number of RIDs exceeded one or more internal limits (DB2 field: QW0316WFRIDT).

Field Name: RT316IDT

HJA - NO POOL STOR AVAI

The number of times a RID list append for a hybrid join was interrupted because no RID pool storage was available to hold the list of RIDs (DB2 field: QW0316HJINCS). For example, the number of times DB2 interrupted the RID phase and switched to thed data phase.

Field Name: RT316NCS

HJA - RIDS EXCEED LIMIT

The number of times a RID list append for a hybrid join was interrupted because the number of RIDs exceeded one or more internal limits (DB2 field: QW0316HJINCT). For example, it shows the number of times DB2 interrupted the RID phase and switched to the data phase.

Field Name: RT316NCT

RL RETRIEVAL IA SKIPPED

The number of times a RID list retrieval for multiple index access was skipped because DB2 predetermined the outcome of index ANDing or ORing (DB2 field: QW0316RSMIAP).

Field Name: RT316IAP

READ BY OTHER THREAD

The accumulated wait time for a read activity that is performed by another thread.

Field Name: QW0316W5

SYNCH EXECUTION UNIT SWITCH

The accumulated wait time for a synchronous execution unit switch.

Field Name: QW0316W3

WRITE BY OTHER THREAD

The accumulated wait time for a write activity that is performed by another thread.

Field Name: QW0316W6

SYNCHRONOUS I/O

The accumulated wait time for a synchronous I/O.

Note: This wait time and the following wait times are only collected if a CLASS 3 accounting trace is started.

Field Name: QW0316W1

GLOBAL LOCKS

The accumulated wait time for global locks.

Field Name: QW0316W4

LOCK AND LATCH REQ

The accumulated wait time for lock and latch requests.

Field Name: QW0316W2

LATCH REQUEST

The accumulated wait time for lock requests.

Field Name: QW0316W7

PAGE LATCH

The accumulated wait time for page latches.

Field Name: QW0316W8

DRAIN LOCK

The accumulated wait time for drain locks.

Field Name: QW0316W9

DRAIN WAITING FOR CLAIM REL

The accumulated wait time for drains when waiting for claims to be released.

Field Name: QW0316WA

LOG WRITER

The accumulated wait time for log writers.

Field Name: QW0316WB

WAIT CHILD L-LOCKS

The accumulated wait time for child L-locks for the statement.

Field Name: QW0316WC

WAIT OTHER L-LOCKS

The accumulated wait time for other L-locks for the statement.

Field Name: QW0316WD

WAIT P/P P-LOCKS

The accumulated wait time for P/P P-locks for the statement.

Field Name: QW0316WE

WAIT PAGE P-LOCKS

The accumulated wait time for page P-locks for the statement.

Field Name: QW0316WF

WAIT OTHER P-LOCKS

The accumulated wait time for other P-locks for the statement.

Field Name: QW0316WG

WAIT PIPE

The accumulated wait time for pipe wait (DB2 field: QW0316_PIPE_WAIT).

Field Name: Q316PIPW

WAIT PARALLEL QUERIES

The accumulated time waiting for parallel queries to synchronize between parent and child tasks (DB2 field: QW0316_PQS_WAIT).

Field Name: Q316PQSW

CURRENT DATA BIND OPTION

The CURRENTDATA bind option. It can be one of the following:

- YES
- NO

Field Name: QW0316X7

CURSOR WITH HOLD

Shows if the position for a cursor opened WITH HOLD. It can be one of the following:

- YES
- NO

Field Name: QW0316XC

CURRENT PRECISION SPEC REG

Shows the CURRENT PRECISION special register. It can be one of the following:

- DEC31
- DEC15

Field Name: QW0316XB

DYNAMIC RULES BIND OPTION

Shows the dynamic rules bind option. It can be one of the following:

- BIND
- RUN

Field Name: QW0316X8

CURRENT DEGREE SPECIAL REG

Shows value of the CURRENT DEGREE special register. It can be one of the following:

- ANY
- 1

Field Name: QW0316X9

ISOLATION BIND OPTION

The value of the ISOLATION bind option that is in effect for the initial PREPARE statement. It can be one of the following:

- UNCOMMITTED READ
- CURSOR STABILITY
- READ STABILITY
- REPEATABLE READ

Note: This value does not reflect if it is specified in a WITH clause.

Field Name: QW0316X6

CURRENT RULES SPECIAL REG

Shows the value of the CURRENT RULES special register. It can be one of the following:

- DB2
- SQL

Field Name: QW0316XA

DSG MEMBER

The data sharing DB2 member that cached the SQL statement (DB2 field: QW0316MBR).

Field Name: RT316MBR

TRANSACTION NAME

The text of the transaction name.

Field Name: QW0316T2

SIGNON USER ID

The End User ID is provided during RRS signon or resignon for initial prepare.

Field Name: QW0316XE

WORKSTATION ID

The Workstation ID is provided during RRS signon or resignon for initial prepare.

Field Name: QW0316XF

PROGRAM NAME

The text of the program name.

Field Name: QW0316T1

USER ID

The user ID.

Field Name: QW0316T3

USER GROUP

The name of the user group. The user group is the current SQLID of the user who started the initial PREPARE statement.

Field Name: QW0316X4

OBJECT QUALIFIER

The qualifier that is used for unqualified table names.

Field Name: QW0316X5

REFERENCED TABLE QUALIFIER

The qualifier of the referenced table name.

Field Name: QW0316QD

REFERENCED TABLE NAME

The name of the referenced table.

Field Name: QW0316TD

USER PROVIDED ID STRING

The identification (ID) string provided by the user.

Field Name: QW0316UI

CURRENT SCHEMA

The special register text of the current schema.

Field Name: QW0316SC

LENGTH OF SQL STATEMENT

The length of the entire statement.

Field Name: QW0316LN

SQL STATEMENT - FIRST 60 BYTES

The first 60 bytes of the SQL statement text.

Field Name: QW0316TX

ACCELERATOR NAME

The accelerator name (DB2 field: QW0316ANM).

Field Name: 316ANM

TIME STATEMENT STORED IN CACHE

The date or time when the statement was inserted into the cache (in DB2 timestamp format) (DB2 field: QW0316ATM).

Field Name: 316ATM

STATEMENT IDENTIFIER

The statement identifier, for correlation with IFCID 316 data section 1 (DB2 field: QW0316AID).

Field Name: 316AID

MEMBER NAME

The member name in case of a data sharing group (DSG). It is used for correlation with IFCID data section 1 (if DSG) (DB2 field: QW0316AMBR).

Field Name: 316AMBR

ACCELERATOR EXECUTIONS

The number of executions on this accelerator (DB2 field: QW0316AEXEC).

Field Name: 316AEXEC

ACCUMULATED # ROWS RETURNED

Shows the accumulated number of rows returned for the SELECT statement (DB2 field: QW0316AROW).

For completed queries, this is the total number of rows returned that were computed by the accelerator (this is not necessarily the number of rows returned to DB2 in case DB2 does not fetch all rows).

For in-process queries, this is the number of rows that have been sent so far (and more rows may still be coming).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because these wait times do not occur for DML statements.

Field Name: 316AROW

ACCUMULATED CPU TIME

Shows the accumulated CPU time spent in the accelerator when processing the query request for the statement.

This value reflects parallel processing such that the CPU value may exceed the accumulated elapsed time (DB2 field: QW0316ACPU).

For completed queries, this is the CPU time from the initial request to the last row being returned to DB2. For in-process queries, this is the time from the initial request to the current point in time. The counter includes the CPU time spent in the accelerator and also the CPU time spent in the Netezza® backend (on the coordinator node and all worker nodes).

Field Name: 316ACPU

ACCUMULATED # BYTES RETURNED

Shows the accumulated number of bytes returned for the SELECT statement (DB2 field: QW0316ABYT).

For completed queries, this is the total number of bytes returned and produced by the accelerator (this is not necessarily the total number of bytes returned to DB2 in case DB2 does not fetch all the data).

For in-process queries, this is the number of bytes that have been sent so far (and more bytes may still be coming).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because no such wait times occurs.

Field Name: 316ABYT

ACCUMULATED ELAPSED TIME

Shows the accumulated elapsed time spend in the accelerator processing the query request for the statement (DB2 field: QW0316AELA).

For completed queries, this is the time from the initial request to the last row that is returned to DB2. For in-process queries, this is the time from the initial request to the current point in time.

Field Name: 316AELA

ACCUMULATED EXECUTION TIME

Shows the accumulated execution time spent in processing the query request for the statement (DB2 field: QW0316AEXE).

For completed queries, this is the time spent since starting the query execution until the query execution has finished. Subsequent processing and transfer of the result set is not included, but there may be an overlapping time window in which result set processing (fetching) and query execution takes place.

For in-process queries, it is the time measured from starting query execution inside the accelerator up to the current point in time or until query execution has finished and only result set processing and transfer remains (whichever occurs earlier).

This time is measured for the actual execution time spent for the query. Compared to the total elapsed time (QW0316AELA and QW0401AELA), it does not include any preprocessing done in the accelerator (such as PREPARE), and it does not include time spent, such as in spill-to-disk or other things, related to the final query result processing.

Field Name: 316AEXE

ACCUMULATED QUEUE WAIT TIME

Shows the accumulated queue wait time for the statement (DB2 field: QW0316AWAT).

For completed queries, this is the time that the query has spent in queues, waiting to be processed.

For in-process queries, the value is only available once the query execution itself has finished and only result processing remains. Until then, the value will be (nearly) 0.

Field Name: 316AWAT

WAIT TIME FOR DB2

Shows the total time the accelerator waited for DB2 to request query results (DB2 field: QW0316ATWDB2).

For completed queries, this is from the time when the first row of the result set was produced by the accelerator until the last row was sent to DB2. For in-process queries, it is 0 (if the accelerator has not yet computed a result row) or the time from computing the first row to the current point in time (if at least one result row is available).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because these wait times do not occur for DML statements.

Field Name: 316ATWDB

WAIT TIME FOR 1ST ROW

Shows the time waited for first row of query result to be available (DB2 field: QW0316ATW1R).

For completed queries, this is the time from receiving the query in the accelerator until the first row of the result set was computed. For in-process queries, this is the time from receiving the query in the accelerator to the current point in time (if no result rows are available yet) or until the first row of the result set was computed (if at least one result row is available).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because no such wait times occurs.

Field Name: 316ATW1R

ACCUMULATED WAIT FOR HTAP

The amount of time spent waiting for completion of data replication to the accelerator using the delay protocol (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: QW0316TWDP

HTAP TIMEOUTS

The number of requests where the replication of data to the accelerator needed to execute the query did not complete before the delay protocol time limit expired (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: QW0316NWDP

IFCID 317 - SQL Statement String

This topic shows detailed information about "Record Trace - IFCID 317 - SQL Statement String".

Record trace - IFCID 317 - SQL Statement String

The field labels shown in the following sample layout of "Record Trace - IFCID 317 - SQL Statement String" are described in the following section.

```
SQL STATEMENT NAME      : STATEMENT001XXXZ         SQL STATEMENT IDENTIFIER : X'10101010'
SQL STATEMENT LENGTH    :          30
SQL STATEMENT TEXT      : SQL-STATEMENT-TEXT-001-XXXXXX3

ATTRIBUTE STRING LENGTH :          42
ATTRIBUTE STRING TEXT   : ATTRIBUTE-001-XXXXX2XXXXXXXXX3XXXXXXXXX4XZ
```

SQL STATEMENT NAME

The name of the SQL statement.

Field Name: QW0317NM

SQL STATEMENT IDENTIFIER

The identifier of the SQL statement in hexadecimal.

Field Name: QW0317ID

SQL STATEMENT LENGTH

The length of the SQL statement.

Field Name: QW0317LN

SQL STATEMENT TEXT

The text of the SQL statement.

Field Name: QW0317TX

ATTRIBUTE STRING LENGTH

The length of the attribute string.

Field Name: QW03172LN

ATTRIBUTE STRING TEXT

The text of the attribute string.

Field Name: QW03172TX

IFCID 319 - Audit Security Record

This topic shows detailed information about "Record Trace - IFCID 319 - Audit Security Record".

When a local DB2 receives a non-RACF identity that represents a user, it maps that name to a local user ID for use in connection processing. This record traces the mapping. This record provides an audit trail for security processing.

Record trace - IFCID 319 - Audit Security Record

The field labels shown in the following sample layout of "Record Trace - IFCID 319 - Audit Security Record" are described in the following section.

```
-------- -------- ---------- ----------------- ------ --- --- -------------- ------------------------------------------------------------
'BLANK'  DISCN-NC C8331B99653E 'BLANK'          'BLANK'                       'BLANK'
'BLANK'  028.DBAA 'BLANK'     07:15:10.99044681      9   1 319 KERBEROS       NETWORKID:  G99D8419  LUNAME:  G757      LUWSEQ:     1
'BLANK'    05                       0.06594537                SECURITY      REQUESTING LOCATION:  ::FFFF:9.157.132
REQUESTING TIMESTAMP: N/P
AR NAME: KOZUS_AV           PRDID: CLNT/SER V9 R7 M0
|-------------------------------------------------------------------------------------------------------------------------------
|REQ COMMUNICATION ADDR: 'BLANK'          COMMUNICATION ADDR TYPE: TCP/IP      CLIENT PRODUCT ID : SQL09070
|DERIVED LOCAL USERID  : kozs             SECURITY TYPE          : ENCRYPTED
|FLAGS:                                   SECURITY MECHANISM     :  ENCRYPT UID PW
|- USER REGISTRY NAME: NO
|- AES IS USED: NO
|- SERVER ENCRYPT COMP: YES
|- SECURE CONNECTION: YES
|
|IPV6 ADDRESS          : X'00000000000000000000FFFF099D8419'
|PRINCIPAL NAME LENGTH :     0
|PRINCIPAL NAME        : N/P
|PORT-INTERNAL FORMAT  : X'0757'
|-------------------------------------------------------------------------------------------------------------------------------
```

REQ COMMUNICATION ADDR

Requesting communication address. For SNA, this field shows the LU name, for TCP/IP, this shows the dotted decimal IP address.

Field Name: QW0319AD

COMMUNICATION ADDR TYPE

Type of communication address: SNA or TCP/IP.

Field Name: QW0319CT

CLIENT PRODUCT ID

The identification of the client product.

Field Name: QW0319CP

DERIVED LOCAL USERID

Local user ID mapped by DB2.

Field Name: QW0319US

SECURITY TYPE

The type of security identity. Possible values are:

- KERBEROS
- ENCRYPTED

Field Name: QW0319TY

SECURITY MECHANISM

The security mechanism used. Possible values are:

- User ID (UID) and encrypted password (PW)
- Encrypted UID and PW
- Encrypted UID, PW, and new PW
- Encrypted UID and data
- Encrypted UID, PW, and data
- Encrypted UID, PW, new PW, and data
- Encrypted UID only

Field Name: QW0319SM

FLAGS - USER REGISTRY NAME

This flag shows if the caller passed the user registry name.

Field Name: QW0319UR

FLAGS - AES IS USED

This flag shows if Advanced Encryption Standard (AES) is used for encryption.

Field Name: QW0319AE

FLAGS - SERVER ENCRYPT COMP

This flag shows whether the remote connection is compatible with the Db2 system parameter TCPALVER=SERVER_ENCRYPT.

Field Name: QW0319SC

FLAGS - SECURE CONNECTION

This flag shows whether the remote connection was secure.

Field Name: QW0319SE

IPV6 ADDRESS

If the type of the communication address is TCP/IP, it is the 16 byte hexadecimal (*HLHLHLHLHLHLHLHLHLHLHLHLHLHLHL*) IP address of the internal 128 bit format, where:

- *H* represents the high order half byte value
- *L* represents the low order half byte value

Field Name: QW0319IPA

PRINCIPAL NAME LENGTH

Length of principal name.

Field Name: QW0319L1

PRINCIPAL NAME

The requesting principal name. This can be up to 256 characters and can contain lowercase characters.

Field Name: QW0319D1

PORT-INTERNAL FORMAT

If the type of the communication address is TCP/IP, this field shows the 16 bit port number in internal format.

Field Name: QW0319PRT

IFCID 321 - Force-at-Commit Begin

This topic shows detailed information about "Record Trace - IFCID 321 - Force-at-Commit Begin".

Record trace - IFCID 321 - Force-at-Commit Begin

The field labels shown in the following sample layout of "Record Trace - IFCID 321 - Force-at-Commit Begin" are described in the following section.

```
TARGET LOCATION FOR WRITE       X
```

TARGET LOCATION FOR WRITE

The target location for write.

Field Name: QW0321LO

IFCID 322 - Force-at-Commit End

This topic shows detailed information about "Record Trace - IFCID 322 - Force-at-Commit End".

Record trace - IFCID 322 - Force-at-Commit End

The field labels shown in the following sample layout of "Record Trace - IFCID 322 - Force-at-Commit End" are described in the following section.

```
PAGES_WRITTEN : 22
```

PAGES_WRITTEN

The number of pages written.

Field Name: QW0322NP

IFCID 324 - Function Resolution

This topic shows detailed information about "Record Trace - IFCID 324 - Function Resolution".

Record trace - IFCID 324 - Function Resolution

The field labels shown in the following sample layout of "Record Trace - IFCID 324 - Function Resolution" are described in the following section.

```
QUERYNO       :      1853            PLANNAME : PLAN01          APP
        BIND_TIME     :  MM/DD/YY HH:MM:SS.MS  VERSION  : VBR1.000
        CONSIS_TOKEN  : X'C3D6D5E2E3D6D2F1'    GRP_MBR  : 'BLANK'
        COLLECTION_ID : COLLID01
        PROGNAME      : PROGRAM001
        CURRENT_PATH  : "SYSIBM","SYSFUN","SYSPROC","ABCDE"
```

QUERYNO

The query number.

Field Name: QW0324QN

PLANNAME

The plan name.

Field Name: QW0324PN

COLLECTION_ID

The collection ID.

Field Name: QW0324CI

APPLNAME

The name of the application.

Field Name: QW0324AL

PROGNAME

The program name.

Field Name: QW0324PG

CONSIS_TOKEN

The consistency token.

Field Name: QW0324CT

GRP_MBR

The group member name.

Field Name: QW0324GM

BIND_TIME

The time stamp of the bind time.

Field Name: QW0324TS

VERSION

The version.

Field Name: QW0324VN

CURRENT_PATH

The current path.

Field Name: QW0324CP

FUNCT_SCHEMA

A short SQL identifier, either ordinary or delimited, following the concept of qualified names consistent with the ANSI/ISO SQL92 standard.

Field Name: QW0324FS

FUNCT_NAME

The name of a function without a qualifier.

Field Name: QW0324FN

SPECIFIC_NAME

Identifies the particular function. The specific name must identify a specific function name in the explicitly or implicitly specified schema.

Field Name: QW0324FI

FUNCT_TYPE

The classification of the function:

SU
Scalar UDF

TU
Table UDF

Field Name: QW0324FY

VIEW_CREATOR

The name of the view creator if the function is referenced in a view definition.

Field Name: QW0324CV

VIEW_NAME

The name of the view if the function is referenced in a view definition.

Field Name: QW0324NV

QUERY_BLOCKNO

A number that identifies the query block number being explained.

Field Name: QW0324QB

FUNCT_TEXT

Contains the text of the function reference, function name, and parameters. It can be up to 254 characters long.

Field Name: QW0324FT

IFCID 325 - Trigger Activation

This topic shows detailed information about "Record Trace - IFCID 325 - Trigger Activation".

Record trace - IFCID 325 - Trigger Activation

The field labels shown in the following sample layout of "Record Trace - IFCID 325 - Trigger Activation" are described in the following section.

```
STATEMENT NO    :       115   SQL STATEMENT   : I
COLLECTION_ID   : COLLECTION 01XXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0XXX
XXXXXX1XXXXXXXXX2XXXXXXXZ
PROG NAME       : PROGRAM001XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0XXX
XXXXXX1XXXXXXXXX2XXXXXXXZ
TRIGGER NAME    : TRIGGER NAME 01XXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0XXX
XXXXXX1XXXXXXXXX2XXXXXXXZ
EXT.TRIGGER NAME: EXTERNAL TRIGGER 001XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0XXX
XXXXXX1XXXXXXXXX2XXXXXXXZ
SCHEMA NAME     : SCHEMA0001XXXXXXXXX2XXXXXXXXX3XXXXXXXXX4XXXXXXXXX5XXXXXXXXX6XXXXXXXXX7XXXXXXXXX8XXXXXXXXX9XXXXXXXXX0XXX
XXXXXX1XXXXXXXXX2XXXXXXXZ
ACTIVATION TIME : B           ENTRY/EXIT TYPE : E       TIMESTAMP    : 12/02/12 22:42:16.896087
GRANULARITY     : R           EVALUATION      : X'00'   NESTING LEVEL:          1
SQLCODE :         0       SQLSTATE:    'BLANK'
SQLCAID: 'BLANK'      SQLCABC           0                          SQLERRP : 'BLANK'           SQLEXT  : 'BLANK'
SQLERRD1           0   SQLERRD2          0   SQLERRD3           0   SQLWARN0:     SQLWARN1:     SQLWARN2:    SQLWARN3:
SQLERRD4           0   SQLERRD5          0   SQLERRD6           0   SQLWARN4:     SQLWARN5:     SQLWARN6:    SQLWARN7:
SQLWARN8:     SQLWARN9:     SQLWARNA:
SQLERRM:
```

STATEMENT NO

The statement number of the SQL statement that activated the trigger.

Field Name: QW0325SN

SQL STATEMENT

Triggering SQL statement. Possible values are:

D
DELETE

I
INSERT

U
UPDATE

Field Name: QW0325SS

COLLECTION ID

The collection ID of the package containing the statement that activated the trigger.

Field Name: QW0325CO

PROG NAME

Program or package containing the statement that activated the trigger.

Field Name: QW0325PR

TRIGGER NAME

Trigger name.

Field Name: QW0325NM

EXT.TRIGGER NAME

External trigger name.

Field Name: QW0325TX

SCHEMA NAME

Schema name of the trigger.

Field Name: QW0325SC

TIMESTAMP

Trigger timestamp.

Field Name: QW0325TS

ACTIVATION TIME

Possible values are:

A
Trigger activation time is AFTER.

B
Trigger activation time is BEFORE.

Field Name: QW0325AC

ENTRY/EXIT TYPE

Possible values are:

E
Trigger is starting.

X
Trigger is ending.

Field Name: QW0325ET

GRANULARITY

Possible values are:

R
Trigger granularity is FOR EACH ROW.

S
Trigger granularity is FOR EACH STATEMENT.

Field Name: QW0325GR

EVALUATION

Triggered action condition evaluation. Possible values are:

T
Triggered action tested TRUE

F
Triggered action tested FALSE

N
No triggered action condition.

Field Name: QW0325CN

NESTING LEVEL

Nesting level of the trigger.

Field Name: QW0325NL

SQLCA CONTENTS

This section contains the SQLCA fields. It is only printed if the value in the ENTRY/EXIT TYPE field is RETURNED.

Field Name: QW0325SQ

IFCID 329 - IXL Suspensions

This topic shows detailed information about "Record Trace - IFCID 329 - IXL Suspensions".

Record trace - IFCID 329 - IXL Suspensions

The field labels shown in the following sample layout of "Record Trace - IFCID 329 - IXL Suspensions" are described in the following section.

```
GBP NAME:   XXXXXXXXXX   REQUEST TYPE:   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX   ASYNC. WAIT TIME:  9999999999
```

GBP NAME

Name of the group buffer pool.

Field Name: QW0329GB

REQUEST TYPE

The request type can be one of the following:

- READ-DIRINFO (IXLCACHE)
- READ-COCLASS (IXLCACHE)
- CASTOUT-DATA (IXLCACHE)
- DELETE-NAME (IXLCACHE)
- RESET-REFBIT (IXLCACHE)
- FORCE (IXLFORCE)
- CONNECT (IXLCONN)
- DISCONNECT (IXLDISC)
- PROCESS-REFLIST (IXLCACHE)
- READ-DATA (IXLCACHE)
- READ-STGSTATS (IXLCACHE)
- READ-COSTATS (IXLCACHE)
- UNLOCK-CASTOUT (IXLCACHE)
- SET-RECLVCTR (IXLCACHE)
- WRITE-DATA (IXLCACHE)
- X-INVALIDATE (IXLCACHE)
- REGISTER-PAGE-LIST (IXLCACHE)
- WRITE-DATA TO SECONDARY (IXLCACHE)
- DELETE-NAME-LIST TO SECONDARY (IXLCACHE)
- DELETE-NAME TO SECONDARY (IXLCACHE)
- READ-STGSTATS TO SECONDARY (IXLCACHE)

Field Name: QW0329RT

ASYNC. WAIT TIME

Asynchronous wait time in microseconds.

Field Name: QW0329ST

IFCID 330 - Active Log Space Shortage

This topic shows detailed information about "Record Trace - IFCID 330 - Active Log Space Shortage".

This record is written of each group buffer pool present. Each repeating section contains information about each group buffer pool to which this DB2 data sharing member is currently connected.

Record trace - IFCID 330 - Active Log Space Shortage

The field labels shown in the following sample layout of "Record Trace - IFCID 330 - Active Log Space Shortage" are described in the following section.

```
ACTIVE LOG COPY NUMBER: X                    LAST LOG DATA SET USAGE:  999%
```

ACTIVE LOG COPY NUMBER

Active log copy number (1 or 2).

Field Name: QW0330CP

LAST LOG DATA SET USAGE

Percentage of the last available active log data set for this log copy that is used.

Field Name: QW0330PC

IFCID 331 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 331 - IBM Service Record".

This record is for IBM service use.

IFCID 332 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 332 - IBM Service Record".

This record is for IBM service use.

IFCID 333 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 333 - IBM Service Record".

This record is for IBM service use.

IFCID 335 - System Event Stalled

This topic shows detailed information about "Record Trace - IFCID 335 - System Event Stalled".

This IFCID records information about stalled system events. These records include the checkpoint process or a log offload task.

Record trace - IFCID 335 - System Event Stalled

The field labels shown in the following sample layout of "Record Trace - IFCID 335 - System Event Stalled" are described in the following section.

```
STALLED SYST EVT : OFFLOAD           TIMESTAMP       :  11-11-11 12:44:54.324520
LOG RBA PRIO EVT :  QWERTY           CURRENT LOG RBA :  YTREWQ
```

STALLED SYST EVT

The stalled system event can be:

CKPT
System checkpoint processor

OFLD
Log offload task

Field Name: QW0335SE

TIMESTAMP

The timestamp of the previous event.

Field Name: QW0335TS

LOG RBA PRIO EVT

The log RBA of the previous event.

Field Name: QW0335PR

CURRENT LOG RBA

The current, highest-written log RBA.

Field Name: QW0335CR

IFCID 337 - Lock Escalation Occurrences

This topic shows detailed information about "Record Trace - IFCID 337 - Lock Escalation Occurrences".

When performance trace class 6 or statistics trace class 3 is on, a record is written each time a lock escalation occurs.

Record trace - IFCID 337 - Lock Escalation Occurrences

The field labels shown in the following sample layout of "Record Trace - IFCID 337 - Lock Escalation Occurrences" are described in the following section.

```
DATABASE ID      : DSNDB04              PAGESET/TABLE ID: 9          STATEMENT NUMBER  :         0
LOCK STATE       : INTENTED EXCLUSIVE   LOWER LOCK TYPE : PAGE LOCK  NUMBER LOWER LOCKS:      2001
WAITERS STMT ID  :              13549  WAITER TYPE     : DYNAMIC
COLLECTION ID    : NULLID
PACKAGE NAME     : SYSLH200
```

DATABASE ID

Database name.

Field Name: QW0337DB

PAGESET/TABLE ID

Page set name or table OBID.

Field Name: QW0337OB

STATEMENT NUMBER

Statement number.

Field Name: QW0337SN

LOCK STATE

New state to which the lock was escalated. This is not shown if selective partition locking is used.

Field Name: QW0337LS

LOWER LOCK TYPE

Type of lower level lock used. This can be:

- Page lock
- Row lock
- LOB lock

Field Name: QW0337LL

NUMBER LOWER LOCKS

Number of held lower-level locks that were released by escalation.

Field Name: QW0337LH

WAITERS STMT ID

The waiter statement ID.

Field Name: QW0337SI

WAITER TYPE

The waiter statement information. Possible values:

STATIC
The statement is of type static.

DYNAMIC
The statement is of type dynamic.

NONE (NO ID, NO TYPE)
No statement ID, no type.

Field Name: QW0337TY

COLLECTION ID

Collection identifier.

Field Name: QW0337CN

PACKAGE NAME

The package name.

Field Name: QW0337PK

IFCID 342 - WF/TEMP DB Usage

This topic shows detailed information about "Record Trace - IFCID 342 - WF/TEMP DB Usage".

Record trace - IFCID 342 - WF/TEMP DB Usage

The field labels shown in the following sample layout of "Record Trace - IFCID 342 - WF/TEMP DB Usage" are described in the following section.

```
WF/TEMP DB USAGE

DATABASE TYPE:     WFDB                            DBID OF DB: X'0010'
PSID OF SPACE:    X'0010'

AGENT TOKEN:    X'000003EA'
CURRENT NO TABLE BLOCKS:    100                MAX NO TABLE BLOCKS:     1000

PARENT TOKEN:    '000003EB'
CURRENT NO INDEX BLOCKS:    101                MAX NO INDEX BLOCKS:     1000
```

DATABASE TYPE

The database type.

Field Name: QW0342TY

DBID OF DB

The database ID (DBID).

Field Name: QW0342DB

PSID OF SPACE

The page set object identifier (PSID) of the database.

Field Name: QW0342PS

AGENT TOKEN

The agent token.

Field Name: QW0342AT

CURRENT NO TABLE BLOCKS

The current space for tables that is used by the agent in the database (in KB).

Field Name: QW0342CT

MAX NO TABLE BLOCKS

The maximum space for tables that is used by the agent in the database (in KB).

Field Name: QW0342MT

PARENT TOKEN

The parent token.

Field Name: QW0342PT

CURRENT NO INDEX BLOCKS

The current space for indexes on the tables used by the agent in the database (in KB).

Field Name: QW0342CI

MAX NO INDEX BLOCKS

The maximum space for indexes on the tables used by the agent in the database (in KB).

Field Name: QW0342MI

IFCID 343 - MAXTEMPS Limit/Exceeded

This topic shows detailed information about "Record Trace - IFCID 343 - MAXTEMPS Limit/Exceeded".

This record is written if the MAXTEMPS zparm limit for an agent is exceeded.

Record trace - IFCID 343 - MAXTEMPS Limit/Exceeded

The field labels shown in the following sample layout of "Record Trace - IFCID 343 - MAXTEMPS Limit/Exceeded" are described in the following section.

```
MAXTEMPS LIMIT/EXCEEDED
AUTH. ID        : 'BLANK'     PACKAGE COLLECTION ID: 'BLANK'           PACKAGE NAME     : 'BLANK'    PLAN NAME: 'BLANK'
MAX TEMP STORAGE:         99                                              CURRENT WORKFILE SIZE:         99
MAX WORKFILE SIZE:        99
```

AUTH. ID

The authorization ID for the agent.

Field Name: QW0343ID

PACKAGE COLLECTION ID

The package collection ID for the agent.

Field Name: QW0343PC

PACKAGE NAME

The package name for the agent.

Field Name: QW0343PK

PLAN NAME

The plan name for the agent.

Field Name: QW0343PL

MAX TEMP STORAGE

The MAXTEMPS zparm value for the agent (KB).

Field Name: QW0343MS

CURRENT WORKFILE SIZE

The current total system wide usage of WORKFILE storage (KB).

Field Name: QW0343CU

MAX WORKFILE SIZE

The maximum total system wide usage of WORKFILE storage (KB).

Field Name: QW0343MU

IFCID 345 - Trace Data / SP/UDF

This topic shows detailed information about "Record Trace - IFCID 345 - Trace Data / SP/UDF".

Record trace - IFCID 345 - Trace Data / SP/UDF

The field labels shown in the following sample layout of "Record Trace - IFCID 345 - Trace Data / SP/UDF" are described in the following section.

```
TRACE BUFFER LENGTH:         133
TRACE BUFFER       :
12345678901234567890123456789012345678901234567890123456789012345678901234567890123457890123456789012345678901234567890123456789012345678901
234567890123456789012
```

TRACE BUFFER LENGTH

Length of the trace buffer.

Field Name: QW0345TR_LEN

TRACE BUFFER

Trace buffer.

Field Name: QW0345TR

IFCID 346 - Package/DBRM Detail

This topic shows detailed information about "Record Trace - IFCID 346 - Package/DBRM Detail".

Record trace - IFCID 346 - Package/DBRM Detail

The field labels shown in the following sample layout of "Record Trace - IFCID 346 - Package/DBRM Detail" are described in the following section.

```
                                        PACKAGE/DBRM ACCOUNTING DATA
LOCATION: OMPDB51            COLLECTION       : TDKDB                          PACKAGE ID   : AUTONOMOUS_STP_WPA
TOKEN:  X'196533D11EA395F9'  SECTION NMB      :    1       TYPE         :  ROLLUP   SCHEMA NAME  : TDKDB
SQL STMTS              2     USED BY STOR.PROC:   YES       NON-ZERO CLASS 8:  YES   ACTIVITY NAME: AUTONOMOUS_STP_WPA
SUCC AUTH CHECK :      N/P   LAST EXECUTED:      N/P       NON-ZERO CLASS 7:  YES   ACTIVITY TYPE: NATIVE SQL PROC
PACKAGE SWITCH  :          1 ROLLED NBR THRDS:          1
ACE             : 3807507019
CLASS 7 BEGINNING STORE CLOCK TIME                    N/P   ENDING STORE CLOCK TIME                      N/P
        BEGINNING TCB CPU TIME                        N/P   ENDING TCB CPU TIME                          N/P
        TOTAL ELAPSED TIME                     33.939619   DB2 ENTRY/EXIT                                 2
        TOTAL TCB TIME                          0.000623   SE CPU TIME                             0.000000
CLASS 8 LOCK/LATCH SUSP TIME                       N/A   LOCK/LATCH SUSP EVENTS                       N/A
        WAIT TIME LOCAL LOCKS                  33.937330   LOCAL LOCK WAIT TRACE EVENTS                   2
        DB2 LATCH SUSP TIME                     0.000000   LATCH WAIT TRACE EVENTS                        0
        SYNCHRONOUS I/O SUSP TIME               0.000000   SYNCHRONOUS I/O SUSP EVENTS                    0
        OTHER READ SUSP TIME                    0.000000   OTHER READ SUSP EVENTS                         0
        OTHER WRITE SUSP TIME                   0.000000   OTHER WRITE SUSP EVENTS                        0
        SERV.TASK SWITCH SUSP TIME              0.001654   SERV.TASK SWITCH SUSP EVENTS                   6
        ARCH.LOG(QUIES) SUSP TIME               0.000000   ARCH.LOG(QUIES) SUSP EVENTS                    0
        ACCUM. READ SUSP TIME                   0.000000   WAIT TRACE READ EVENTS                         0
        DRAIN LOCK SUSP TIME                    0.000000   DRAIN LOCK SUSP EVENTS                         0
        CLAIM RELEASE SUSP TIME                 0.000000   CLAIM RELEASE SUSP EVENTS                      0
        PAGE LATCH SUSP TIME                    0.000000   PAGE LATCH SUSP EVENTS                         0
        NOTIFY MESSAGES SUSP TIME               0.000000   NOTIFY MESSAGE EVENTS                          0
        GLOBAL CONTENT. PARENT SUSP TIME        0.000000   GLOBAL CONTENT. PARENT EVENTS                  0
                                                           UDF EXECUTED                                   0
                                                           STORED PROCEDURE EXECUTED                      0
        TCP/IP LOB XML TIME                     0.000000   TCP/IP LOB XML EVENTS                          0
        ACCELERATOR SUSP TIME                   0.000000   ACCELERATOR EVENTS                             0
        PARALLEL QUERY SYNC WAIT TIME        8:42.707964   PARALLEL QUERY SYNC WAIT EVENTS                0
        FAST INSERT PIPE WAIT TIME              0.000000   FAST INSERT PIPE WAIT EVENTS                   0
```

LOCATION

The location name.

If this field is blank in trace or report, the package or DBRM was executed locally. If it is not blank, all times represent the time spent locally to execute the remote package for this APPL_DIR requester.

This field is invalid (N/P) if summary rollup data is present.

Field Name: QPACLOCN

This is an *exception* field.

COLLECTION

The package collection ID. This field does not apply to DBRMs. If the program name cannot be identified, this field is not present in report or trace.

This field is invalid if summary rollup data is present. It can have the following value in:

- Accounting trace and report: N/P
- The Accounting FILE and SAVE PROGRAM table: blank

Field Name: QPACCOLN

This is an *exception* field.

PACKAGE ID

The program name (package ID or DBRM name).

In the case of rollup data (Accounting data of DDF/RRSAF threads and parallel tasks accumulated by DB2), the following value is shown *ROLSUM*.

Field Name: QPACPKID

This is an *exception* field.

TOKEN

The program (package or DBRM) consistency token.

This field is invalid (0) if summary rollup data is present.

Field Name: QPACCONT

SECTION NMB

The number of this particular data section in the series.

Field Name: QPACRECN

TYPE

The program type. It can be DBRM (field name QPACDBRM) or package (field name QPACPACK).

Field Name: QPACFLGS

SCHEMA NAME

Schema name of the nested activity.

If the package is defined for a trigger, stored procedure, or user-defined function, then this field contains the name of the schema to which the nested activity belongs. It can have the following value in:

- Accounting Trace and Report: N/P
- The Accounting FILE and SAVE PROGRAM tables: blank

This field is invalid if summary rollup data is present.

Field Name: QPACASCH

SQL STMTS

The number of SQL statements issued in this package or DBRM.

This number may not be equal to the total number of SQL statements in the QXST data section because QXST does not count all SQL statements. For example, it does not count commit or rollback statements.

Note: This field is shown for the following field labels in Accounting trace:

- SQL STMT - TOTAL
- SQL STMT - AVERAGE:

Field Name: QPACSQLC

This is an *exception* field.

USED BY STOR.PROC

Indicates whether this package was loaded by a stored procedure.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACINSP

NON-ZERO CLASS 8

Indicates if Class 8 data is in this record.

Field Name: QPACCLS8

ACTIVITY NAME

The name of the nested activity.

This field contains the name of the nested activity if the package is defined for a:

- Trigger
- Stored procedure
- User-defined function (UDF)
- Native SQL procedure
- Non-inline UDF

In a data block that reports totals it is set to ALL NAMES.

This field is invalid if summary rollup data is present.

It can have the following value in:

- Accounting Trace and Report: N/P

- The Accounting FILE and SAVE PROGRAM tables: blank

Field Name: QPACAANM

SUCC AUTH CHECK

Indicates whether a successful package EXECUTE authorization check was made and DB2 catalog access was avoided.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACPAC

LAST EXECUTED

This package or DBRM is either currently executing or is the most recently executed package or DBRM. This field is invalid if unique or summary rollup data is present.

Field Name: QPACCRNT

NON-ZERO CLASS 7

There is nonzero accounting class 7 data in this QPAC data instance.

Field Name: QPACCLS7

ACTIVITY TYPE

The type of activity. The following values indicate how the package was loaded:

ALL TYPES
In a data block that reports totals it is set to ALL TYPES.

STORED PROC
When running an external procedure

TRIGGER
When running a trigger

UDF
When running a user-defined function

NATIVE SQL PROC
When running a native SQL procedure

NATIVE UDF
When running a native UDF procedure (a non-inline user-defined function)

NONNESTED
Indicates that none of the above values is true

MULTIPLE
Indicates that packages with the same key but with different activity types were running

N/P
Invalidated in case of rollup summary

The nested activity values that are shown in column NEST_ACTIVITY_TYPE of the table DB2PMFACCT_PROGRAM are:

S
For Stored Procedure

T
For Trigger

U
For UDF

Q
For native SQL procedure

D
For Native UDF

N
For nonnested (other)

blank
For invalidated in case of rollup summary

This field is invalid if unique or summary rollup data is present.

Field Name: QPACAAFG

PACKAGE SWITCH

The number of times package was invoked from a different package. For the first package run by an application, the initial call counts as a package switch. If this package called a nested package (such as a trigger, UDF, or stored procedure), a switch will **not** be counted upon return from such a package.

Field Name: QPACSWITCH

ROLLED NBR THREADS

This value can be one of the following:

- In general, the number of threads to roll data into this QPAC data section. Non-rollup QPACs have a value of 1 and rollup QPACs have a value of 1 or more. This number is used as a divisor for calculating averages for package class 7, 8, or 10 times and events.
- If REPORT ORDER (ACTNAME) is specified, the number of threads to roll data into this QPAC data section of a special activity type depends on the following:
  - If IFCID 233 or 380 is available, the number of threads to roll data into this QPAC data section for stored procedures (SP) is counted based on the available IFCID. If both IFCIDs are available, IFCID 380 is the preferred one for SP reporting. Subprograms called by these SPs are not taken into account.
  - If IFCID 233 or 381 is available, the number of threads to roll data into this QPAC data section for user-defined functions (UDF) is counted based on the available IFCID. If both IFCIDs are available, IFCID 381 is the preferred one for UDF reporting. Subprograms called by these UDFs are not taken into account.
  - If neither IFCID 233, 380, nor 381, is collected, the total number of threads to roll data into this QPAC data section is counted. The sum also includes the number of subprograms.

Field Name: QPACRLNU

ACE

ACE token. You can use this value to correlate this record with other monitor trace records.

Field Name: QW0346_ACE

HREF HREF

ACE token. You can use this value to correlate this record with other monitor trace records.

Field Name: HREF

CLASS 7: BEGINNING STORE CLOCK TIME

The store clock time at entry to DB2 for the most recent execution of this package or DBRM.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACSCB

CLASS 7: ENDING STORE CLOCK TIME

The store clock time at exit from DB2 after the most recent execution of this package or DBRM.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACSCE

CLASS 7: BEGINNING TCB CPU TIME

The CPU time at entry to DB2 for the most recent execution of this package or DBRM. This time does not include the CPU time consumed on an IBM specialty engine.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACBJST

CLASS 7: ENDING TCB CPU TIME

The CPU time at exit from DB2 for the most recent execution of this package or DBRM. This time does not include CPU consumed on an IBM specialty engine.

This field is invalid if unique or summary rollup data is present.

Field Name: QPACEJST

CLASS 7: TOTAL ELAPSED TIME

The total elapsed time for executing the package or DBRM.

Field Name: QPACSCT

CLASS 7: DB2 ENTRY/EXIT

The number of DB2 entries or exits processed during the execution of the package or DBRM.

In Accounting reports this is shown twice; as a total and as an average.

Field Name: QPACARNA

CLASS 7: TOTAL TCB TIME

The class 7 CPU time for all executions of the package or DBRM. This time does not include the:

- Class 7 time for parallel tasks
- CPU time that is consumed on an IBM specialty engine

Field Name: QPACTJST

This is an *exception* field.

CLASS 7: SE CPU TIME

The total CPU time for all executions of this package or DBRM that was consumed on an IBM specialty engine (SE).

Note: All CPU times of an IBM specialty engine that are reported in DB2 trace records are already normalized by DB2 to the speed of the general purpose processor.

Field Name: QPACCLS7_ZIIP

CLASS 8: LOCK/LATCH SUSP TIME

The accumulated lock elapsed wait time that occurred while executing this package.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when performance data was gathered.

If the suspension time is high, investigate locking activity.

Field Name: QPACAWTL

This is an *exception* field.

CLASS 8: LOCK/LATCH SUSP EVENTS

The number of wait trace events processed for waits for lock while executing this package.

Field Name: QPACARNL

CLASS 8: WAIT TIME LOCAL LOCKS

The accumulated latch elapsed wait time for latch suspensions that occurred while executing this package.

Field Name: QPACAWLH

CLASS 8: LOCAL LOCK WAIT TRACE EVENTS

The number of wait trace events processed for page latch contention while executing this package.

Field Name: QPACANLH

CLASS 8: DB2 LATCH SUSP TIME

The accumulated lock elapsed wait time that occurred while executing this package.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when performance data was gathered.

If the suspension time is high, investigate locking activity.

Field Name: QPACAWTL

This is an *exception* field.

CLASS 8: LATCH WAIT TRACE EVENTS

The number of wait trace events processed for waits for lock while executing this package.

Field Name: QPACARNL

CLASS 8: SYNCHRONOUS I/O SUSP TIME

The accumulated elapsed wait time for I/O suspensions under this thread during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Field Name: QPACAWTI

This is an *exception* field.

CLASS 8: SYNCHRONOUS I/O SUSP EVENTS

The number of wait trace events processed for I/O.

Field Name: QPACARNE

CLASS 8: OTHER READ SUSP TIME

The accumulated waiting time for a read I/O performed under a thread other than this one during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when performance data was gathered.

This field includes waits caused by sequential prefetch, list prefetch, dynamic prefetch, and synchronous read I/O performed by other threads.

If the value in this field is high, the problem could be an I/O bound query using prefetch or an I/O contention. The application is accessing data from a busy data set, volume, or control unit and is continually being suspended. Consult the DBA and MVS systems programmer.

Field Name: QPACAWTR

This is an *exception* field.

CLASS 8: OTHER READ SUSP EVENTS

The number of suspensions due to read I/O.

Field Name: QPACARNR

CLASS 8: OTHER WRITE SUSP TIME

The accumulated waiting time due to a write I/O performed for another thread during the execution of a package or DBRM.

Background and Tuning Information

If the value in this field is high, the problem could be I/O contention. The application is accessing data from a busy data set, volume, or control unit and is continually being suspended. Consult the DBA and MVS systems programmer to resolve possible data set placement problems.

Field Name: QPACAWTW

This is an *exception* field.

CLASS 8: OTHER WRITE SUSP EVENTS

The number of suspensions due to write I/O.

Field Name: QPACARNW

CLASS 8: SERV.TASK SWITCH SUSP TIME

The accumulated waiting time due to a synchronous execution unit switch to DB2 services from this thread during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

This value includes the waits because of an OPEN/CLOSE data set, SYSLGRNG update, DATASPACE MANAGER services, DEFINE, EXTEND, and DELETE data set, AUTONOMOUS PROCEDURE, and DDF Requester waiting for Server reply and VSAM Catalog update.

Field Name: QPACAWTE

This is an *exception* field.

CLASS 8: SERV.TASK SWITCH SUSP EVENTS

The number of wait trace events processed for DB2 service tasks.

Field Name: QPACARNS

CLASS 8: ARCH.LOG(QUIES) SUSP TIME

The accumulated waiting time caused by processing ARCHIVE LOG(QUIESCE) commands during the execution of the package or DBRM. This number represents the amount of time that an individual thread was suspended because of the command, not the time it took for the entire command to complete.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Avoid issuing the -ARCHIVE LOG QUIESCE command during peak periods.

Field Name: QPACALOG

CLASS 8: ARCH.LOG(QUIES) SUSP EVENTS

The number of ARCHIVE LOG MODE (QUIESCE) commands issued.

Field Name: QPACALCT

CLASS 8: DRAIN LOCK SUSP TIME

The accumulated waiting time due to a drain lock.

Field Name: QPACAWDR

CLASS 8: DRAIN LOCK SUSP EVENTS

The number of wait trace events processed for waits for drain locks.

Field Name: QPACARND

CLASS 8: CLAIM RELEASE SUSP TIME

The accumulated waiting time for a drain waiting for claims to be released during the execution of the package or DBRM.

Background and Tuning Information

OMEGAMON XE for DB2 PE might adjust this value if the thread was suspended when its performance data was gathered.

Field Name: QPACAWCL

CLASS 8: CLAIM RELEASE SUSP EVENTS

The number of wait trace events processed for waits for claims to be released.

Field Name: QPACARNC

CLASS 8: PAGE LATCH SUSP TIME

The accumulated waiting time caused by a page latch contention.

Field Name: QPACAWTP

CLASS 8: PAGE LATCH SUSP EVENTS

The number of page latch wait trace events processed.

Field Name: QPACARNH

CLASS 8: NOTIFY MESSAGES SUSP TIME

The accumulated elapsed waiting time due to suspensions caused by sending notify messages to other members in the data sharing group. Messages are sent, for example, when database descriptors are changed due to DDL.

This value is only calculated if accounting class 8 is active and DB2 is a member of a DB2 data sharing group.

Field Name: QPACAWTG

CLASS 8: NOTIFY MESSAGES EVENTS

The number of wait trace events processed for sending notify messages to other members in the data sharing group.

Field Name: QPACARNG

CLASS 8: GLOBAL CONTENT. PARENT SUSP TIME

The accumulated wait time due to global contention for parent L-Locks. Parent L-Locks are any of the following L-Lock types: database, tablespace, table, or partition.

Field Name: QPACAWTJ

CLASS 8: GLOBAL CONTENT. PARENT EVENTS

The number of wait trace entry/exit events processed for waits for global lock contention for parent L-Locks.

Field Name: QPACARNJ

CLASS 8: UDF EXECUTED

The number of user-defined functions scheduled.

Field Name: QPACUDNU

CLASS 8: STORED PROCEDURE EXECUTED

The number of stored procedures scheduled.

Field Name: QPACSPNS

CLASS 8: TCP/IP LOB XML TIME

The number of wait trace events that were processed for waits for TCP/IP LOB and XML materialization while this package or DBRM was running.

Field Name: QPACALBC

CLASS 8: TCP/IP LOB XML EVENTS

The accumulated wait time for TCP/IP LOB and XML materialization while running this package or DBRM.

Field Name: QPACALBW

ACCELERATOR SUSP TIME

The accumulated wait time for requests to an accelerator while executing this package.

Field Name: QPACAACW

ACCELERATOR EVENTS

The number of wait trace events processed for requests to an accelerator while executing this package.

Field Name: QPACAACC

PARALLEL QUERY SYNC WAIT TIME

The accumulated time waiting for parallel query processing to synchronize between parent and child tasks.

Field Name: QPAC_PQS_WAIT

PARALLEL QUERY SYNC WAIT EVENTS

The number of times the parallel query processing suspended because it was waiting for the synchronization of the parent/child.

Field Name: QPAC_PQS_COUNT

FAST INSERT PIPE WAIT TIME

The accumulated wait time for a pipe while this package was executed (DB2 field QPAC_PIPE_WAIT).

Field Name: QPAC_PIPE_WAIT

FAST INSERT PIPE WAIT EVENTS

The number of wait trace events that were processed for waits for a pipe while this package was executed (DB2 field QPAC_PIPEWAIT_COUNT).

Field Name: QPAC_PIPEWAIT_COUNT

IFCID 350 - SQL Statement

This topic shows detailed information about "Record Trace - IFCID 350 - SQL Statement".

IFCID 350 records the complete text of a parsed SQL statement. These records are written when a static or dynamic SQL statement is bound.

Record trace - IFCID 350 - SQL Statement

The field labels shown in the following sample layout of "Record Trace - IFCID 350 - SQL Statement" are described in the following section.

```
OPTIONS      : X'04'          HOST LANG : N/A
SQL SEGMENT  : PORTION        STMT ID   :                      N/A
STMT TYPE    : N/A            CCSID     :                      N/A
SQL LENGTH: 0
SQL STATEMENT:
```

OPTIONS

Shows the parser options and host language.

Field Name: QW0350OT

HOST LANG

Determines the host language. It can have the following values:

- ASSEMBLER
- COBOL
- C
- FORTRAN
- PL/I
- COBOL II
- IBM COBOL
- C++

Field Name: QW0350HL

SQL SEGMENT

Shows the first, the last, the complete, or a portion of the SQL statement.

Field Name: QW0350FG

STMT ID

The statement identifier.

Field Name: QW0350SI

STMT TYPE

The statement type. Possible values are DYNAMIC, STATIC, or N/P.

Field Name: QW0350TY

CCSID

The coded character set identifier (CCSID).

Field Name: QW0350CC

SQL LENGTH

The total length of the SQL statement. The maximum length is 5000 bytes.

Field Name: QW0350TL

SQL STATEMENT

Shows the complete SQL statement that is being parsed or only a part of it.

Note: Host variables in this field are represented by :h.

Field Name: QW0350SP

IFCID 351 - Wait TCPIP LOB

This topic shows detailed information about "Record Trace - IFCID 351 - Wait TCPIP LOB".

IFCID 0351 is generated at the beginning of the time that is spent waiting for TCP/IP to materialize a LOB. You can activate this trace by starting accounting trace class 3 or 8.

Record trace - IFCID 351 - Wait TCPIP LOB

The field labels shown in the following sample layout of "Record Trace - IFCID 351 - Wait TCPIP LOB" are described in the following section.

```
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                       TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME        ID
-------- --------- ----------- ---------------- ------ --- ---- -------------- ------------------------------------------------------------
FWAMINQP SERVER   130403052550 FWAMINQP         cfpamst5.prod.fe              java
FWAMINQP java     DRDA        07:02:39.89253268 654661   1 351 WAIT TCPIP LOB NETWORKID:  C0A8B4CC  LUNAME:  KBE9      LUWSEQ:     1
DISTSERV 'BLANK'                 1.18259834                                    REQUESTING LOCATION:  192.168.180.204
REQUESTING TIMESTAMP: N/P
AR NAME: cfpamst5.prod.fe     PRDID: CLNT/SER V8 R2 M0
ACCTKN X'C3F0C1F8C2F4C3C34BD2C2C5F913040305255040404040'
REQUEST TYPE : GET
07:03:39.89253200 654661   1 351 WAIT TCPIP LOB java
1.18259834                       NETWORKID:  C0A8B4CC  LUNAME:  KBE9      LUWSEQ:     1
REQUESTING LOCATION:  192.168.180.204
REQUESTING TIMESTAMP: N/P
AR NAME: cfpamst5.prod.fe     PRDID: CLNT/SER V8 R2 M0
ACCTKN X'C3F0C1F8C2F4C3C34BD2C2C5F913040305255040404040'
REQUEST TYPE : CLOSE
07:04:39.89253200 654661   1 351 WAIT TCPIP LOB java
1.18259834                       NETWORKID:  C0A8B4CC  LUNAME:  KBE9      LUWSEQ:     1
REQUESTING LOCATION:  192.168.180.204
REQUESTING TIMESTAMP: N/P
AR NAME: cfpamst5.prod.fe     PRDID: CLNT/SER V8 R2 M0
ACCTKN X'C3F0C1F8C2F4C3C34BD2C2C5F913040305255040404040'
REQUEST TYPE : CLOSEALL
```

REQUEST TYPE

The request type. Possible values are:

GET
Materialize a LOB/XML value into the database.

CLOSE
Receive and discard a LOB/XML value from the network.

CLOSEALL
Receive and discard all the LOB/XML values for this request.

Field Name: QW0351RT

IFCID 353 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 353 - IBM Service Record".

This record is for IBM service use.

IFCID 354 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 354 - IBM Service Record".

This record is for IBM service use.

IFCID 357 - Beginning of an Index I/O Parallel INSERT

This topic shows detailed information about "Record Trace - IFCID 357 - Beginning of an Index I/O Parallel INSERT".

IFCID 357 records the beginning of data insertion into an index, with I/O parallelism. This record is written when performance trace class 4 is active.

Record trace - IFCID 357 - Beginning of an Index I/O Parallel INSERT

The field labels shown in the following sample layout of "Record Trace - IFCID 357 - Beginning of an Index I/O Parallel INSERT" are described in the following section.

```
DATABASE ID:    DB123456      TABLE OBID: TB12345678        IDX SPACE PG SET ID: x'1234'
```

DATABASE ID

The database identifier (ID) of the first index involved in the I/O parallel INSERT.

Field Name: QW0357DB

TABLE OBID

The object identifier (OBID) of the table involved in the INSERT.

Field Name: QW0357TB

IDX SPACE PG SET ID

The page set ID of the first index.

Field Name: QW0357PS

IFCID 358 - End of an Index I/O Parallel INSERT

This topic shows detailed information about "Record Trace - IFCID 358 - End of an Index I/O Parallel INSERT".

IFCID 358 records the end of data insertion into an index, with I/O parallelism. This record is written when performance trace class 4 is active.

Record trace - IFCID 358 - End of an Index I/O Parallel INSERT

The field labels shown in the following sample layout of "Record Trace - IFCID 358 - End of an Index I/O Parallel INSERT" are described in the following section.

```
DATABASE ID:    DB123456      TABLE OBID: TB12345678        IDX SPACE PG SET ID: x'1234'   PARALL. DEGREE:  12345678
```

DATABASE ID

The database ID of the last index involved in the I/O parallel INSERT.

Field Name: QW0358DB

TABLE OBID

The object identifier (OBID) of the table involved in the INSERT.

Field Name: QW0358TB

IDX SPACE PG SET ID

The page set ID of the last index.

Field Name: QW0358PS

PARALL. DEGREE

The degree of I/O parallelism on the INSERT.

Field Name: QW0358DE

IFCID 359 - Index Page Split

This topic shows detailed information about "Record Trace - IFCID 359 - Index Page Split".

IFCID 359 records information about index page splits. This record is written when performance trace class 4 is active.

Record trace - IFCID 359 - Index Page Split

The field labels shown in the following sample layout of "Record Trace - IFCID 359 - Index Page Split" are described in the following section.

```
DATABASE ID:          DB123456     INDEX PAGE SET ID:    ID123456  PARTITION NUMBER: 12345
SPLITTING PAGE NUMBER: 1234567890   FLAGS:                x'c'
TIMESTAMP BEGIN:      11:22:33.0000 TIMESTAMP END:        12:12:12.0000
```

DATABASE ID

The database ID of the splitting index.

Field Name: QW0359DB

INDEX PAGE SET ID

The page set ID of the splitting index.

Field Name: QW0359OB

PARTITION NUMBER

The partition number of the splitting index.

Field Name: QW0359PT

SPLITTING PAGE NUMBER

The page number of the splitting index.

Field Name: QW0359PG

FLAGS

Shows if the index depends on the group buffer pool (GBP).

Field Name: QW0359FL

TIMESTAMP BEGIN

The time stamp when index splitting started.

Field Name: QW0359TS

TIMESTAMP END

The time stamp when index splitting stopped.

Field Name: QW0359TE

IFCID 360 - Incrementally Rebound Queries

This topic shows detailed information about "Record Trace - IFCID 360 - Incrementally Rebound Queries".

IFCID 360 records information about queries that are incrementally rebound, because parallelism was chosen in packages that were created before DB2 10. This record is written when performance trace class 3 or 10 is on.

Record trace - IFCID 360 - Incrementally Rebound Queries

The field labels shown in the following sample layout of "Record Trace - IFCID 360 - Incrementally Rebound Queries" are described in the following section.

```
PLAN NAME .......: PLNAPPLX             QUERY STMT NUMBER:                212  QUERY SECT NUMBER:                  2
COLLECTION NAME .: PARA
PACKAGE NAME ....: APPLX
PKG CONSIST TOKEN: X'ABCDEFFFFFFFFFF'
```

PLAN NAME

The name of the plan.

Field Name: QW0360PLAN

QUERY STMT NUMBER

The query statement number.

Field Name: QW0360STMTNO

QUERY SECT NUMBER

The query section number.

Field Name: QW0360SECTN

COLLECTION NAME

The name of the package collection ID.

Field Name: QW0360COLLIDN

PACKAGE NAME

The name of the package.

Field Name: QW0360PKGIDN

PKG CONSIST TOKEN

The package consistency token.

Field Name: QW0360CONTK

IFCID 361 - Audit Admin Authorities

This topic shows detailed information about "Record Trace - IFCID 361 - Audit Admin Authorities".

Record trace - IFCID 361 - Audit Admin Authorities

The field labels shown in the following sample layout of "Record Trace - IFCID 361 - Audit Admin Authorities" are described in the following section.

```
AUTHORITY TYPE   : SYSADM              AUTHID TYPE      : AUTHORIZATION ID
PRIVILEGE CHECKED:       284          PRIVILEGE        : SECADM               OBJECT TYPE      : USER AUTH
AUTHORIZATION ID : ADMF001
SOURCE OBJ QUALIF: N/P
SOURCE OBJ NAME  : N/P
TARGET OBJ QUALIF: ADMF001
TARGET OBJ NAME  : N/P
OTHER  OBJ NAME : N/P

SQL STATEMENT:
GRANT DBADM TO OMVSADM
```

AUTHORITY TYPE

The authority type.

Possible values are:

- SYSDBADM (System DBADM)
- DBCTRL
- DBADM
- SECADM
- ACCSCTRL (ACCESSCTRL)
- SYSADMI (Installation SYSADM)
- SQLADM
- SYSCTRL
- DBMAINT
- SYSOPR

- PACKADM
- SYSOPRI (Installation SYSOPR)
- SYSADM
- DATAACCS (DATAACCESS)
- USER

Field Name: QW0361AT

AUTHID TYPE

The authorization ID type. Possible values are:

AUTHORIZATION ID
Indicates that the authorization ID (AUTH ID) is used.

L
Indicates that ROLE is used.

Field Name: QW0361IT

PRIVILEGE CHECKED

The privilege that was checked. Possible values are provided in the DB2 macro DSNDQW05.

Field Name: QW0361PR

OBJECT TYPE

The DB2 object type.

Possible values are:

- ACEE
- BUFFER (Bufferpool)
- COLLECT (Collection)
- DATABASE
- DISTTYPE (Distinct Type)
- FUNCTION
- SESSIONV (Session Variable)
- JAR
- PACKAGE
- ROLE
- SCHEMA
- TRUSTCTX (Trusted Context)
- PROCEDUR (Procedure)
- APPLPLAN (Application Plan)
- LOBTS (LOB Tablespace)
- STOGROUP (Storage Group)
- TAB/VIEW (Table or View)
- USERAUTH (User Auth)
- SEQUENCE
- ROW

Field Name: QW0361OT

AUTHORIZATION ID

The authorization ID or the role that has the authority.

Field Name: QW0361ID

SOURCE OBJ QUALIF

The source object qualifier or owner.

Field Name: QW0361SC

SOURCE OBJ NAME

The source object name.

Field Name: QW0361SN

TARGET OBJ QUALIF

The target object qualifier or owner.

Field Name: QW0361TC

TARGET OBJ NAME

The target object name.

Field Name: QW0361TN

OTHER OBJ NAME

The other object name or subsystem parameter.

Field Name: QW0361ON

SQL STATEMENT

The SQL statement (truncated at 4000 bytes).

Field Name: QW0361SQ

IFCID 362 - Start Trace and Stop Trace with Audit Policy

This topic shows detailed information about "Record Trace - IFCID 362 - Start Trace and Stop Trace with Audit Policy".

Record trace - IFCID 362 - Start Trace and Stop Trace with Audit Policy

The field labels shown in the following sample layout of "Record Trace - IFCID 362 - Start Trace and Stop Trace with Audit Policy" are described in the following section.

```
STATUS          : FAILED              TYPE            : 15138852          REASAON CODE     : x'00'
DB2 START UP    : N/P                 DATABASE NAME   : N/P

AUDIT CATEGORIES:
CHECKING  X'00'  VALIDATE  X'00'  OBJMAINT  X'00'  EXECUTE   X'00'  CONTENT   X'00'  SECMAINT  X'00'

AUDIT POLICY NAME: N/P
TABLE SCHEMA NAME: N/P
TABLE NAME:        N/P
SYSADM CAT VALUES: N/P
DBADM CAT VALUES:  N/P
COLLECTION ID:     N/P

TABLE NAMES  :
N/P
```

STATUS

Status.

Possible values are:

S
Success

F
Failed

Field Name: QW0362ST

TYPE

The type. It can have a value of 'S' for Start Trace.

Field Name: QW0362TY

REASON CODE

The reason code.

Field Name: QW0362RN

DB2 START UP

The DB2 start up.

Field Name: QW0362DS

DATABASE NAME

The database name.

Field Name: QW0362DB

CHECKING

The CHECKING category.

Field Name: QW0362CH

VALIDATE

The VALIDATE category.

Field Name: QW0362VA

OBJMAINT

The OBJMAINT category.

Field Name: QW0362OB

EXECUTE

The EXECUTE category.

Field Name: QW0362EX

CONTENT

The CONTEXT category.

Field Name: QW0362CX

SECMAINT

The SECMAINT category.

Field Name: QW0362SM

AUDIT POLICY NAME

The audit policy name.

Field Name: QW0362AP

TABLE SCHEMA NAME

The table schema name.

Field Name: QW0362TS

TABLE NAME

The table name.

Field Name: QW0362TB

SYSADM CAT VALUES

The SYSADMIN category values.

Field Name: QW0362SA

DBADM CAT VALUES

The DBADMIN category values.

Field Name: QW0362DA

COLLECTION ID

The collection ID.

Field Name: QW0362CO

TABLE NAMES

The list of table names traced up to 4K bytes. Each table name is mapped to field QW0362TN_Var.

Field Name: QW0362TN

IFCID 363 - Parallel Straw Model Performance Trace

IFCID 363 consists of the following data sections: QW0363 and QW0363E.

IFCID 363 - Data Section QW0363

This topic shows detailed information about "Record Trace - IFCID 363 - Data Section QW0363".

Record trace - IFCID 363 - Data Section QW0363

The field labels shown in the following sample layout of "Record Trace - IFCID 363 - Data Section QW0363" are described in the following section.

```
RECORD      1 OF    1
LOCATION NAME    :  STLEC1
PACKAGE NAME     :  DSNTEP3
PROGRAM NAME     :  DSNTEP3
CONSISTENCY TOKEN: X'1846EC1906E9322D'
STATEMENT NO     :       2189           QUERY BLOCK NO   :          1           PAR. GROUP NO    :          1
PLANNED DEGREE   :          2           PARTITION KIND   : PAGE RANGE           RECORDS ORDER    : N/P
IN MEM WORKFILE  : N                    INPUT RID IN WKF : N                   OUTPUT RID IN WKF: N
TOTAL INPT ELEM #:          4           TOTAL RECORDS #  :                    0 ACTUAL USED WIOEs:          4
PIPE DEGREE      :          2
PIPE CREATION    : 12/02/09 10:59:42.827082
PIPE TERMINATION : 12/02/09 10:59:42.838217
PIPE ELAPSED     :         0.011135
```

LOCATION NAME

The location name.

Field Name: QW0363LN

PACKAGE NAME

The package name.

Field Name: QW0363PC

PROGRAM NAME

The program name.

Field Name: QW0363PN

CONSISTENCY TOKEN

The time stamp.

Field Name: QW0363TS

STATEMENT NO

The statement number.

Field Name: QW0363SN

QUERY BLOCK NO

The query block number.

Field Name: QW0363QN

PAR. GROUP NO

The parallel group number.

Field Name: QW0363GN

PLANNED DEGREE

The planned (bind time) degree.

Field Name: QW0363BD

PARTITION KIND

The partition kind of the parallel.

Field Name: QW0363RK

RECORDS ORDER

The record order: descending or ascending.

Field Name: QW0363OD

IN MEM WORKFILE

Record in memory work file.

Field Name: QW0363IW

INPUT RID IN WKF

Input RID in work file.

Field Name: QW0363RI

OUTPUT RID IN WKF

Output RID in work file.

Field Name: QW0363RO

TOTAL INPT ELEM #

The total number of elements.

Field Name: QW0363NE

TOTAL RECORDS #

The total number of records.

Field Name: QW0363NR

ACTUAL USED WIOEs

Number of actual elements.

Field Name: QW0363AE

PIPE DEGREE

The pipe degree.

Field Name: QW0363PD

PIPE CREATION

The start time of the pipe.

Field Name: QW0363PS

PIPE TERMINATION

The end time of the pipe.

Field Name: QW0363PT

PIPE ELAPSED

The time elapsed between the start and end time of the pipe.

Field Name: RT0363PE

IFCID 363 - Data Section QW0363E

This topic shows detailed information about "Record Trace - IFCID 363 - Data Section QW0363E".

WORKLOAD ELEMENT INDEX

Identifies the number of the workload element (nth one).

Field Name: QW0363IX

TASK NO

The task number of the subpipe index.

Field Name: QW0363PI

SUB-PIPE CREATION

The subpipe start time.

Field Name: QW0363PB

SUB-PIPE TERMINATION

The end time of the subpipe.

Field Name: QW0363PE

SUB-PIPE ELAPSED

The time elapsed between the start and end time of the subpipe.

Field Name: RT0363SE

LOW BOUND PAGE NO

The page number of low bound of logical partition.

Field Name: QW0363LP

HIGH BOUND PAGE NO

The page number of high bound of logical partition.

Field Name: QW0363HP

LOW KEY BUFFER DATA

The low key buffer.

Field Name: QW0363LB

HIGH KEY BUFFER DATA

The high key buffer.

Field Name: QW0363HB

NBR OF ROWS CONSUMED

The number of rows consumed.

Field Name: QW0363NI

NBR OF ROWS PRODUCED

The number of rows produced.

Field Name: QW0363NO

QW0363CN

This field is for IBM service.

Field Name: QW0363CN

QW0363BI

This field is for IBM service.

Field Name: QW0363BI

QW0363EI

This field is for IBM service.

Field Name: QW0363EI

IFCID 365 - Remote Location Statistics

The IFCID 365 record block provides detailed statistics about the remote locations with which a Db2 subsystem communicates using the DRDA protocol. This record is written when statistics trace class 7 is on. The DDF DATA BY LOCATION section is shown for each location with which the Db2 subsystem communicates.

Record trace - IFCID 365 - Remote Location Statistics

```
REMOTE LOCATIONS STATISTICS

SECTIONS IN RECORD ........:                   3          ANOTHER IFCID365 FOLLOWS ..:                  NO

DDF DATA BY LOCATION
LOCATION NAME (SHORT)......: ::FFFF:10.17.40.            PRDID REMOTE LOCATION .....: JCC04240
LOCATION NAME (LONG).......: ::FFFF:10.17.40.72

INITIATED CONNECTIONS......:                   0          DEALLOCATED CONNECTIONS....:                   0
INITIATED FROM REMOTE SITE.:                   3
MESSAGES SENT TO REMOTE....:                  67          MESSAGES RECV FR REMOTE....:                  67
SQL STMTS SENT TO REMOTE...:                   0          SQL STMTS RECV FR REMOTE...:                  49
BYTES SENT TO REMOTE.......:                8932          BYTES RECV FR REMOTE...... :                8898
ROWS SENT TO REMOTE........:                  12          ROWS RETRIEVED FR REMOTE...:                   0
BLOCKS TRANSMITTED.........:                  24          BLOCKS RECEIVED............:                   0
COMMIT REQUESTS SENT.......:                   0          COMMIT REQUESTS RECEIVED...:                  18
ABORT REQUESTS SENT........:                   0          ABORT REQUESTS RECEIVED....:                   0
INDOUBT THREADS............:                   0          CONN REQUESTS QUEUED.......:                   0
REST REQUESTS..............:                nnnn          KEEPDYNAMIC PACKAGES USED..:                nnnn
SET SPECIAL REGISTERS......:                nnnn          HIGH PERFORMANCE DBATS USED:                nnnn
SET GLOBAL VARIABLES.......:                nnnn          HELD LOB LOCATOR(S)........:                nnnn
SYSPLEX BALANCING USED.....:                nnnn          STORED PROCEDURE COMMITS...:                nnnn
TLS/SSL USED...............:                nnnn          CONDBAT REACHED............:                nnnn
TRUSTED CONTEXT USED.......:                nnnn          PROFILE EXCEPTIONS.........:                nnnn
AES ENCRYPTION USED........:                nnnn          MAXCONQN REACHED...........:                nnnn
XA GLOBAL TRANSACTION USED.:                nnnn          MAXCONQW REACHED...........:                nnnn
DRDA ENCRYPTION USED.......:                nnnn          THREADS QUEUED (PROFILE)...:                nnnn
UID/PWD AUTH USED..........:                nnnn          THRDS TERMINATED (PROFILE).:                nnnn
KERBEROS AUTH USED.........:                nnnn          REMOTE THREADS ABENDED.....:                nnnn
MULTIFACTOR AUTH USED......:                nnnn          REMOTE THREADS CANCELLED...:                nnnn
CLIENT CERT AUTH USED......:                nnnn          CONNECTIONS (SNAPSHOT).....:                nnnn
FAILED SEC AUTH............:                nnnn          CONNECTIONS (HWM)..........:                nnnn
WITH HOLD CSR NOT CLOSED...:                nnnn          ACTIVE THREADS (SNAPSHOT)..:                nnnn
DGTT NOT DROPPED...........:                nnnn          ACTIVE THREADS (HWM).......:                nnnn
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

SECTIONS IN RECORD [QW0365NO]
The number of QLST sections that are part of this IFCID 365 record.

ANOTHER IFCID365 FOLLOWS [QW0365FL]
Indicates if another IFCID 365 is shown in the Db2 trace data.

LOCATION NAME (SHORT) [QLSTLOCN]
The name of the remote location.

PRDID REMOTE LOCATION [QLSTPRID]
The product ID and version of the remote location.

LOCATION NAME (LONG) [QLSTLOCN]
The name of the remote location.

INITIATED CONNECTIONS [QLSTCNVS]
The number of connections that were initiated from the requester location. This value is maintained at the requester location. A conversation is a specific instance TCP/IP or SNA LU 6.2 being used to transfer information between a requester and a server. A conversation is a logical connection between a requester and a server.

DEALLOCATED CONNECTIONS [QLSTCNVT]
The number of connections that were deallocated from this site to the remote site.

INITIATED FROM REMOTE SITE [QLSTCNVR]
The number of conversations that were initiated from the requester to the server location. This value is updated at the server location.

MESSAGES SENT TO REMOTE [QLSTMSGS]
The number of messages sent to the remote location. A message is a group of characters and control bit sequences transferred on a single TCP/IP or SNA API call. This value is maintained at the location where the messages originated.

MESSAGES RECV FR REMOTE [QLSTMSGR]
The number of messages received by VTAM from the remote location. This value is maintained at the location where the messages were received. More messages might be sent from the server location than are received by the requester due to the manner in which distributed SQL statements are processed internally.

SQL STMTS SENT TO REMOTE [QLSTSQLS]
The number of SQL statements sent to the remote server. This value is updated at the requester location.

SQL STMTS RECV FR REMOTE [QLSTSQLR]
The number of SQL statements received from the requester location. This value is updated at the server location.

BYTES SENT TO REMOTE [QLSTBYTS]
The number of bytes of data sent to the requester location. This value is maintained at the server location.

BYTES RECV FR REMOTE [QLSTBYTR]
The number of bytes of data received from the server location. This value is maintained at the requester location. More bytes of data might be sent from the server location than are received by the requester due to the manner in which distributed SQL statements are processed internally.

ROWS SENT TO REMOTE [QLSTROWS]
The number of data rows sent to the requester location (includes SQLDA). This value is updated at the server location.

ROWS RETRIEVED FR REMOTE [QLSTROWR]
The number of data rows received from the server location. This value is maintained at the requester location.

Note:

- This value does not include any SQLDA or SQLCA transmitted.
- Block fetch can significantly affect the number of rows sent across the network. When used with nonupdate cursors, block fetch groups as many rows as possible into the message buffer, and transmits the buffer over the network without requiring a VTAM message. Consequently, more rows of data might be sent from the server location than are received by the requester location.

  This is especially true when Db2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages from the requester.

BLOCKS TRANSMITTED [QLSTBTBF]
The number of blocks transmitted using block fetch. This value is maintained at the server location.

BLOCKS RECEIVED [QLSTBRBF]
The number of blocks received from the remote location using block fetch. This value is maintained at the requester location.

COMMIT REQUESTS SENT [QLSTCOMS]
The number of commit requests sent to the server (single-phase commit protocol) and the committed requests sent to the participant (two-phase commit protocol).

COMMIT REQUESTS RECEIVED [QLSTCOMR]
The number of commit requests received from the requester (single-phase commit protocol) and the committed requests received from the coordinator (two-phase commit protocol).

ABORT REQUESTS SENT [QLSTABRS]
The number of abort requests sent to the server (single-phase commit protocol) and the number of backout requests sent to the participant (two-phase commit protocol).

ABORT REQUESTS RECEIVED [QLSTABRR]
The number of abort requests received from the requester (single-phase commit protocol) and the number of backout requests received from the coordinator (two-phase commit protocol).

INDOUBT THREADS [QLSTINDT]
The number of threads that became indoubt with the remote location as the coordinator.

CONN REQUESTS QUEUED [QLSTCNVQ]
The number of conversation requests queued by DDF waiting for allocation (requester) divided by the number of conversation requests queued waiting for a DBAT when MAXDBAT reached.

REST REQUESTS [QLSTNREST]
The number of times that a connection from the remote site invoked a rest service.

KEEPDYNAMIC PACKAGES USED [QLSTKPDYN]
The number of times the usage of keepdynamic packages prevented thread pooling.

SET SPECIAL REGISTERS [QLSTNSSR]
The number of times that a connection from the remote site caused a system monitoring profile to set special registers.

HIGH PERFORMANCE DBATS USED [QLSTHIPRF]
The number of times the usage of high performance DBATs prevented thread pooling.

SET GLOBAL VARIABLES [QLSTNSGV]
The number of times that a connection from the remote site caused a system monitoring profile to set global variables.

HELD LOB LOCATOR(S) [QLSTHLOBLOC]
The number of times the existence of active held lob locators prevented thread pooling.

SYSPLEX BALANCING USED [QLSTNWLB]
The number of connections from the remote site using sysplex workload balancing.

STORED PROCEDURE COMMITS [QLSTSPCMT]
The number of times a stored procedure issued commit prevented thread pooling.

TLS/SSL USED [QLSTNTLS]
The number of connections from the remote site configured with SSL and AT/TLS support.

CONDBAT REACHED [QLSTCNVTC]
The number of connections from the remote site that were terminated due to CONDBAT being reached.

TRUSTED CONTEXT USED [QLSTNTRS]
The number of connections from the remote site under control of a trusted context.

PROFILE EXCEPTIONS [QLSTCNVTP]
The number of connections from the remote site that were terminated due to system monitoring profile exception.

AES ENCRYPTION USED [QLSTNAES]
The number of connections from the remote site using AES encryption.

MAXCONQN REACHED [QLSTCNVTQN]
The number of connections from the remote site that were terminated due to MAXCONQN being reached.

XA GLOBAL TRANSACTION USED [QLSTNXA]
The number of connections from the remote site under control of an XA global transaction.

MAXCONQW REACHED [QLSTCNVTQW]
The number of connections from the remote site that were terminated due to MAXCONQW being reached.

DRDA ENCRYPTION USED [QLSTNENC]
The number of connections from the remote site using DRDA data encryption.

THREADS QUEUED (PROFILE) [QLSTNTHDPQ]
The number of times threads used by connections from the remote site were queued due to a system monitoring profile exception.

UID/PWD AUTH USED [QLSTNPWD]
The number of connections from the remote site using userid or password authentication.

THRDS TERMINATED (PROFILE) [QLSTNTHDPT]
The number of times threads used by connections from the remote site were terminated due to a system monitoring profile exception.

KERBEROS AUTH USED [QLSTNKER]
The number of connections from the remote site using kerberos authentication.

REMOTE THREADS ABENDED [QLSTNTHDA]
The number of times threads used by connections from the remote site abended.

MULTIFACTOR AUTH USED [QLSTNMFA]
The number of connections from the remote site using multifactor authentication.

REMOTE THREADS CANCELLED [QLSTNTHDC]
The number of times threads used by connections from the remote site were canceled.

CLIENT CERT AUTH USED [QLSTNCCA]
The number of connections from the remote site using client certificate authentication.

CONNECTIONS (SNAPSHOT) [QLSTNCNV]
The current number of active connections from this location.

FAILED SEC AUTH [QLSTFSEC]
The number of times that a connection from the remote site had security authentication failures.

CONNECTIONS (HWM) [QLSTHCNV]
The highest number of active connections from this location since the last statistics trace interval for a statistics trace request. For a READS request, this value is the highest number of active connections from this location since DDF was started.

WITH HOLD CSR NOT CLOSED [QLSTHCRSR]
The number of times that cursors defined with HOLD prevented thread pooling.

ACTIVE THREADS (SNAPSHOT) [QLSTNTHD]
The current number of active threads in use by this location.

DGTT NOT DROPPED [QLSTDGTT]
The number of times the existence of active declared global temp tables prevented thread pooling.

ACTIVE THREADS (HWM) [QLSTHTHD]
The highest number of active threads in use by this location since the last statistics trace interval for a statistics trace request. For a READS request, this value is the highest number of active threads in use by this location since DDF was started.

IFCID 366 - Incompatible Functions Executed

The IFCID 366 record block provides detailed statistics about incompatible functions that have executed..

Record trace - IFCID 366 - Incompatible Functions Executed

```
                                    INCOMPATIBLE FUNCTIONS EXECUTED

COLLECTION ID    :  DSNTEP3
PROGRAM NAME     :  DSNTEP3
TYPE             :                    1  REASON       : V9 SYSIBM.CHAR(DECIMAL-EXPR) FUNCTION
STMT NBR QUERY   :                 2819  SECTION      :          1            PLAN NAME QUERY: DSNTEP3
STMT ID          :                    2  STMT TYPE    : DYNAMIC              CONTOKEN (TS)  : X'18CD6DAF04C72605'
VERSION LENGTH   :                    8  VERSION      : VERSION1
.....................................................................................................................
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

COLLECTION ID [QW0366PC]

The package collection ID.

PROGRAM NAME [QW0366PN]

The program name.

TYPE [QW0366FN]

The change indicator is incompatible. Valid values are:

1
V9 SYSIBM.CHAR(decimal-expr) function

2
V9 SYSIBM.VARCHAR(decimal-expr) function. CAST (decimal as VARCHAR or CHAR)

3
Unsupported character string representation of a timestamp

1101
Insert into an XML column without XMLDOCUMENT function

1102
XPath evaluation error

1103
RLF governing

1104
Long CLIENT_ACCTNG Special Reg value

1105
Long CLIENT_APPLNAME Special Reg value

1106
Long CLIENT_USERID Special Reg value

1107
Long CLIENT_WRKSTNNAME Special Reg value

1108
Long client Special Reg value for RLF

1109
CAST(string AS TIMESTAMP)

1110
SPACE integer argument greater than 32764

1111
VARCHAR int argument greater than 32764

Note: REASON shows the description of the incompatible change indicator according to the Db2 macro. If the indicator is not known, N/A is shown in the report.

REASON [QW0366FN]

The change indicator is incompatible. It can have the following values:

1
V9 SYSIBM.CHAR(decimal-expr) function

2
V9 SYSIBM.VARCHAR(decimal-expr) function. CAST (decimal as VARCHAR or CHAR)

3
Unsupported character string representation of a timestamp

1101
Insert into an XML column without XMLDOCUMENT function

1102
XPath evaluation error

1103
RLF governing

1104
Long CLIENT_ACCTNG Special Reg value

1105
Long CLIENT_APPLNAME Special Reg value

1106
Long CLIENT_USERID Special Reg value

1107
Long CLIENT_WRKSTNNAME Special Reg value

1108
Long client Special Reg value for RLF

1109
CAST(string AS TIMESTAMP)

1110
SPACE integer argument greater than 32764

1111
VARCHAR int argument greater than 32764

Note: REASON shows the description of the incompatible change indicator according to the DB2 macro. If the indicator is not known, N/A is shown in the report.

STMT NBR QUERY [QW0366SN]

The statement number of the query.

SECTION [QW0366SE]

The section number.

PLAN NAME QUERY [QW0366PL]

The plan name of the query.

STMT ID [QW0366SI]

The statement identifier.

STMT TYPE [QW0366TY]

The statement information. Valid values are DYNAMIC or STATIC.

CONTOKEN (TS) [QW0366TS]

The consistency token is shown in hexadecimal format.

VERSION LENGTH [QW0366VL]

The version length.

VERSION [QW0366VN]

The version.

IFCID 369 - Aggregated Accounting Statistics

This topic shows detailed information about "Record Trace - IFCID 369 - Aggregated Accounting Statistics".

IFCID 369 contains aggregated Accounting data listed by connection type. It is shown at Statistics intervals, for more information refer to “Aggregated Accounting Statistics ” on page 1104.

The following data sections provide information for each connection type that is listed in DATA SECTION 2 - CONNECTION TYPES:

- DATA SECTION 3: ACCOUNTING DATA - “IFCID 003 - Instrumentation Accounting Data ” on page 524
- DATA SECTION 4: ACCOUNTING DATA OVERFLOW - “IFCID 003 - Instrumentation Accounting Data Overflow ” on page 537

Record trace - IFCID 369 - Aggregated Accounting Statistics

The field labels shown in the following sample layout of "Record Trace - IFCID 369 - Aggregated Accounting Statistics" are described in the following section.

```
LOCATION: DDFD6Y0                          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R2M0)                PAGE: 1-1
      GROUP: N/P                                     RECORD TRACE - LONG                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: D6Y0                                                                                   ACTUAL FROM: 07/10/12 07:18:00.09
DB2 VERSION: V10                                                                                      PAGE DATE: 07/10/12
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                        TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME              ID
-------- -------- ------------ ---------------- ------ --- --- -------------- ----------------------------------------------------
SYSOPR   D6Y0     C9D72C42371F 'BLANK'          'BLANK'                        'BLANK'
SYSOPR   016.WVSM 'BLANK'     07:18:00.09381935  41903   1 369 AGGR ACCOUNTNG NETWORKID:  D6Y0      LUNAME:  D6Y0      LUWSEQ:     1
'BLANK'  T 01                 N/P                                STATISTICS
          TIMESTAMP WHEN ENABLED:  07/10/13 07:14:32.981817
          TIMESTAMP WHEN DISABLED: 07/09/13 14:50:57.335291

         |-------------------------------------------------------------------------------------------------------------------------
         |                                          DATA SECTION 2: CONNECTION TYPES
         |CONNECTION TYPE 1: UTILITY
         |
         |CONNECTION TYPE 2: BATCH
         |
         |CONNECTION TYPE 3: RRSAF ATTACH
         |
         |CONNECTION TYPE 4: DDF CONNECTION
         |
         |.........................................................................................................................
         |
         |                                          DATA SECTION 3: ACCOUNTING DATA
         |ACCOUNTING DATA FOR TYPE: 1
         |                                          INSTRUMENTATION ACCOUNTING DATA
         |CLASS 1 BEGINNING STORE CLOCK TIME                     N/P   ENDING STORE CLOCK TIME  01/02/00 00:00:19.770757
         |        ELAPSED TIME                             19.770758   MVS TCB TIME                              1.138304
         |        BEGINNING MVS TCB TIME                    0.000000   ENDING MVS TCB TIME                       1.138304
         |        STORED PROC ELAPSED TIME                  0.000000   CONVERSION FACTOR                                0
         |        STORED PROCEDURE TCB TIME                 0.000000   PAR.TASKS:         97       PAR.TOKEN: X'00000000'
         |        UDF ELAPSED TIME                          0.000000   COMMITS  :       5090       SVPT REQ.:          0
         |        UDF TCB TIME                              0.000000   ROLLBACKS:          1       SVPT RLB.:          0
         |        NETWORK ID VALUE                   'BLANK'           PROGRAMS :          0       SVPT REL.:          0
         |        REASON ACCT INVOKED:                0
         |        SE CPU TIME                               1.548725
         |CLASS 1/2 STORED PROC ZIIP TCB TIME               0.000000
         |          STORED PROC ELAPSED TIME                0.000000
         |          STORED PROC CP ELAPSED TIME             0.000000
         |          UDF NF SE CPU TIME                      0.000000
         |          UDF NF ELAPSED TIME                     0.000000
         |          UDF NF CP CPU TIME                      0.000000
         |CLASS 2 DB2 ELAPSED TIME                          5.757953   DB2 ENTRY/EXIT EVENTS                        2512
         |        TCB TIME                                  0.448220   NON-ZERO CLASS 2                               YES
         |        STORED PROC ELAPSED TIME                  0.000000   CLASS 2 DATA COLLECTED                         YES
         |        STORED PROCEDURE TCB TIME                 0.000000   STORED PROC. ENTRY/EXITS                         0
```

```
        |       UDF ELAPSED TIME                          0.000000   UDF SQL ENTRY/EXITS EVENTS                  0
        |       CP CPU TIME UDF                           0.000000   SE CPU TIME                          1.548725
        |       TRIG ELAP TIME UNDER ENCLAVE              0.000000   SE ELIGIBLE CP CPU TIME          903 22:07:20.834
        |       TRIG TCB TIME UNDER ENCLAVE               0.000000   QWACTRTT_ZIIP                        0.000000
        |       TRIG ELAP TIME NOT UNDER ENCLAVE          0.000000
        |       TRIG TCB TIME NOT UNDER ENCLAVE           0.000000
        |CLASS 3 LOCK/LATCH(DB2+IRLM) SUSP TIME     N/A               LOCK/LATCH(DB2+IRLM) SUSP EVENTS       N/A
        |       WAIT TIME LOCAL LOCKS                     0.013750   LOCAL LOCK WAIT TRACE EVENTS                18
        |-------------------------------------------------------------------------------------------------------------
   LOCATION: DDFD6Y0                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R2M0)            PAGE: 1-2
      GROUP: N/P                                  RECORD TRACE - LONG                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: D6Y0                                                                                  ACTUAL FROM: 07/10/13 07:18:00.09
DB2 VERSION: V10                                                                                     PAGE DATE: 07/10/13
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                     TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME          ID
-------- ------- ------------ ---------------- ------ --- --- -------------- ----------------------------------------------------------
SYSOPR   D6Y0    C9D72C42371F 'BLANK'          'BLANK'
SYSOPR   016.WVSM 'BLANK'     07:18:00.09381935  41903   1 369 AGGR ACCOUNTNG
'BLANK'  T 01                 N/P                          STATISTICS
        |-------------------------------------------------------------------------------------------------------------
        |       DB2 LATCH SUSP TIME                       0.000178   LATCH WAIT TRACE EVENTS                    54
        |       SYNCHRONOUS I/O SUSP TIME                 0.979991   SYNCHRONOUS I/O SUSP EVENTS              3490
        |       LOG WRITE I/O SUSP TIME                   0.093980   LOG WRITE I/O SUSP EVENTS                  423
        |       OTHER READ SUSP TIME                      0.070524   OTHER READ SUSP EVENTS                     126
        |       OTHER WRITE SUSP TIME                     0.000000   OTHER WRITE SUSP EVENTS                      0
        |       UPDATE COMMIT SUSP TIME                   1.601083   UPDATE COMMIT SUSP EVENTS                 5482
        |       PAGE LATCH(DB2+IRLM) SUSP TIME            0.000008   PAGE LATCH(DB2+IRLM) SUSP EVENTS            2
        |       NOTIFY MESSAGES SUSP TIME                 0.000000   NOTIFY MESSAGES EVENTS                     0
        |       GLOB CONT PARENT L-LOCK TIME              0.000000   GLOB CONT PARENT L-LOCK EVENTS             0
        |       GLOB CONT CHILD L-LOCK TIME               0.000000   GLOB CONT CHILD L-LOCK EVENTS              0
        |       GLOB CONT OTHER L-LOCK TIME               0.000000   GLOB CONT OTHER L-LOCK EVENTS             0
        |       GLOB CONT PGSET/PART P-LOCK TIME          0.000000   GLOB CONT PGSET/PART P-LOCK EVENTS         0
        |       GLOB CONT PAGE P-LOCK TIME                0.000000   GLOB CONT PAGE P-LOCK EVENTS              0
        |       GLOB CONT OTHER P-LOCK TIME               0.000000   GLOB CONT OTHER P-LOCK EVENTS             0
        |       SCHED. STOR PROC SUSP TIME                0.000000   STORED PROCEDURE EVENTS                    0
        |       SCHED. UDF SUSP TIME                      0.000000   NON-ZERO CLASS 3                          YES
        |       TCP/IP LOB XML TIME                       0.000000   TCP/IP LOB XML EVENTS                      0
        |       ACCELERATOR SUSP TIME                     0.000000   ACCELERATOR EVENTS                         0
        |       CLASS 3 DATA COLLECTED                         YES
        |
        |CLASS 7 DATA COLLECTED                                 NO   CLASS 8 DATA COLLECTED                    NO
        |MAX WORKFILE BLOCKS                                     0   CURR WORKFILE BLOCKS                       0
        |WLM SERVICE CLASS:                                     N/P  PARALLEL CHILDS ROLLED INTO RECORD:        0
        |ROLLUP DATA FOR PARALLEL CHILD TASKS                   YES
        |.............................................................................................................
        |                                                  LOGGING
        |       NUMBER OF LOG RECORDS WRITTEN                16104   TOTAL BYTES WRITTEN             7504973
        |.............................................................................................................
```

```
        |ACCOUNTING DATA FOR TYPE: 2
        |                                        INSTRUMENTATION ACCOUNTING DATA
        |CLASS 1 BEGINNING STORE CLOCK TIME                 N/P   ENDING STORE CLOCK TIME  01/02/00 00:31:31.194757


  ......


        |                                        DATA SECTION 4: ACCOUNTING DATA OVERFLOW
        |ACCOUNTING DATA OVERFLOW FOR TYPE: 1
        |                                        INSTRUMENTATION ACCOUNTING DATA OVERFLOW
        |
        |       ARCH.LOG(QUIES) SUSP TIME                0.000000   ARCH.LOG(QUIES) SUSP EVENTS                0
        |       ACCUM. READ SUSP TIME                    0.000000   WAIT TRACE READ EVENTS                     0
        |       DRAIN LOCK SUSP TIME                     0.000000   DRAIN LOCK SUSP EVENTS                     0
        |       CLAIM RELEASE SUSP TIME                  0.000000   CLAIM RELEASE SUSP EVENTS                  0
        |       I/O SERVICE TASK SUSP TIME               0.726053   I/O SERVICE TASK SUSP EVENTS              104
        |       SYSLGRNG SUSP TIME                       0.009885   SYSLGRNG SUSP EVENTS                       16
        |       DS MANAGER SUSP TIME                     0.197568   DS MANAGER SUSP EVENTS                    104
        |       OTHER SERVICE SUSP TIME                  0.013491   OTHER SERVICE SUSP EVENTS                  24
        |       COMMIT PH1 WRITE I/O TIME                0.000000   COMMIT PH1 WRITE I/O EVENTS                 0
        |       ASYNCH. IXL REQ. TIME                           0   ASYNCH. IXL EVENTS                         0
        |       LOB COMPRESSION SUSP TIME                0.000000   LOB COMPRESSION SUSP EVENTS               0
        |.............................................................................................................
        |ACCOUNTING DATA OVERFLOW FOR TYPE: 2
        |                                        INSTRUMENTATION ACCOUNTING DATA OVERFLOW
        |
        |       ARCH.LOG(QUIES) SUSP TIME                0.000000   ARCH.LOG(QUIES) SUSP EVENTS


  ......
```

TIMESTAMP WHEN ENABLED

The timestamp shows when the IFCID 369 statistics collection was enabled.

Field Name: QW0369ST

TIMESTAMP WHEN DISABLED

The timestamp shows when the IFCID 369 statistics collection was disabled.

Field Name: QW0369SP

CONNECTION TYPE I (for I = 1,..,6)

The connection name for which Accounting data has been aggregated.

Field Name: QW0369CN

IFCID 370 - Database Open Information

This topic shows detailed information about "Record Trace - IFCID 370 - Database Open Information".

Record trace - IFCID 370 - Database Open Information

The field labels shown in the following sample layout of "Record Trace - IFCID 370 - Database Open Information" are described in the following section.

```
DATABASE OPEN INFORMATION
DATA SET NAME ...: DSNC000.DSNDBC.DSNDB06.DSNAPH01.I0001.A001                  FLAGS ...........: X'00'
ACE ADDRESS .....: X'1602D430'          DATABASE ID .....: 6                   OBID ............: 101
PART NUMBER .....: X'00000001'          INSTANCE NUMBER .: X'00000001'         DSMAX ...........:        500
OPENED DATA SETS :         13           ALLOCATION TIME .:         0.001435    OPEN TIME .......:         0.020216
```

DATA SET NAME

The data set name.

Field Name: QW0370DN

FLAGS

The flags.

Field Name: QW0370FG

ACE ADDRESS

The address of the agent control element (ACE).

Field Name: QW0370AC

DATABASE ID

The database ID (DBID).

Field Name: QW0370DB

OBID

The page set OBID.

Field Name: QW0370OB

PART NUMBER

The part number.

Field Name: QW0370PN

INSTANCE NUMBER

The instance number.

Field Name: QW0370IN

DSMAX

The maximum number of data sets (DSMAX).

Field Name: QW0370DM

OPENED DATA SETS

The number of opened data sets.

Field Name: QW0370DO

ALLOCATION TIME

The allocation time. It is based on the execution time of SVC 99 invoked by DSNB1OST.

Field Name: QW0370AL

OPEN TIME

The open time. It is based on the execution time of DSNB4ODS.

Field Name: QW0370OP

IFCID 371 - Database Close Information

This topic shows detailed information about "Record Trace - IFCID 371 - Database Close Information".

Record trace - IFCID 371 - Database Close Information

The field labels shown in the following sample layout of "Record Trace - IFCID 371 - Database Close Information" are described in the following section.

```
DATABASE CLOSE INFORMATION
DATA SET NAME ...: DSNCA10.DSNDBC.WRKDB01.WRKTS01.I0001.A001                  FLAGS ...........: X'02'
ACE ADDRESS .....: X'1602D430'          DATABASE ID .....: 274                OBID ............: 2
PART NUMBER .....: X'00000001'          INSTANCE NUMBER .: X'00000001'        DSMAX ...........:       500
OPENED DATA SETS :         47           DEALLOC TIME ....:         0.000424   CLOSE TIME ......:         0.002401
```

DATA SET NAME

The data set name.

Field Name: QW0371DN

FLAGS

The flags.

Field Name: QW0371FG

ACE ADDRESS

The address of the agent control element (ACE).

Field Name: QW0371AC

DATABASE ID

The database ID (DBID).

Field Name: QW0371DB

OBID

The page set OBID.

Field Name: QW0371OB

PART NUMBER

The part number.

Field Name: QW0371PN

INSTANCE NUMBER

The instance number.

Field Name: QW0371IN

DSMAX

The maximum number of data sets (DSMAX).

Field Name: QW0371DM

DEALLOCATION TIME

The deallocation time. It is based on the execution time of SVC 99 invoked by DSNB1CST.

Field Name: QW0371DA

CLOSE TIME

The close time. It is based on the execution time of DSNB4CDS.

Field Name: QW0371CL

OPENED DATA SETS

The number of opened data sets.

Field Name: QW0371DO

IFCID 376 - Incompatible Functions Executed

This topic shows detailed information about "Record Trace - IFCID 376 - Incompatible Functions Executed".

This trace record is written once for each unique dynamic cached statement and static statement. It is similar to IFCID 366, however IFCID 366 can be written more frequently.

Record trace - IFCID 376 - Incompatible Functions Executed

The field labels shown in the following sample layout of "Record Trace - IFCID 376 - Incompatible Functions Executed" are described in the following section.

```
                                    INCOMPATIBLE FUNCTIONS
EXECUTED

COLLECTION ID  :  NULLID
PROGRAM NAME   :  SYSLH200

TYPE           :          1109  REASON      : CAST(STRING AS TIMESTAMP)
STMT NBR QUERY :             0  SECTION     :          1          PLAN NAME QUERY: DISTSERV
STMT ID        :            29  STMT TYPE   : DYNAMIC             CONTOKEN (TS)  : X'5359534C564C3031'
VERSION LENGTH :             0  VERSION     : 'BLANK'
-------------------------------------------------------------------------------------------------
```

COLLECTION ID

The package collection ID.

Field Name: QW0376PC

PROGRAM NAME

The program name.

Field Name: QW0376PN

TYPE

The change indicator is incompatible. It can have the following values:

1
V9 SYSIBM.CHAR(decimal-expr) function

2
V9 SYSIBM.VARCHAR(decimal-expr) function. CAST (decimal as VARCHAR or CHAR)

3
Unsupported character string representation of a timestamp

9
Ignore time zone in hostvar BIND in TMSTZ data type to TMS

11
A SELECT INTO statement contains a UNION or UNION ALL operator, and subsystem parameter DISALLOW_SEL_INTO_UNION is set to NO.

1101
Insert into an XML column without XMLDOCUMENT function

1102
XPath evaluation error

1103
RLF governing

1104
Long CLIENT_ACCTNG Special Reg value

1105
Long CLIENT_APPLNAME Special Reg value

1106
Long CLIENT_USERID Special Reg value

1107
Long CLIENT_WRKSTNNAME Special Reg value

1108
Long client Special Reg value for RLF

1109
CAST(string AS TIMESTAMP)

1110
SPACE integer argument greater than 32764

1111
VARCHAR int argument greater than 32764

Note: REASON shows the description of the incompatible change indicator according to the DB2 macro. If the indicator is not known, N/A is shown in the report.

Field Name: QW0376FN

REASON

The change indicator is incompatible. It can have the following values:

1
V9 SYSIBM.CHAR(decimal-expr) function

2
V9 SYSIBM.VARCHAR(decimal-expr) function. CAST (decimal as VARCHAR or CHAR)

3
Unsupported character string representation of a timestamp

9
Ignore time zone in hostvar BIND in TMSTZ data type to TMS

1101
Insert into an XML column without XMLDOCUMENT function

1102
XPath evaluation error

1103
RLF governing

1104
Long CLIENT_ACCTNG Special Reg value

1105
Long CLIENT_APPLNAME Special Reg value

1106
Long CLIENT_USERID Special Reg value

1107
Long CLIENT_WRKSTNNAME Special Reg value

1108
Long client Special Reg value for RLF

1109
CAST(string AS TIMESTAMP)

1110
SPACE integer argument greater than 32764

1111
VARCHAR int argument greater than 32764

Note: REASON shows the description of the incompatible change indicator according to the DB2 macro. If the indicator is not known, N/A is shown in the report.

Field Name: QW0376FN

STMT NBR QUERY

The statement number of the query.

Field Name: QW0376SN

SECTION

The section number.

Field Name: QW0376SE

PLAN NAME QUERY

The plan name of the query.

Field Name: QW0376PL

STMT ID

The statement identifier.

Field Name: QW0376SI

STMT TYPE

The statement information. It can be a DYNAMIC or STATIC statement.

Field Name: QW0376TY

CONTOKEN (TS)

The consistency token is shown in hexadecimal format.

Field Name: QW0376TS

VERSION LENGTH

Length of version field QW0376VE.

Field Name: QW0376VL

VERSION

The version (max. 64-character string).

Field Name: QW0376VN

IFCID 377 - Pseudo Delete Daemon Cleanup

This topic shows detailed information about "Record Trace - IFCID 377 - Pseudo Delete Daemon Cleanup".

IFCID 0377 records automatic cleanup of pseudo-deleted index entries by the index pseudo-delete daemon. This record is not associated with a trace class.

Record trace - IFCID 377 - Pseudo Delete Daemon Cleanup

The field labels shown in the following sample layout of "Record Trace - IFCID 377 - Pseudo Delete Daemon Cleanup" are described in the following section.

```
PRIMAUTH CONNECT   INSTANCE      END_USER       WS_NAME                       TRANSACT
ORIGAUTH CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
PLANNAME CORRNMBR                TCB CPU TIME                  ID
-------- --------- ----------- ---------------- ------ --- --- ------------- ------------------------------------------------------------
SYSOPR   DB2B      CB6EA03AAC12 N/P              N/P                           N/P
SYSOPR   014.IDAE 'BLANK'     11:47:21.66633960    454   1 377 PSEUDO DELETE  NETWORKID:  DKBD0N01  LUNAME:  BDP0DTST  LUWSEQ:   144
'BLANK'  MK01                 N/P                              DAEMON CLEANUP
         |-------------------------------------------------------------------------------------------------------------------------------
         |DATABASE ID          :  403                      INDEX PAGE NUMBER  :          11        PARTITION NUMBER   :           1
         |INDEX PAGE SET ID    :  16                       PD ENTRIES REMOVED :         594
         |FLAG:                :  PAGE IS DELETED FROM INDEX
         |-------------------------------------------------------------------------------------------------------------------------------
                               11:47:21.67700906    455   1 377 PSEUDO DELETE  N/P
                               N/P                              DAEMON CLEANUP NETWORKID:  DKBD0N01  LUNAME:  BDP0DTST  LUWSEQ:   144
         |-------------------------------------------------------------------------------------------------------------------------------
         |DATABASE ID          :  403                      INDEX PAGE NUMBER  :          34        PARTITION NUMBER   :           1
         |INDEX PAGE SET ID    :  16                       PD ENTRIES REMOVED :         594
         |FLAG:                :  PAGE IS DELETED FROM INDEX
         |-------------------------------------------------------------------------------------------------------------------------------
```

DATABASE ID

The database ID of the index for which entries are cleaned up.

Field Name: QW0377DB

INDEX PAGE NUMBER

The page number of the index page that was cleaned up.

Field Name: QW0377PG

PARTITION NUMBER

The index partition number.

Field Name: QW0377PT

INDEX PAGE SET ID

The page set ID of the index.

Field Name: QW0377OB

PD ENTRIES REMOVED

The number of pseudo-deleted entries that were removed.

Field Name: QW0377NU

FLAG

The reason for the page removal:

- A page is deleted from an index (DB2 field: QW0377DL)
- A page is cleaned up (DB2 field: QW0377CL)

Field Name: RW0377DL

IFCID 378 - Accel. Call Event Begin

This topic shows detailed information about "Record Trace - IFCID 378 - Accel. Call Event Begin".

Record trace - IFCID 378 - Accel. Call Event Begin

The field labels shown in the following sample layout of "Record Trace - IFCID 378 - Accel. Call Event Begin" are described in the following section.

```
-------------------------------------------------------------------------------------------------------------------------------
ACCELERATOR NAME: VMNPS14
-------------------------------------------------------------------------------------------------------------------------------
                   13:06:37.78073211 101591   1 378 ACCEL. CALL    db2jcc_application
                   N/P                            EVENT BEGIN    NETWORKID:  G998CC1A  LUNAME:  E57A      LUWSEQ:
                                                                 REQUESTING LOCATION:  ::FFFF:9.152.204
                                                                 REQUESTING TIMESTAMP: N/P
                                                                 AR NAME: BR9R8M5P             PRDID: JCC V4 R12 M0
```

ACCELERATOR NAME

The name of the accelerator.

Field Name: QW0378ACN

IFCID 379 - Accel. Call Event End

This topic shows detailed information about "Record Trace - IFCID 379 - Accel. Call Event End".

Record trace - IFCID 379 - Accel. Call Event End

The field labels shown in the following sample layout of "Record Trace - IFCID 379 - Accel. Call Event End" are described in the following section.

```
-------------------------------------------------------------------------------------------------------------------
ACCELERATOR NAME: VMNPS14
-------------------------------------------------------------------------------------------------------------------
                  13:06:43.89083741 101594   1 379 ACCEL. CALL    db2jcc_application
                  N/P                           EVENT END      NETWORKID:  G998CC1A  LUNAME:  E57A      LUWSEQ:
                                                               REQUESTING LOCATION:  ::FFFF:9.152.204
                                                               REQUESTING TIMESTAMP: N/P
                                                               AR NAME: BR9R8M5P             PRDID: JCC V4 R12 M0
```

ACCELERATOR NAME

The name of the accelerator.

Field Name: QW0379ACN

IFCID 380 - Stored Procedure Detail Record

This topic shows detailed information about "Record Trace - IFCID 380 - Stored Procedure Detail Record".

IFCID 380 (Stored procedure detail record) and IFCID 381 (UDF detail record) have the same mapping structure.

Both records are written at the beginning and the end of a stored procedure or UDF.

The first data section of IFCID 380 shows fields provided with IFCID 233. The second data section starting with CURRENT TOTAL NESTED CLASS 1 CP TIME shows additional fields for IFCID 380 and IFCID 381.

Record trace - IFCID 380 - Stored Procedure Detail Record

The field labels shown in the following sample layout of "Record Trace - IFCID 380 - Stored Procedure Detail Record" are described in the following section.

```
-------- -------- ----------- ----------------- ------ --- --- --------------- ----------------------------------------------------
MTS      SERVER   C9180047463A MTS             BRUNECK                        CLP I498-UDF-run-UDF3.sql
MTS      db2bp.ex DRDA        08:37:16.68778635    643   1 380 STORED PROC    NETWORKID:  G998CD69  LUNAME:  GD02      LUWSEQ:   184
DISTSERV e                     3.93821220                  DETAIL RECORD  ACCTKN X'5CD3D6C3C1D34BC4C2F24BF1F2F0F2F0F8F0F8F3F2F2'
!-------------------------------------------------------------------------------------------------------------------------------
!LOCATION NAME: PMODA11
!COLLECTION ID: NULLID
!PROGRAM NAME : SYSSTAT
!SCHEMA NAME  : MTS
!ROUTINE NAME : SP_UDF_NESTED
!VERSION NAME : V1
!ROUTINE TYPE : PROCEDURE
!CONSISTENCY TOKEN: X'5359534C564C3031'  ENTRY/EXIT TYPE:  ENTERING
!NESTING LEVEL:          0
!
!STATEMENT NO :                 1    TYPE         : STATIC                  ROUTINE ID   : X'0000000080000455'
!STATEMENT ID :            255762    CONV INTO HEX: X'000000000003E712'
!
!CURRENT TOTAL NESTED CLASS 1 CP TIME     :         0.002278 CURRENT TOTAL NESTED CLASS 1 SE TIME     :         0.000000
!CURRENT TOTAL NESTED CLASS 2 CP TIME     :         0.000000 CURRENT TOTAL NESTED CLASS 2 SE TIME     :         0.000000
!CURRENT TOTAL NESTED ELAPSED CLASS 2 TIME:         0.000000
```

LOCATION NAME

The location name.

Field Name: QW0233LN

COLLECTION ID

The package collection identifier.

Field Name: QW0233PC

PROGRAM NAME

The program name.

Field Name: QW0233PN

SCHEMA NAME

The name of the schema associated with this routine.

Field Name: QW0233SC

ROUTINE NAME

The specific name of the routine.

Field Name: QW0233PR

VERSION NAME

The name of the version.

Field Name: QW0233VER

ROUTINE TYPE

The routine type can have the following values:

PROCEDURE
The routine is a stored procedure

FUNCTION
The routine is a User-Defined Function

Field Name: QW0233TY

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0233TS

ENTRY/EXIT TYPE

The entry or exit event type can have the following values:

ENTERING
The agent is entering a routine.

RETURNED
The agent has returned from a routine.

Field Name: QW0233EX

NESTING LEVEL

The nesting level of the routine.

Field Name: QW0233NL

STATEMENT NO

The statement number of the statement executed.

Field Name: QW0233SN

TYPE

The statement type. Possible values are DYNAMIC or STATIC.

Field Name: QW0233STY

ROUTINE ID

The routine identifier.

Field Name: QW0233RID

STATEMENT ID

The unique identifier of the currently executing statement. It is shown as an integer and in hexadecimal format.

Field Name: QW0233SID

CONV INTO HEX

The unique identifier of the currently executing statement. It is shown as an integer and in hexadecimal format.

Field Name: QW0233SID

CURRENT TOTAL NESTED CLASS 1 CP TIME

The current, total, nested class 1 CP time. This does not include time spent executing on an IBM specialty engine.

Field Name: QW0380_CLS1CP

CURRENT TOTAL NESTED CLASS 1 SE TIME

The current, total, nested class 1 specialty engine time.

Field Name: QW0380_CLS1SE

CURRENT TOTAL NESTED CLASS 2 CP TIME

The current, total, nested class 2 CP time. This is time in the DB2 processing SQL statements. This time also includes in DB2 time needed to connect and disconnect the SP task for non-SQL procedure stored procedures. This does not include time spent executing on an IBM specialty engine.

Field Name: QW0380_CLS2CP

CURRENT TOTAL NESTED CLASS 2 SE TIME

The current, total, nested class 2 specialty engine time. This is the time in DB2 processing SQL statements.

Field Name: QW0380_CLS2SE

CURRENT TOTAL NESTED ELAPSED CLASS 2 TIME

The current, total, nested elapsed class 2 time. This is the time in DB2 processing SQL statements. This time also includes in DB2 time needed to connect and disconnect the SP task for non-SQL procedure stored procedures.

Field Name: QW0380_CLS2ELAP

IFCID 381 - UDF Detail Record

This topic shows detailed information about "Record Trace - IFCID 381 - UDF Detail Record".

IFCID 380 (Stored procedure detail record) and IFCID 381 (UDF detail record) have the same mapping structure.

Both records are written at the beginning and the end of a stored procedure or UDF.

The first data section of IFCID 380 shows fields provided with IFCID 233. The second data section starting with CURRENT TOTAL NESTED CLASS 1 CP TIME shows additional fields for IFCID 380 and IFCID 381.

Record trace - IFCID 381 - UDF Detail Record

The field labels shown in the following sample layout of "Record Trace - IFCID 381 - UDF Detail Record" are described in the following section.

```
MTS      SERVER   C9180047463A MTS             BRUNECK                      CLP I498-UDF-run-UDF1.sql
MTS      db2bp.ex DRDA        08:37:02.09533860    549   1 381 UDF           NETWORKID:  G998CD69  LUNAME:  GD02      LUWSEQ:   169
DISTSERV e                        1.41514242                 DETAIL RECORD  ACCTKN X'5CD3D6C3C1D34BC4C2F24BF1F2F0F2F0F8F0F8F3F2F2'
!-------------------------------------------------------------------------------------------------------------------------------
!LOCATION NAME: PMODA11
!COLLECTION ID: NULLID
!PROGRAM NAME : SQLC2H22
!SCHEMA NAME  : MTS
!ROUTINE NAME : I498_TIMES1000
!VERSION NAME : V1
!ROUTINE TYPE : FUNCTION
!CONSISTENCY TOKEN: X'4141414141464462'  ENTRY/EXIT TYPE:  ENTERING
!NESTING LEVEL:          0
!
!STATEMENT NO :                  210    TYPE         : DYNAMIC                  ROUTINE ID   : X'0000000080000450'
!STATEMENT ID :                  973    CONV INTO HEX: X'00000000000003CD'
!
!CURRENT TOTAL NESTED CLASS 1 CP TIME     :         0.000000 CURRENT TOTAL NESTED CLASS 1 SE TIME     :         0.000000
!CURRENT TOTAL NESTED CLASS 2 CP TIME     :         0.000000 CURRENT TOTAL NESTED CLASS 2 SE TIME     :         0.000000
!CURRENT TOTAL NESTED ELAPSED CLASS 2 TIME:         0.000000
```

LOCATION NAME

The location name.

Field Name: QW0233LN

COLLECTION ID

The package collection identifier.

Field Name: QW0233PC

PROGRAM NAME

The program name.

Field Name: QW0233PN

SCHEMA NAME

The name of the schema associated with this routine.

Field Name: QW0233SC

ROUTINE NAME

The specific name of the routine.

Field Name: QW0233PR

VERSION NAME

The name of the version.

Field Name: QW0233VER

ROUTINE TYPE

The routine type can have the following values:

PROCEDURE
The routine is a stored procedure

FUNCTION
The routine is a User-Defined Function

Field Name: QW0233TY

CONSISTENCY TOKEN

The consistency token.

Field Name: QW0233TS

ENTRY/EXIT TYPE

The entry or exit event type can have the following values:

ENTERING
The agent is entering a routine.

RETURNED
The agent has returned from a routine.

Field Name: QW0233EX

NESTING LEVEL

The nesting level of the routine.

Field Name: QW0233NL

STATEMENT NO

The statement number of the statement executed.

Field Name: QW0233SN

TYPE

The statement type. Possible values are DYNAMIC or STATIC.

Field Name: QW0233STY

ROUTINE ID

The routine identifier.

Field Name: QW0233RID

STATEMENT ID

The unique identifier of the currently executing statement. It is shown as an integer and in hexadecimal format.

Field Name: QW0233SID

CONV INTO HEX

The unique identifier of the currently executing statement. It is shown as an integer and in hexadecimal format.

Field Name: QW0233SID

CURRENT TOTAL NESTED CLASS 1 CP TIME

The current, total, nested class 1 CP time. This does not include time spent executing on an IBM specialty engine.

Field Name: QW0380_CLS1CP

CURRENT TOTAL NESTED CLASS 1 SE TIME

The current, total, nested class 1 specialty engine time.

Field Name: QW0380_CLS1SE

CURRENT TOTAL NESTED CLASS 2 CP TIME

The current, total, nested class 2 CP time. This is time in the DB2 processing SQL statements. This time also includes in DB2 time needed to connect and disconnect the SP task for non-SQL procedure stored procedures. This does not include time spent executing on an IBM specialty engine.

Field Name: QW0380_CLS2CP

CURRENT TOTAL NESTED CLASS 2 SE TIME

The current, total, nested class 2 specialty engine time. This is the time in DB2 processing SQL statements.

Field Name: QW0380_CLS2SE

CURRENT TOTAL NESTED ELAPSED CLASS 2 TIME

The current, total, nested elapsed class 2 time. This is the time in DB2 processing SQL statements. This time also includes in DB2 time needed to connect and disconnect the SP task for non-SQL procedure stored procedures.

Field Name: QW0380_CLS2ELAP

IFCID 384 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 384 - IBM Service Record".

This record is for IBM service use.

IFCID 385 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 385 - IBM Service Record".

This record is for IBM service use.

IFCID 386 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 386 - IBM Service Record".

This record is for IBM service use.

IFCID 389 - FTB Indexes

This topic shows detailed information about "Record Trace - IFCID 389 - FTB Indexes".

IFCID 389 traces indexes with structures for fast index traversal (FTB). This record is written when the Statistics class 8 trace is on.

Record trace - IFCID 389 - FTB Indexes

The field labels shown in the following sample layout of "Record Trace - IFCID 389 - FTB Indexes" are described in the following section.

```
CONNECT   INSTANCE      END_USER       WS_NAME                      TRANSACT
CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION  DATA
CORRNMBR                TCB CPU TIME               ID
--------- ------------- -------------- ------ --- --- -------------- ----------------------------------------
N/P       D0B9113C791A N/P             N/P                          N/P
N/P       'BLANK'      18:19:12.26938222  12133   1 389 FTB INDEXES    NETWORKID:  DSND20G   LUNAME:  DSNDC1H
N/P                    N/P
-------------------------------------------------------------------------------------------------------------
NUMBER OF INDEXES  :           7
DBID: 265      PSID: 11       PARTITION NO:     1 INDEX LEVELS:     2 FTB SIZE:        2339584
DBID: 265      PSID: 18       PARTITION NO:     1 INDEX LEVELS:     3 FTB SIZE:        1368064
DBID: 265      PSID: 18       PARTITION NO:     2 INDEX LEVELS:     3 FTB SIZE:        1560064
DBID: 265      PSID: 18       PARTITION NO:     4 INDEX LEVELS:     3 FTB SIZE:        5209600
DBID: 265      PSID: 18       PARTITION NO:     5 INDEX LEVELS:     2 FTB SIZE:        2560000
DBID: 265      PSID: 16       PARTITION NO:     2 INDEX LEVELS:     2 FTB SIZE:         146176
DBID: 265      PSID: 16       PARTITION NO:     3 INDEX LEVELS:     3 FTB SIZE:         195584
```

NUMBER OF INDEXES

The number of indexes with fast traversal blocks.

Field Name: QW0389NU

DBID

The database ID.

Field Name: QW0389DB

PSID

The index page set ID.

Field Name: QW0389OB

PARTITION NO

The partition number.

Field Name: QW0389PT

INDEX LEVELS

The number of index levels in the fast traversal block.

Field Name: QW0389LV

FTB SIZE

Indicates the size of the fast traversal block (FTB), in bytes.

Field Name: QW0389SZ

IFCID 390 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 390 - IBM Service Record".

This record is for IBM service use.

IFCID 391 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 391 - IBM Service Record".

This record is for IBM service use.

IFCID 397 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 397 - IBM Service Record".

This record is for IBM service use.

IFCID 398 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 398 - IBM Service Record".

This record is for IBM service use.

IFCID 399 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 399 - IBM Service Record".

This record is for IBM service use.

IFCID 401 - Static Statements in EDM Pool

This topic shows detailed information about "Record Trace - IFCID 401 - Static Statements in EDM Pool".

IFCID 401 has READS and READA capability. It supports threshold value filtering.

Record Trace - IFCID 401 - Static Statements in EDM Pool

The field labels shown in the following sample layout of "Record Trace - IFCID 401 - Static Statements in EDM Pool" are described in the following section.

```
PACKAGE NAME   :        CTS2H122
COLLECTION ID  :        OPMTEST
DATE/TIME WHEN INSERTED:  X'20110418104541179034'         STORE CLOCK FORMAT:  X'C7A3DB35A929A195'
DATE/TIME WHEN UPDATED:   X'20110418112535104180'         STORE CLOCK FORMAT:  X'C7A3E420AF8B4109'
CONSISTENCY TOKEN:        X'7844424B71324169'

STATEMENT IDENTIFIER      :                132285         ELIGIBLE FOR ACCELERATOR  :  YES
NBR OF EXECUTIONS         :                    50         NBR OF SYNC BUFFER READS  :                    0
NBR OF GETPAGES           :                     0         NBR OF ROWS EXAMINED      :                    0
NBR OF ROWS PROCESSED     :                     0         NBR OF SORTS              :                    0
NBR OF INDEX SCANS        :                     0         NBR OF TABLESPACE SCANS   :                    0
NBR OF BUFFER WRITES      :                     0         NBR OF PAR. GRPS CREATED  :                    0

                                 ACCUMULATED TIME VALUES SECTION
IN-DB2 ELAPSED            :                   N/P         IN-DB2 CPU                :                  N/P
WAIT FOR SYNC I/O         :                   N/P         WAIT FOR LOCK/LATCH       :                  N/P
SYNC EXEC UNIT SWITCH     :                   N/P         WT FOR GLOBAL LOCKS       :                  N/P
WT FOR READ BY OTHER THR  :                   N/P         WT FOR WRTE BY OTHER THR  :                  N/P
WT FOR LATCH REQ          :                   N/P         WAIT FOR PAGE LATCH       :                  N/P
WAIT FOR DRAIN LOCK       :                   N/P         WAIT FOR CLAIM RELEASE    :                  N/P
WAIT FOR LOG WRITER       :                   N/P
WAIT CHILD L-LOCKS        :              0.100000         WAIT OTHER L-LOCKS        :             0.100000
WAIT P/P P-LOCKS          :              0.100000         WAIT PAGE P-LOCKS         :             0.100000
WAIT OTHER P-LOCKS        :                   N/P         FAST INSERT PIPE WAIT TIME:                  N/P
PARENT CHILD WAIT TIME    :                   N/P

                                       RID LIST SECTION
(HJA=HYBRID JOIN APPEND, IA=INDEX ACCESS, OV=OVERFLOW, RL=RID LIST)
RL NOT USED LIMIT EXCEEDED:                     0         RL NOT USED NO STOR AVAIL :                    0
RL OV - NO POOL STOR AVAIL:                     0         RL OV - RIDS EXCEED LIMIT :                    0
HJA - NO POOL STOR AVAIL  :                     0         HJA - RIDS EXCEED LIMIT   :                    0
RL RETRIEVAL IA SKIPPED   :                     0

                                      ACCELERATOR DATA

ACCELERATOR NAME       :SIM35
STATEMENT IDENTIFIER   :              985622
ACCELERATOR EXECUTIONS :                   1              ACCUMULATED # ROWS RETURNED  :                   24
ACCUMULATED CPU TIME      :        0.000004              ACCUMULATED # BYTES RETURNED :               150797
ACCUMULATED ELAPSED TIME  :        0.005998              ACCUMULATED EXECUTION TIME   :             0.138040
ACCUMULATED QUEUE WAIT TIME:       0.000000              WAIT TIME FOR DB2            :             0.065245
WAIT TIME FOR 1ST ROW     :        0.061247              ACCUMULATED WAIT FOR HTAP    :             0.054567
HTAP TIMEOUTS             :               0
```

PACKAGE NAME

The package name.

Field Name: QW0401PK

COLLECTION ID

The collection ID.

Field Name: QW0401CL

DATE/TIME WHEN INSERTED

The date or time when the statement was inserted into the EDM Pool.

Field Name: QW0401TM

STORE CLOCK FORMAT

The date or time when the statement was inserted into the EDM pool (in store clock format) (DB2 field: QW0401TM2).

Field Name: RT401TM2

DATE/TIME WHEN UPDATED

The date or time when statement statistics were updated (in external format) (DB2 field: QW0401UT2).

Field Name: RT401UT2

STORE CLOCK FORMAT

The date or time when statement statistics were updated (in store clock format) (DB2 field: QW0401UT1).

Field Name: RT401UT1

CONSISTENCY TOKEN

The consistency token of the package.

Field Name: QW0401CT

STATEMENT IDENTIFIER

The statement identifier.

Field Name: QW0401ID

ELIGIBLE FOR ACCELERATOR

The statement is eligible for the execution on an accelerator (DB2 field: QW0401ELI).

Field Name: 401ELI

NBR OF EXECUTIONS

The number of executions.

Field Name: QW0401EX

NBR OF SYNC BUFFER READS

The number of synchronous buffer reads.

Field Name: QW0401SR

NBR OF GETPAGES

The number of Getpages.

Field Name: QW0401GP

NBR OF ROWS EXAMINED

The number of rows examined.

Field Name: QW0401ER

NBR OF ROWS PROCESSED

The number of rows processed.

Field Name: QW0401PR

NBR OF SORTS

The number of sorts.

Field Name: QW0401ST

NBR OF INDEX SCANS

The number of index scans.

Field Name: QW0401IX

NBR OF TABLESPACE SCANS

The number of tablespace scans.

Field Name: QW0401TB

NBR OF BUFFER WRITES

The number of buffer writes.

Field Name: QW0401WT

NBR OF PAR. GRPS CREATED

The number of parallel groups created.

Field Name: QW0401PG

IN-DB2 ELAPSED

Accumulated in-DB2 elapsed time.

Field Name: QW0401ET

IN-DB2 CPU

The accumulated in-DB2 CPU time. This time includes CPU consumed on an IBM specialty engine.

Field Name: QW0401CP

WAIT FOR SYNC I/O

The accumulated wait time for synchronous I/O.

Field Name: QW0401SI

WAIT FOR LOCK/LATCH

The accumulated wait time for locks.

Field Name: QW0401LK

SYNC EXEC UNIT SWITCH

The accumulated wait time for synchronous execution unit switch.

Field Name: QW0401EU

WT FOR GLOBAL LOCKS

The accumulated wait time for global locks.

Field Name: QW0401GL

WT FOR READ BY OTHER THR

The accumulated wait time for a read activity done by another thread.

Field Name: QW0401OR

WT FOR WRTE BY OTHER THR

The accumulated wait time for a write activity done by another thread.

Field Name: QW0401OW

WAIT FOR LATCH REQ

The accumulated wait time for a latch request.

Field Name: QW0401LH

WAIT FOR PAGE LATCH

The accumulated wait time for a page latch.

Field Name: QW0401PL

WAIT FOR DRAIN LOCK

The accumulated wait time for a drain lock.

Field Name: QW0401DL

WAIT FOR CLAIM RELEASE

The accumulated wait time for a drain lock that is waiting for claims to be released.

Field Name: QW0401CM

WAIT FOR LOG WRITER

The accumulated wait time for a log writer.

Field Name: QW0401LW

WAIT CHILD L-LOCKS

The accumulated wait time for child L-locks for the statement.

Field Name: QW0401WC

WAIT OTHER L-LOCKS

The accumulated wait time for other L-locks for the statement.

Field Name: QW0401WD

WAIT P/P P-LOCKS

The accumulated wait time for P/P P-locks for the statement.

Field Name: QW0401WE

WAIT PAGE P-LOCKS

The accumulated wait time for page P-locks for the statement.

Field Name: QW0401WF

WAIT OTHER P-LOCKS

The accumulated wait time for other P-locks for the statement.

Field Name: QW0401WG

FAST INSERT PIPE WAIT TIME

The accumulated wait time for pipe wait.

Field Name: QW0401WH

PARENT CHILD WAIT TIME

The accumulated time waiting for parallel queries to synchronize between parent and child tasks.

Field Name: QW0401WPQS

RL NOT USED LIMIT EXCEEDED

The number of times RID list was not used because the number of:

- RIDS would have exceeded the DB2 limits
- RID blocks exceeded the value set by the MAXTEMPS_RID system parameter

Field Name: QW0401RL

RL NOT USED NO STOR AVAIL

The number of time a RID list was not used because there is not enough storage available to hold the list of RIDs. This also applies if the work file storage was not available.

Field Name: QW0401RS

RL OV - NO POOL STOR AVAIL

The number of times a RID list was overflowed to a work file because no RID pool storage was available to hold the list of RIDs (DB2 field: QW0401WFRIDS).

Field Name: RT401IDS

RL OV - RIDS EXCEED LIMIT

The number of times a RID list was overflowed to a work file because the number of RIDs exceeded one or more internal limits (DB2 field: QW0401WFRIDT).

Field Name: RT401IDT

HJA - NO POOL STOR AVAIL

The number of times a RID list append for a hybrid join was interrupted because no RID pool storage was available to hold the list of RIDs. It shows the number of times DB2 interrupted the RID phase and switched to the data phase (DB2 field: QW0401HJINCS).

Field Name: RT401NCS

HJA - RIDS EXCEED LIMIT

The number of times a RID list append for a hybrid join was interrupted because the number of RIDs exceeded one or more internal limits. It shows the number of times DB2 interrupted the RID phase and switched to the data phase (DB2 field: QW0401HJINCT).

Field Name: RT401NCT

RL RETRIEVAL IA SKIPPED

The number of times a RID list retrieval for multiple index access was skipped because DB2 predetermined the outcome of index ANDing or ORing (DB2 field: QW0401RSMIAP).

Field Name: RT401IAP

ACCELERATOR NAME

The accelerator name (DB2 field: QW0401ANM).

Field Name: 401ANM

STATEMENT IDENTIFIER

The statement identifier, for correlation with IFCID 401 data section 1 (DB2 field: QW0401AID).

Field Name: 401AID

ACCELERATOR EXECUTIONS

The number of executions on this accelerator (DB2 field: QW0401AEXEC).

Field Name: 401AEXEC

ACCUMULATED # ROWS RETURNED

Shows the accumulated number of rows returned for the SELECT statement (DB2 field: QW0401AROW).

For completed queries, this is the total number of rows returned that were computed by the accelerator (this is not necessarily the number of rows returned to DB2 in case DB2 does not fetch all rows).

For in-process queries, this is the number of rows that have been sent so far (and more rows may still be coming).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because these wait times do not occur for DML statements.

Field Name: 401AROW

ACCUMULATED CPU TIME

Shows the accumulated CPU time spent in the accelerator when processing the query request for the statement.

This value reflects parallel processing such that the CPU value may exceed the accumulated elapsed time (DB2 field: QW0401ACPU).

For completed queries, this is the CPU time from the initial request to the last row being returned to DB2. For in-process queries, this is the time from the initial request to the current point in time. The counter includes the CPU time spent in the accelerator and also the CPU time spent in the Netezza backend (on the coordinator node and all worker nodes).

Field Name: 401ACPU

ACCUMULATED # BYTES RETURNED

Shows the accumulated number of bytes returned for the SELECT statement (DB2 field: QW0401ABYT).

For completed queries, this is the total number of bytes returned and produced by the accelerator (this is not necessarily the total number of bytes returned to DB2 in case DB2 does not fetch all the data).

For in-process queries, this is the number of bytes that have been sent so far (and more bytes may still be coming).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because no such wait times occurs.

Field Name: 401ABYT

ACCUMULATED ELAPSED TIME

Shows the accumulated elapsed time spend in the accelerator processing the query request for the statement (DB2 field: QW0401AELA).

For completed queries, this is the time from the initial request to the last row that is returned to DB2. For in-process queries, this is the time from the initial request to the current point in time.

Field Name: 401AELA

ACCUMULATED EXECUTION TIME

Shows the accumulated execution time spent in processing the query request for the statement (DB2 field: QW0401AEXE).

For completed queries, this is the time spent since starting the query execution until the query execution has finished. Subsequent processing and transfer of the result set is not included, but there may be an overlapping time window in which result set processing (fetching) and query execution takes place.

For in-process queries, it is the time measured from starting query execution inside the accelerator up to the current point in time or until query execution has finished and only result set processing and transfer remains (whichever occurs earlier).

This time is measured for the actual execution time spent for the query. Compared to the total elapsed time (QW0316AELA and QW0401AELA), it does not include any preprocessing done in the accelerator (such as PREPARE), and it does not include time spent, such as in spill-to-disk or other things, related to the final query result processing.

Field Name: 401AEXE

ACCUMULATED QUEUE WAIT TIME

Shows the accumulated queue wait time for the statement (DB2 field: QW0401AWAT).

For completed queries, this is the time that the query has spent in queues, waiting to be processed.

For in-process queries, the value is only available once the query execution itself has finished and only result processing remains. Until then, the value will be (nearly) 0.

Field Name: 401AWAT

WAIT TIME FOR DB2

Shows the total time the accelerator waited for DB2 to request query results (DB2 field: QW0401ATWDB2).

For completed queries, this is from the time when the first row of the result set was produced by the accelerator until the last row was sent to DB2. For in-process queries, it is 0 (if the accelerator has not yet computed a result row) or the time from computing the first row to the current point in time (if at least one result row is available).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because these wait times do not occur for DML statements.

Field Name: 401ATWDB

WAIT TIME FOR 1ST ROW

Shows the time waited for first row of query result to be available (DB2 field: QW0401ATW1R).

For completed queries, this is the time from receiving the query in the accelerator until the first row of the result set was computed. For in-process queries, this is the time from receiving the query in the accelerator to the current point in time (if no result rows are available yet) or until the first row of the result set was computed (if at least one result row is available).

This value is always set to 0 for DML statements (INSERT, UPDATE, DELETE) because no such wait times occurs.

Field Name: 401ATW1R

ACCUMULATED WAIT FOR HTAP

The amount of time spent waiting for completion of data replication to the accelerator using the delay protocol (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: QW0401TWDP

HTAP TIMEOUTS

The number of requests where the replication of data to the accelerator needed to execute the query did not complete before the delay protocol time limit expired (HTAP).

Background and Tuning Information

For more information about how to determine appropriate WAITFORDATA delay time values for query acceleration with replication in your environment, see the IBM Db2 Analytics for z/OS documentation for Hybrid Transactional and Analytical Processing (HTAP) and the WAITFORDATA feature.

Field Name: QW0401NWDP

IFCID 402 - System Profile - Monitoring Statistics

This topic shows detailed information about "Record Trace - IFCID 402 - System Profile - Monitoring Statistics".

IFCID 402 records information about any profile warnings or exception conditions that occurred during a Statistics interval. Each trace record can contain information for up to 500 unique profiles. Multiple trace records are written if profile thresholds are exceeded for more than 500 unique profiles during a given Statistics interval.

This record is written when Statistics class 4 is on.

Record trace - IFCID 402 - System Profile - Monitoring Statistics

The field labels shown in the following sample layout of "Record Trace - IFCID 402 - System Profile - Monitoring Statistics" are described in the following section.

```
N/P      N/P      C79F88DEB52B N/P              N/P                          N/P
N/P      N/P      'BLANK'     23:08:00.02150456      9   1 402 SYSTEM PROFILE NETWORKID:  VA1A      LUNAME:  VA1A      LUWSEQ:     1
N/P      N/P                  N/P                            MONITORING STA
|-------------------------------------------------------------------------------------------------------------------------------
|PROFILE ID                                 :         1   (THR = THREAD, EXC = EXCEPTION, TSH=THRESHOLD)
|
|ACCUMULATED COUNTER OF ...
|THR EXC TSH EXCEEDED                       :         0   THR QUEUED/SUSP WHEN EXC TSH WAS EXCEEDED    :         0
|REQUEST FAILED WHEN THR EXC TSH WAS EXCEEDED :         0   THR WARNING TSH BEING EXCEEDED              :         2
|CONNECTION EXC TSH BEING EXCEEDED          :         0   CONNECTION WARN TSH BEING EXCEEDED          :         0
|IDLE THR EXC TSH BEING EXCEEDED            :         0   IDLE THR WARN TSH BEING EXCEEDED            :         0
|-------------------------------------------------------------------------------------------------------------------------------
```

PROFILE ID

The profile ID.

Field Name: QW0402PI

THR EXC TSH EXCEEDED

The accumulated counter of thread exception threshold that was exceeded.

Field Name: QW0402TE

THR QUEUED/SUSP WHEN EXC TSH WAS EXCEEDED

The accumulated counter of the thread that was queued or suspended when the thread exception threshold was exceeded.

Field Name: QW0402TQ

REQUEST FAILED WHEN THR EXC TSH WAS EXCEEDED

The accumulated counter of the request that failed when the thread exception threshold was exceeded.

Field Name: QW0402TF

THR WARNING TSH BEING EXCEEDED

The accumulated counter of thread warning threshold that was exceeded.

Field Name: QW0402TW

CONNECTION EXC TSH BEING EXCEEDED

Accumulated counter of the connection exception threshold that was exceeded.

Field Name: QW0402CE

CONNECTION WARN TSH BEING EXCEEDED

The accumulated counter of the connection warning threshold that was exceeded.

Field Name: QW0402CW

IDLE THR EXC TSH BEING EXCEEDED

The accumulated counter of the idle thread exception threshold that was exceeded.

Field Name: QW0402OE

IDLE THR WARN TSH BEING EXCEEDED

The accumulated counter of the idle thread warning threshold that was exceeded.

Field Name: QW0402OW

IFCID 404 - IBM Service Record

This topic shows detailed information about "Record Trace - IFCID 404 - IBM Service Record".

This record is for IBM service use.

Record trace - IFCID 404 - IBM Service Record

The field labels shown in the following sample layout of "Record Trace - IFCID 404 - IBM Service Record" are described in the following section.

```
QW0404F1:              USRT003
QW0404F2:              USRT005
QW0404F3:              T1

QW0404TO:  X'E4'                    QW0404PR:        297               QW0404NM:  UNLOAD
QW0404OT:  X'E3'                    QW0404AT:  X'40'
```

IFCID 413 - Beginning of Wait for Pipe Suspend

This topic shows detailed information about "Record Trace - IFCID 413 - Beginning of Wait for Pipe Suspend".

This IFCID records the beginning of a wait for a pipe suspend. If Accounting class 3 or Monitor class 3 is on, or if Accounting class 8, Monitor class 8, or Monitor class 29 is on, this IFCID signals the beginning of this wait. The time spent for this wait is reported in IFCID 3 when the wait ends. MONITOR1 privilege is required for reading using the instrumentation facility interface (IFI).

Record trace - IFCID 413 - Beginning of Wait for Pipe Suspend

The field labels shown in the following sample layout of "Record Trace - IFCID 413 - Beginning of Wait for Pipe Suspend" are described in the following section.

```
PRC NAME    :   PROC1   DB ID      :    0 PAGESET ID  :     0 PARTITION   :       0
QW0413DMS   :       0   QW0413CMT  :    0 QW0413LMT   :     0 QW0413FL    :  X'0000'
```

PRC NAME

The procedure name that started the pipe wait.

Field Name: QW0413PN

DB ID

The database ID that started the pipe wait.

Field Name: QW0413DB

PAGESET ID

The pageset ID that started the pipe wait.

Field Name: QW0413PS

PARTITION

The partition number that started the pipe wait.

Field Name: QW0413PT

IFCID 414 - End of Wait for Pipe Suspend

This topic shows detailed information about "Record Trace - IFCID 414 - End of Wait for Pipe Suspend".

This IFCID records the end of the wait for pipe suspend. If Accounting class 3 or Monitor class 3 is on, or if Accounting class 8, Monitor class 8, or Monitor class 29 is on, this IFCID signals the end of this wait. The time spent for this wait is reported in IFCID 3. MONITOR1 privilege is required for reading using the Instrumentation Facility Interface (IFI).

Record trace - IFCID 414 - End of Wait for Pipe Suspend

The field labels shown in the following sample layout of "Record Trace - IFCID 414 - End of Wait for Pipe Suspend" are described in the following section.

```
PIPE RESUME REASON : B
QW0414FL :     X'0000'
```

PIPE RESUME REASON

The reason why the pipe resumed.

Field Name: QW0414R

IFCID 477 - FTB IDX ALLOC

This topic shows detailed information about "Record Trace - IFCID 477 - FTB IDX ALLOC".

IFCID 477 shows the allocation and deallocation of structures for fast index traversal (FTB). This record is written when the performance class 4 trace is on.

Record trace - IFCID 477 - FTB IDX ALLOC

The field labels shown in the following sample layout of "Record Trace - IFCID 477 - FTB IDX ALLOC" are described in the following section.

```
CONNECT   INSTANCE      END_USER       WS_NAME                       TRANSACT
CORRNAME  CONNTYPE      RECORD TIME    DESTNO ACE IFC  DESCRIPTION   DATA
CORRNMBR                TCB CPU TIME           ID
--------- ----------- ---------------- ------ --- --- -------------- ----------------------------------------
N/P       D0B9113C791A N/P              N/P                           N/P
N/P       'BLANK'     18:19:12.26938222  12133   1 477 FTB IDX ALLOC  NETWORKID:  DSND20G   LUNAME:  DSNDC1H
N/P                   N/P
-------------------------------------------------------------------------------------------------------------
ACTION : CREATE
DBID: 265      PSID: 11       PARTITION NO:     1 INDEX LEVELS:     2 FTB SIZE:        2339584
```

ACTION

Shows the allocation and deallocation for fast index traversal. It can have the following values:

- Create
- Free

Field Name: QW0477FL

DBID

Shows the database ID.

Field Name: QW0477DB

PSID

Shows the index page set ID.

Field Name: QW0477OB

PARTITION NO

Shows the partition number.

Field Name: QW0477PT

INDEX LEVELS

Shows the number of index levels in the fast traversal block (FTB).

Field Name: QW0477LV

FTB SIZE

Shows the size of the fast traversal block (FTB) in bytes.

Field Name: QW0477SZ

IFCID 497 - Non Nested Statement ID Record

This topic shows detailed information about "Record Trace - IFCID 497 - Non Nested Statement ID Record".

IFCID 497 (Non Nested Statement ID Record), IFCID 498 (UDF Statement ID Record), and IFCID 499 (Stored Procedure Statement ID Record) have the same mapping structure comprising two data sections.

Record trace - IFCID 497 - Non Nested Statement ID Record

The field labels shown in the following sample layout of "Record Trace - IFCID 497 - Non Nested Statement ID Record" are described in the following section.

```
MTS      db2bp.ex DRDA       08:37:00.26148762    543   1 497 STMT ID RECORD NETWORKID:  G998CD69  LUNAME:  GD02      LUWSEQ:   168
DISTSERV e                        0.97691653               NON-NESTED     ACCTKN X'5CD3D6C3C1D34BC4C2F24BF1F2F0F2F0F8F0F8F3F2F2'
!-------------------------------------------------------------------------------------------------------------------------------
!REASON IFCID WAS EXTERNALIZED:  TRANSACTION/ACCOUNTING INTERVAL IS ENDING
!
!STATEMENT ID :                    52    CONV INTO HEX: X'0000000000000034'      EXECUTIONS   :                    1
!TYPE         :               DYNAMIC
!-------------------------------------------------------------------------------------------------------------------------------
```

REASON IFCID WAS EXTERNALIZED

Identifies the reason why this IFCID was externalized.

Field Name: QW0499RS

STATEMENT ID

The unique statement idenfier. It is shown as an integer and in hexadecimal format.

Field Name: QW0499SID

CONV INTO HEX

The unique statement idenfier. It is shown as an integer and in hexadecimal format.

Field Name: QW0499SID

EXECUTIONS

The number of executions.

Field Name: QW0499NEC

TYPE

The statement type. Possible values are DYNAMIC or STATIC. In addition, the statement type of IFCID 499 can also have the values STATIC CALL or DYNAMIC CALL.

Field Name: QW0499STY

IFCID 498 - UDF Statement ID Record

This topic shows detailed information about "Record Trace - IFCID 498 - UDF Statement ID Record".

IFCID 497 (Non Nested Statement ID Record), IFCID 498 (UDF Statement ID Record), and IFCID 499 (Stored Procedure Statement ID Record) have the same mapping structure comprising two data sections.

Record trace - IFCID 498 - UDF Statement ID Record

The field labels shown in the following sample layout of "Record Trace - IFCID 498 - UDF Statement ID Record" are described in the following section.

```
MTS      SERVER   C9180047463A MTS             BRUNECK                       CLP I498-UDF-run-UDF1.sql
MTS      db2bp.ex DRDA       08:37:01.94704966    546   1 498 STMT ID RECORD NETWORKID:  G998CD69  LUNAME:  GD02      LUWSEQ:   168
DISTSERV e                        1.41058385               INSIDE UDF     ACCTKN X'5CD3D6C3C1D34BC4C2F24BF1F2F0F2F0F8F0F8F3F2F2'
!-------------------------------------------------------------------------------------------------------------------------------
!REASON IFCID WAS EXTERNALIZED:  A UDF IS ENDING
!
!STATEMENT ID :               332108    CONV INTO HEX: X'000000000005114C'      EXECUTIONS   :                    1
!TYPE         :               STATIC
!
!STATEMENT ID :               332109    CONV INTO HEX: X'000000000005114D'      EXECUTIONS   :                    1
!TYPE         :               STATIC
!-------------------------------------------------------------------------------------------------------------------------------
```

REASON IFCID WAS EXTERNALIZED

Identifies the reason why this IFCID was externalized.

Field Name: QW0499RS

STATEMENT ID

The unique statement idenfier. It is shown as an integer and in hexadecimal format.

Field Name: QW0499SID

CONV INTO HEX

The unique statement idenfier. It is shown as an integer and in hexadecimal format.

Field Name: QW0499SID

EXECUTIONS

The number of executions.

Field Name: QW0499NEC

TYPE

The statement type. Possible values are DYNAMIC or STATIC. In addition, the statement type of IFCID 499 can also have the values STATIC CALL or DYNAMIC CALL.

Field Name: QW0499STY

IFCID 499 - Stored Procedure Statement ID Record

This topic shows detailed information about "Record Trace - IFCID 499 - Stored Procedure Statement ID Record".

IFCID 497 (Non Nested Statement ID Record), IFCID 498 (UDF Statement ID Record), and IFCID 499 (Stored Procedure Statement ID Record) have the same mapping structure comprising two data sections.

Record trace - IFCID 499 - Stored Procedure Statement ID Record

The field labels shown in the following sample layout of "Record Trace - IFCID 499 - Stored Procedure Statement ID Record" are described in the following section.

```
MTS      SERVER   C9180047463A MTS              BRUNECK                       CLP I498-UDF-run-UDF3.sql
MTS      db2bp.ex DRDA        08:37:16.59404207    599   1 499 STMT ID RECORD NETWORKID:  G998CD69  LUNAME:  GD02      LUWSEQ:   179
DISTSERV e                         3.92517649                 INSIDE ST PROC ACCTKN X'5CD3D6C3C1D34BC4C2F24BF1F2F0F2F0F8F0F8F3F2F2'
!-------------------------------------------------------------------------------------------------------------------------------
!REASON IFCID WAS EXTERNALIZED:  A STORED PROCEDURE IS ENDING
!
!STATEMENT ID :               238793    CONV INTO HEX: X'000000000003A4C9'      EXECUTIONS   :                    1
!TYPE         :               STATIC
!
!STATEMENT ID :               238785    CONV INTO HEX: X'000000000003A4C1'      EXECUTIONS   :                    1
!TYPE         :               STATIC
!-------------------------------------------------------------------------------------------------------------------------------
```

REASON IFCID WAS EXTERNALIZED

Identifies the reason why this IFCID was externalized.

Field Name: QW0499RS

STATEMENT ID

The unique statement idenfier. It is shown as an integer and in hexadecimal format.

Field Name: QW0499SID

CONV INTO HEX

The unique statement idenfier. It is shown as an integer and in hexadecimal format.

Field Name: QW0499SID

EXECUTIONS

The number of executions.

Field Name: QW0499NEC

TYPE

The statement type. Possible values are DYNAMIC or STATIC. In addition, the statement type of IFCID 499 can also have the values STATIC CALL or DYNAMIC CALL.

Field Name: QW0499STY

The Record Trace File Data Set and Output Records

The record trace file data set is a sequential data set of formatted records suitable for loading into the performance database using the DB2 load utility and from which reports can be produced using a reporting facility such as Query Management Facility (QMF).

The output of the FILE subcommand is a sequential variable blocked data set. The content of the output data set is determined by the FILE command options you specify, and by the input SMF/GTF records processed.

This data set contains SQL statement records and RID pool records.

Descriptions of the Record Trace File data sets and the fields contained can be found in the RKO2SAMP library under the following names:

DGONDFMB
For Minibind (IFCID 022) records

DGONDFSQ
For SQL Statement (IFCID 063) records

DGONDFSE
For Sort End (IFCID 096) records

DGONDFRP
For RID Pool (IFCID 125) records

DGONDFDL
For Deadlock (IFCID 172) records

DGONDFTI
For Timeout (IFCID 196) records

DGONDFDS
For Dynamic SQL Statement Statistics (IFCID 316) records

DGONDFRL
For Remote Location (IFCID 365) records

DGONDFSS
For Static Statements in EDM Pool (IFCID 401) records

Chapter 9. SQL Activity Report Set

These topics provide information about the SQL activity reports.

Note:

1. Refer also to the sections of *Reporting User's Guide* that deal with SQL Activity.
2. For an introduction to the SQL Activity report set and general SQL Activity information refer to the *Reporting User's Guide*.

Introduction to the SQL Activity Report Set

The SQL Activity report set consists of reports and traces and provides information on the SQL activity taking place during the processing of a DB2 application. The reports show the processing of an SQL statement and all the related DB2 activity, known as *workload*, related to that statement.

Also included in these reports are trigger and nesting level information. When the appropriate IFCID 003 is present, Accounting Trace is also reported.

In most situations, an SQL Activity trace gives details on either a DB2 thread or part of a reused thread between two signons. In CP query and sysplex query parallelism, an originating thread and multiple parallel threads are created to execute an SQL statement. Data from parallel threads can also be included in the originating thread if you specify an INPUTDD containing the relevant data in your JCL. The term *thread* is used to include the originating and the parallel threads. The trace is a collection of threads presented in logical unit of work ID (LUWID) sequence with an index to help you find a particular thread.

An SQL Activity report is an aggregation of threads ordered by the combination of OMEGAMON for Db2 PE identifiers you specify. If you specify no OMEGAMON for Db2 PE identifiers with ORDER, the default order of PRIMAUTH and PLANNAME is used. The report is a summary of all the work belonging to, and ordered by, those identifiers.

The following information is collected for each thread provided that the appropriate IFCIDs are available:

- Thread identification (OMEGAMON for Db2 PE identifiers, DB2 logical unit of work ID (LUWID), CICS logical unit of work ID (LUWID), ACE, thread start and stop time, thread type, and location)
- Programs (DBRMs and packages), stored procedures, cursors used, UDF, and triggers.
- SQL statements executed within the thread with their workload detail
- Events and time spent in DDF processing
- Time spent in signon processing
- Time spent creating and terminating threads
- Time spent in autobind processing
- Accounting information

You can control the level of summarization, the sorting of events, and the workload detail within a unit of reporting.

Explanation of short and long fields

To improve the evaluation of SQL activities, DB2 supports both, short and long fields. If the field value exceeds the available field length (such as long values in the header information), the string is truncated, depending on the space available. Truncated values are then listed at the end of each logical report unit, together with their full values.

A "greater than" sign (>) indicates whether a value is truncated. When a value is truncated, the "greater than" sign (>) is printed instead of a colon (:) following the label name. The full value starts with a "greater than" sign followed by the label. For example:

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```
Tname    > This value is truncated
   ...
   ...
>Tname   : This value was truncated - now you see its full length
   ...
```

If truncated values are listed, the "greater than" sign (>) is shown at the end of each value, because there is no colon (:) as a delimiter between the label and the value. In lists the label is used as a column heading.

Note: The mapping between truncated and full values remains the same for multiple reports from the same input data. This mapping is not supported for multiple reports from different input data. The printing of abbreviations and full text can cause inaccurate results in Batch SQL Activity output.

Here are examples of SQL Activity layouts with truncated values:

- SQL Activity - Minibind:

```
ACCESS_CREATOR   ACCESS_NAME          MATCHCOLS   INDEXONLY   PREFETCH_INDEX        OPERATION
MIXOPSEQ
TDK_LONG>        IX_OMPE_FIRST_LONG>  0           YES         SEQUENTIAL            SCAN           1
...
>ACCESS_CREATOR : TDK_LONG_NAMED_COLLECTION_FOR_LONG_NAMED_OBJECTS
>ACCESS_NAME    : IX_OMPE_FIRST_LONG_NAMED_TABLE_FOR_UNCOMMITED_READ
```

- SQL Activity trace, where WSNAME and TRANSACT, and the OMEGAMON for Db2 PE identifiers, PRIMAUTH and ORIGAUTH, are truncated.

```
LOCATION: OMPDBZ4                          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)             PAGE: 1-1
       GROUP: DBZ4                                  SQL ACTIVITY - TRACE                         REQUESTED FROM: NOT SPECIFIED
      MEMBER: SZ42                                                                                           TO: NOT SPECIFIED
   SUBSYSTEM: SZ42                                                                                  ACTUAL FROM: 12/17/15 08:54:37.74
 DB2 VERSION: V10
                                            SUMMARIZED BY OCCURRENCE, WITH ALL WORKLOAD

                               PRIMAUTH> cccccccc          CONNECT : BATCH               CORRNAME: YCLO6287  CONNTYPE: TSO
                               ORIGAUTH> cccccccc          PLANNAME: DSNTIA10            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                               ENDUSER > cccccccc          WSNAME   > dddddddd           TRANSACT> eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
 >PRIMAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ORIGAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ENDUSER : ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >WSNAME  : ddddddddddddddddddddddddddddddddddddddddddddddddddddddddd
 >TRANSACT: eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
```

General SQL Activity Information

Here you find information common to all SQL Activity reports and traces.

Explanation of short and long fields

To improve the evaluation of SQL activities, DB2 supports both, short and long fields. If the field value exceeds the available field length (such as long values in the header information), the string is truncated, depending on the space available. Truncated values are then listed at the end of each logical report unit, together with their full values.

A "greater than" sign (>) indicates whether a value is truncated. When a value is truncated, the "greater than" sign (>) is printed instead of a colon (:) following the label name. The full value starts with a "greater than" sign followed by the label. For example:


```
Tname    > This value is truncated
   ...
   ...
>Tname   : This value was truncated - now you see its full length
   ...
```

If truncated values are listed, the "greater than" sign (>) is shown at the end of each value, because there is no colon (:) as a delimiter between the label and the value. In lists the label is used as a column heading.

Note: The mapping between truncated and full values remains the same for multiple reports from the same input data. This mapping is not supported for multiple reports from different input data. The printing of abbreviations and full text can cause inaccurate results in Batch SQL Activity output.

Here are examples of SQL Activity layouts with truncated values:

- SQL Activity - Minibind:

```
ACCESS_CREATOR   ACCESS_NAME          MATCHCOLS   INDEXONLY   PREFETCH_INDEX       OPERATION
MIXOPSEQ
TDK_LONG>        IX_OMPE_FIRST_LONG>  0           YES         SEQUENTIAL           SCAN           1
...
>ACCESS_CREATOR : TDK_LONG_NAMED_COLLECTION_FOR_LONG_NAMED_OBJECTS
>ACCESS_NAME    : IX_OMPE_FIRST_LONG_NAMED_TABLE_FOR_UNCOMMITED_READ
```

- SQL Activity trace, where WSNAME and TRANSACT, and the OMEGAMON for Db2 PE identifiers, PRIMAUTH and ORIGAUTH, are truncated.

```
LOCATION: OMPDBZ4                           OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
       GROUP: DBZ4                                   SQL ACTIVITY - TRACE                         REQUESTED FROM: NOT SPECIFIED
      MEMBER: SZ42                                                                                            TO: NOT SPECIFIED
   SUBSYSTEM: SZ42                                                                                   ACTUAL FROM: 12/17/15 08:54:37.74
 DB2 VERSION: V10
                                             SUMMARIZED BY OCCURRENCE, WITH ALL WORKLOAD

                              PRIMAUTH> cccccccc          CONNECT : BATCH              CORRNAME: YCLO6287  CONNTYPE: TSO
                              ORIGAUTH> cccccccc          PLANNAME: DSNTIA10           CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                              ENDUSER > cccccccc          WSNAME  > dddddddd           TRANSACT> eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
 >PRIMAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ORIGAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ENDUSER : ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >WSNAME  : ddddddddddddddddddddddddddddddddddddddddddddddddddddddddd
 >TRANSACT: eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
```

Summarization

When you summarize statements, statements with similar characteristics are merged into a single record. As an example, if you were to summarize by statement number and you had 3 occurrences of statement 777, one of 778 and four of 779 in the same package, one for each statement number would be created.

You can summarize the SQL events by any combination of:

Cursor
: Statements with the same cursor name in the same DBRM or package name are grouped into one record.

Occurrence
: All SQL statement occurrences are shown as separate records. Statements are not merged. This is valid for traces only, and is the default. When summarization by occurrence is shown, the nesting level of the trigger or user-defined function is also shown.

Program
: Statements with the same DBRM or package name are grouped into one record. This is the default for reports.

Statement number
: Statements with the same statement number in the same DBRM or package name are grouped into one record.

Statement type
: Statements of the same statement type are grouped into one record.

SQL Activity trace automatically includes a summary by thread and, if there is more than one thread per location, a summary by location.

Note:

1. The statement number is printed in a summary by cursor if an SQL statement does not include the cursor name, or if summarization by cursor is not appropriate for that statement. The following SQL statements are not summarized by cursor:

   - CALL

- DELETE (noncursor or noncurrent of cursor)
- DESCRIBE
- INSERT
- PREPARE
- SQL COMMIT
- SQL ROLLBACK
- SQL statement at application requester using DRDA
- UPDATE (noncursor or noncurrent of cursor).

In a summary by cursor, these statements are organized by the statement number.

2. The statement type is printed in a summary by cursor and a summary by statement number if an SQL statement does not include the statement number or cursor name.
3. If DDL and DCL statements are present in a summary by cursor or a summary by statement number, they are organized by statement type.

SQL Activity prints all the SQL it receives. If some SQL cannot be summarized at the requested level, it is presented in the closest possible summary format.

Sorting

This topic explains how to sort events in a summarized report or trace.

They can be sorted by:

- Average elapsed time
- Average TCB time
- Default
- Exits
- Exit time
- I/O requests
- I/O time
- Lock suspensions
- Lock suspension time
- Number of scans
- Pages scanned
- Records sorted
- Rows processed
- Sort workfiles

If DEFAULT is used, the sort order is dictated by the summarization, as follows:

Cursor
Sorted in alphabetical order within program

Occurrence
Sorted in timestamp order (trace default)

Program
Sorted in alphabetical order of package or DBRM name (report default)

Statement number
Sorted in numerical order within program

Statement type
Sorted in alphabetical order.

Workload Detail

The workload figures are applied to the event being summarized.

Any combination of the following workload detail can be requested:

- Accounting, see “2” on page 1023
- All
- Data capture activity
- Exit activity
- I/O activity
- Locking activity
- Minibind, see “3” on page 1023
- None
- Scan, RID list, and query parallelism activity
- Sort activity
- UDF, see “4” on page 1023
- Vars
- Workload highlights

None is the default.

Note:

1. The amount of processing required depend on the level of detail you request. IBM recommends that you do not specify WORKLOAD(ALL) with a large amount of input data unless absolutely necessary.
2. When IFCID 003 is included in the input, Accounting Trace activity is automatically included as part of the workload detail.
3. When IFCID 022 is included in the input, minibind activity is included automatically as part of the workload detail.
4. When IFCID 324 is included in the input, UDF activity is automatically included as part of the workload detail.

Headers Used in SQL Activity

A header is printed at the top of every SQL Activity trace, report, and index page.

The following topics provide additional information:

- “SQL Activity Report Header” on page 1025
- “SQL Activity Trace Header” on page 1026
- “SQL Activity Trace Index Header” on page 1026

The report headers contain the standard OMEGAMON for Db2 PE header information and the following additional data:

SORTED BY
The event by which the report or trace is sorted, which can be the default or as specified in the SORTBY option.

WITH *detail* WORKLOAD
The workload details included in the report or trace as specified in the WORKLOAD option.

OMEGAMON for Db2 PE identifiers
The identifiers define the order of the SQL Activity data printed. If you specify no OMEGAMON for Db2 PE identifiers with ORDER, the default order of PRIMAUTH-PLANNAME is used.

TRACE #
Each trace occurrence and thread within the TRACE subcommand is numbered sequentially in the format *x.yyyy*, where:

- *x* can be 1 through 5, representing the five TRACE subcommands
- *yyyyy* can be 1 through 99 999, representing each thread being traced.

DB2 LUWID
The identifier of the logical unit of work. The following parts of this identifier are printed:

- The network ID
- The name of the logical unit, which is the name by which VTAM recognizes the DB2 subsystem
- The instance number

ACE ADDRESS
The agent control element absolute address in hexadecimal.

START TIME
The timestamp showing when the startup of the thread ended or, if the REQUESTED FROM time is after the thread begin, the REQUESTED FROM timestamp.

START ELAPSED
The thread start elapsed time, if calculable.

START REASON
The event that started the thread:

- CREATE THREAD
- CREATE DBAT
- NEW USER
- RESIGNON
- IN PROGRESS, no thread start IFCID present.

STOP TIME
The timestamp showing when the thread stopped or, if the REQUESTED TO time is after the thread end, the REQUESTED TO timestamp.

STOP ELAPSED
The thread stop elapsed time, if calculable.

STOP REASON
The event that stopped the thread:

- TERMINATE THREAD
- DEALLOCATE DBAT
- NEW USER
- RESIGNON
- ACCOUNTING FOUND-the thread terminated with the accounting record
- LOCATION CHANGED-the thread was terminated due to a location change
- END OF FILE-the thread was terminated because there were no records left to process.

START AET
The average thread start elapsed time.

STOP AET
The average thread stop elapsed time.

AUTOBIND AET
The average autobind elapsed time, if present.

ARCHIVE LOG AET
The average archive log (quiesce) elapsed time, if present.

Explanation of short and long fields

To improve the evaluation of SQL activities, DB2 supports both, short and long fields. If the field value exceeds the available field length (such as long values in the header information), the string is truncated, depending on the space available. Truncated values are then listed at the end of each logical report unit, together with their full values.

A "greater than" sign (>) indicates whether a value is truncated. When a value is truncated, the "greater than" sign (>) is printed instead of a colon (:) following the label name. The full value starts with a "greater than" sign followed by the label. For example:

```
Tname    > This value is truncated
   ...
   ...
>Tname   : This value was truncated - now you see its full length
   ...
```

If truncated values are listed, the "greater than" sign (>) is shown at the end of each value, because there is no colon (:) as a delimiter between the label and the value. In lists the label is used as a column heading.

Note: The mapping between truncated and full values remains the same for multiple reports from the same input data. This mapping is not supported for multiple reports from different input data. The printing of abbreviations and full text can cause inaccurate results in Batch SQL Activity output.

Here are examples of SQL Activity layouts with truncated values:

- SQL Activity - Minibind:

```
ACCESS_CREATOR   ACCESS_NAME          MATCHCOLS   INDEXONLY   PREFETCH_INDEX        OPERATION
MIXOPSEQ
TDK_LONG>        IX_OMPE_FIRST_LONG>  0           YES         SEQUENTIAL            SCAN           1
...
>ACCESS_CREATOR : TDK_LONG_NAMED_COLLECTION_FOR_LONG_NAMED_OBJECTS
>ACCESS_NAME    : IX_OMPE_FIRST_LONG_NAMED_TABLE_FOR_UNCOMMITED_READ
```

- SQL Activity trace, where WSNAME and TRANSACT, and the OMEGAMON for Db2 PE identifiers, PRIMAUTH and ORIGAUTH, are truncated.

```
LOCATION: OMPDBZ4                          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
       GROUP: DBZ4                                  SQL ACTIVITY - TRACE                        REQUESTED FROM: NOT SPECIFIED
      MEMBER: SZ42                                                                                          TO: NOT SPECIFIED
   SUBSYSTEM: SZ42                                                                                 ACTUAL FROM: 12/17/15 08:54:37.74
 DB2 VERSION: V10
                                            SUMMARIZED BY OCCURRENCE, WITH ALL WORKLOAD

                               PRIMAUTH> cccccccc          CONNECT : BATCH              CORRNAME: YCLO6287  CONNTYPE: TSO
                               ORIGAUTH> cccccccc          PLANNAME: DSNTIA10           CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                               ENDUSER > cccccccc          WSNAME  > dddddddd           TRANSACT> eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
 >PRIMAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ORIGAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ENDUSER : ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >WSNAME  : ddddddddddddddddddddddddddddddddddddddddddddddddddddddddd
 >TRANSACT: eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
```

SQL Activity Report Header

This is an example of the SQL Activity report header.

```
                                                SUMMARIZED BY PROGRAM

PRIMAUTH: SUDB101     PLANNAME: DISTSERV                          THREAD TOTAL:     1  START AET: N/P       STOP AET: N/P

       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                   DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ----------- ---------- --------- ------------------------------------------------------------------------

SYSSTAT                      1    0.124457           PACKAGE: MOPDBB0.NULLID.SYSSTAT.X'5359534C564C3031'
                                  0.124457           ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT) ISO(CS) DYNAMICRULES(RUN)
                                                     PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)    OPTHINT(N/P)
                                                     STMTTYPE             COUNT   AET/OCCUR TCB/OCCUR
                                                     CALL                     1    0.124457

PACKAGE_TOUR_OFFER           1    0.078445           PACKAGE: MOPDBB0.OTR.PACKAGE_TOUR_OFFER.X'1984ABC311D26448'
                                  0.078445           V1
                                                     ACQUIRE(USE)  REOPT(N)  RELEASE(COMMIT)    ISO(UR)  DYNAMICRULES(RUN)
                                                     PREPARE(NODEFER)   KEEPDYNAMIC(NO)    PROTOCOL(DRDA)      OPTHINT(N/P)
                                                     STMTTYPE             COUNT   AET/OCCUR TCB/OCCUR
                                                     CALL                    12    0.006525
                                                     NESTED CLASS 1 CP TIME : 0.011011    NESTED CLASS 2 CP TIME: 0.002011
                                                     NESTED CLASS 1 SE TIME : 0.011011    NESTED CLASS 2 SE TIME:
0.002011
                                                     NESTED CLASS 1 EL TIME : 0.051111    NESTED CLASS 2 EL TIME: 0.030044
                                                     SELECT                   5    0.000028
```

SQL Activity Trace Header

This section introduces the header of the SQL Activity trace.

SQL Activity Trace Header

Here is an example of an SQL Activity trace header.

```
   LOCATION: DSNAPC3                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: GROUP_1                              SQL ACTIVITY - TRACE                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_1                                                                                 TO: NOT SPECIFIED
  SUBSYSTEM: APC3                                                                            ACTUAL FROM: 01/30/15 03:28:52.13
DB2 VERSION: V10
                                              SUMMARIZED BY OCCURRENCE

            PRIMAUTH: XXASP09           CONNECT : BATCH              CORRNAME: XXASP09F   CONNTYPE: TSO
            ORIGAUTH: XXASP09           PLANNAME: LOCCURHL           CORRNMBR: 'BLANK'    THRDTYPE: ALLIED
            ENDUSER : 1234567890123456  WSNAME  : 123456789012345678  TRANSACT: 12345678901234567890123456789012
```

SQL Activity Trace Index Header

This is an example of the SQL Activity Trace Index Header.

```
   LOCATION: USIBMSYSTDB2             OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 0-3
      GROUP: DSNCAT                               SQL ACTIVITY - TRACE                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SSDQ                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: SSDQ                                                                            ACTUAL FROM: 01/30/15 06:09:09.40
DB2 VERSION: V10                                                                                       TO: 01/30/15 06:09:32.96
                                                    INDEX
     SQL TRACE #       1
```

The SQL Activity Report

This topic shows examples of SQL Activity reports and the commands used to generate them.

These example reports are summarized and sorted at the following levels:

- All
- Cursor
- Statement ID
- Statement number
- Statement type
- Program
- Thread

The SQL Activity report groups SQL Activity according to a combination of up to three OMEGAMON for Db2 PE identifiers. This grouping is applied to any SUMMARIZEBY, SORTBY, or WORKLOAD options you specify.

The ORDER subcommand specifies by which OMEGAMON for Db2 PE identifiers, and in which order, the SQL Activity is reported. If you specify no OMEGAMON for Db2 PE identifiers with ORDER, the default order of PRIMAUTH and PLANNAME is used.

Examples of an SQL Activity Report

This topic shows examples of an SQL Activity report.

"Summarized by Statement Number" on page 1027 to "Summarized by Statement Type" on page 1029 show excerpts of an SQL Activity report summarized by all. The layout of the report is similar for each of the possible summary levels. The order is plan name within primary authorization ID, by default.

Summarized by Statement Number

This summary level presents totals for each statement number belonging to the selected combination of OMEGAMON for Db2 PE identifiers. The events are qualified by package name.

By default, the package names are sorted alphabetically and the statement numbers within packages are sorted numerically, in ascending order.

Note: Not every statement can be summarized by statement number. DDL, for example, has no statement numbers. An event name is chosen from the closest possible level of summarization, which is the statement type LOCK in this example.

The following command produces an SQL Activity report summarized by Statement Number:

```
⋮
SQLACTIVITY
      REPORT
         SUMMARIZEBY (STMTNO)
⋮
```

This is an example for an SQL Activity report summarized by statement number.

```
   LOCATION: SYS1DSN2                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
      GROUP: DSN2                                SQL ACTIVITY - REPORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE11                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: SE11                             ORDER: PRIMAUTH-PLANNAME                         ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10                                                                                      TO: 01/30/15 07:05:37.61
                                                  SUMMARIZED BY STMTNO
PRIMAUTH: WRL         PLANNAME: PARALCPU                        THREAD TOTAL:    11  START AET: 0.053771  STOP AET: N/P
       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                          DETAIL
                                  AET/EVENT  TCB/EVENT
------------------- ----------- ----------- --------- ------------------------------------------------------------------------------
PACKAGE                                                SYS1DSN2.PARAL.PARALC01.X'158A622D10FD8B50'
                                                       DB2OMPETEST
                                                       ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                       PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                       IMMEDWRITE(PH1)

#   120                      1 7:10.524819 47.134431 OPEN        CURSOR: CRS1              ISO(CS) REOPT(NO)  KEEP UPD LOCKS: NO
                               7:10.524819 47.134431

#   137                  12888   36.562407  8.188774 FETCH       CURSOR: CRS1
                                  0.002837  0.000635
```

Summarized by Cursor

This summary level shows totals for each cursor name belonging to the selected combination of OMEGAMON for Db2 PE identifiers that are qualified by package name. By default, the package names and the events within each package are sorted alphabetically.

This is an example for an SQL Activity report summarized by cursor.

```
   LOCATION: STLEC1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)             PAGE: 1-1
      GROUP: N/P                          SQL ACTIVITY - REPORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                  TO: NOT SPECIFIED
  SUBSYSTEM: VA1A                   ORDER: ENDUSER-PRIMAUTH-ORIGAUTH                      ACTUAL FROM: 01/22/15 21:00:05.88
DB2 VERSION: V10                                                                                  TO: 01/22/15 21:00:37.11
                                                SUMMARIZED BY CURSOR

ENDUSER : SYSADM         PRIMAUTH: SYSADM      ORIGAUTH: SYSADM
                                                                  THREAD TOTAL:     1  START AET: N/P       STOP AET: N/P

    EVENT       COUNT     TOT.ELAPS  TOTAL TCB                                    DETAIL
                          AET/EVENT  TCB/EVENT
----------- ------------ ----------- --------- ---------------------------------------------------------------------------

PACKAGE                                        STLEC1.BARTCOB.PGSPNL1.X'1959EE260805DDDE'
TESTE-CURSOR                                                                          SORTS                :               0
                                               GET PAGES       :                  92  PARALLEL GRP CREATES:               0
                                               SYNC BUFF READS :                   0  BUFFER WRITES       :               0
                                               INDEX SCANS     :                  91  TABLESPACE SCANS    :               0
                                               ROWS EXAMINED   :                   0  ROWS PROCESSED      :            5203
                                               RID-LIMIT EXC.  :                   0  RID-NO STORAGE      :               0
                                               IN-DB2 ELAPSED  :            0.028019  IN-DB2 CPU          :        0.018367
                                               GLOBAL LOCK     :            0.000000  DRAIN LOCK          :        0.000000
                                               LOCK/LATCH      :            0.000000  LATCH               :        0.000000
                                               PAGE LATCH      :            0.000000  CLAIM COUNT         :        0.000000
                                               SYNCHRON. I/O   :            0.000000  UNIT SWITCH         :        0.000000
                                               READ-OTH. THREAD:            0.000000  WRITE-OTH. THREAD   :        0.000000
                                               LOG WRITER      :            0.000000

                       1    0.000842  0.000058 STMTTYPE             COUNT   AET/OCCUR TCB/OCCUR
                            0.000842  0.000058 CLOSE                    1    0.000014  0.000011
                                               OPEN                     1    0.000828  0.000047


SQL ACTIVITY REPORT COMPLETE
```

Summarized by Program

This summary level presents totals for all programs belonging to the selected combination of OMEGAMON for Db2 PE identifiers. Package names are embedded in the summary details.

This is an example for an SQL Activity report summarized by program.

```
   LOCATION: SYS1DSN2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-3
      GROUP: DSN2                                SQL ACTIVITY - REPORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE11                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: SE11                              ORDER: PRIMAUTH-PLANNAME                          ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10                                                                                        TO: 01/30/15 07:05:37.61
                                                     SUMMARIZED BY PROGRAM
PRIMAUTH: WRL         PLANNAME: PARALCPU                                THREAD TOTAL:    11  START AET: 0.053771  STOP AET: N/P
       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                    DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ----------- ----------- --------- ---------------------------------------------------------------------------

PARALC01                      1 7:47.087226 55.323204 PACKAGE: SYS1DSN2.PARAL.PARALC01.X'158A622D10FD8B50'
                                7:47.087226 55.323204 DB2OMPETEST
                                                      ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                      PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                      IMMEDWRITE(NO)
                                                      STMTTYPE             COUNT   AET/OCCUR TCB/OCCUR
                                                      FETCH                12888    0.002837  0.000635
                                                      OPEN                     1 7:10.524819 47.134431
N/P                           1    6.823537  0.025761 STMTTYPE             COUNT   AET/OCCUR TCB/OCCUR
                                   6.823537  0.025761 CREATE                   1    6.823537  0.025761
```

Summarized by Statement ID

This summary level groups statements by ID.

The following command produces an SQL Activity report summarized by ID:

```
⋮
SQLACTIVITY
     REPORT
        SUMMARIZEBY (STMTID)
⋮
```

This is an example for an SQL Activity report summarized by ID.

```
    LOCATION: SYSDBZE                          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: DBZE                                  SQL ACTIVITY - REPORT                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: SZE1                                                                                          TO: NOT SPECIFIED
  SUBSYSTEM: SZE1                                ORDER: PRIMAUTH-PLANNAME                          ACTUAL FROM: 05/01/15 07:57:15.39
DB2 VERSION: V10                                                                                         TO: 05/01/15 07:59:12.18
                                                      SUMMARIZED BY STMTID

PRIMAUTH: BBE         PLANNAME: DISTSERV                              THREAD TOTAL:     2  START AET: N/P       STOP AET:
N/P

       EVENT            COUNT     TOT.ELAPS  TOTAL TCB
DETAIL
                                  AET/EVENT  TCB/
EVENT
-------------------- ----------- ----------- ---------
--------------------------------------------------------------------------------

PACKAGE
PMODA11GANZLANGE.DSNADM.DSNADMCD.X'0E4D2F6F07F6F0F7'

UK67607
                                                ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)
DYNAMICRULES(RUN)
                                                PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)
OPTHINT(N/P)

             304747           2    0.000012
CLOSE
0.000006
                                                STMT ID :                     304747  STMT TYPE           :
STATIC
                                                                                      SORTS               :
2
                                                GET PAGES       :                  4  PARALLEL GRP CREATES:
0
                                                SYNC BUFF READS :                  0  BUFFER WRITES       :
0
                                                INDEX SCANS     :                  0  TABLESPACE SCANS    :
4
                                                ROWS EXAMINED   :                  0  ROWS PROCESSED      :
78
                                                RID-LIMIT EXC.  :                  0  RID-NO STORAGE      :
0
                                                IN-DB2 ELAPSED  :           0.000299  IN-DB2 CPU          :
0.000296
                                                GLOBAL LOCK     :           0.000000  DRAIN LOCK          :
0.000000
                                                LOCK/LATCH      :           0.000000  LATCH               :
0.000000
                                                PAGE LATCH      :           0.000000  CLAIM COUNT         :
0.000000
                                                SYNCHRON. I/O   :           0.000000  UNIT SWITCH         :
0.000000
                                                READ-OTH. THREAD:           0.000000  WRITE-OTH. THREAD   :
0.000000
                                                LOG WRITER      :
0.000000

             304764           7    0.000133
DELETE
0.000019
                                                STMT ID :                     304764  STMT TYPE           :
STATIC
                                                                                      SORTS               :
0
                                                GET PAGES       :                  0  PARALLEL GRP CREATES:
0
                                                SYNC BUFF READS :                  0  BUFFER WRITES       :
0
                                                INDEX SCANS     :                  0  TABLESPACE SCANS    :
0
                                                ROWS EXAMINED   :                  0  ROWS PROCESSED      :
0
                                                RID-LIMIT EXC.  :                  0  RID-NO STORAGE      :
0
                                                IN-DB2 ELAPSED  :           0.000103  IN-DB2 CPU          :
0.000100
                                                GLOBAL LOCK     :           0.000000  DRAIN LOCK          :
0.000000
                                                LOCK/LATCH      :           0.000000  LATCH               :
0.000000
                                                PAGE LATCH      :           0.000000  CLAIM COUNT         :
0.000000
                                                SYNCHRON. I/O   :           0.000000  UNIT SWITCH         :
0.000000
                                                READ-OTH. THREAD:           0.000000  WRITE-OTH. THREAD   :
0.000000
                                                LOG WRITER      :
0.000000

SQL ACTIVITY REPORT COMPLETE
```

Summarized by Statement Type

This summary level shows totals for each cursor name belonging to the selected combination of OMEGAMON for Db2 PE identifiers that are qualified by package name. By default, the package names and the events within each package are sorted alphabetically.

This is an example for an SQL Activity report summarized by statement type.

```
   LOCATION: SYS1DSN2               OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-4
      GROUP: DSN2                                SQL ACTIVITY - REPORT                 REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE11                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SE11                             ORDER: PRIMAUTH-PLANNAME                    ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10                                                                                     TO: 01/30/15 07:05:37.61
                                                SUMMARIZED BY STMTTYPE
PRIMAUTH: WRL         PLANNAME: PARALCPU                                THREAD TOTAL:    11  START AET: 0.053771  STOP AET: N/P
       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                    DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ----------- ---------- --------- ---------------------------------------------------------------------------------

FETCH                     12888   36.562407  8.188774
                                   0.002837  0.000635

OPEN                          1 7:10.524819 47.134431
                                7:10.524819 47.134431
```

Summarized by Thread

This summary level presents totals for each statement type executed by this combination of OMEGAMON for Db2 PE identifiers. By default, the events are sorted alphabetically. There is no further qualification at this level.

This is an example for an SQL Activity report summarized by thread.

```
   LOCATION: OMPDB2L                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-2
      GROUP: DB2L                                 SQL ACTIVITY - TRACE                 REQUESTED FROM: NOT SPECIFIED
     MEMBER: SDL2                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SDL2                                                                       ACTUAL FROM: 01/30/15 11:36:56.45
DB2 VERSION: V10
                                              SUMMARIZED BY THREAD

                              PRIMAUTH: N/P              CONNECT : N/P                CORRNAME: N/P       CONNTYPE: 'BLANK'
                              ORIGAUTH: N/P              PLANNAME: N/P                CORRNMBR:           THRDTYPE: ALLIED
                              ENDUSER : N/P              WSNAME  : N/P                TRANSACT: N/P

TRACE # 1.1                 DB2 LUWID: DEIBMIPS.IPUAWDL2.X'C4B7EAC08924'                      ACE ADDRESS: X'1AC558F8'

START TIME: 01/30/15 11:36:56.45  START ELAPSED:    N/A                    START REASON: IN PROGRESS
STOP TIME : 01/30/15 11:37:03.28  STOP ELAPSED :    N/A                    STOP REASON : END OF FILE

       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                    DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ----------- ---------- --------- ---------------------------------------------------------------------------

X'C4B7EAC08924'               1    6.823537  0.025761 STMTTYPE            COUNT   AET/OCCUR TCB/OCCUR
                                   6.823537  0.025761 CREATE                  1    6.823537
0.025761
```

Example of an SQL Activity Report with Workload

The following examples show excerpts of an SQL Activity report with workload detail.

They are generated by the following command:

```
SQLACTIVITY
     REPORT
        SUMMARIZEBY  (ALL)
        WORKLOAD     (ALL)
```

Summarized by Statement Number, with All Workload

This page of the report shows the summary by statement number for primary authorization ID WRL and plan name DSNESPRR for location SYS1DSN2. It includes all workload contained in the input.

```
   LOCATION: SYS1DSN2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 2-1
      GROUP: DSN2                                 SQL ACTIVITY - REPORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE21                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SE21                              ORDER: PRIMAUTH-PLANNAME                     ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10                                                                                     TO: 01/30/15 07:05:37.61
                                        SUMMARIZED BY STMTNO, WITH ALL WORKLOAD
PRIMAUTH: WRL         PLANNAME: DSNESPRR                          THREAD TOTAL:    11  START AET: N/P       STOP AET: N/P
      EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                DETAIL
                                 AET/EVENT  TCB/EVENT
-------------------- ---------- ---------- --------- ------------------------------------------------------------------------------------------

DBRM                                          DSNESM68
#   119                    13                 DESCRIBE

#   119                    25    0.777747  0.641076 PREPARE     CURSOR: C1
                               0.031110  0.025643
      --- WORKLOAD HILITE ------------------------------------------------------------------------------------------------------------------
      SCANS   :     8  RECS/SORT:  3.00  I/O REQS:        1  SUSPENDS   :        2  EXITS    :        2  AMS            :        1
      ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS        : 0.094745
      PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:      YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :        3
      LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345

      --- SCAN ACTIVITY ---------------------------------------------------------------------------------------------------------------------
                                ------ROWS------  --QUALIFIED AT--  ----------ROWS----------          --PAGES- ---------RI--------
      DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES          SCANNED     SCANS  DELETES
      MEMBER    TYPE
      DSNDB06   SYSDBASE     70        70        0       70        0        0        0        0              164         0        0
      SE21      INDX
      DSNDB06   SYSDBASE     46        46       46        0        0        0        0        0               46         0        0
      SE21      SEQD
      TOTAL                 116       116       46       70        0        0        0        0              210         0        0
#   193                      12    0.003194  0.002885 CLOSE       CURSOR: C1
                               0.000266  0.000240

#   193                      69 2:12.298682  0.070083 FETCH       CURSOR: C1
                               1.917372  0.001016
      --- WORKLOAD HILITE ------------------------------------------------------------------------------------------------------------------
      SCANS   :     8  RECS/SORT:  3.00  I/O REQS:        1  SUSPENDS   :        2  EXITS    :        2  AMS            :        1
      ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS        : 0.094745
      PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:      YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :        3
      LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345

      --- SCAN ACTIVITY ---------------------------------------------------------------------------------------------------------------------
                                ------ROWS------  --QUALIFIED AT--  ----------ROWS----------          --PAGES- ---------RI--------
      DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES          SCANNED     SCANS  DELETES
      MEMBER    TYPE
      DSNDB04   DGO71J5L      6        31       31       31        0        0        0        0               24         0        0
      SE21      SEQD
      DSNDB04   DGO719AX      6        25       25       25        0        0        0        0               24         0        0
      SE21      SEQD
      TOTAL                  12        56       56       56        0        0        0        0               48         0        0

     --- LOCK SUSPENSION ACTIVITY ----------------------------------------------------------------------------------------------------------
                                          ---------- SUSPEND REASON ---------- NORML  RESUME TIMEO  RESUME DEADL  RESUME
      RESOURCE NAME               TYPE       REQUEST  LOCAL LATCH IRLMQ GROUP NOTIF OTHER COUNT     AET COUNT     AET COUNT     AET
      MEMBER
      DSNDB04             DGO71J5L PAGESET    LOCK         0     0     0     2     0     0     1 59.5816     1 72.4844     0     N/C
      SE21
#   193                      13    0.003721  0.003398 OPEN        CURSOR: C1                ISO(RR) REOPT(NO)  KEEP UPD LOCKS: NO
                               0.000286  0.000261

#   218                       4    0.010126  0.007825 DELETE      CURSOR: C1                ISO(RR) REOPT(NO)
```

Summarized by Cursor, with All Workload

This page of the report shows the summary by cursor for primary authorization ID WRL and plan name DSNESPRR for location SYS1DSN2. It includes all workload contained in the input.

```
   LOCATION: SYS1DSN2                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 2-4
      GROUP: DSN2                                 SQL ACTIVITY - REPORT                  REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE21                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SE21                              ORDER: PRIMAUTH-PLANNAME                     ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10                                                                                     TO: 01/30/15 07:05:37.61
                                        SUMMARIZED BY CURSOR, WITH ALL WORKLOAD
PRIMAUTH: WRL         PLANNAME: DSNESPRR                          THREAD TOTAL:    11  START AET: N/P       STOP AET: N/P
      EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                DETAIL
                                 AET/EVENT  TCB/EVENT
-------------------- ---------- ---------- --------- ------------------------------------------------------------------------------------------
DBRM                                          DSNESM68
C1                         13 2:12.305597  0.076366 STMTTYPE            COUNT   AET/OCCUR TCB/OCCUR              COMMITS:     2
                               10.177354  0.005874 CLOSE                  12    0.000266  0.000240
                                                   FETCH                  69    1.917372  0.001016
                                                   OPEN                   13    0.000286  0.000261
      --- WORKLOAD HILITE ------------------------------------------------------------------------------------------------------------------
      SCANS   :     8  RECS/SORT:  3.00  I/O REQS:        1  SUSPENDS   :        2  EXITS    :        2  AMS            :        1
      ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS        : 0.094745
      PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:      YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :        3
      LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345
      --- SCAN ACTIVITY ---------------------------------------------------------------------------------------------------------------------
                                ------ROWS------  --QUALIFIED AT--  ----------ROWS----------          --PAGES- ---------RI--------
      DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES          SCANNED     SCANS  DELETES
      MEMBER    TYPE
      DSNDB04   DGO71J5L      6        31       31       31        0        0        0        0               24         0        0
      SE21      SEQD
      DSNDB04   DGO719AX      6        25       25       25        0        0        0        0               24         0        0
      SE21      SEQD
      TOTAL                  12        56       56       56        0        0        0        0               48         0        0
      --- LOCK SUSPENSION ACTIVITY --------------------------------------------------------------------------------------------------------
                                          ---------- SUSPEND REASON ---------- NORML  RESUME TIMEO  RESUME DEADL  RESUME
      RESOURCE NAME               TYPE       REQUEST  LOCAL LATCH IRLMQ GROUP NOTIF OTHER COUNT     AET COUNT     AET COUNT     AET
      MEMBER
      DSNDB04             DGO71J5L PAGESET    LOCK         0     0     0     2     0     0     1 59.5816     1 72.4844     0     N/C
      SE21
      --- PAGE & ROW LOCKING ----------------------------------------------------------------------------------------------------------------
                                        LOCK   MAXIMUM PAGE   # LOCK   HIGHEST   TS      LOCK AVOID
      MEMBER     DATABASE   PAGESET    COUNT    SIZE   OR ROW LOCKS    ESCAL      LOCK   TYPE    SUCCESSFUL
      SE21       DSNDB04    DGO71J5L       2   PAGE              1        0         X   SIMPL           NO
      SE21       DSNDB04    DGO719AX       2   PAGE              1        0         X   SIMPL           NO
      SE21       DSNDB06    SYSDBASE       2   TABLE             0        0        IS   SIMPL           NO
      SUMMARY : MAX PAGE OR ROW LOCKS HELD         3  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE         0

      TOTAL                        6                                  0
#   119                      13                 DESCRIBE
#   119                      25    0.777747  0.641076 PREPARE     CURSOR: C1
                               0.031110  0.025643
      --- WORKLOAD HILITE ------------------------------------------------------------------------------------------------------------------
      SCANS   :     8  RECS/SORT:  3.00  I/O REQS:        1  SUSPENDS   :        2  EXITS    :        2  AMS            :        1
      ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS        : 0.094745
      PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:      YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :        3
      LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345
```

Summarized by Program, with All Workload

This page of the report shows the summary by program for primary authorization ID WRL and plan name DSNESPRR for location SYS1DSN2. It includes all workload contained in the input.

```
   LOCATION: SYS1DSN2                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 2-7
      GROUP: DSN2                                SQL ACTIVITY - REPORT                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE21                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: SE21                             ORDER: PRIMAUTH-PLANNAME                        ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10                                                                                      TO: 01/30/15 07:05:37.61
                                      SUMMARIZED BY PROGRAM, WITH ALL WORKLOAD
PRIMAUTH: WRL         PLANNAME: DSNESPRR                              THREAD TOTAL:    11  START AET: N/P       STOP AET: N/P
       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                    DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ---------- ---------- --------- ------------------------------------------------------------------------------------------
DSNESM68                     1 2:15.220670  0.785512 DBRM: DSNESM68
                                                     STMTTYPE             COUNT   AET/OCCUR TCB/OCCUR               COMMITS:     2
                                                     CLOSE                   12    0.000266  0.000240
                                                     DELETE                   4    0.002531  0.001956
                                                     DESCRIBE                13
                                                     FETCH                   69    1.917372  0.001016
                                                     INSERT                   4    0.523041  0.008089
                                                     OPEN                    13    0.000286  0.000261
                                                     PREPARE                 25    0.031110  0.025643
                                                     UPDATE                   4    0.008759  0.006973
     --- WORKLOAD HILITE ------------------------------------------------------------------------------------------------------------
     SCANS   :     8  RECS/SORT:  3.00  I/O REQS:        1  SUSPENDS   :        2  EXITS    :        2  AMS            :         1
     ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS        : 0.094745
     PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:      YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :         3
     LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345

     --- SCAN ACTIVITY --------------------------------------------------------------------------------------------------------------
                              ------ROWS------  --QUALIFIED AT--  ----------ROWS-----------         --PAGES- ---------RI--------
     DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES          SCANNED     SCANS  DELETES
     MEMBER    TYPE
     DSNDB04   DGO71J5L     12        53       53       33        0        2        2        0               44         0        0
     SE21      SEQD
     DSNDB04   DGO719AX     12        43       43       25        0        2        0        0               44         0        0
     SE21      SEQD
     DSNDB06   SYSDBASE     70        70        0       70        0        0        0        0              164         0        0
     SE21      INDX
     DSNDB06   SYSDBASE     46        46       46        0        0        0        0        0               46         0        0
     SE21      SEQD
     TOTAL               140       212      142      128        0        4        2        0              298         0        0
     --- LOCK SUSPENSION ACTIVITY ---------------------------------------------------------------------------------------------------
                                                  ---------- SUSPEND REASON ---------- NORML  RESUME TIMEO  RESUME DEADL  RESUME
     RESOURCE NAME                TYPE       REQUEST  LOCAL LATCH IRLMQ GROUP NOTIF OTHER COUNT     AET COUNT     AET COUNT     AET
     MEMBER
     N/P                               N/P  CHANGE       0     0     0     1     0     0     1 0.09668     0     N/C     0     N/C
     SE21
     N/P                               N/P  LOCK         0     0     0     2     0     0     2 0.14444     0     N/C     0     N/C
     SE21
     DSNDB04             DGO71J5L PAGESET    LOCK         0     0     0     2     0     0     1 59.5816     1 72.4844     0     N/C
     SE21
     DSNDB04             DGO719AX P/P CAST   LOCK         0     0     0     1     0     0     1 0.00707     0     N/C     0     N/C
     SE21
     --- PAGE & ROW LOCKING ---------------------------------------------------------------------------
                                       LOCK   MAXIMUM PAGE   # LOCK   HIGHEST   TS      LOCK AVOID
     MEMBER     DATABASE   PAGESET    COUNT    SIZE   OR ROW LOCKS    ESCAL      LOCK   TYPE    SUCCESSFUL
     SE21       DSNDB04    DGO71J5L       2   PAGE              1        0         X   SIMPL          NO
     SE21       DSNDB04    DGO719AX       2   PAGE              1        0         X   SIMPL          NO
     SE21       DSNDB06    SYSDBASE       2   TABLE             0        0        IS   SIMPL          NO
     SUMMARY : MAX PAGE OR ROW LOCKS HELD         3  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE         0

     TOTAL                             6                            0
```

Summarized by Statement Type, with All Workload

This page of the report shows the summary by statement type for primary authorization ID WRL and plan name DSNESPRR for location SYS1DSN2. It includes all workload contained in the input.

```
   LOCATION: SYS1DSN2                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 2-8
      GROUP: DSN2                                SQL ACTIVITY - REPORT                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE21                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: SE21                              ORDER: PRIMAUTH-PLANNAME                        ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10                                                                                       TO: 01/30/15 07:05:37.61
                                        SUMMARIZED BY STMTTYPE, WITH ALL WORKLOAD
PRIMAUTH: WRL         PLANNAME: DSNESPRR                                THREAD TOTAL:    11  START AET: N/P       STOP AET: N/P
       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                    DETAIL
                                  AET/EVENT  TCB/EVENT
---------------------- ----------- ---------- --------- ---------------------------------------------------------------------------------------------
CLOSE                         12    0.003194  0.002885
                                    0.000266  0.000240
DELETE                         4    0.010126  0.007825
                                    0.002531  0.001956
      --- WORKLOAD HILITE ---------------------------------------------------------------------------------------------------------------------
      SCANS    :     8  RECS/SORT:  3.00  I/O REQS:         1  SUSPENDS   :        2  EXITS    :        2  AMS             :        1
      ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS         : 0.094745
      PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:       YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :        3
      LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345
      --- SCAN ACTIVITY -----------------------------------------------------------------------------------------------------------------------
                                  ------ROWS------  --QUALIFIED AT--  ----------ROWS-----------         --PAGES- ---------RI--------
      DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES          SCANNED     SCANS  DELETES
      MEMBER    TYPE
      DSNDB04   DGO71J5L      2        11       11        0        0        0        0        0                8         0        0
      SE21      SEQD
      DSNDB04   DGO719AX      2         9        9        0        0        0        0        0                8         0        0
      SE21      SEQD
      TOTAL                   4        20       20        0        0        0        0        0               16         0        0
DESCRIBE                     13

FETCH                        69 2:12.298682  0.070083
                                  1.917372  0.001016
      --- WORKLOAD HILITE ---------------------------------------------------------------------------------------------------------------------
      SCANS    :     8  RECS/SORT:  3.00  I/O REQS:         1  SUSPENDS   :        2  EXITS    :        2  AMS             :        1
      ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS         : 0.094745
      PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:       YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :        3
      LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345
      --- SCAN ACTIVITY -----------------------------------------------------------------------------------------------------------------------
                                  ------ROWS------  --QUALIFIED AT--  ----------ROWS-----------         --PAGES- ---------RI--------
      DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES          SCANNED     SCANS  DELETES
      MEMBER    TYPE
     DSNDB04   DGO71J5L      6        31       31       31        0        0        0        0               24         0        0
      SE21      SEQD
      DSNDB04   DGO719AX      6        25       25       25        0        0        0        0               24         0        0
      SE21      SEQD
      TOTAL                  12        56       56       56        0        0        0        0               48         0        0
      --- LOCK SUSPENSION ACTIVITY ----------------------------------------------------------------------------------------------------------
                                                    ---------- SUSPEND REASON ---------- NORML  RESUME TIMEO  RESUME DEADL  RESUME
      RESOURCE NAME               TYPE       REQUEST  LOCAL LATCH IRLMQ GROUP NOTIF OTHER COUNT     AET COUNT     AET COUNT     AET
      MEMBER
      DSNDB04             DGO71J5L PAGESET    LOCK         0     0     0     2     0     0     1 59.5816     1 72.4844     0     N/C
      SE21
INSERT                         4    2.092164  0.032354
                                    0.523041  0.008089
```

The SQL Activity Trace

This topic contains examples of SQL Activity traces and the commands used to generate them.

These traces are summarized at different levels. They can be summarized at the following levels:

- All
- Cursor
- Occurrence
- Program
- Statement number
- Statement type

Note: The trace also automatically includes a summary by thread and, if there is more than one thread per location, a summary by location. Each summary begins on a new page of the trace.

Example of an SQL Activity Trace

The following examples show excerpts of an SQL Activity trace summarized at all levels.

They are generated by the following command:

```
⋮
SQLACTIVITY
      TRACE
         SUMMARIZEBY (ALL)
⋮
```

SQL Activity Trace Summarized by All

This summary level shows totals for each cursor name belonging to the thread that is qualified by package name. By default, the package names and the events within each package are sorted alphabetically.

This is an example of an SQL Activity Trace Summarized by All

```
   LOCATION: PMODA21                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                 SQL ACTIVITY - TRACE                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                                  ACTUAL FROM: 03/02/15 15:57:19.88
DB2 VERSION: V10
                                                SUMMARIZED BY OCCURRENCE

                              PRIMAUTH: EDVA             CONNECT : BATCH              CORRNAME: EDVADDL   CONNTYPE: TSO
                              ORIGAUTH: EDVA             PLANNAME: DSNTEP2            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                              ENDUSER : EDVA             WSNAME  : BATCH              TRANSACT: EDVADDL

TRACE # 1.1                 DB2 LUWID: DEIBMIPS.IPSARA21.X'CE9608EA5959'                      ACE ADDRESS: X'1E4CEC60'

START TIME: 03/02/15 15:57:19.88  START ELAPSED:               0.005397    START REASON: CREATE THREAD
STOP TIME : 03/02/15 15:57:20.22  STOP ELAPSED :               0.002567    STOP REASON : TERMINATE THREAD

NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                  DETAIL
------------------- ----------- ---------- -------- ----------------------------------------------------------------------------------

PACKAGE                                          PMODA21.DSNTEP2.DSN@EP2L.X'198749160FEF1D1B'
                                                 VAR1.PM96278
                                                 ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                 PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)

DESCRIBE            15:57:19.94                  STMT#       1415                                SQLST:00000 SQLCO:     0

PREPARE             15:57:20.09    0.022793      STMT#       1846 CURSOR: C1                     SQLST:00000 SQLCO:     0
                                                 TEXT: INSERT INTO BRT.BRTTB001 ( DEC_17 , CHR_40 ) VALUES ( 1, 'One' )

DESCRIBE            15:57:20.12                  STMT#       1900                                SQLST:00000 SQLCO:     0

INSERT              15:57:20.12    0.000521      STMT#       1924                          ISO(CS) SQLST:00000 SQLCO:     0
                                                 REOPTIMIZED(NO)  KEEP UPDATE LOCKS(N/A)

DESCRIBE            15:57:20.12                  STMT#       5388                                SQLST:00000 SQLCO:     0

DESCRIBE            15:57:20.12                  STMT#       5390                                SQLST:00000 SQLCO:     0

PREPARE             15:57:20.12    0.014470      STMT#       1846 CURSOR: C1                     SQLST:00000 SQLCO:     0
                                                 TEXT: COMMIT

DESCRIBE            15:57:20.13                  STMT#       1900                                SQLST:00000 SQLCO:     0

SYNC.               15:57:20.13    0.021406

DBRM                                             DSN@EP2L

DESCRIBE            15:57:20.15                  STMT#       1924                                SQLST:00000 SQLCO:     0

PACKAGE                                          PMODA21.DSNTEP2.DSN@EP2L.X'198749160FEF1D1B'
                                                 VAR1.PM96278
                                                 ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                 PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)

DESCRIBE            15:57:20.15                  STMT#       5388                                SQLST:00000 SQLCO:     0

DESCRIBE            15:57:20.15                  STMT#       5390                                SQLST:00000 SQLCO:     0

PREPARE             15:57:20.15    0.000021      STMT#       1846 CURSOR: C1                     SQLST:00000 SQLCO:     0
```

SQL Activity Trace Summarized by Occurrence

Summary by occurrence shows individual SQL statement occurrences. In this thread the SQL statements belong to one package, the name of which is printed at the head of its work. When present, SQL text and DDF information is embedded in the events. Commits appear as standalone events. The events are, by default, sorted in timestamp sequence.

This is an example of an SQL Activity Trace Summarized by Occurrence.

```
   LOCATION: STLEC1                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-1
      GROUP: N/P                                 SQL ACTIVITY - TRACE                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: V71A                                                                          ACTUAL FROM:01/30/13 17:16:27.41
DB2 VERSION: V10
                                              SUMMARIZED BY OCCURRENCE

                              PRIMAUTH: SYSADM            CONNECT : BATCH              CORRNAME: INS       CONNTYPE: TSO
                              ORIGAUTH: SYSADM            PLANNAME: DSNTEP3            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                              ENDUSER : 'BLANK'           WSNAME  : 'BLANK'            TRANSACT: 'BLANK'

TRACE # 1.1                 DB2 LUWID: USIBMSY.SYEC1DB2.X'B3D971189B05'                       ACE ADDRESS: X'06111A88'

START TIME: 01/30/15 17:16:27.41  START ELAPSED:               0.003678    START REASON: CREATE THREAD
STOP TIME : 01/30/15 17:16:27.85  STOP ELAPSED :               0.012713    STOP REASON : TERMINATE THREAD

NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                        DETAIL
------------------- ----------- ---------- --------- ------------------------------------------------------------------------------

PACKAGE                                             STLEC1.DSNTEP3.DSNTEP3.X'167241E51B69975C'
                                                    ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                    PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                    IMMEDWRITE(NO)
PREPARE             17:16:27.41    0.036485  0.011015 STMT#  1505 CURSOR: C1                          SQLSTATE: 00000 SQLCODE:     0
                                                    TEXT: INSERT INTO M80119.SBDEALS VALUES(1000003,'EEEE','FFFFFFFFF',
                                                          'GGGGGGGGG','HH')

DESCRIBE            17:16:27.45                     STMT#  1511                                    SQLSTATE: 00000 SQLCODE:     0

 1  TRIGGER         17:16:27.46    0.180439  0.001409 STMT#  1216 TRIGGER  : SBTRIGR                 SQLSTATE: N/P   SQLCODE:     0
                                                    COLLID : DSNTEP3                PROGRAM : DSNTEP3    SCHEMA : M80119
                                                    EXT_NAM: SBTRIGR                                     ACT_TIME : AFTER
                                                    GRAN   : STMT   STMT : INSERT    EVAL    : TRUE

PACKAGE                                             STLEC1.M80119.SBTRIGR.X'167B2D671A3417BC'
                                                    ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(BIND)
                                                    PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                    IMMEDWRITE(NO)

 2  CALL            17:16:27.46    0.178961  0.000739 STMT#     0 PROCEDURE: POPULATE_SBDEALS        SQLSTATE: N/P   SQLCODE:     0
                                                    SCHEDULE TIME:    0.058490  SCHEDULE TCB:  0.062429  SCHEMA : M80119

PACKAGE                                             STLEC1.M80119.DEALPROC.X'167B2D5A18AD18EC'
                                                    ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                    PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                    IMMEDWRITE(NO)
 2  OPEN            17:16:27.52    0.000468  0.000136 STMT#    44 CURSOR: C1                 ISO(CS) SQLSTATE: 00000 SQLCODE:     0
                                                    REOPTIMIZED(NO)  KEEP UPDATE LOCKS: NO

 2  FETCH           17:16:27.52    0.000190  0.000069 STMT#    52 CURSOR: C1                          SQLSTATE: 02000 SQLCODE:   100

 2  INSERT          17:16:27.64    0.000961  0.000698 STMT#    64                            ISO(CS) SQLSTATE: 23505 SQLCODE:  -803
                                                    REOPTIMIZED(NO)  KEEP UPDATE LOCKS: N/A

 2  CLOSE           17:16:27.64    0.000162  0.000068 STMT#    66 CURSOR: C1                          SQLSTATE: 00000 SQLCODE:     0

PACKAGE                                             STLEC1.DSNTEP3.DSNTEP3.X'167241E51B69975C'
                                                    ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                    PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                    IMMEDWRITE(NO)
PREPARE             17:16:27.74    0.013520  0.006982 STMT#  1505 CURSOR: C1                          SQLSTATE: 00000 SQLCODE:     0
                                                    TEXT: SELECT * FROM M80119.TRIGTBL

DESCRIBE            17:16:27.75                     STMT#  1511                                    SQLSTATE: 00000 SQLCODE:     0

OPEN                17:16:27.75    0.000091  0.000051 STMT#  1574 CURSOR: C1                ISO(CS) SQLSTATE: 00000 SQLCODE:     0
                                                    REOPTIMIZED(NO)  KEEP UPDATE LOCKS: NO

FETCH               17:16:27.75    0.001488  0.000559 STMT#  1618 CURSOR: C1                          SQLSTATE: 00000 SQLCODE:     0

FETCH               17:16:27.75    0.001106  0.000398 STMT#  1618 CURSOR: C1                          SQLSTATE: 02000 SQLCODE:   100

CLOSE               17:16:27.75    0.000123  0.000070 STMT#  2056 CURSOR: C1                          SQLSTATE: 00000 SQLCODE:     0

CREATE              11:36:56.45    6.823537  0.025761 TYPE: ROW PERMISSION             NAME: DEATEST
```

SQL Activity Trace Summarized by Occurrence

This summary level presents totals for each program name belonging to the thread.

This is an example of an SQL Activity Trace Summarized by Occurrence.

```
   LOCATION: PMODA21                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                  SQL ACTIVITY - TRACE                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                          TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                                  ACTUAL FROM: 03/02/15 15:57:19.88
DB2 VERSION: V10
                                                   SUMMARIZED BY OCCURRENCE

                              PRIMAUTH: EDVA             CONNECT : BATCH              CORRNAME: EDVADDL   CONNTYPE: TSO
                              ORIGAUTH: EDVA             PLANNAME: DSNTEP2            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                              ENDUSER : EDVA             WSNAME  : BATCH              TRANSACT: EDVADDL

TRACE # 1.1                 DB2 LUWID: DEIBMIPS.IPSARA21.X'CE9608EA5959'                      ACE ADDRESS: X'1E4CEC60'

START TIME: 03/02/15 15:57:19.88  START ELAPSED:               0.005397    START REASON: CREATE THREAD
STOP TIME : 03/02/15 15:57:20.22  STOP ELAPSED :               0.002567    STOP REASON : TERMINATE THREAD

NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
-------------------- ----------- ----------- --------- ---------------------------------------------------------------------------

PACKAGE                                                PMODA21.DSNTEP2.DSN@EP2L.X'198749160FEF1D1B'
                                                       VAR1.PM96278
                                                       ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                       PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)

DESCRIBE             15:57:19.94                       STMT#       1415                                   SQLST:00000 SQLCO:     0

PREPARE              15:57:20.09    0.022793           STMT#       1846 CURSOR: C1                        SQLST:00000 SQLCO:     0
                                                       TEXT: INSERT INTO BRT.BRTTB001 ( DEC_17 , CHR_40 ) VALUES ( 1, 'One' )

DESCRIBE             15:57:20.12                       STMT#       1900                                   SQLST:00000 SQLCO:     0

INSERT               15:57:20.12    0.000521           STMT#       1924                            ISO(CS) SQLST:00000 SQLCO:     0
                                                       REOPTIMIZED(NO)  KEEP UPDATE LOCKS(N/A)

DESCRIBE             15:57:20.12                       STMT#       5388                                   SQLST:00000 SQLCO:     0

DESCRIBE             15:57:20.12                       STMT#       5390                                   SQLST:00000 SQLCO:     0

PREPARE              15:57:20.12    0.014470           STMT#       1846 CURSOR: C1                        SQLST:00000 SQLCO:     0
                                                       TEXT: COMMIT

DESCRIBE             15:57:20.13                       STMT#       1900                                   SQLST:00000 SQLCO:     0

SYNC.                15:57:20.13    0.021406

DBRM                                                   DSN@EP2L

DESCRIBE             15:57:20.15                       STMT#       1924                                   SQLST:00000 SQLCO:     0

PACKAGE                                                PMODA21.DSNTEP2.DSN@EP2L.X'198749160FEF1D1B'
                                                       VAR1.PM96278
                                                       ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                       PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)

DESCRIBE             15:57:20.15                       STMT#       5388                                   SQLST:00000 SQLCO:     0

DESCRIBE             15:57:20.15                       STMT#       5390                                   SQLST:00000 SQLCO:     0

PREPARE              15:57:20.15    0.000021           STMT#       1846 CURSOR: C1                        SQLST:00000 SQLCO:     0
SQLST:00000 SQLCO:     0
```

```
   LOCATION: PMODA21                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-2
      GROUP: N/P                                 SQL ACTIVITY - TRACE                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                                  ACTUAL FROM: 03/02/15 15:57:19.88
DB2 VERSION: V10
                                                SUMMARIZED BY OCCURRENCE

                             PRIMAUTH: EDVA             CONNECT : BATCH              CORRNAME: EDVADDL   CONNTYPE: TSO
                             ORIGAUTH: EDVA             PLANNAME: DSNTEP2            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                             ENDUSER : EDVA             WSNAME  : BATCH              TRANSACT: EDVADDL

TRACE # 1.1                DB2 LUWID: DEIBMIPS.IPSARA21.X'CE9608EA5959'                    ACE ADDRESS: X'1E4CEC60'

START TIME: 03/02/15 15:57:19.88  START ELAPSED:              0.005397    START REASON: CREATE THREAD
STOP TIME : 03/02/15 15:57:20.22  STOP ELAPSED :              0.002567    STOP REASON : TERMINATE THREAD

NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                  DETAIL
-------------------- ----------- ---------- --------- ------------------------------------------------------------------------------------------
                                                      TEXT: SELECT * FROM BRT.BRTTB001

DESCRIBE             15:57:20.15                      STMT#       1900                                  SQLST:00000 SQLCO:     0

OPEN                 15:57:20.15    0.000007          STMT#       1952 CURSOR: C1                ISO(CS) SQLST:00000 SQLCO:     0
                                                      REOPTIMIZED(NO)  KEEP UPDATE LOCKS(NO)  SCROLL(NO)  SENSITIVE(UNS) TABLE(UNS)
                                                      IMPLICIT COMMIT(NO )

FETCH                15:57:20.15    0.000069          STMT#       1982 CURSOR: C1                       SQLST:00000 SQLCO:     0
                                                      SENSITIVE(UNS)   ORIENTATION(NEXT)

FETCH                15:57:20.15    0.000014          STMT#       1982 CURSOR: C1                       SQLST:02000 SQLCO:   100
                                                      SENSITIVE(UNS)   ORIENTATION(NEXT)

CLOSE                15:57:20.15    0.000005          STMT#       2277 CURSOR: C1                       SQLST:00000 SQLCO:     0
                                                      CLOSE TYPE(EXPLICIT)
                                                      STMT ID :                         29  STMT TYPE           : DYNAMIC
                                                                                            SORTS               :               0
                                                      GET PAGES       :                  2  PARALLEL GRP CREATES:               0
                                                      SYNC BUFF READS :                  0  BUFFER WRITES       :               0
                                                      INDEX SCANS     :                  0  TABLESPACE SCANS    :               1
                                                      ROWS EXAMINED   :                  1  ROWS PROCESSED      :               1
                                                      RID-LIMIT EXC.  :                  0  RID-NO STORAGE      :               0
                                                      IN-DB2 ELAPSED  :          0.000089  IN-DB2 CPU          :        0.000070
                                                      GLOBAL LOCK     :          0.000000  DRAIN LOCK          :        0.000000
                                                      LOCK/LATCH      :          0.000000  LATCH               :        0.000000
                                                      PAGE LATCH      :          0.000000  CLAIM COUNT         :        0.000000
                                                      SYNCHRON. I/O   :          0.000000  UNIT SWITCH         :        0.000000
                                                      READ-OTH. THREAD:          0.000000  WRITE-OTH. THREAD   :        0.000000
                                                      LOG WRITER      :          0.000000

PREPARE              15:57:20.15    0.000049          STMT#       1846 CURSOR: C1                       SQLST:00000 SQLCO:     0
                                                      TEXT: COMMIT

DESCRIBE             15:57:20.15                      STMT#       1900                                  SQLST:00000 SQLCO:     0

SYNC.                15:57:20.15    0.000020

DBRM                                                  DSN@EP2L

DESCRIBE             15:57:20.15                      STMT#       1924                                  SQLST:00000 SQLCO:     0
   LOCATION: PMODA21                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-3
      GROUP: N/P                                 SQL ACTIVITY - TRACE                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                                  ACTUAL FROM: 03/02/15 15:57:19.88
DB2 VERSION: V10
                                                SUMMARIZED BY OCCURRENCE

                             PRIMAUTH: EDVA             CONNECT : BATCH              CORRNAME: EDVADDL   CONNTYPE: TSO
                             ORIGAUTH: EDVA             PLANNAME: DSNTEP2            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                             ENDUSER : EDVA             WSNAME  : BATCH              TRANSACT: EDVADDL
```

```
TRACE # 1.1                DB2 LUWID: DEIBMIPS.IPSARA21.X'CE9608EA5959'                    ACE ADDRESS: X'1E4CEC60'

START TIME: 03/02/15 15:57:19.88  START ELAPSED:              0.005397    START REASON: CREATE THREAD
STOP TIME : 03/02/15 15:57:20.22  STOP ELAPSED :              0.002567    STOP REASON : TERMINATE THREAD

NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                  DETAIL
-------------------- ----------- ---------- --------- ------------------------------------------------------------------------------------------

PACKAGE                                               PMODA21.DSNTEP2.DSN@EP2L.X'198749160FEF1D1B'
                                                      VAR1.PM96278
                                                      ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                      PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)

DESCRIBE             15:57:20.15                      STMT#       5388                                  SQLST:00000 SQLCO:     0

DESCRIBE             15:57:20.15                      STMT#       5390                                  SQLST:00000 SQLCO:     0

PREPARE              15:57:20.15    0.024552          STMT#       1846 CURSOR: C1                       SQLST:00000 SQLCO:     0
                                                      TEXT: DELETE FROM BRT.BRTTB001 WHERE DEC_17 = 1

DESCRIBE             15:57:20.18                      STMT#       1900                                  SQLST:00000 SQLCO:     0

DELETE               15:57:20.18    0.020686          STMT#       1924 CURSOR: C1                ISO(CS) SQLST:00000 SQLCO:     0
                                                      REOPTIMIZED(NO)  KEEP UPDATE LOCKS(N/A)

DESCRIBE             15:57:20.20                      STMT#       5388                                  SQLST:00000 SQLCO:     0

DESCRIBE             15:57:20.20                      STMT#       5390                                  SQLST:00000 SQLCO:     0

PREPARE              15:57:20.20    0.000070          STMT#       1846 CURSOR: C1                       SQLST:00000 SQLCO:     0
                                                      TEXT: COMMIT

DESCRIBE             15:57:20.21                      STMT#       1900                                  SQLST:00000 SQLCO:     0

SYNC.                15:57:20.21    0.005373

DBRM                                                  DSN@EP2L

DESCRIBE             15:57:20.21                      STMT#       1924                                  SQLST:00000 SQLCO:     0

PACKAGE                                               PMODA21.DSNTEP2.DSN@EP2L.X'198749160FEF1D1B'
                                                      VAR1.PM96278
                                                      ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                      PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)

DESCRIBE             15:57:20.21                      STMT#       5388                                  SQLST:00000 SQLCO:     0

DESCRIBE             15:57:20.21                      STMT#       5390
```

SQL Activity Trace Summarized by Occurrence, sorted by ELAPSEDTIME

This summary level sorts the SQL activity trace that belongs to the thread, by elapsed time. The section number field (SECT#) provides the section number of the Relational Data system Input parameter list (RDI).

This is an example of an SQL Activity Trace Summarized by Occurrence, sorted by ELAPSEDTIME.

```
   LOCATION: PMODA21                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                 SQL ACTIVITY - TRACE                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                                  ACTUAL FROM: 03/02/15 15:57:19.88
DB2 VERSION: V12
                                    SUMMARIZED BY OCCURRENCE, SORTED BY ELAPSEDTIME

                             PRIMAUTH: EDVA             CONNECT : DB2CALL            CORRNAME: EDVADML2  CONNTYPE: DB2CALL
                             ORIGAUTH: EDVA             PLANNAME: DSNREXX            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                             ENDUSER : EDVA             WSNAME  : DB2CALL            TRANSACT: EDVADML2

TRACE # 1.1                DB2 LUWID: DEIBMIPS.IPSARA21.X'CEA11F533D97'                    ACE ADDRESS: X'1BE0DC00'

START TIME: 03/11/15 11:36:09.68  START ELAPSED:    N/A                   START REASON: IN PROGRESS
STOP TIME : 03/11/15 11:36:09.68  STOP ELAPSED :    N/A                   STOP REASON : END OF FILE

NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
------------------- ----------- ---------- --------- ----------------------------------------------------------------------------------

DELETE              11:36:09.68    0.000286          STMT#       3747                        ISO(CS) SQLST:01504 SQLCO:     0
                                                     SECT#:         1
                                                     REOPTIMIZED(NO)  KEEP UPDATE LOCKS(N/A)
                                                     TEXT: DELETE FROM BRT.BRTTB001
                                                     PACKAGE: PMODA21.DSNREXX.DSNREXX.X'18B85F4A18B078EA'

INSERT              11:36:09.68    0.000083          STMT#       3747                        ISO(CS) SQLST:00000 SQLCO:     0
                                                     SECT#:         1
                                                     REOPTIMIZED(NO)  KEEP UPDATE LOCKS(N/A)
                                                     TEXT: INSERT INTO BRT.BRTTB001 ( DEC_17 , CHR_40 ) VALUES ( 20 , '0000000020'
                                                           )
```

SQL Activity Trace Summarized by Occurrence with All Workload

Summary by occurrence with all workload shows individual SQL statement occurrences. It also shows workload highlights, scan activity and minibind activity.

This is an example of an SQL Activity Trace Summarized by Occurrence with All Workload.

```
   LOCATION: STLEC1                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
      GROUP: DSNCAT                          SQL ACTIVITY - TRACE                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: V71A                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: V71A                                                                                  ACTUAL FROM:01/30/15 17:31:25.34
DB2 VERSION: V10
                                    SUMMARIZED BY OCCURRENCE, WITH ALL WORKLOAD

                             PRIMAUTH: ADMF001          CONNECT : BATCH              CORRNAME: T1240109  CONNTYPE: TSO
                             ORIGAUTH: ADMF001          PLANNAME: DSNTEP3            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                             ENDUSER : 'BLANK'          WSNAME  : 'BLANK'            TRANSACT: 'BLANK'

TRACE # 1.1                DB2 LUWID: USIBMSY.SYEC1DB2.X'B0B890589A02'                     ACE ADDRESS: X'05B38E08'

START TIME: 01/30/15 17:31:25.34  START ELAPSED:    N/A                   START REASON: IN PROGRESS
STOP TIME : 01/30/15 17:31:27.66  STOP ELAPSED :    N/A                   STOP REASON : END OF FILE

NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
------------------- ----------- ---------- --------- ----------------------------------------------------------------------------------

CREATE              17:31:25.88    0.559483  0.034879 TYPE: FUNCTION             NAME: UF04F
      --- WORKLOAD HILITE ------------------------------------------------------------------------------------------------------------
      SCANS    :   N/P  RECS/SORT:   N/P  I/O REQS:      N/P  SUSPENDS   :      N/P  EXITS    :      N/P  AMS             :      N/P
      ROWSPROC:   26G  WORK/SORT:   N/P  AET/I/O :      N/P  AET/SUSP   :      N/P  AET/EXIT :      N/P  AET/AMS         :      N/P
      PAGESCAN:     0  PASS/SORT:   N/P  DATACAPT:      N/P  RIDS UNUSED:      N/P  CHECKCON :      N/P  DEGREE REDUCTION :     N/P
      LOB_PAGSCAN:      0           LOB_UPD_PAGE :      0
      --- SCAN ACTIVITY --------------------------------------------------------------------------------------------------------------
                              ------ROWS------  --QUALIFIED AT--  ----------ROWS----------         --PAGES- ---------RI--------
      DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES         SCANNED     SCANS  DELETES
      MEMBER    TYPE
                              1    25770M 8589935K        0       16   25770M        0        0               0         0        0
      V71A      INDX
                              1         0   12885M        0    21475M        9        0        0               0         0        0
      V71A      SEQD
      TOTAL                   2    25770M   21475M        0    21475M   25770M        0        0               0         0        0
      --- MINIBIND ----------------------------------------------------------------------------------------------------------------
      QUERYNO  : 1358      PLANNAME      : DSNTEP3            COST          : 3302     PARALLELISM_DISABLED : N/A
      QBLOCKNO : 1         COLLID        : DSNTEP3            PROGNAME      : DSNTEP3   CONSISTENCY_TOKEN    : 16149E8E18DC45A4
      APPLNAME : N/P       WHEN_OPTIMIZE : 'BLANK'            OPT_HINT_IDENT: MANFREDW  OPTIMIZE_HINTS_USED  : YES
      UNITS    : 0         MILLI_SEC     : 0                  COST_CATEGORY : N/P
      BIND_TIME: 01/30/15 10:31:27.38      VERSION : N/P
      ..............................................................................................................................
      PLANNO           : 1                 METHOD    : FIRST TABLE ACCESSED  SORTN_UNIQ      : NO     SORTC_UNIQ     : NO
      DATABASE         : DSNDB04           NEXTSTEP  : NOT APPLICABLE        SORTN_JOIN      : NO     SORTC_JOIN     : NO
      OBJECT           : 13                ACCESSTYPE: TABLE SPACE SCAN (R)  SORTN_ORDERBY   : NO     SORTC_ORDERBY  : NO
      CREATOR          : X                 PAGE_RANGE      : NO              SORTN_GROUPBY   : NO     SORTC_GROUPBY  : NO
      TNAME            : TBUF0401          JOIN_TYPE       : NO              SORTN_PGROUP_ID : 0      SORTC_PGROUP_ID: 0
      CORRELATION_NAME: N/P                MERGE_JOIN_COLS : 0               ACCESS_DEGREE   : 0      JOIN_DEGREE    : 0
      TSLOCKMODE       : IS                PARALLELISM_MODE: NO              ACCESS_PGROUP_ID: 0      JOIN_PGROUP_ID : 0
      PREFETCH         : SEQ               COLUMN_FN_EVAL  : N/P             PAGES_FOR_TABLE : 111    TAB_CARDINALITY: 1
      DIRECT_ROW_ACC   : NO                STARJOIN        : YES
      ..............................................................................................................................
         ACCESS_CREATOR   ACCESS_NAME          MATCHCOLS   INDEXONLY   PREFETCH_INDEX        OPERATION     MIXOPSEQ
         N/P              N/P                  16448       NO          SEQUENTIAL            INTERSECTION   16448
         N/P              N/P                  16448       NO          SEQUENTIAL            INTERSECTION   16448
```

SQL Activity Trace Summarized by Program

This summary level presents totals for each program name belonging to the thread.

This is an example of an SQL Activity Trace Summarized by Program.

```
   LOCATION: DSNAPC3                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
      GROUP: GROUP_1                                SQL ACTIVITY - TRACE                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_1                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: APC3                                                                                    ACTUAL FROM: 01/30/15 06:42:18.13
DB2 VERSION: V10
                                             SUMMARIZED BY PROGRAM

            PRIMAUTH: XXASP09           CONNECT : BATCH               CORRNAME: XXASP09F   CONNTYPE: TSO
            ORIGAUTH: XXASP09           PLANNAME: LOCCURHL            CORRNMBR: 'BLANK'    THRDTYPE: ALLIED
            ENDUSER : 1234567890123456  WSNAME  : 123456789012345678  TRANSACT: 12345678901234567890123456789012

TRACE # 1.7                 DB2 LUWID: DEIBMIPS.IPVANE21.X'AD7F37CCED27'                        ACE ADDRESS: X'05A493B8'
START TIME: 01/30/15 06:42:18.13  START ELAPSED:              0.079205    START REASON: CREATE THREAD
STOP TIME : 01/30/15 06:55:33.00  STOP ELAPSED :              0.009735    STOP REASON : TERMINATE THREAD
       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                          DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ---------- ---------- --------- ----------------------------------------------------------------------------------
DSNESM68                     1    1.923991  0.120291 PACKAGE: SYS1DSN2.DSNESPRR.DSNESM68.X'149EEA901A79FE48'
                                  1.923991  0.120291 ACQUIRE(USE)       REOPT     RELEASE(COMMIT)      ISO(RR)  DYNAMICRULES(RUN)
                                                     PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                     IMMEDWRITE(NO)
                                                     STMTTYPE             COUNT   AET/OCCUR TCB/OCCUR               COMMITS:     2
                                                     LOCK                     3    0.014405  0.011091
                                                     OPEN                     1    0.000444  0.000271
                                                     PREPARE                  4    0.470083  0.021687
```

SQL Activity Trace Summarized by Statement Number

This summary level presents totals for each statement number belonging to the thread. The events are qualified by the package name.

From this level on, timestamps are not appropriate so the second column becomes a count of the occurrences of each event. SQL text is omitted.

By default, the package names are printed alphabetically and the statement numbers are sorted numerically within each package.

Note: Not every statement can be summarized by statement number. DCL, for example, has no statement number. An event name is chosen from the closest possible level of summarization, which is the statement type GRANT in this example.

This is an example of an SQL Activity Trace Summarized by Statement Number (STMTNO).

```
   LOCATION: PMODA21                       OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-6
      GROUP: N/P                                 SQL ACTIVITY - TRACE                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: DA21                                                                                ACTUAL FROM: 03/02/15 15:57:19.88
DB2 VERSION: V10
                                                SUMMARIZED BY STMTNO

                            PRIMAUTH: EDVA             CONNECT : BATCH              CORRNAME: EDVADDL   CONNTYPE: TSO
                            ORIGAUTH: EDVA             PLANNAME: DSNTEP2            CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                            ENDUSER : EDVA             WSNAME  : BATCH              TRANSACT: EDVADDL

TRACE # 1.1                DB2 LUWID: DEIBMIPS.IPSARA21.X'CE9608EA5959'                    ACE ADDRESS: X'1E4CEC60'

START TIME: 03/02/15 15:57:19.88  START ELAPSED:              0.005397    START REASON: CREATE THREAD
STOP TIME : 03/02/15 15:57:20.22  STOP ELAPSED :              0.002567    STOP REASON : TERMINATE THREAD

       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                          DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ---------- ---------- --------- ----------------------------------------------------------------------------------

DBRM                                                  DSN@EP2L

#  1924                      3                       DESCRIBE

PACKAGE                                               PMODA21.DSNTEP2.DSN@EP2L.X'198749160FEF1D1B'
                                                      VAR1.PM96278
                                                      ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                      PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)

#  1415                      1                       DESCRIBE

#  1846                      6    0.061955           PREPARE     CURSOR: C1
                                  0.010326

#  1900                      6                       DESCRIBE

#  1924                      1    0.020686           DELETE      CURSOR: C1                ISO(CS) REOPT(NO)  KEEP UPD LOCKS: N/A
                                  0.020686

#  1924                      1    0.000521           INSERT                                ISO(CS) REOPT(NO)  KEEP UPD LOCKS: N/A
                                  0.000521

#  1952                      1    0.000007           OPEN        CURSOR: C1                ISO(CS) REOPT(NO)  KEEP UPD LOCKS: NO
                                  0.000007                       SCROLL(NO)  SENSITIVE(UNS) TABLE(UNS)
                                                                 IMPLICIT COMMIT(NO )

#  1982                      2    0.000083           FETCH       CURSOR: C1                SENSITIVE(N/P) ORIENTATION(NEXT)
                                  0.000042

#  2277                      1    0.000005           CLOSE       CURSOR: C1
                                  0.000005                       CLOSE TYPE(N/P)

#  5388                      5                       DESCRIBE

#  5390                      5                       DESCRIBE
```

SQL Activity Trace Summarized by Statement Type

This summary level presents totals for each statement type executed by the thread. By default, the events are sorted alphabetically. There is no further qualification at this level.

This is an example of an SQL Activity Trace Summarized by Statement Type.

```
   LOCATION: DSNAPC3                  OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
      GROUP: GROUP_1                              SQL ACTIVITY - TRACE                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: MEMBER_1                                                                                TO: NOT SPECIFIED
  SUBSYSTEM: APC3                                                                          ACTUAL FROM: 01/30/15 06:42:18.13
DB2 VERSION: V10
                                             SUMMARIZED BY STMTTYPE

            PRIMAUTH: XXASP09           CONNECT : BATCH              CORRNAME: XXASP09F   CONNTYPE: TSO
            ORIGAUTH: XXASP09           PLANNAME: LOCCURHL           CORRNMBR: 'BLANK'    THRDTYPE: ALLIED
            ENDUSER : 1234567890123456  WSNAME  : 123456789012345678  TRANSACT: 12345678901234567890123456789012

TRACE # 1.7                DB2 LUWID: DEIBMIPS.IPVANE21.X'AD7F37CCED27'                    ACE ADDRESS: X'05A493B8'
START TIME: 01/30/15 06:42:18.13  START ELAPSED:               0.079205    START REASON: CREATE THREAD
STOP TIME : 01/30/15 06:55:33.00  STOP ELAPSED :               0.009735    STOP REASON : TERMINATE THREAD
       EVENT            COUNT     TOT.ELAPS  TOTAL TCB                                    DETAIL
                                  AET/EVENT  TCB/EVENT
-------------------- ---------- ---------- ---------- ------------------------------------------------------------------------------
LOCK                          3    0.043214  0.033272
                                   0.014405  0.011091
OPEN                          1    0.000444  0.000271
                                   0.000444  0.000271
PREPARE                       4    1.880333  0.086749
                                   0.470083  0.021687
      --- MINIBIND ------------------------------------------------------------------------------------------------------------
      QUERYNO  : 1383      PLANNAME      : DSNTEP61           COST          : 35        PARALLELISM_DISABLED : N/A
      QBLOCKNO : 2         COLLID        : DSNTEP61           PROGNAME      : DSNTEP61  CONSISTENCY_TOKEN    : 15769AE806DB8B8E
      APPLNAME : N/P       WHEN_OPTIMIZE : 'BLANK'            OPT_HINT_IDENT: N/P       OPTIMIZE_HINTS_USED  : YES
      UNITS    : 12345     MILLI_SEC     : 12345              COST_CATEGORY : N/P
      BIND_TIME: 01/30/15 03:28:55.211328  VERSION: N/P
      ..........................................................................................................................
      PLANNO          : 1                  METHOD    : FIRST TABLE ACCESSED  SORTN_UNIQ      : NO     SORTC_UNIQ     : NO
      DATABASE        : DSNDB04            NEXTSTEP  : NOT APPLICABLE        SORTN_JOIN      : NO     SORTC_JOIN     : NO
      OBJECT          : 21                 ACCESSTYPE: TABLE SPACE SCAN (R)  SORTN_ORDERBY   : NO     SORTC_ORDERBY  : NO
      CREATOR         : X                  PAGE_RANGE      : NO              SORTN_GROUPBY   : NO     SORTC_GROUPBY  : NO
      TNAME           : TBUF0401           JOIN_TYPE       : STAR            SORTN_PGROUP_ID : 0      SORTC_PGROUP_ID: 0
      CORRELATION_NAME: N/P                MERGE_JOIN_COLS : 0               ACCESS_DEGREE   : 0      JOIN_DEGREE    : 0
      TSLOCKMODE      : IS                 PARALLELISM_MODE: NO              ACCESS_PGROUP_ID: 0      JOIN_PGROUP_ID : 0
      ACCESS_NAME     : N/A                ACCESS_CREATOR  : N/A             MATCHCOLS       : N/A    PREFETCH       : SEQ
      OPERATION       : N/A                PREFETCH_INDEX  : N/A             MIXOPSEQ        : N/A    DIRECT_ROW_ACC : N/A
      INDEXONLY       : N/A                COLUMN_FN_EVAL  : N/A             PAGES_FOR_TABLE : 12345  TAB_CARDINALITY: 123456789A
      STARJOIN        : NO
```

The SQL Activity Trace Index

The SQL Activity trace index provides a page index to the threads traced during the execution of an SQLACTIVITY command. An SQL Activity trace index is produced for each TRACE subcommand and is printed on a new page at the end of the trace output.

Each thread on the trace is listed in timestamp order followed by various OMEGAMON for Db2 PE identifiers.

If a thread satisfies the selection criteria for more than one TRACE subcommand, it is presented on each relevant trace, and is indexed accordingly.

SQL Activity Trace Index

The following example represents the trace index for location SYS1DSN2. From this page you can see the following:

- This trace is the result of the first TRACE subcommand.
- There are four threads.
- There were no dates or times specified on the TRACE subcommand or on the GLOBAL command.
- Both allied threads and DBATs are present. For allied threads, the requester location is the same as the local location (for example, the first entry shown in “SQL Activity Trace Index” on page 1040). For DBATs, the requester location is different to the local location (for example, the second entry shown in “SQL Activity Trace Index” on page 1040).

```
   LOCATION: SYS1DSN2                 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 0-2
      GROUP: DSN2                               SQL ACTIVITY - TRACE                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: SE21                                                                                    TO: NOT SPECIFIED
  SUBSYSTEM: SE21                                                                          ACTUAL FROM: 01/30/15 06:45:39.34
DB2 VERSION: V10                                                                                     TO: 01/30/15 06:55:33.00
                                                  INDEX
     SQL TRACE #       1
                                                                          REQUESTER                          ACE     TRACE   STARTS
    TRACE START      CONNECT  CORRNAME CORRNMBR PRIMAUTH ORIGAUTH PLANNAME   SERVER           INSTANCE    ADDRESS     NO    PAGE NO
-------------------- -------- -------- -------- -------- -------- -------- ---------------- ------------ -------- ------- -------
01/30/15 06:42:18.13 TSO      WRL1     'BLANK'  WRL1     WRL1     DSNESPRR SYS1DSN2         AD7F37CCED27 05A493B8 1.7         2-69
01/30/15 06:45:39.34 TSO      WRL      'BLANK'  WRL      WRL      DSNESPRR PMO2DE21         AD7F37E1032D 05CDA8C8 1.4         2-1
01/30/15 06:49:32.14 TSO      WRL      'BLANK'  WRL      WRL      DSNESPRR PMO2DE21         AD7F38C0A3B0 05CDA8C8 1.5         2-7
01/30/15 06:55:44.54 TSO      WRL      'BLANK'  WRL      WRL      DSNESPRR PMO2DE21         AD7F3A23F5F9 05CDA8C8 1.6         2-38
SQL ACTIVITY TRACE COMPLETE
```

Field description

Here is a description of the field labels shown in the trace summary index:

TRACE START
The start time of the trace of the thread.

OMEGAMON for Db2 PE identifiers
The identifiers define the order of the SQL Activity data printed. If you specify no OMEGAMON for Db2 PE identifiers with ORDER, the default order of PRIMAUTH and PLANNAME is used.

SERVER
Reported in the same column as REQUESTER. All server locations involved are listed in alphabetical sequence below the requester location.

TRACE NO
The number of the thread, in the format *x.yyyyy*, where *x* is the number of the TRACE subcommand and *yyyyy* is the number of the thread reported as a result of that TRACE subcommand.

STARTS PAGE NO
The number of the page on which the beginning of the thread is reported. It is shown in the format *x-yyyyy*, where *x* is the location number and *yyyyy* is the page number within the location.

Note: If more than one summary level is selected, STARTS PAGE NO relates to the first summary printed for that thread.

SQL Activity Report and Trace Blocks

Here you find the blocks reported by SQL Activity report and trace.

Note: In query CP and sysplex query parallelism, the TCB time in the reports and traces only reflects the TCB time of the originating record. For the TCB time of the parallel records, refer to the query parallelism workload detail block described in "Query Parallelism" on page 1064.

SQL Detail Section

This section shows the report and trace detail portions for each SQL statement type.

Field descriptions are shown in "Field Descriptions of SQL Activity Detail Report and Trace Details" on page 1043.

DDF information is included in all SQL Activity summaries, when present.

When an SQL statement type is not recognized, other is printed.

The report and details blocks are divided into columns. The column labels vary for report and trace and for the summarization used. The following column labels are used:

NL
Nesting level of stored procedures, triggers and user-defined functions. This is valid for trace only. Values are summarized by occurrence.

EVENT
The event being reported or traced, such as the cursor name in a summary by cursor or the program name in a summary by program.

COUNT
The number of occurrences of this event.

TIMESTAMP
The timestamp of the event begin.

TOT.ELAPS
The total elapsed time of the event, that is the elapsed time for all statements within the event.

AET/EVENT
The average elapsed time of the event.

TOTAL TCB
The total TCB time of the event, that is the TCB time for all statements within the event.

TCB/EVENT
The average TCB time of the event.

ELAP.TIME
The elapsed time of the event.

TCB TIME
The TCB time of the event.

Report and Trace Details

This section described the report and trace details for SQL activities.

SQL Activity Trace Package Detail

The first line of PACKAGE details shows the fully-qualified package name, if applicable. It consists of:

- The location name of the DB2 subsystem where the package was bound
- The name of the package collection
- The name of the program
- The consistency token generated by the DB2 precompiler, if present
- The version ID of the package, if present

To avoid duplication, the package name is not embedded in the detail when the events are sorted in default sequence. It is printed once at the head of its work.

For details of other fields shown for package, see "Field Descriptions of SQL Activity Detail Report and Trace Details" on page 1043.

Here is an example of an SQL Activity Trace Package Detail.

```
NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
-------------------- ----------- ----------- --------- ---------------------------------------------------------------------------------

     ....
     ....
     ....

PACKAGE                                                STLEC1.DSNTEP3.DSNTEP3.X'167241E51B69975C'
                                                       ACQUIRE(USE)       REOPT(N)  RELEASE(COMMIT)      ISO(CS)  DYNAMICRULES(RUN)
                                                       PREPARE(NODEFER)   KEEPDYNAMIC(NO)     PROTOCOL(DRDA)      OPTHINT(N/P)
                                                       IMMEDWRITE(NO)
```

SQL Activity Trace Statement Detail

For field information, see "Field Descriptions of SQL Activity Detail Report and Trace Details" on page 1043.

Here is an example of an **SQL Activity Trace Statement Detail for CLOSE**.

```
NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
-------------------- ----------- ----------- --------- ---------------------------------------------------------------------------------

CLOSE                15:45:32.71    0.000026  0.000026 STMT#        405 CURSOR: C1                         SQLST:00000 SQLCO:     0
                                                       CLOSE TYPE(IMPLICIT)
                                                       STMT ID :         1234567890123456789  STMT TYPE           : STATIC
                                                                                             SORTS               :               0
                                                       GET PAGES       :                   0  PARALLEL GRP CREATES:               0
                                                       SYNC BUFF READS :                   0  BUFFER WRITES       :               0
                                                       INDEX SCANS     :                   0  TABLESPACE SCANS    :               0
                                                       ROWS EXAMINED   :                   0  ROWS PROCESSED      :               0
                                                       RID-LIMIT EXC.  :                   0  RID-NO STORAGE      :               0
                                                       IN-DB2 ELAPSED  :            0.000050  IN-DB2 CPU          :        0.000032
                                                       GLOBAL LOCK     :            0.000000  DRAIN LOCK          :        0.000000
                                                       LOCKS           :            0.000000  LATCH               :        0.000000
                                                       PAGE LATCH      :            0.000000  CLAIM COUNT         :        0.000000
                                                       SYNCHRON. I/O   :            0.000000  UNIT SWITCH         :        0.000000
                                                       READ-OTH. THREAD:            0.000000  WRITE-OTH. THREAD   :        0.000000
                                                       LOG WRITER      :            0.000000
                                                       CHILD L LOCK    :            0.000000  OTHER L LOCK        :        0.000000
                                                       PAGESET L LOCK  :            0.000000  PAGE P LOCK         :        0.000000
                                                       OTHER P LOCK    :            0.000000  PIPE                :        0.000000
                                                       PARENT CHILD SYN:            0.000000
```

SQL Activity Trace Trigger Detail

For field information, see "Field Descriptions of SQL Activity Detail Report and Trace Details" on page 1043.

Here is an example for an SQL Activity Trace Trigger Detail.

```
NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
------------------- ----------- ---------- -------- ----------------------------------------------------------------------------------

     ....
     ....
     ....


 1  TRIGGER          17:16:27.46    0.180439  0.001409 STMT#  1216 TRIGGER  : SBTRIGR               SQLSTATE: N/P   SQLCODE:     0
                                                      COLLID : DSNTEP3               PROGRAM : DSNTEP3    SCHEMA : M80119
                                                      EXT_NAM: SBTRIGR                                  ACT_TIME : AFTER
                                                      GRAN   : STMT   STMT : INSERT    EVAL    : TRUE
```

SQL Activity Trace Stored Procedure Detail and UDF Detail

For field information, see “Field Descriptions of SQL Activity Detail Report and Trace Details” on page 1043.

Here is an example of an **SQL Activity Trace Stored Procedure Detail.**

```
NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
------------------- ----------- ---------- -------- ----------------------------------------------------------------------------------

     ....
     ....
     ....


1  CALL             09:00:00.00 25:00.00000 25:00.000 STMT#    64 PROCEDURE: MANFREDS STOPROC01      SQLSTATE: N/P   SQLCODE:     0
                                                      SCHEDULE TIME: N/P          SCHEDULE TCB: N/P        SCHEMA : MANF__01
```

Here is an example of an **SQL Activity Trace UDF Detail.**

```
NL     EVENT          TIMESTAMP   ELAP.TIME  TCB  TIME                                    DETAIL
------------------- ----------- ---------- -------- ----------------------------------------------------------------------------------

     ....
     ....
     ....


 2  INVOKE           21:20:16.61    0.003687          STMT#     0 FUNCTION : UDFSBST2                SQLSTATE: N/P   SQLCODE:     0
                                                      SCHEDULE TIME: N/P          SCHEDULE TCB: N/P        SCHEMA : USRT001
                                                      PACKAGE: STLEC1.USRT001.        .X'0000000000000000'
```

Field Descriptions of SQL Activity Detail Report and Trace Details

The following list shows the fields displayed in the SQL Activity detail report and trace details, in alphabetical order.

ACQUIRE
The acquire level of the package showing USE or ALLOCATE.

AET/OCCUR
The average elapsed time for each occurrence.

ACT_TIME
Trigger activation time.

- BEFORE
- AFTER

BUFFER WRITES
The number of buffer writes.

CHILD L LOCK
The accumulated wait time for global child L-locks.

CLAIM COUNT
The accumulated wait time for claim count.

CLOSE TYPE
The Close statement type. Possible values are:

- IMPLICIT
- EXPLICIT
- N/A

Otherwise the values are shown in hexadecimal.

COLLID
Collection identifier.

COMMITS
The total number of the following statements for the requester:

- Rollback
- Commit phase 2
- Sync

The total number of the following statements for the server:

- Commit request received
- Backout request received

COUNT
The number of occurrences as derived from the statement type.

CURSOR
The name of the cursor, if applicable.

CURSOR_NAME
Allocate cursor name.

DBRM
The name of the program, if applicable.

To avoid duplication, the DBRM name is not embedded in the detail when the events are sorted in default sequence. It is printed once at the head of its work.

DRAIN LOCK
The accumulated wait time for drain lock.

DYNAMICRULES
The value of the DYNAMICRULES option on the BIND/REBIND command:

RUN
run time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

BIND
Bind-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

N/P
DYNAMICRULES was not specified.

ELAP.TIME
Duration of trigger activity.

EVAL
Triggered action condition. Possible values are:

- TRUE
- FALSE
- NONE

EXT_NAM
External trigger name.

FUNCTION
Function name.

GET PAGES
The number of Getpages.

GLOBAL LOCK
The accumulated wait time for global locks.

GRAN
Trigger granularity. Possible values are:

- ROW
- STMT

IMMEDWRITE
Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data sharing environment.

Group buffer pool dependent pages can be written to DASD or SYSTEM pagesets.

Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abort for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback and are written out at the end of the abort.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect performance due to coupling facility overhead.

IMPLICIT COMMIT
The cursor attribute implicit commit, which closed the cursor. It can be YES or NO.

IN-DB2 CPU
The accumulated In-DB2 CPU time. This time includes CPU time that was consumed on an IBM specialty engine.

IN-DB2 ELAPSED
The accumulated In-DB2 elapsed time.

INDEX SCANS
The number of index scans.

ISOLATION or ISO
The isolation level of the statement:

CS
Cursor stability

RS
Read stability

RR
Repeatable read

UR
Uncommitted read

KEEPDYNAMIC
Indicates whether DB2 keeps (KEEPDYNAMIC(YES)) or discards (KEEPDYNAMIC(NO)) prepared SQL statements at commit points.

KEEP UPDATE LOCKS; KEEP UPD. LOCKS
Indicates whether X locks are used. X locks can only be used for SQL OPEN CURSOR statements and an isolation level of RS and RR.

LATCH
The accumulated wait for latch.

LOCAL
The number of statements that were distributed without going through VTAM.

LOCKS
The accumulated wait for locks.

 # LOCATORS
The number of locators.

 # LOCATOR_VAL
The number of locators.

LOG WRITER
The accumulated wait time for log writer.

NAME
The object name, without qualifier, in the DDL statement.

NEW DEGREE
The requested degree of parallelism regardless of whether the request is successful.

NEW SQLID
The requested SQL ID regardless of whether the request is successful.

OPTHINT
Value of optimization hints, if used.

OTHER L LOCK
The accumulated wait time for global other L-locks.

OTHER P LOCK
The accumulated wait time for global other P-locks.

PACKAGE
Package name (UDF only).

PAGE LATCH
The accumulated wait time for page latch.

PAGE P LOCK
The accumulated wait time for global page P-locks.

PAGESET L LOCK
The accumulated wait time for global Pageset or Partition L-locks.

PARALLEL GRP CREATES
The number of parallel groups creates.

PARENT CHILD SYN
The accumulated time waiting for parallel queries to synchronize between parent and child tasks.

PIPE
The accumulated wait time for pipe.

PREPARE
Indicates whether the preparation of dynamic SQL statements was deferred:

DEFER
The preparation of the dynamic SQL statements that refer to remote objects was deferred until run time.

NODEFER
The dynamic SQL statements were prepared at bind time.

PREVIOUS DEGREE
The previous or current degree of parallelism.

If the statement executed successfully, this is the previous degree of parallelism. If it executed unsuccessfully, this is the current degree of parallelism.

PREVIOUS SQLID
The previous or current SQL ID.

If the request to change the SQL ID is successful, this is the user's previous SQL ID. If it is unsuccessful, this is the user's current SQL ID.

PROCEDURE
The unqualified stored procedure name.

PROC_LOC
Location of stored procedure.

PROC_NAME
Name of stored procedure.

PROC_QUALIF
Qualifier of stored procedure.

PROGRAM
Program or package name.

PROTOCOL
DB protocol:

DRDA
Convert three-part names to DRDA

PRIVATE
Three-part names use private protocol

NOT_SPEC
DB protocol was not specified.

READ-OTH. THREAD
The accumulated wait time for read activity by another thread.

RELEASE
The release level of the package, showing the option COMMIT or DEALLOCATE, if available.

REMOTE
The number of statements that went through VTAM.

REOPTIMIZED or REOPT
Indicates whether the access path of the SQL statement was reoptimized:

YES or Y
The access path was reoptimized at run time.

NO or N
The access path was only optimized at bind time.

RID-LIMIT EXC.
The number of times RID list was not used because the number of RIDs would have exceeded DB2 limits.

RID-NO STORAGE
The number of time a RID list was not used because there is not enough storage available to hold the list of RIDs.

ROWS EXAMINED
The number of rows examined.

ROWS PROCESSED
The number of rows processed.

SCHEDULE TCB
The TCB time for scheduling the stored procedure.

SCHEDULE TIME
The elapsed time for scheduling the stored procedure. This field also includes the time for processing application logic, if any, up to the first SQL statement within the stored procedure.

SCHEMA
Schema name.

SCROLL
Identifies the cursor scrollability. It can be one of the following:

- Scroll
- None-scroll

SECT#
The section number of the Relational Data system Input parameter list (RDI).

SENSITIVE
The cursor sensitivity. It can be one of the following:

- Sensitive
- Insensitive
- Unspecified

SERVER
The server location in a distributed transaction. If there are multiple server locations, an asterisk (*) is printed.

SORTS
The number of sorts.

SQLCODE or SQLCO
The return code from the SQL event. Obtained from the DB2 SQLCODE which remaps the DB2 field.

SQLSTATE or SQLST
The SQL state.

STATUS
The status of the statement:

- SUCCESSFUL
- FAILED
- SYSADM — Although authorization validation failed, the statement is successful because the user had SYSADM authority.

STMT
Triggering SQL statement.

- UPDATE
- INSERT
- DELETE

STMT#
The number of the statement executed.

Note: For implicit connects, the statement number shown is the number of the SQL statement that caused the connect.

STMT ID
The statement identifier.

STMT TYPE
The statement type.

Note: In a summary by statement number, you find the statement number instead of the statement type.

SYNC BUFF READS
The number of synchronous buffer reads.

SYNCHRON. I/O
The accumulated wait for synchronous I/O.

TABLE
The cursor result table type. It can be one of the following:

- Static
- Dynamic
- Unspecified

TABLESPACE SCANS
The number of tablespace scans.

TCB/OCCUR
The average TCB time for each occurrence. It is the TCB time spent at the location being traced or reported on this line. For requester locations, it shows only the small amount of processing done at the requester.

TCB TIME
Duration of trigger activity.

TEXT
The text of the SQL statement, if present.

Note:

1. The text is only printed in a summary by occurrence if it is a dynamic SQL.
2. Text exceeding 5000 characters is truncated.
3. Host variables are presented as :H.

TIMESTAMP
Trigger timestamp.

TRIGGER
Trigger name.

TYPE
The type of object in the DDL statement.

UNIT SWITCH
The accumulated wait time for synchronous execution unit switches.

WRITE-OTH. THREAD
The accumulated wait time for write activity by another thread.

Workload Detail

Workload detail is available on all summary levels. The workload figures are applied to the event being summarized.

Any workload performed during thread creation is shown on the first SQL statement occurrence encountered in a thread.

Accounting

The layout of the accounting section is identical to the accounting long report or trace, depending on whether an SQL Activity report or trace has been requested.

For explanations of the blocks and fields shown the accounting section, see “Accounting Report and Trace Blocks” on page 101.

Data Capture Activity

This block shows the average data capture activity performed by the event.

Data Capture Workload Block Example

Here is an example of the data capture workload block.

```
--- DATA CAPTURE ------------------------------------------------------------
DESCRIBES     :      3.14  MAX READ TIME:  1.928397  DATA DESC RETURNED:     3.77
AET/DESCRIBE  :  0.028367  RECS RETURNED:     24.86  TABLES RETURNED   :     0.00
LOG READS     :      5.20  RECS CAPTURED:     29.15
AET/EXTRACTION:  1.044382  ROWS RETURNED:    132.50
```

Field description

Here is a description of the field labels shown in the data capture workload block:

DESCRIBES
The average number of data capture describes.

AET/DESCRIBE
The average elapsed time of data capture describes.

LOG READS
The average number of log reads performed.

AET/EXTRACTION
The average elapsed time of log extraction.

MAX READ TIME
The longest elapsed time of a log read.

RECS RETURNED
The average number of log records returned.

RECS CAPTURED
The average number of records that were captured for this update. To perform all data capture updates, all captured log records need to be returned.

ROWS RETURNED
The average number of data rows returned.

DATA DESC RETURNED
The average number of data capture data descriptions returned.

TABLES RETURNED
The average number of data capture tables returned.

Exit Activity

This block shows the exits performed by the event.

Exits Workload Block Example

Here is an example of an exits workload block.

```
--- EXITS -------------------------------------------------------------------
MEMBER     VALIDATION  TOTAL   AET/EXIT   EDIT TOTAL  AET/EXIT
SE11                      1   N/C                 0  0.000060
```

Field description

Here is a description of the field labels shown in the exits workload block:

MEMBER
The name of the DB2 member within the DB2 data sharing group.

VALIDATION TOTAL
The number of results of a validation exit call written for every validation row.

VALIDATION AET/EXIT
The summarized elapsed validation time divided by the value in VALIDATION TOTAL.

EDIT TOTAL
The summary of results of an edit exit call to encode a record written for every row edited and the results of an edit exit call to decode a record written for every row decoded.

EDIT AET/EXIT
The summarized elapsed edit time divided by the value in EDIT TOTAL.

Function Resolution Activity

This section shows the layout of a function resolutions block and its field descriptions.

SQL Activity Function Resolutions Workload Block

The following figure shows the layout of the function resolutions block.

```
--- FUNCTION RESOLUTION(S) ------------------------------------------------------------------------------------------
QUERYNO  : 1383       PLANNAME : DSNTEP61  COLLECTION_ID : DSNTEP61
APPLNAME : xxxxxxxx   PROGNAME : xxxxxxxx  CONSIS_TOKEN  : xxxxxxxxxxxxxxx
BIND_TIME: 01/30/10 03:28:55.21  VERSION : xxxxxxxx10xxxxxxx20xxxxxxx30xxxxxxx40xxxxxxx50xxxxxxxxxxx64
CURRENT_PATH : ........10........20........30........40........50........60........70........80........90.......100
               .......110.......120.......130.......140.......150.......160.......170.......180.......190.......200
               .......210.......220.......230.......240...........254
................................................................................................................
FUNCT_SCHEMA : xxxxxxx  FUNCT_NAME : xxxxxxxxxxxxxxxxx  SPECIFIC_NAME : xxxxxxxxxxxxxxxxx  FUNCT_TYPE : xxxxx
VIEW_CREATOR : NAME-111  VIEW_NAME  : xxxxxxxxxxxxxxxxx  QUERY_BLOCKNO : 53
FUNCT_TEXT   : ........10........20........30........40........50........60........70........80........90.......100
               .......110.......120.......130.......140.......150.......160.......170.......180.......190.......200
               .......210.......220.......230.......240...........254
```

Field description

Here is a description of the field labels shown in the function resolutions block:

QUERYNO
The query number.

PLANNAME
The plan name.

COLLECTION_ID
The collection ID.

APPLNAME
The name of the application.

PROGNAME
The program name.

CONSIS_TOKEN
The consistency token.

BIND_TIME
The time stamp of the bind time.

VERSION
The version ID.

CURRENT_PATH
The current path.

FUNCT_SCHEMA
A short SQL identifier, either ordinary or delimited, following the concept of qualified names consistent with the ANSI/ISO SQL92 standard.

FUNCT_NAME
The name of a function without a qualifier.

SPECIFIC_NAME
Identifies the particular function. The specific name must identify a specific function name in the explicitly or implicitly specified schema.

FUNCT_TYPE
The classification of the function:

SCALAR
Scalar UDF

TABLE
Table UDF

VIEW_CREATOR
The name of the view creator if the function is referenced in a view definition.

VIEW_NAME
The name of the view if the function is referenced in a view definition.

QUERY_BLOCKNO
A number that identifies the query block number being explained.

FUNCT_TEXT
Contains the text of the function reference, function name, and parameters. It can be up to 254 characters long.

I/O Activity

This block shows the I/O activity for each object performed by the event.

I/O Activity Workload Block Example

The following example shows the I/O activity workload block.

```
--- I/O ACTIVITY ----------------------------------------------------------------------------------------------------
      DATABASE  PAGESET  - I/O REQUEST -  ------- READ REQUEST  (WITH OR WITHOUT I/O) -------  ------------ WRITE REQUEST ----------
      MEMBER    BP       TOTAL     AET    TOTAL  TYPE   AET/WITH    %WITH PAGE/WITH  %WITHOUT  TOTAL  TYPE  CAST      AET  PAGE/WRIT
      DBPARALL  TSPARALL
      SE12      BP4          3  0.1296        3  SYNCH  0.129597   100.00      1.00      0.00
      WRKSE12   DSN4K01
      SE12      BP0        102  0.0164      102  SYNCH  0.016358   100.00      1.00      0.00
```

Field description

Here is a description of the field labels shown in the I/O activity workload block:

DATABASE
The database name. If the name is not available, the decimal DBID/OBID is printed.

PAGESET
The page set name. If the name is not available, the decimal DBID/OBID is printed.

MEMBER
The name of the DB2 member within the DB2 data sharing group. This field shows N/P in a non-data-sharing environment.

BP
The buffer pool name.

I/O REQUEST TOTAL
The total number of I/O requests.

I/O REQUEST AET
The average elapsed time for each I/O request.

READ REQUEST TOTAL
The number of read I/O requests of a specific type.

READ REQUEST TYPE
The type of read request:

SYNCH
Synchronous read request

SEQPF
Sequential prefetch request

DYNPF
Dynamic prefetch request

LSTPF
List prefetch request

READ REQUEST AET/WITH
The average elapsed time for a read with I/O of a specific type.

READ REQUEST %WITH
The percentage of total read requests with I/O for a particular type.

READ REQUEST PAGE/WITH
The pages read for each read request with I/O of a particular type.

READ REQUEST %WITHOUT
The percentage of total read requests without I/O for a particular type. This can occur because all the pages requested by a prefetch read were already in the buffer pool.

WRITE REQUEST TOTAL
The number of write I/O requests.

WRITE REQUEST TYPE
The type of write request.

WRITE REQUEST CAST
Indicates whether the write operations were initiated due to a coupling facility castout.

WRITE REQUEST AET
The average elapsed time for each write.

WRITE REQUEST PAGE/WRITE
The number of pages written.

Lock Suspension Activity

This block shows the lock suspension activity for each object performed by the event.

Lock Suspension Activity Workload Block Example

The field labels shown in the following sample layout of "'Lock Suspension Activity Workload Block" are described in the following section.

```
--- LOCK SUSPENSION ACTIVITY ------------------------------------------------------------------------------------------
                                          ---------- SUSPEND REASON ---------- NORML  RESUME TIMEO  RESUME DEADL  RESUME
RESOURCE NAME                TYPE       REQUEST  LOCAL LATCH IRLMQ GROUP NOTIF OTHER COUNT     AET COUNT     AET COUNT     AET
MEMBER
DBPARALL            TSPARALL DATAPAGE   NOTIFY       0     0     0    24    24     0    24 0.74382     0     N/C     0     N/C
SE11
DBPARALL            TSPARALL DATAPAGE   LOCK         0     3     0     0     0     0     3 0.04096     0     N/C     0     N/C
SE11
DBPARALL            TSPARALL DATAPAGE   LOCK         0     5     0     0     0     0     5 0.06957     0     N/C     0     N/C
SE12
DBPARALL            TSPARALL DATAPAGE   UNLOCK       0     1     0     2     2     0     3 0.59058     0     N/C     0     N/C
SE21
```

The following list describes the fields in the lock suspension activity workload block:

Field
Description

RESOURCE NAME
The name of the resource on which the suspended request is made. The content of the field depends on the resource type:

- The plan name for SKCT
- The collection and package IDs for SKPT
- The collection ID for COLLECT
- The database name for DATABASE, CDB PLK, DBD PLCK
- The buffer pool ID for ALTERBUF, GBP S/S, P/P PLCK, PAGEPLCK, GBP CAST, P/P CAST
- The anchor point ID for HASH-ANC
- The row ID for ROW
- N/A for MASS, UTILITY, BINDLOCK, ALTERBUF, CATM MIG, CATM CAT, CATM DIR

- The database and page set names for all others

The database and page set names are translations obtained from the IFCIDs 105 and 107. If these records are unavailable, the decimal DBIDs and OBIDs are printed.

MEMBER
The name of the DB2 member within the DB2 data sharing group.

TYPE
The type of the locked resource. Possible values are shown in Table 3 on page 327.

REQUEST
The type of request that has been suspended:

LOCK
IRLM lock request

UNLOCK
IRLM unlock request

CHANGE
IRLM change request

QUERY
IRLM query request

NOTIFY
IRLM notify request

DRAIN
Drain request

LATCH
Latch request

SUSPEND REASON LOCAL
The number of suspensions due to local resource contentions.

SUSPEND REASON LATCH
The number of suspensions due to IRLM latch contentions.

SUSPEND REASON IRLMQ
The number of suspensions due to IRLM queued requests.

SUSPEND REASON GROUP
The number of suspensions due to global contention.

SUSPEND REASON NOTIFY
The number of suspensions due to intersystem message sending.

SUSPEND REASON OTHER
The number of suspensions due to reasons other than those listed previously.

Note: For drain suspensions, the suspension reason is always “waiting for the claim count to reach zero” and is categorized as OTHER.

NORML RESUME COUNT
The number of suspensions that ended in the task, resuming normal processing after the lock request has completed.

NORML RESUME AET
The normal resume average elapsed time. This is the normal resume elapsed time divided by the NORML RESUME COUNT.

TIMEO RESUME COUNT
The number of suspensions that ended in a timeout.

TIMEO RESUME AET
The average elapsed timeout time. This is the elapsed timeout time divided by the TIMEO RESUME COUNT.

DEADL RESUME COUNT
The number of suspensions that ended in a deadlock.

Note: Drain suspensions do not end in a deadlock.

DEADL RESUME AET
The average elapsed deadlock time. This is the elapsed deadlock time divided by the DEADL RESUME COUNT.

Minibind Activity

The minibind activity block shows information about mini plans, which are generated by the optimizer at bind and SQL prepare time. This block is written once for each IFCID 022 encountered. The block consists of a header followed by one or more repeating sections.

One mini plan is generated for each table and for each subselect block in the query. This means that if your query uses subqueries, more than one mini plan record is written.

Note:

1. This block is shown for SQL Activity trace only.
2. When interpreting this record, relate table and mini plans by table name.
3. The order of the mini plans might not be the same as the order of the table as written in the SQL statement.
4. When you are not sure about the accessing order of the tables, use EXPLAIN to get the query block number and plan number.
5. This block also shows whether sequential prefetch is used.

If the IFCIDs 105 and 107 are present before IFCID 022, the DBID and OBID can be translated.

Explanation of short and long fields

To improve the evaluation of SQL activities, DB2 supports both, short and long fields. If the field value exceeds the available field length (such as long values in the header information), the string is truncated, depending on the space available. Truncated values are then listed at the end of each logical report unit, together with their full values.

A "greater than" sign (>) indicates whether a value is truncated. When a value is truncated, the "greater than" sign (>) is printed instead of a colon (:) following the label name. The full value starts with a "greater than" sign followed by the label. For example:

```
Tname    > This value is truncated
   ...
   ...
>Tname   : This value was truncated - now you see its full length
   ...
```

If truncated values are listed, the "greater than" sign (>) is shown at the end of each value, because there is no colon (:) as a delimiter between the label and the value. In lists the label is used as a column heading.

Note: The mapping between truncated and full values remains the same for multiple reports from the same input data. This mapping is not supported for multiple reports from different input data. The printing of abbreviations and full text can cause inaccurate results in Batch SQL Activity output.

Here are examples of SQL Activity layouts with truncated values:

- SQL Activity - Minibind:

```
ACCESS_CREATOR   ACCESS_NAME          MATCHCOLS   INDEXONLY   PREFETCH_INDEX        OPERATION
MIXOPSEQ
TDK_LONG>        IX_OMPE_FIRST_LONG>  0           YES         SEQUENTIAL            SCAN            1
...
>ACCESS_CREATOR : TDK_LONG_NAMED_COLLECTION_FOR_LONG_NAMED_OBJECTS
>ACCESS_NAME    : IX_OMPE_FIRST_LONG_NAMED_TABLE_FOR_UNCOMMITED_READ
```

- SQL Activity trace, where WSNAME and TRANSACT, and the OMEGAMON for Db2 PE identifiers, PRIMAUTH and ORIGAUTH, are truncated.

```
LOCATION: OMPDBZ4                           OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)             PAGE: 1-1
       GROUP: DBZ4                                   SQL ACTIVITY - TRACE                         REQUESTED FROM: NOT SPECIFIED
      MEMBER: SZ42                                                                                            TO: NOT SPECIFIED
   SUBSYSTEM: SZ42                                                                                   ACTUAL FROM: 12/17/15 08:54:37.74
 DB2 VERSION: V10
                                             SUMMARIZED BY OCCURRENCE, WITH ALL WORKLOAD

                               PRIMAUTH> cccccccc          CONNECT : BATCH              CORRNAME: YCLO6287  CONNTYPE: TSO
                               ORIGAUTH> cccccccc          PLANNAME: DSNTIA10           CORRNMBR: 'BLANK'   THRDTYPE: ALLIED
                               ENDUSER > cccccccc          WSNAME  > dddddddd           TRANSACT> eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
 >PRIMAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ORIGAUTH: ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >ENDUSER : ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
            ccccccc
 >WSNAME  : dddddddddddddddddddddddddddddddddddddddddddddddddddddddddd
 >TRANSACT: eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
            eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
```

Minibind Workload Block Example

Here is an example of the minibind workload block.

```
--- MINIBIND -----------------------------------------------------------------------------------------------------------------
QUERYNO  : 0         PLANNAME      : ADB                COST          : 21        PARALLELISM_DISABLED : N/A
QBLOCKNO : 5         COLLID        > DSNDYNAMICSQLCACHE  PROGNAME      > ADBMAINI  CONSISTENCY_TOKEN    : 137622280000042C
APPLNAME : N/P       WHEN_OPTIMIZE : DEFAULT            OPT_HINT_IDENT: N/P       OPTIMIZE_HINTS_USED  : NO
UNITS    : 0         MILLI_SEC     : 0                  COST_CATEGORY : N/P       PARENT_Q_BLOCKNO     : 1
BIND_TIME: 01/30/15 14:33:29.35      VERSION : N/P
MEMBER   : N/P       STATEMENT_TYPE: CORSUB             TIMESTAMP     : 2003/05/13 14:33:29.35
>COLLID  : DSNDYNAMICSQLCACHECONTENTS
>PROGNAME: ADBMAININITIALIZATION
..............................................................................................................................
PLANNO          : 1                   METHOD    : FIRST TABLE ACCESSED  SORTN_UNIQ      : NO     SORTC_UNIQ     : NO
DATABASE        : DSNDB06             NEXTSTEP  : NESTED-LOOP JOIN      SORTN_JOIN      : NO     SORTC_JOIN     : NO
OBJECT          : 122                 ACCESSTYPE: INDEX SCAN (I)        SORTN_ORDBYLIST : NO     SORTC_ORDERBY  : NO
CREATOR         > PAUL_SMI            PAGE_RANGE      : NO              SORTN_GRPBYLIST : NO     SORTC_GROUPBY  : NO
TNAME           > CUSTOMER_AND_PRODU  JOIN_TYPE       : NO              SORTN_PGROUP_ID : 0      SORTC_PGROUP_ID: 0
CORRELATION_NAME> PETER_FA17350BBE63  MERGE_JOIN_COLS : 0               ACCESS_DEGREE   : 0      JOIN_DEGREE    : 0
TSLOCKMODE      : IS                  PARALLELISM_MODE: NO              ACCESS_PGROUP_ID: 0      JOIN_PGROUP_ID : 0
COLUMN_FN_EVAL  : N/A                 INDEX_NUMBER    : 1               PREFETCH        : NO     DIRECT_ROW_ACC : NO
PAGES_FOR_TABLE : 4295M               TAB_CARDINALITY : 10000           STARJOIN        : NO
TABLE_TYPE      : TABLE (T)
>CREATOR        : PAUL_SMITH_LONDON_FINANCE_APPLICATION_DVT_MARYLEBONE_HIGH_STREET
>TNAME          : CUSTOMER_AND_PRODUCT_MASTER_TABLE
>CORRELATION_NAM: PETER_FA17350BBE63597AA194FD11847636593984AEF7463972773384635EA635FCC5348390AA8745FBFAE73652894BF6543A96
                : 2EC1025863FE8A
..............................................................................................................................
   ACCESS_CREATOR   ACCESS_NAME >         MATCHCOLS   INDEXONLY   PREFETCH_INDEX        OPERATION      MIXOPSEQ
   SYSADM           KNKPXPUXS#SKNKPXPS   1           YES         NO                    SCAN           1
   >ACCESS_NAME   : KNKPXPUXS#SKNKPXPS$PKSK
..............................................................................................................................
PLANNO          : 2                   METHOD    : NESTED-LOOP JOIN      SORTN_UNIQ      : NO     SORTC_UNIQ     : NO
DATABASE        : DSNDB06             NEXTSTEP  : NOT APPLICABLE        SORTN_JOIN      : NO     SORTC_JOIN     : NO
OBJECT          : 128                 ACCESSTYPE: INDEX SCAN (I)        SORTN_ORDBYLIST : NO     SORTC_ORDERBY  : NO
CREATOR         > PAUL_SMI            PAGE_RANGE      : NO              SORTN_GRPBYLIST : NO     SORTC_GROUPBY  : NO
TNAME           > PRODUCT_PART_NUMBE  JOIN_TYPE       : INNER           SORTN_PGROUP_ID : 0      SORTC_PGROUP_ID: 0
CORRELATION_NAME> PETER_AE17350930FE  MERGE_JOIN_COLS : 0               ACCESS_DEGREE   : 0      JOIN_DEGREE    : 0
TSLOCKMODE      : IS                  PARALLELISM_MODE: NO              ACCESS_PGROUP_ID: 0      JOIN_PGROUP_ID : 0
COLUMN_FN_EVAL  : N/A                 INDEX_NUMBER    : 2               PREFETCH        : NO     DIRECT_ROW_ACC : NO
PAGES_FOR_TABLE : 4295M               TAB_CARDINALITY : 10000           STARJOIN        : NO
TABLE_TYPE      : TABLE (T)
>CREATOR        : PAUL_SMITH_LONDON_FINANCE_APPLICATION_DVT_MARYLEBONE_HIGH_STREET
>TNAME          : PRODUCT_PART_NUMBERS_FOR_NON_EEC_DESTINATIONS
>CORRELATION_NAM: PETER_AE17350930FE83274376359AA7436FB74376CE71009470F0E0848921763FFE737CEA26184F7365DAE8BB7653EF77FEAC73
                : 6259837E6354
..............................................................................................................................
   ACCESS_CREATOR   ACCESS_NAME >         MATCHCOLS   INDEXONLY   PREFETCH_INDEX        OPERATION      MIXOPSEQ
   SYSADM           PXPUXS#SKNKNKGREKPX   1           YES         NO                    SCAN           1
   >ACCESS_NAME   : PXPUXS#SKNKNKGREKPXPSPUAHTROU6GXS#
```

Field description

Here is a description of the field labels shown in the minibind workload block.

QUERYNO
The number identifying the statement to be prepared.

PLANNAME
The plan name or package ID.

COST
The relative cost of the SQL statement. It might not relate to the actual CPU or elapsed time for the query.

PARALLELISM_DISABLED
Indicates whether query parallelism is disabled by the resource limit facility (RLF) for dynamic queries:

NO
The RLF does not affect this statement.

I/O ONLY
Query I/O parallelism is disabled.

CP ONLY
Query CP parallelism is disabled.

CP + I/O
Query I/O and CP parallelism is disabled.

X
Sysplex query parallelism is disabled.

X + I/O
Sysplex query and query I/O parallelism is disabled.

X + CP
Sysplex query and query CP parallelism is disabled.

YES
The entire query parallelism (I/O, CP, and Sysplex) is disabled.

N/A
Query parallelism does not apply to this statement.

QBLOCKNO
The position of the query in the statement.

COLLID
The collection ID of the package.

PROGNAME
The name of the package containing the statement to be prepared.

CONSISTENCY_TOKEN
The consistency token.

APPLNAME
The name of the application plan.

WHEN_OPTIMIZE
Indicates when the access path of the SQL statement is optimized and determined:

BIND
The access path is determined at bind and run time.

DEFAULT
The access path is determined at bind time.

REOPT
The statement is bound with REOPT. The access path is determined at run time.

RUN
The access path is determined at run time.

OPT_HINT_IDENT
Access path hint value.

OPTIMIZE_HINTS_USED
Indicates whether the query used access path hints.

UNITS
Cost in CPU units.

MILLI_SEC
Cost in milliseconds.

COST_CATEGORY
Cost category.

BIND_TIME
The date and time at which the plan or package to which the SQL statement belongs was bound.

VERSION
The version ID of the package (64 characters).

PLANNO
The number of the step in which the query is processed.

METHOD
The join method used for the step.

SORTN_UNIQ
Indicates whether the new table is sorted to remove duplicate rows.

SORTC_UNIQ
Indicates whether the composite table is sorted to remove duplicate rows.

DATABASE
The database ID.

NEXTSTEP
The next step in a join.

NOT APPLICABLE is printed if this is the last step of a join, or if this is not a join.

SORTN_JOIN
Indicates whether the new table is sorted for a merge scan join or hybrid join. For a hybrid join, this is a sort of the RID list.

SORTC_JOIN
Indicates whether the composite table is sorted for a nested loop join, merge scan join, or hybrid join.

OBJECT
The internal ID of the table space.

ACCESSTYPE
The method of accessing the new table. N/P is printed if there is no access type.

SORTN_ORDERBY
Indicates whether the new table is sorted for ORDER BY.

SORTC_ORDERBY
Indicates whether the composite table is sorted for ORDER BY.

CREATOR
The creator of the new table accessed in this step.

PAGE_RANGE
Indicates whether the table qualifies for page range screening so that plans scan only the partitions that are needed.

SORTN_GROUPBY
Indicates whether the new table is sorted for GROUP BY.

SORTC_GROUPBY
Indicates whether the composite table is sorted for GROUP BY.

TNAME
The name of the table accessed in this step, without qualifier. This field is blank if a view is used instead of a real table.

JOIN_TYPE
The type of join enabled:

LEFT
Left outer join

FULL
Full outer join

INNER
Inner join

STAR
Star join

N/A
Not applicable is shown if DB2 never produces a counter value in a specific context.

SORTN_PGROUP_ID
The parallel group ID for the parallel sort of the new table.

A parallel group is the collective term for consecutive operations (in this case a sort) executed in parallel that have the same number of parallel tasks.

SORTC_PGROUP_ID
The parallel group ID for the parallel sort of the composite table.

CORRELATION_NAME
The correlation name of a table or view that is specified in the statement. If no correlation name is specified, the field is blank.

MERGE_JOIN_COLS
The number of columns that are joined during a merge scan join.

ACCESS_DEGREE
The number of parallel tasks or operations activated by a query.

JOIN_DEGREE
The number of parallel tasks or operations used in joining the composite table with the new table.

TSLOCKMODE
Indicates the lock mode to be acquired on the new table or its table space.

If the isolation can be determined at bind time, possible values are:

IS
Intent share lock

IX
Intent exclusive lock

S
Share lock

U
Update lock

X
Exclusive lock

SIX
Share with intent exclusive lock

N
UR isolation, no lock

If the isolation cannot be determined at bind time, the lock mode determined by the isolation at run time is shown by the following values:

NS
For UR isolation: no lock. For CS or RR isolation: an S lock.

NIS
For UR isolation: no lock. For CS or RR isolation: an IS lock.

NSS
For UR isolation: no lock. For CS isolation: an IS lock. For RR isolation: an S lock.

SS
For UR or CS isolation: no lock. For RR isolation: an S lock.

PARALLELISM_MODE
The kind of parallelism used at bind time:

I/O
Query I/O parallelism

CP
Query CP parallelism

X
Sysplex query parallelism

NO
No parallelism was used.

ACCESS_PGROUP_ID
The ID of the parallel group for accessing the new table.

JOIN_PGROUP_ID
The ID of the parallel group for joining the composite table with the new table.

ACCESS_NAME
The index name. This field applies only to index scans. N/A is printed for table space scans or when no index is used.

ACCESS_CREATOR
The index creator.

STATEMENT_CACHE
Statement cache flag. Possible values are:

YES
The prepared statement is retrieved from the prepared statement cache.

NO
The prepared statement is not retrieved from the prepared statement cache.

MATCHCOLS
The number of index keys used in an index scan. This field is 0 if either no index is used or an index is used that has no matching columns.

PREFETCH
Indicates what kind of prefetch of the data is used:

SEQ
Sequential prefetch

LIST
List prefetch

No
No prefetch

OPERATION
The type of index access operation.

PREFETCH_INDEX
Indicates whether data pages are to be read in advance by a prefetch.

MIXOPSEQ
The sequence number of a step in a multiple index operation.

INDEXONLY
Indicates whether the access to an index alone is sufficient to carry out the step.

COLUMN_FN_EVAL
Indicates when an SQL column function is evaluated.

PAGES_FOR_TABLE
Pages for table.

TAB_CARDINALITY
Table cardinality.

DIRECT_ROW_ACC
Indicates whether direct row access was used, possible values are:

YES
Direct row access was used

NO
Direct row access was not used

STARJOIN
Indicates whether star join was used, possible values are:

YES
Star join was used

NO
Star join was not used

N/A
Not applicable

Page and Row Locking Activity

This block shows the page locking, row locking, and lock avoidance activity for each object, performed by the event.

The page and row locking activity block is only printed if a commit occurred or a thread terminated.

In summary by occurrence, page and row locking activity information generated for explicit commits is shown on the relevant commit events.

In summaries by cursor or program, any explicit commits occurring during the life of that cursor or program are counted. Page and row locking activity caused by those commits is shown on the relevant cursor or program.

In summaries by statement number or statement type, commits are not counted. Because page and row locking activity is not relevant for these summary levels, it is not printed.

Any page or row locking activity occurring when a thread terminated is shown in the summary by thread. This activity is added to any page or row locking which took place in the body of the thread. Therefore, page and row locking figures in summary by thread can be greater than the sum of page locking figures shown in the body of the thread. The difference is the page and row locking activity occurring at thread termination.

Page and Row Locking Workload Block Example

Here is an example of the page and row locking workload block.

```
--- PAGE & ROW LOCKING ------------------------------------------------------------------------
                                LOCK   MAXIMUM PAGE   # LOCK   HIGHEST   TS      LOCK AVOID
MEMBER     DATABASE   PAGESET    COUNT    SIZE   OR ROW LOCKS    ESCAL      LOCK   TYPE    SUCCESSFUL
SE11       DBPARALL   TSPARALL       1   PAGE              1        0              SPL          YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD        1  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE        0

SE12       DBPARALL   TSPARALL       2   PAGE              5        0              SPL          YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD        5  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE        0

SE21       DBPARALL   TSPARALL       1   PAGE              2        0              SPL          YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD        2  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE        0

TOTAL                              4                             0
```

Note:

1. The DBID and OBID are obtained from IFCID 020.

2. The values in MAX PAGE OR ROW LOCKS HELD, LOCK ESCALATIONS SHARED, and LOCK ESCALATIONS EXCLUSIVE are accumulated within a subsystem. They are reset only at thread deallocation or when a new user signon occurs.
3. The values in MAXIMUM PAGE OR ROW LOCKS, HIGHEST LOCK, and # LOCK ESCAL are reset at commit time for dynamic BINDs and for static BINDs for which release (commit) is specified. Otherwise, these values accumulate until thread deallocation or until a new user signon occurs.
4. IFCID 218 is an additional lock summary record, written for lock avoidance. It indicates whether a successful lock avoidance test occurred during a given unit of work. The record is externalized for the agent at each commit or rollback.
5. For each event, the relevant IFCID 020 and 218 records are processed. If there is a DBID/OBID combination present for IFCID 218 but not for IFCID 020, the IFCID 020 fields show N/P. If there is a DBID/OBID combination present for IFCID 020 but not for IFCID 218, the IFCID 218 field (LOCK AVOID SUCCESSFUL) shows N/P.

Field description

Here is a description of the field labels shown in the page and row locking workload block.

MEMBER
The name of the DB2 member within the DB2 data sharing group.

DATABASE
The database name, if available.

If the name is not available, the decimal DBID is printed instead.

PAGESET
The page set name, if available.

If the name is not available, the decimal OBID is printed instead.

COUNT
The number of page locking or row locking occurrences for each page set.

- Specific database and page set:
  - At commit time: always 1
  - At thread termination: the number of times this database and page set occurred on a commit record
- TOTAL
  - At commit time: the total number of page sets listed
  - At thread termination: the sum of the values for all page sets

LOCK SIZE
The lock size used:

PAGE
Page lock

ROW
Row lock

TABLE
Table space or table lock

LOB
LOB lock

UNKN
Unknown lock

*****
Multiple lock sizes

MAXIMUM PAGE OR ROW LOCKS
The maximum number of either page locks or row locks held at one time against this object.

 # LOCK ESCAL
The number of lock escalations:

- 0 if no escalations occur
- For simple table spaces and partitioned table spaces not using selective partition locking (SPL): 1 if any escalation occurred for this table space in this logical unit of work
- For segmented table spaces: the number of tables within the table space that have experienced lock escalations
- For partitioned table spaces using SPL: the number of partitions for which locks escalated within the table space

The TOTAL contains the sum of all values in this column.

HIGHEST LOCK
The highest table space lock state.

If the table space is simple or partitioned not using SPL, it is the highest lock state for this database or page set. At trace end, it is the largest value from any commit for this object. The following values are possible:

IS
Intent share

IX
Intent exclusive

S
Share

U
Update share

SIX
Share with intent exclusive

X
Exclusive

If the table space is segmented or partitioned using SPL, this field is blank.

TS TYPE
The table space type:

SIMPL
Simple table space

SEG
Segmented table space

PARTI
Partitioned table space

SPL
Partitioned table space using selective partition locking (SPL)

LOB
LOB table space

LOCK AVOID SUCCESSFUL
Indicates whether there was a successful lock avoidance test during the unit of work.

If the state of this field changed during the summarization period, an asterisk (*) is shown.

MAX PAGE OR ROW LOCKS HELD
The maximum number of page locks and row locks held at one time across all objects.

LOCK ESCALATIONS: SHARED
The total of shared lock escalations.

LOCK ESCALATIONS: EXCLUSIVE
The total of exclusive lock escalations.

Query Parallelism

This section introduces the Query Parallelism block.

This block shows query parallelism activity performed by the event.

Note: In query CP and sysplex query parallelism, this is the only place where the TCB time of the parallel records is shown.

Query Parallelism Workload Block Example

Here is an example of a Query Parallelism Workload block.

```
--- QUERY PARALLELISM -------------------------------------------------------------------------
QUERY  PARALLEL  PLANNED  PLANNED  NEGOTIATED           PIPE            TASK            NUMBER OF
BLOCK  GROUP     AT BIND  AT  RUN  AT     RUN    REASON  ELAPSED TIME    CPU TIME   TYPE  MEMBERS
    1         1        3        3          3    NORMAL      0.895716    0.043467    CP           3
```

Field description

An example of a query parallelism workload block is shown in “Query Parallelism Workload Block Example” on page 1064.

The fields in the query parallelism workload block are:

QUERY BLOCK
The query block number.

PARALLEL GROUP
The parallel group number.

PLANNED AT BIND
The degree of parallelism planned at bind time.

This field contains 0 if host variables in the statement caused the parallelism decision to be made at bind time.

PLANNED AT RUN
The degree of parallelism planned at run time.

NEGOTIATED AT RUN
The degree of parallelism negotiated at run time, which depends on buffer pool availability.

If the value in this field is 1, the plan for parallel I/O processing falls back to sequential execution mode.

REASON
The reason for deriving the planned run time degree of parallelism:

NORMAL
The planned run time degree is derived from planned bind-time degree.

HOSTVAR
Host variable partitioning

NOESA
No ESA sort support

CURSOR
Cursor that can be used for update and delete.

EMPTY
Empty parallel group

ENCLUNAV
MVS/ESA enclave services are not available

UNKNOWN
None of the above

PIPE ELAPSED TIME
The time of pipe creation subtracted from the time of pipe termination.

TASK CPU TIME
The sum of the normalized CPU times spent for the parallel tasks. In sysplex query parallelism, the CPU times are normalized by the conversion factor that is derived from IFCID 106 and related to the conversion factor of the originating task.

If IFCID 106 is not present, asterisks are printed.

The task CPU time is calculated as follows:

- Let CV_O be the conversion factor for the member where the originating thread is running.
- Let CV_P be the conversion factor for the member where the parallel thread is running.
- Let TCB_P be the TCB time that is recorded by DB2 for an activity of the parallel thread.
- Then the following formula applies:

  Normalized TCB time for that activity = (TCB_P * (CV_O / CV_P))

TYPE
The type of parallelism:

CP
CP parallelism

I/O
I/O parallelism

SYS
Sysplex query parallelism

NUMBER OF MEMBERS
The number of members on which the query executed.

RID List Processing

This block shows the record ID (RID) list activity performed by the event.

RID List Processing Workload Block Example

Here is an example of the RID list processing workload block.

```
--- RID LIST PROCESSING ---------------------------------------------------------------------------
RIDS IN FINAL LIST:        38  RID LIST USED:     2  UNUSED (LIMIT EXCEEDED):     5   UNUSED (NO STORAGE):     1
DATABASE  PAGESET    THRESHOLD RIDS OBTAINED         RIDS EXCEEDED LIMIT
NHDBASE1  NHINDEX1        4075              36                           3
NHDBASE2  NHINDEX2       36000              87                           2
           AVERAGE    20037.50           61.50                        2.50
```

Field description

Here is a description of the field labels shown in the RID List Processing Workload Block.

RIDS IN FINAL LIST
The number of RIDs in the final list.

RID LIST USED
The number of times RID list was used.

UNUSED (LIMIT EXCEEDED)
The number of RID lists not used because the number of RIDs exceeded the maximum limit.

UNUSED (NO STORAGE)
The number of RID lists not used because no RID storage was available.

DATABASE
The database name for the index.

PAGESET
The internal identifier index fan-set descriptor for the index.

THRESHOLD
The threshold value for the index.

The threshold value for list prefetch and ORing multiple indexes for access is the maximum of 25 percent of the table size (in bytes) or the number of RIDs that one RID block can hold. For ANDing multiple indexes, it is 25 percent of the table size.

The average is the total value of this field divided by the number of indexes (database/page set combinations).

RIDS OBTAINED
The number of RIDs obtained from an index.

The average is the total value of this field divided by the number of indexes (database/page set combinations).

RIDS EXCEEDED LIMIT
The number of RIDs which exceeded the maximum limit.

The average is the total value of this field divided by the number of indexes (database/page set combinations).

Scan Activity

This block shows the total scan activity for each object, performed by the event.

The database name and page set name for each scan are printed if they are available. These do not usually occur in DB2 trace records. The decimal database ID (DBID) and object ID (OBID) occur instead. When possible, OMEGAMON for Db2 PE translates the DBID and OBID into database names and page set names. If the translation does not work, the DBID or OBID decimal number is printed instead.

Scan Activity Workload Block Example

Here is an example of the Scan Activity Workload Block.

```
--- SCAN ACTIVITY ---------------------------------------------------------------------------------------------------------
                            ------ROWS------  --QUALIFIED AT--  ----------ROWS-----------         --PAGES- ---------RI--------
DATABASE  PAGESET   SCANS   PROCESS  EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES          SCANNED     SCANS  DELETES
MEMBER    TYPE              FST INS  N-PIPE   PIPE RE  INS WAIT
DAPSTEST  SAPSCL        1     63792    63792    63792       33        0        0        0             2942         0        0
N/P       SEQD                    0        0        0        0
DAPSTEST  6            33        33        0       33       33        0        0        0               56         0        0
N/P       INDX                    0        0        0        0
DAPSTEST  6            33        33       33        0        0        0        0        0               32         0        0
N/P       SEQD                    0        0        0        0
309       2             2    127584   127584   127584        2        0        0        0             5884         0        0
N/P       SEQD                    0        0        0        0
309       6             2         2        0        2        2        0        0        0                4         0        0
N/P       INDX                    0        0        0        0
309       6             2         2        2        0        0        0        0        0                2         0        0
N/P       SEQD                    0        0        0        0
TOTAL                  73    191446   191411   191411       70        0        0        0             8920         0        0
TOTAL                            0        0        0        0
```

Field description

Here is a description of the field labels shown in the Scan Activity Workload Block.

DATABASE
The database name.

If the name is not available, the decimal DBID is printed.

If IFCID 058 is not present, DBID information is not available and therefore the field is left blank.

MEMBER
The name of the DB2 member within the DB2 data sharing group. This field shows N/P in a non-data-sharing environment.

PAGESET
The page set name.

Note: If the value shown in the TYPE column is INDX, this column shows the index name if provided by DB2.

TYPE
Indicates whether the scan performed by the data manager is an index file (INDX), a sequential data file (SEQD), or a sequential work file (SEQW).

SCANS
The total number of scans performed by the data manager.

ROWS PROCESS
Number of rows of all record types processed by a scan. As an example:

```
SELECT A1 FROM TABLE_A WHERE A1=3
```

Where the table space that contains TABLE_A also contains TABLE_B and TABLE_C. Note that this does not include partitioned table spaces because a partitioned table space can have only one table.

For a simple table space, this is a count of all scanned rows from all three tables.

This field is identical to ROWS EXAMINE when the table space is segmented, or when the scan is an index scan.

FST INS
The number of rows inserted using the fast insert algorithm. This value is usually 1, but it is more than 1 for insert with subselect.

ROWS EXAMINE
The number of rows of a specific record type processed by the scan. If the table space contains more than one table, scanned rows from the specific table only are counted.

For index scans, this value represents the number of index entries processed.

For a table space containing only one table, the value of ROWS EXAMINE is the same as the value of ROWS PROCESS.

N-PIPE
The number of times that fast insert could not be used for the insert operation, so a non-pipe insert algorithm was used instead.

QUALIFIED AT STAGE 1
The total number of rows that were qualified at stage 1.

PIPE RE
The number of times that the fast insert pipe was refilled for the insert operation.

QUALIFIED AT STAGE 2
The total number of rows that were qualified at stage 2. The value in this field cannot be greater than the value in QUALIFIED AT STAGE 1.

INS WAIT
The number of times that the insert operation waited for the fast insert pipe to fill.

ROWS INSERTS
The number of rows inserted by the data manager.

ROWS UPDATES
The number of rows updated by the data manager.

ROWS DELETES
The number of rows deleted by the data manager.

PAGES SCANNED
The number of Getpage requests the data manager issued to the buffer manager. For an index scan, the field shows the number of Getpage requests on index pages.

RI SCANS
The number of additional Getpage requests the data manager issued to the buffer manager to enforce referential constraints.

RI DELETES
The number of additional rows deleted or set to null due to referential integrity.

Sort Activity

This block shows sort activity for each sort performed by the event.

Sort Activity - QW0095/96

This topic shows detailed information about "System Parameters - Sort Activity - QW0095/96".

System Parameters - Sort Activity - QW0095/96

The field labels shown in the following sample layout of "System Parameters - Sort Activity - QW0095/96" are described in the following section.

```
MEMBER           : SAU85C    MAX RETURN CODE   :        0  WORKFILES   :     1.00  RECORDS         :    77.00
TOTAL SORTS      :        1  INITIAL WORKFILES :        1  RECORD SIZE :   832.00  SORT TYPE       : ESA
SORT KEYS        :     2.00  SORT COLUMNS      :    50.00  KEY SIZE    :    10.00  MERGE PASSES    :    27.00
AET/SORT         : 20.28794  DATA SIZE         :   822.00  ROWS DELETED:    72.00
PARTITIONING     :       NO  PARTITION TYPE    :     NONE  W-FILES PART:    85.00  PARTIT & SORTING:       NO
KEY SIZE W/ SORTL:    12.00  DATA SIZE W/ SORTL:    36.00
```

MEMBER

The member name of this Db2.

N/A means this Db2 is not part of a data sharing group.

Install parameter MEMBER NAME on panel DSNTIPK, or ZPARM MEMBNAME in DSN6GRP.

Field Name: QWPAMBRN

MAX RETURN CODE

The sort return code:

0
Successful

4
Empty - sort successful

8
Resource unavailable

12
Sort key too long

16
Error detected by fetch routine during input phase

20
Serious processing error

Field Name: QW0096RC

WORKFILES

The number of work files used for both input and merge phases.

Field Name: QW0096WF

RECORDS

The number of records sorted.

Field Name: QW0096NR

TOTAL SORTS

The total number of sorts that occurred during the reporting period.

Field Name: SQLTOTSO

INITIAL WORKFILES

The number of initial work files. The sorting of records can take more than one work file. The number of work files needed depends on the distribution of sort key values. The maximum number of work files is limited by the buffer pool size.

Field Name: QW0096IR

RECORD SIZE

The sort record size in bytes (the sort key size and the data area size).

Field Name: QW0096WR

SORT TYPE

The type of sort that occurred. The possible values are:

ESA
ORDER BY sort using the ESA sort hardware instructions

ESAG
GROUP BY sort using the ESA sort hardware instructions

ESAT
ESA tag sort using the ESA sort hardware instructions

RCYC
GROUP RECYCLING sort using the ESA sort hardware instructions

REG
Regular sort

NONE
No sort occurred.

Field Name: QW0096TS

SORT KEYS

The number of sort keys.

Field Name: QW0096SK

SORT COLUMNS

The number of sort columns.

Field Name: QW0096SC

KEY SIZE

The sort key size in bytes.

Field Name: QW0096KL

MERGE PASSES

The number of merge passes during sort processing.

Field Name: QW0096MP

AET/SORT

The average elapsed time per sort.

Field Name: SQLAVTSO

DATA SIZE

The sort data area size in bytes.

Field Name: QW0096DL

ROWS DELETED

The number of rows deleted because records were merged for the evaluation of column functions with GROUP BY.

Field Name: QW0096RL

PARTITIONING

Indicates whether the sorted records were partitioned.

Field Name: QW0096PP

PARTITION TYPE

Indicates when partitioning took place:

W
The work file was partitioned at the end of the input phase. No merge occurred.

M
The output was partitioned during the last merge pass.

O
One record was put into one partition.

P
The records were presorted before being partitioned.

N
The work file was not partitioned.

Field Name: QW0096PT

W-FILES PART

The number of work files, equal to the degree of parallelism, that sort has partitioned.

Field Name: QW0096PW

PARTIT & SORTING

Indicates whether the input records were only partitioned or partitioned and sorted:

YES
The records were only partitioned.

NO
The records were partitioned and sorted.

Field Name: QW0096PO

KEY SIZE W/ SORTL

Sort key size with sortl (in bytes).

Field Name: QW0096KZ

DATA SIZE W/ SORTL

Sort data area size with sortl (in bytes).

Field Name: QW0096DZ

Sort Activity - QW0028

This topic shows detailed information about "COMPO - Sort Activity - QW0028".

Sort Activity - QW0028

The field labels shown in the following sample layout of "COMPO - Sort Activity - QW0028" are described in the following section.

```
NO. OF WORKFILES    :       87  TOTAL MULTIPLE DS  :      152  MULTIPLE_DISTINCT SORTS :      277
REQUESTED WORKFILES :      767  ACTUAL WORKFILES   :      613  RECORDS IN WORKFILE     :      221
PARTITION PARALLEL  :     1090  RECORDS LAST MERGE :      612  PARTITIONING ONE RECORD :      571
PRE-SORTED RECORDS  :      134  RECORDS MDS GROUPBY:       22  CURRENT MERGE PASS      :       88
TOTAL MDS GROUPS    :      132  RECORDS MDS GROUPS :       44  MAX REQUESTED           :      767
AVG REQUESTED       :   767.00  MAX NOT ACQUIRED   :      154  AVG NOT ACQUIRED        :   154.00
```

NO. OF WORKFILES

The number of records sorted into work files after the sort input phase.

Field Name: QW0028NR

TOTAL MULTIPLE DS

Total number of multiple distinct sorts.

Field Name: QW0028DS

MULTIPLE_DISTINCT SORTS

The multiple distinct sort currently being processed.

Field Name: QW0028DC

REQUESTED WORKFILES

The number of work files requested from the buffer manager at the beginning of each merge pass (MVS/ESA 3.1.3). It is valid if TYPE equals S .

If this field is greater than WORKFILES ACQ, there is another merge pass. If both fields are equal, this is the last or only merge pass.

Field Name: QW0028WA

ACTUAL WORKFILES

The number of work files actually acquired from the buffer manager at the beginning of each merge pass (MVS/ESA 3.1.3). It is valid if TYPE equals S.

Field Name: QW0028WG

RECORDS IN WORKFILE

The number of records in the work file during work file partitioning.

Field Name: SQ28TYZ

PARTITION PARALLEL

The partition work file number. The value in this field is 0 if partitioning is not requested. If partitioning is requested, the value can be from 1 to *n* , where *n* is the degree of parallelism. It is valid if TYPE equals `Z, W, X, K, M, L, T, O, U, V, P, or Y .`

Field Name: QW0028PW

RECORDS LAST MERGE

The number of sort records in the partition work file during the last merge.

Field Name: SQ28TYQ

PARTITIONING ONE RECORD

The number of times that partitioning occurred when only one record was sorted and put into a partition work file.

Field Name: SQ28TYT

PRE-SORTED RECORDS

The number of times partitioning occurred when presorted records are put into multiple work files.

Field Name: SQ28TYV

RECORDS MDS GROUPS

The number multiple distinct loops containing a number of multiple distinct sorts.

Field Name: SQ28TYB

CURRENT MERGE PASS

The current merge pass. It is issued at the end of the merge pass and, therefore, valid if TYPE equals E .

Field Name: QW0028MP

TOTAL MDS GROUPS

The total number of multiple distinct sort groups.

Field Name: QW0028DG

RECORDS MDS GROUPBY

The number of records read into a group at the start of the GROUPBY phase for a multiple distinct sort.

Field Name: SQ28TYD

MAX REQUESTED

The maximum number of work files requested from buffer manager during merge passes.

Field Name: SQ28MAXR

AVG REQUESTED

The average number of work files requested from buffer manager during merge passes.

Field Name: SQ28AVRQ

MAX NOT ACQUIRED

The maximum number of work files requested but not received from buffer manager during merge passes.

Field Name: SQ28MXNA

AVG NOT ACQUIRED

The average of work files requested but not received from buffer manager during merge passes.

Field Name: SQ28AVNA

Host Variables

This block shows the host variables to represent the values that will be sent to or received from the SQL statement.

Note:

1. The number of shown host variables is limited to 100.
2. A warning message is issued in DPMLOG, if the limit is reached or if SQLDA entries are missing.

Workload Host Variables Example

Here is an example of the workload host variables.

```
--- HOST VARIABLES ---------------------------------------------------------------------------------------------------
LOCATION : SYSDSNI          COLLID : PMDEMO             PROGNAME : DYNSEL08           CONSIS_TOKEN : X'5A427634E644C54'
STMT_NO  : 133        FORMAT : 1 - COMPLETE      NO.SQLDA ENTRIES : 3
.....................................................................................................................
  ENTRY_NO. : 1          NAME :                                  NULL_INDICATOR : NO   SQLTYPE : 452
  DATA_TYPE : FIXED-LENGTH CHARACTER STRING         DATA_LENGTH : 6
  PRECISION : N/A  SCALE : N/A  ADDR_HOST_VAR : X'00064DD0'  ADDR_IND_VAR : X'000650A8'
  DATA      : 000001
  .................................................................................................................
  ENTRY_NO. : 2          NAME :                                  NULL_INDICATOR : NO   SQLTYPE : 452
  DATA_TYPE : FIXED-LENGTH CHARACTER STRING         DATA_LENGTH : 6
  PRECISION : N/A  SCALE : N/A  ADDR_HOST_VAR : X'00064DD8'  ADDR_IND_VAR : X'000650A8'
  DATA      : 000001
  .................................................................................................................
  ENTRY_NO. : 3          NAME :                                  NULL_INDICATOR : NO   SQLTYPE : 452
  DATA_TYPE : FIXED-LENGTH CHARACTER STRING         DATA_LENGTH : 6
  PRECISION : N/A  SCALE : N/A  ADDR_HOST_VAR : X'00064DE0'  ADDR_IND_VAR : X'000650A8'
  DATA      : 000001
  .................................................................................................................
```

Field description

Here is a description of the field labels shown in the workload host variables block.

LOCATION

Location name.

Field Name: QW0247LN

COLLID

Package collection identifier.

Field Name: QW0247PC

PROGNAME

Program name.

Field Name: QW0247PN

CONSIS_TOKEN

Not present (N/P) is shown for this field if the value is X'40' or X'00'; otherwise the hexadecimal value of the field is shown

Field Name: QW0247TS

STMT_NO

Statement number.

Field Name: QW0247SN

FORMAT

The format of the SQLDA. Possible values are:

B'1000'

0 - COMPRESSED
Is a compressed form of the SQLDA.

B'0100'

1 - COMPLETE
Is a complete SQLDA containing the data type, address, and address of the indicator variable for each host variable.

B'0010'

2 - FIXED LENGTH
Is a variable length character format containing the length of the string and text.

? - UNKNOWN

Is shown, if none of the above field names is used.

Field Name: QW0247FE

ENTRY_NO.

SQLDA entry number.

Field Name: QW0247NO

NAME

SQLDA name, if Format 1 SQLDA. The first two bytes are the length of the NAME and are not shown.

Field Name: QW0247NA

NULL_INDICATOR

Null indicator values:

- YES, if X'00'
- NO, if X'FF'

Field Name: QW0247NL

SQLTYPE

SQL type (see *DB2 SQL Reference*).

Field Name: QW0247TY

DATA TYPE

DATA TYPE is derived as described in *DB2 SQL Reference*, based on the SQLTYPE:

384, 385
DATE

388, 389
TIME

392, 393
TIMESTAMP

448, 449
VARYING LENGTH CHARACTER STRING

452, 453
FIXED-LENGTH CHARACTER STRING

456, 457
LONG VARYING CHARACTER STRING

480, 481
FLOATING POINT

484, 485
PACKED DECIMAL

496, 497
LARGE INTEGER

500, 501
SMALL INTEGER

Note:

1. Any other SQLTYPES are shown as: NON DISPLAYABLE DATA
2. Values are shown in DB2 internal format.

Field Name: QW0247TY

PRECISION

If the field is decimal (484 or 485), this is the precision.

Field Name: QW0247LP

SCALE

If the field is decimal (484 or 485), this is the scale.

Field Name: QW0247LS

ADDR_HOST_VAR

The address of the host variable in the application address space.

Field Name: QW0247PT

ADDR_IND_VAR

The address of the indicator variable, if the value in QW0247TY is odd (NULLABLE).

Field Name: QW0247IN

DATA

The host variable data.

Field Name: QW0247DA

Workload Highlight

This block shows the highlights of the workload activity performed by the event. All workload fields available in the SORTBY option are included.

Workload Highlights (HILITE) Block Example

Here is an example of the workload highlight (HILITE) block.

```
--- WORKLOAD HILITE ------------------------------------------------------------------------------------------------
SCANS   :     8  RECS/SORT:  3.00  I/O REQS:        1  SUSPENDS   :        2  EXITS    :        2  AMS           :        1
ROWSPROC:     8  WORK/SORT:  2.00  AET/I/O : 1.374752  AET/SUSP   : 0.485483  AET/EXIT : 0.048234  AET/AMS       : 0.094745
PAGESCAN:    47  PASS/SORT:  2.00  DATACAPT:      YES  RIDS UNUSED:        2  CHECKCON : REJECTED  DEGREE REDUCTION :        3
LOB_PAGSCAN:    12345          LOB_UPD_PAGE:    12345
```

Field description

Here is a description of the field labels shown in the workload highlight (HILITE) block.

SCANS
The total number of scans performed by the data manager.

RECS/SORT
The average number of records per sort.

I/O REQS
The number of SYNCHRONOUS and ASYNCHRONOUS READ and SYNCHRONOUS WRITE I/O requests per event.

SUSPENDS
The number of LOCK SUSPENSIONS per event.

EXITS
The number of validation, encode edit, and decode edit exits per event.

AMS
The number of times Access Method Services (AMS) was invoked within the event. AMS can be invoked by:

- Creating a DB2 page set (table space, table partition, index space)
- Expanding an existing DB2 page set
- Deleting a DB2 page set

ROWSPROC
The number of rows processed (of all record types).

WORK/SORT
The average number of work files per sort.

AET/I/O
The average elapsed time I/O requests.

AET/SUSP
The average elapsed time for LOCK SUSPENSIONS.

AET/EXIT
The average elapsed time per EXIT invocation.

AET/AMS
The average elapsed time of the AMS invocations within the event.

PAGESCAN
The number of pages scanned.

DATACAPT
The data capture indicator; shows whether IFCID 188 is present.

RIDS UNUSED
The number of times RID list processing was not used because nor RID storage was available or the number of RIDs exceeded the maximum limit.

CHECKCON
Indicates that a table check constraint was performed for the current SQL event:

OK
The check constraint was ok.

REJECTED
The row to be inserted or updated was rejected due to a check constraint.

N/P
No check was performed.

DEGREE REDUCTION
The difference between planned and negotiated run time degree.

LOB_PAGSCAN
The number of LOB pages scanned.

LOB_UPD_PAGE
The number of LOB pages updated.

SYSPLEX QUERY PARALLELISM USED
This field is shown if the query is executed on more than one member, this field shows the number of members. Otherwise this field is blank.

Note:

1. All fields in the highlight block are printed. If other detail blocks are requested, then some of the highlights are shown twice, once in the highlight block and again in the detail block.
2. If the records required for a field are not present, N/P is printed for that field. N/A is printed if the field is not relevant to the level of DB2.

Chapter 10. Statistics report set

These topics provide information about the statistics reports.

This section provides examples of the statistics default layout for SHORT and LONG. Descriptions of the fields in the layout are described in the next section. Because the layout of the report and trace is the same (with the exception of the highlights block), only a report example is reproduced here.

When data from a particular DB2 version is processed, N/A is printed for all fields in the report that are not applicable to that version.

You can use the user-tailored reporting (UTR) facility to modify the layouts and store the changes. If you do this, store your layouts under a different name to avoid confusion and keep the layouts relevant to this documentation.

Note: For an introduction to the Statistics report set and general Statistics information refer to the *Reporting User's Guide*. It also provides information on input to Statistics reports.

Statistics Short Report

This topic introduces the short version of the Statistics reports.

The SHORT layout presents selected data from all Statistics categories using the following blocks of data:

- “Accounting Rollup ” on page 1104
- “Buffer Pool General ” on page 1108
- “Buffer Pool Write ” on page 1122
- “CPU Times ” on page 1130
- “Data Sharing Locking ” on page 1136
- “EDM Pool Activity ” on page 1169
- “ Global DDF Activity ” on page 1173
- “Group Buffer Pool Activity ” on page 1177
- “Highlights ” on page 1188
- “Locking Activity ” on page 1202
- “Log Activity ” on page 1205
- “Miscellaneous statistics report” on page 1209
- “Open/Close Activity ” on page 1211
- “Plan/Package Activity ” on page 1212
- “Query Parallelism ” on page 1217
- “RID List Processing ” on page 1224
- “ROWID ” on page 1227
- “ SQL DCL ” on page 1237
- “SQL DDL ” on page 1239
- #unique_715
- “Stored Procedures ” on page 1230
- “Subsystem Services ” on page 1231
- “Triggers ” on page 1247
- “Use Currently Committed ” on page 1248
- “User-Defined Functions ” on page 1248
- “Workfile Database ” on page 1249

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Use the following command to print a Statistics short report:

```
⋮
STATISTICS
     REPORT
     LAYOUT (SHORT)
⋮
```

Statistics Long Report

This topic introduces the long version of the Statistics reports.

The following report is an example of a member-scope statistics long report, produced with the command:

```
STATISTICS
     REPORT
        DSETSTAT
          LAYOUT(LONG)
```

Statistics Long Report

This is an example of a long report for Statistics.

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-1
       GROUP: ODS5                             STATISTICS REPORT - LONG                REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCC5                                                                                      TO: NOT SPECIFIED
   SUBSYSTEM: OCC5                                                                     INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                  SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:         1:29.214412     OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

 SQL DML                     QUANTITY  /SECOND  /THREAD  /COMMIT    SQL DCL                     QUANTITY  /SECOND  /THREAD  /COMMIT
 -------------------------  --------  -------  -------  -------    -------------------------  --------  -------  -------  -------
 SELECT                         0.00     0.00      N/C     0.00    LOCK TABLE                     0.00     0.00      N/C     0.00
 INSERT                         2.00     0.02      N/C     2.00    GRANT                          0.00     0.00      N/C     0.00
   NUMBER OF ROWS               2.00     0.02      N/C     2.00    REVOKE                         0.00     0.00      N/C     0.00
   TYPE 1 INSERT ALGORITHM      0.00     0.00      N/C     0.00    SET HOST VARIABLE              0.00     0.00      N/C     0.00
   TYPE 2 INSERT ALGORITHM      0.00     0.00      N/C     0.00    SET CURRENT SQLID              0.00     0.00      N/C     0.00
    RE-ENABLE ATTEMPTED         0.00     0.00      N/C     0.00    SET CURRENT DEGREE             0.00     0.00      N/C     0.00
    RE-ENABLE SUCCESSFUL        0.00     0.00      N/C     0.00    SET CURRENT RULES              0.00     0.00      N/C     0.00
 UPDATE                         0.00     0.00      N/C     0.00    SET CURRENT PATH               0.00     0.00      N/C     0.00
   NUMBER OF ROWS               0.00     0.00      N/C     0.00    SET CURRENT PRECISION          0.00     0.00      N/C     0.00
 MERGE                          0.00     0.00      N/C     0.00
 DELETE                         2.00     0.02      N/C     2.00    CONNECT TYPE 1                 0.00     0.00      N/C     0.00
   NUMBER OF ROWS               0.00     0.00      N/C     0.00    CONNECT TYPE 2                 0.00     0.00      N/C     0.00
                                                                   RELEASE                        0.00     0.00      N/C     0.00
 PREPARE                        0.00     0.00      N/C     0.00    SET CONNECTION                 0.00     0.00      N/C     0.00
 DESCRIBE                       0.00     0.00      N/C     0.00
 DESCRIBE TABLE                 0.00     0.00      N/C     0.00    ASSOCIATE LOCATORS             0.00     0.00      N/C     0.00
 OPEN                           2.00     0.02      N/C     2.00    ALLOCATE CURSOR                0.00     0.00      N/C     0.00
 CLOSE                          0.00     0.00      N/C     0.00
 FETCH                          2.00     0.02      N/C     2.00    HOLD LOCATOR                   0.00     0.00      N/C     0.00
   NUMBER OF ROWS               2.00     0.02      N/C     2.00    FREE LOCATOR                   0.00     0.00      N/C     0.00

 TOTAL DML                      8.00     0.09      N/C     8.00    TOTAL                          0.00     0.00      N/C     0.00

 STORED PROCEDURES           QUANTITY  /SECOND  /THREAD  /COMMIT    TRIGGERS                    QUANTITY  /SECOND  /THREAD  /COMMIT
 -------------------------  --------  -------  -------  -------    -------------------------  --------  -------  -------  -------
 CALL STATEMENT EXECUTED        1.00     0.01      N/C     1.00    STATEMENT TRIGGER ACTIVATED    0.00     0.00      N/C     0.00
 PROCEDURE ABENDED              0.00     0.00      N/C     0.00    ROW TRIGGER ACTIVATED          0.00     0.00      N/C     0.00
 CALL STATEMENT TIMED OUT       0.00     0.00      N/C     0.00    SQL ERROR OCCURRED             0.00     0.00      N/C     0.00
 CALL STATEMENT REJECTED        0.00     0.00      N/C     0.00


 USER DEFINED FUNCTIONS      QUANTITY  /SECOND  /THREAD  /COMMIT    ROW ID                      QUANTITY  /SECOND  /THREAD  /COMMIT
 -------------------------  --------  -------  -------  -------    -------------------------  --------  -------  -------  -------
 EXECUTED                       0.00     0.00      N/C     0.00    DIRECT ACCESS                  0.00     0.00      N/C     0.00
 ABENDED                        0.00     0.00      N/C     0.00    INDEX USED                     0.00     0.00      N/C     0.00
 TIMED OUT                      0.00     0.00      N/C     0.00    TABLE SPACE SCAN USED          0.00     0.00      N/C     0.00
 REJECTED                       0.00     0.00      N/C     0.00


 USE CURRENTLY COMMITTED     QUANTITY  /SECOND  /THREAD  /COMMIT
 -------------------------  --------  -------  -------  -------
 INSERT ROWS SKIPPED            0.00     0.00      N/C     0.00
 DELETE ROWS ACCESSED           0.00     0.00      N/C     0.00
 UPDATE ROWS ACCESSED           0.00     0.00      N/C
0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-2
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                         TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

SQL DDL                       QUANTITY  /SECOND  /THREAD  /COMMIT    SQL DDL          CONTINUED   QUANTITY  /SECOND  /THREAD  /COMMIT
----------------------------  --------  -------  -------  -------    ----------------------------  --------  -------  -------  -------
CREATE TABLE                      0.00     0.00      N/C     0.00    DROP   TABLE                      0.00     0.00      N/C     0.00
CREATE GLOBAL TEMP TABLE          0.00     0.00      N/C     0.00    DROP   INDEX                      0.00     0.00      N/C     0.00
DECLARE GLOBAL TEMP TABLE         0.00     0.00      N/C     0.00    DROP   VIEW                       0.00     0.00      N/C     0.00
CREATE AUXILIARY TABLE            0.00     0.00      N/C     0.00    DROP   SYNONYM                    0.00     0.00      N/C     0.00
CREATE INDEX                      0.00     0.00      N/C     0.00    DROP   TABLESPACE                 0.00     0.00      N/C     0.00
CREATE VIEW                       0.00     0.00      N/C     0.00    DROP   DATABASE                   0.00     0.00      N/C     0.00
CREATE SYNONYM                    0.00     0.00      N/C     0.00    DROP   STOGROUP                   0.00     0.00      N/C     0.00
CREATE TABLESPACE                 0.00     0.00      N/C     0.00    DROP   ALIAS                      0.00     0.00      N/C     0.00
CREATE DATABASE                   0.00     0.00      N/C     0.00    DROP   PACKAGE                    0.00     0.00      N/C     0.00
CREATE STOGROUP                   0.00     0.00      N/C     0.00    DROP   DISTINCT TYPE              0.00     0.00      N/C     0.00
CREATE ALIAS                      0.00     0.00      N/C     0.00    DROP   FUNCTION                   0.00     0.00      N/C     0.00
CREATE DISTINCT TYPE              0.00     0.00      N/C     0.00    DROP   PROCEDURE                  0.00     0.00      N/C     0.00
CREATE FUNCTION                   0.00     0.00      N/C     0.00    DROP   TRIGGER                    0.00     0.00      N/C     0.00
CREATE PROCEDURE                  0.00     0.00      N/C     0.00    DROP   SEQUENCE                   0.00     0.00      N/C     0.00
CREATE TRIGGER                    0.00     0.00      N/C     0.00    DROP   ROLE                       0.00     0.00      N/C     0.00
CREATE SEQUENCE                   0.00     0.00      N/C     0.00    DROP   TRUSTED CONTEXT            0.00     0.00      N/C     0.00
CREATE ROLE                       0.00     0.00      N/C     0.00    DROP   MASK / PERMISSION          0.00     0.00      N/C     0.00
CREATE TRUSTED CONTEXT            0.00     0.00      N/C     0.00    DROP   VARIABLE                   0.00     0.00      N/C     0.00
CREATE MASK / PERMISSION          0.00     0.00      N/C     0.00
CREATE VARIABLE                   0.00     0.00      N/C     0.00    RENAME TABLE                      0.00     0.00      N/C     0.00
                                                                     RENAME INDEX                      0.00     0.00      N/C     0.00
ALTER  TABLE                      0.00     0.00      N/C     0.00
ALTER  INDEX                      0.00     0.00      N/C     0.00    TRUNCATE TABLE                    0.00     0.00      N/C     0.00
ALTER  VIEW                       0.00     0.00      N/C     0.00
ALTER  TABLESPACE                 0.00     0.00      N/C     0.00    COMMENT ON                        0.00     0.00      N/C     0.00
ALTER  DATABASE                   0.00     0.00      N/C     0.00    LABEL ON                          0.00     0.00      N/C     0.00
ALTER  STOGROUP                   0.00     0.00      N/C     0.00
ALTER  FUNCTION                   0.00     0.00      N/C     0.00    TOTAL                             0.00     0.00      N/C     0.00
ALTER  PROCEDURE                  0.00     0.00      N/C     0.00
ALTER  SEQUENCE                   0.00     0.00      N/C     0.00
ALTER  JAR                        0.00     0.00      N/C     0.00
ALTER  TRUSTED CONTEXT            0.00     0.00      N/C     0.00
ALTER  MASK / PERMISSION          0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-3
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                         TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

EDM POOL                      QUANTITY  /SECOND  /THREAD  /COMMIT
----------------------------  --------  -------  -------  -------
PAGES IN DBD POOL (ABOVE)     2925.00      N/A      N/A      N/A
  HELD BY DBD                  236.00      N/A      N/A      N/A
    STEALABLE PAGES            105.00      N/A      N/A      N/A
  FREE PAGES                     N/A      N/A      N/A      N/A
% PAGES IN USE                   4.48      N/A      N/A      N/A
FAILS DUE TO DBD POOL FULL       0.00     0.00      N/C     0.00

PAGES IN STMT POOL (ABOVE)   14173.00      N/A      N/A      N/A
  HELD BY STATEMENTS            16.00      N/A      N/A      N/A
  FREE PAGES                     N/A      N/A      N/A      N/A
FAILS DUE TO STMT POOL FULL      0.00     0.00      N/C     0.00

PAGES IN SKEL POOL (ABOVE)   25600.00      N/A      N/A      N/A
  HELD BY SKCT                   1.00      N/A      N/A      N/A
  HELD BY SKPT                  55.00      N/A      N/A      N/A
    STEALABLE PAGES             56.00      N/A      N/A      N/A
  FREE PAGES                     N/A      N/A      N/A      N/A
% PAGES IN USE                   0.00      N/A      N/A      N/A
FAILS DUE TO SKEL POOL FULL      0.00     0.00      N/C     0.00

DBD REQUESTS                     3.00     0.03      N/C     3.00
DBD NOT FOUND                    0.00     0.00      N/C     0.00
DBD HIT RATIO (%)              100.00      N/A      N/A      N/A
CT REQUESTS                      0.00     0.00      N/C     0.00
CT NOT FOUND                     0.00     0.00      N/C     0.00
CT HIT RATIO (%)                 N/C      N/A      N/A      N/A
PT REQUESTS                      3.00     0.03      N/C     3.00
PT NOT FOUND                     0.00     0.00      N/C     0.00
PT HIT RATIO (%)               100.00      N/A      N/A      N/A

PKG SEARCH NOT FOUND             0.00     0.00      N/C     0.00
PKG SEARCH NOT FOUND INSERT      0.00     0.00      N/C     0.00
PKG SEARCH NOT FOUND DELETE      0.00     0.00      N/C     0.00

STATEMENTS IN GLOBAL CACHE       5.00      N/A      N/A      N/A
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-4
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

 DYNAMIC SQL STMT             QUANTITY  /SECOND  /THREAD  /COMMIT    SUBSYSTEM SERVICES           QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  --------  -------  -------  -------    --------------------------  --------  -------  -------  -------
 PREPARE REQUESTS                 0.00     0.00      N/C     0.00    IDENTIFY                         0.00     0.00      N/C     0.00
   FULL PREPARES                  0.00     0.00      N/C     0.00    CREATE THREAD                    0.00     0.00      N/C     0.00
   SHORT PREPARES                 0.00     0.00      N/C     0.00    SIGNON                           0.00     0.00      N/C     0.00
                                                                     TERMINATE                        0.00     0.00      N/C     0.00
 SHORT PREPARES                   0.00     0.00      N/C     0.00    ROLLBACK                         0.00     0.00      N/C     0.00
   BASED ON CACHE                 0.00     0.00      N/C     0.00
   BASED ON CATALOG               0.00     0.00      N/C     0.00    COMMIT PHASE 1                   0.00     0.00      N/C     0.00
                                                                     COMMIT PHASE 2                   0.00     0.00      N/C     0.00
 LOOK-UP IN CATALOG               0.00     0.00      N/C     0.00    READ ONLY COMMIT                 0.00     0.00      N/C     0.00
                                                                     UNITS OF RECOVERY INDOUBT        0.00     0.00      N/C     0.00
 CACHE HIT RATIO         (%)       N/C      N/A      N/A      N/A    UNITS OF REC.INDBT RESOLVED      0.00     0.00      N/C     0.00
 CACHE+CATALOG HIT RATIO (%)       N/C      N/A      N/A      N/A    SYNCHS(SINGLE PHASE COMMIT)      0.00     0.00      N/C     0.00
                                                                     QUEUED AT CREATE THREAD          0.00     0.00      N/C     0.00
 TOTAL PREPARES                   0.00     0.00      N/C     0.00    SUBSYSTEM ALLIED MEMORY EOT      0.00     0.00      N/C     0.00
   EXPLICIT PREPARES              0.00     0.00      N/C     0.00    SUBSYSTEM ALLIED MEMORY EOM      0.00     0.00      N/C     0.00
   IMPLICIT PREPARES              0.00     0.00      N/C     0.00    SYSTEM EVENT CHECKPOINT          0.00     0.00      N/C     0.00

 STABILIZED PREPARES              0.00     0.00      N/C     0.00    HIGH WATER MARK IDBACK           5.00     0.06      N/C     5.00
 PREPARES AVOIDED                 0.00     0.00      N/C     0.00    HIGH WATER MARK IDFORE           0.00     0.00      N/C     0.00
 CACHE LIMIT EXCEEDED             0.00     0.00      N/C     0.00    HIGH WATER MARK CTHREAD          4.00     0.04      N/C     4.00
 PREP STMT PURGED                 0.00     0.00      N/C     0.00
 LOCAL CACHE HIT RATIO (%)         N/C      N/A      N/A      N/A

 CSWL - STMTS PARSED              0.00     0.00      N/C     0.00
 CSWL - LITS REPLACED             0.00     0.00      N/C     0.00
 CSWL - MATCHES FOUND             0.00     0.00      N/C     0.00
 CSWL - DUPLS CREATED             0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-5
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

 OPEN/CLOSE ACTIVITY          QUANTITY  /SECOND  /THREAD  /COMMIT    LOG ACTIVITY                 QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  --------  -------  -------  -------    --------------------------  --------  -------  -------  -------
 OPEN DATASETS - HWM             67.00      N/A      N/A      N/A    READS SATISFIED-OUTPUT BUFF      0.00     0.00      N/C     0.00
 OPEN DATASETS                   66.00      N/A      N/A      N/A    READS SATISFIED-OUTP.BUF(%)       N/C
 DS NOT IN USE,NOT CLOSE-HWM     66.00      N/A      N/A      N/A    READS SATISFIED-ACTIVE LOG       0.00     0.00      N/C     0.00
 DS NOT IN USE,NOT CLOSED        65.00      N/A      N/A      N/A    READS SATISFIED-ACTV.LOG(%)       N/C
 IN USE DATA SETS                 1.00      N/A      N/A      N/A    READS SATISFIED-ARCHIVE LOG      0.00     0.00      N/C     0.00
                                                                     READS SATISFIED-ARCH.LOG(%)       N/C
 DSETS CLOSED-THRESH.REACHED      0.00     0.00      N/C     0.00
 DSETS CLOSED-INFREQ ACCESS       0.00     0.00      N/C     0.00    TAPE VOLUME CONTENTION WAIT      0.00     0.00      N/C     0.00
 DSETS CLOSED-UTIL ACC ONLY       0.00     0.00      N/C     0.00    READ DELAYED-UNAVAIL.RESOUR      0.00     0.00      N/C     0.00
                                                                     ARCHIVE LOG READ ALLOCATION      0.00     0.00      N/C     0.00
 DSETS CONVERTED R/W -> R/O       0.00     0.00      N/C     0.00    ARCHIVE LOG WRITE ALLOCAT.       0.00     0.00      N/C     0.00
                                                                     CONTR.INTERV.OFFLOADED-ARCH      0.00     0.00      N/C     0.00
                                                                     LOOK-AHEAD MOUNT ATTEMPTED       0.00     0.00      N/C     0.00
                                                                     LOOK-AHEAD MOUNT SUCCESSFUL      0.00     0.00      N/C     0.00

                                                                     UNAVAILABLE OUTPUT LOG BUFF      0.00     0.00      N/C     0.00
                                                                     OUTPUT LOG BUFFER PAGED IN       0.00     0.00      N/C     0.00

                                                                     LOG RECORDS CREATED              0.00     0.00      N/C     0.00
                                                                     LOG CI CREATED                   0.00     0.00      N/C     0.00
                                                                     LOG WRITE I/O REQ (LOG1&2)      44.00     0.49      N/C    44.00
                                                                     LOG CI WRITTEN (LOG1&2)         44.00     0.49      N/C    44.00
                                                                     LOG RATE FOR 1 LOG (MB)           N/A     0.00      N/A      N/A
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-6
      GROUP: ODS5                               STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                              INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                      TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 PLAN/PACKAGE PROCESSING      QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  ---------  -------  -------  -------
 INCREMENTAL BINDS                0.00     0.00      N/C     0.00

 PLAN ALLOCATION ATTEMPTS         1.00     0.01      N/C     1.00
 PLAN ALLOCATION SUCCESSFUL       1.00     0.01      N/C     1.00
 PACKAGE ALLOCATION ATTEMPT       3.00     0.03      N/C     3.00
 PACKAGE ALLOCATION SUCCESS       3.00     0.03      N/C     3.00

 PLANS BOUND                      0.00     0.00      N/C     0.00
 BIND ADD SUBCOMMANDS             0.00     0.00      N/C     0.00
 BIND REPLACE SUBCOMMANDS         0.00     0.00      N/C     0.00
 TEST BINDS NO PLAN-ID            0.00     0.00      N/C     0.00
 PACKAGES BOUND                   0.00     0.00      N/C     0.00
 BIND ADD PACKAGE SUBCOMMAND      0.00     0.00      N/C     0.00
 BIND REPLACE PACKAGE SUBCOM      0.00     0.00      N/C     0.00

 AUTOMATIC BIND ATTEMPTS          0.00     0.00      N/C     0.00
 AUTOMATIC BINDS SUCCESSFUL       0.00     0.00      N/C     0.00
 AUTO.BIND INVALID RES. IDS       0.00     0.00      N/C     0.00
 AUTO.BIND PACKAGE ATTEMPTS       0.00     0.00      N/C     0.00
 AUTO.BIND PACKAGES SUCCESS       0.00     0.00      N/C     0.00

 REBIND SUBCOMMANDS               0.00     0.00      N/C     0.00
 ATTEMPTS TO REBIND A PLAN        0.00     0.00      N/C     0.00
 PLANS REBOUND                    0.00     0.00      N/C     0.00
 REBIND PACKAGE SUBCOMMANDS       0.00     0.00      N/C     0.00
 ATTEMPTS TO REBIND PACKAGE       0.00     0.00      N/C     0.00
 PACKAGES REBOUND                 0.00     0.00      N/C     0.00

 FREE PLAN SUBCOMMANDS            0.00     0.00      N/C     0.00
 ATTEMPTS TO FREE A PLAN          0.00     0.00      N/C     0.00
 PLANS FREED                      0.00     0.00      N/C     0.00
 FREE PACKAGE SUBCOMMANDS         0.00     0.00      N/C     0.00
 ATTEMPTS TO FREE A PACKAGE       0.00     0.00      N/C     0.00
 PACKAGES FREED                   0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-7
      GROUP: ODS5                               STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                              INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                      TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 DB2 COMMANDS                 QUANTITY  /SECOND    DB2 COMMANDS     CONTINUED   QUANTITY  /SECOND
 --------------------------  ---------  -------    --------------------------  ---------  -------
 DISPLAY DATABASE                 0.00     0.00    MODIFY TRACE                      0.00     0.00
 DISPLAY THREAD                   0.00     0.00    MODIFY DDF                        0.00     0.00
 DISPLAY UTILITY                  0.00     0.00    CANCEL THREAD                     0.00     0.00
 DISPLAY TRACE                    0.00     0.00    TERM UTILITY                      0.00     0.00
 DISPLAY RLIMIT                   0.00     0.00
 DISPLAY LOCATION                 0.00     0.00    RECOVER BSDS                      0.00     0.00
 DISPLAY ARCHIVE                  0.00     0.00    RECOVER INDOUBT                   0.00     0.00
 DISPLAY BUFFERPOOL               0.00     0.00    RESET INDOUBT                     0.00     0.00
 DISPLAY GROUPBUFFERPOOL          0.00     0.00    RESET GENERICLU                   0.00     0.00
 DISPLAY GROUP                    1.00     0.01    ARCHIVE LOG                       0.00     0.00
 DISPLAY PROCEDURE                0.00     0.00
 DISPLAY FUNCTION                 0.00     0.00    SET ARCHIVE                       0.00     0.00
 DISPLAY LOG                      0.00     0.00    SET LOG                           0.00     0.00
 DISPLAY DDF                      0.00     0.00    SET SYSPARM                       0.00     0.00
 DISPLAY PROFILE                  0.00     0.00
 DISPLAY ACCEL                    0.00     0.00    ACCESS DATABASE                   0.00     0.00
 DISPLAY DYNQUERYCAPTURE          0.00     0.00
                                                   UNRECOGNIZED COMMANDS             0.00     0.00
 ALTER BUFFERPOOL                 0.00     0.00
 ALTER GROUPBUFFERPOOL            0.00     0.00    TOTAL                             1.00     0.01
 ALTER UTILITY                    0.00     0.00

 START DATABASE                   0.00     0.00
 START TRACE                      0.00     0.00
 START DB2                        0.00     0.00
 START RLIMIT                     0.00     0.00
 START DDF                        0.00     0.00
 START PROCEDURE                  0.00     0.00
 START FUNCTION                   0.00     0.00
 START PROFILE                    0.00     0.00
 START ACCEL                      0.00     0.00
 START DYNQUERYCAPTURE            0.00     0.00

 STOP DATABASE                    0.00     0.00
 STOP TRACE                       0.00     0.00
 STOP DB2                         0.00     0.00
 STOP RLIMIT                      0.00     0.00
 STOP DDF                         0.00     0.00
 STOP PROCEDURE                   0.00     0.00
 STOP FUNCTION                    0.00     0.00
 STOP PROFILE                     0.00     0.00
 STOP ACCEL                       0.00     0.00
 STOP DYNQUERYCAPTURE             0.00     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-8
      GROUP: ODS5                              STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                           INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                       TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

RID LIST PROCESSING          QUANTITY  /SECOND  /THREAD  /COMMIT    AUTHORIZATION MANAGEMENT     QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------    ---------------------------  --------  -------  -------  -------
SUCCESSFUL                        0.00     0.00      N/C     0.00    TOTAL AUTH ATTEMPTS              6.00     0.07      N/C     6.00
NOT USED-NO STORAGE               0.00     0.00      N/C     0.00    TOTAL AUTH SUCC                  5.00     0.06      N/C     5.00
NOT USED-MAX LIMIT                0.00     0.00      N/C     0.00    PLAN-AUTH SUCC-W/O CATALOG       0.00     0.00      N/C     0.00
NOT USED-NOT CONSTRUCTED          0.00     0.00      N/C     0.00    PLAN-AUTH SUCC-PUB-W/O CAT       0.00     0.00      N/C     0.00

MAX RID BLOCKS ALLOCATED          0.00      N/A      N/A      N/A    PKG-AUTH SUCC-W/O CATALOG        1.00     0.01      N/C     1.00
CURRENT RID BLOCKS ALLOCAT.       0.00      N/A      N/A      N/A    PKG-AUTH SUCC-PUB-W/O CAT        1.00     0.01      N/C     1.00
                                                                    PKG-AUTH UNSUCC-CACHE            2.00     0.02      N/C     2.00
MAX RID BLOCKS OVERFLOWED         0.00      N/A      N/A      N/A    PKG CACHE OVERWRT - AUTH ID      0.00     0.00      N/C     0.00
CURRENT RID BLOCKS OVERFL.        0.00      N/A      N/A      N/A    PKG CACHE OVERWRT - ENTRY        0.00     0.00      N/C     0.00

STORAGE LIMIT EXCEEDED            0.00     0.00      N/C     0.00    RTN-AUTH SUCC-W/O CATALOG        1.00     0.01      N/C     1.00
RDS LIMIT EXCEEDED                0.00     0.00      N/C     0.00    RTN-AUTH SUCC-PUB-W/O CAT        1.00     0.01      N/C     1.00
DM LIMIT EXCEEDED                 0.00     0.00      N/C     0.00    RTN-AUTH UNSUCC-CACHE            0.00     0.00      N/C     0.00
PROC.LIMIT EXCEEDED               0.00     0.00      N/C     0.00    RTN CACHE OVERWRT - AUTH ID      0.00     0.00      N/C     0.00
OVERFLOWED-NO STORAGE             0.00     0.00      N/C     0.00    RTN CACHE OVERWRT - ENTRY        0.00     0.00      N/C     0.00
OVERFLOWED-MAX LIMIT              0.00     0.00      N/C     0.00    RTN CACHE - ENTRY NOT ADDED      0.00     0.00      N/C     0.00
INTERRUPTED (HJ)-NO STORAGE       0.00     0.00      N/C     0.00
INTERRUPTED (HJ)-MAX LIMIT        0.00     0.00      N/C     0.00
SKIPPED-INDEX KNOWN               0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-9
      GROUP: ODS5                              STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                      TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                           INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                       TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

LOCKING ACTIVITY             QUANTITY  /SECOND  /THREAD  /COMMIT    DATA SHARING LOCKING         QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------    ---------------------------  --------  -------  -------  -------
SUSPENSIONS (ALL)                 1.00     0.01      N/C     1.00    GLOBAL CONTENTION RATE (%)       0.00
SUSPENSIONS (LOCK ONLY)           0.00     0.00      N/C     0.00    FALSE CONTENTION RATE (%)        0.00
SUSPENSIONS (IRLM LATCH)          0.00     0.00      N/C     0.00    P/L-LOCKS XES RATE (%)          95.83
SUSPENSIONS (OTHER)               1.00     0.01      N/C     1.00
                                                                    LOCK REQUESTS (P-LOCKS)          0.00     0.00      N/C     0.00
TIMEOUTS                          0.00     0.00      N/C     0.00    UNLOCK REQUESTS (P-LOCKS)        0.00     0.00      N/C     0.00
DEADLOCKS                         0.00     0.00      N/C     0.00    CHANGE REQUESTS (P-LOCKS)        0.00     0.00      N/C     0.00

LOCK REQUESTS                   192.00     2.15      N/C   192.00    SYNCH.XES - LOCK REQUESTS      184.00     2.06      N/C   184.00
UNLOCK REQUESTS                 202.00     2.26      N/C   202.00    SYNCH.XES - CHANGE REQUESTS      0.00     0.00      N/C     0.00
QUERY REQUESTS                    0.00     0.00      N/C     0.00    SYNCH.XES - UNLOCK REQUESTS    184.00     2.06      N/C   184.00
CHANGE REQUESTS                   1.00     0.01      N/C     1.00    BACKGROUND.XES -CHILD LOCKS      0.00     0.00      N/C     0.00
OTHER REQUESTS                    0.00     0.00      N/C     0.00    ASYNCH.XES -CONVERTED LOCKS      0.00     0.00      N/C     0.00

LOCK ESCALATION (SHARED)          0.00     0.00      N/C     0.00    SUSPENDS - IRLM GLOBAL CONT      0.00     0.00      N/C     0.00
LOCK ESCALATION (EXCLUSIVE)       0.00     0.00      N/C     0.00    SUSPENDS - XES GLOBAL CONT.      0.00     0.00      N/C     0.00
                                                                    SUSPENDS - FALSE CONT. MBR       0.00     0.00      N/C     0.00
DRAIN REQUESTS                    0.00     0.00      N/C     0.00    SUSPENDS - FALSE CONT. LPAR       N/A      N/A      N/A      N/A
DRAIN REQUESTS FAILED             0.00     0.00      N/C     0.00    NO DELAY LOCK REQ REJECTS        0.00     0.00      N/C     0.00
CLAIM REQUESTS                    4.00     0.04      N/C     4.00    INCOMPATIBLE RETAINED LOCK       0.00     0.00      N/C     0.00
CLAIM REQUESTS FAILED             0.00     0.00      N/C     0.00
CONDITIONAL LOCK FAILURES         0.00     0.00      N/C     0.00    NOTIFY MESSAGES SENT             1.00     0.01      N/C     1.00
UNCONDITIONAL LOCK RETIRES        0.00     0.00      N/C     0.00    NOTIFY MESSAGES RECEIVED         3.00     0.03      N/C     3.00
                                                                    P-LOCK/NOTIFY EXITS ENGINES    500.00      N/A      N/A      N/A
                                                                    P-LCK/NFY EX.ENGINE UNAVAIL      0.00     0.00      N/C     0.00

                                                                    PSET/PART P-LCK NEGOTIATION      0.00     0.00      N/C     0.00
                                                                    PAGE P-LOCK NEGOTIATION          0.00     0.00      N/C     0.00
                                                                    OTHER P-LOCK NEGOTIATION         0.00     0.00      N/C     0.00
                                                                    P-LOCK CHANGE DURING NEG.        0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-10
      GROUP: ODS5                               STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                              INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                      TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 GLOBAL DDF ACTIVITY          QUANTITY  /SECOND  /THREAD  /COMMIT    QUERY PARALLELISM            QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  --------  -------  -------  -------    --------------------------  --------  -------  -------  -------
 DBAT/CONN QUEUED-MAX ACTIVE      0.00     0.00      N/C      N/A    MAX DEGREE - ESTIMATED           0.00      N/A      N/A      N/A
 CONN REJECTED-MAX CONNECTED      0.00     0.00      N/C      N/A    MAX DEGREE - PLANNED             0.00      N/A      N/A      N/A
 CONN CLOSED - MAX QUEUED         0.00     0.00      N/C      N/A    MAX DEGREE - EXECUTED            0.00      N/A      N/A      N/A
 CONN CLOSED - MAX WAIT           0.00     0.00      N/C      N/A    PARALLEL GROUPS EXECUTED         0.00     0.00      N/C     0.00
                                                                      RAN AS PLANNED                   0.00     0.00      N/C     0.00
 COLD START CONNECTIONS           0.00     0.00      N/C     0.00     RAN REDUCED-STORAGE             0.00     0.00      N/C     0.00
 WARM START CONNECTIONS           0.00     0.00      N/C     0.00     RAN REDUCED-NEGOTIATION         0.00     0.00      N/C     0.00
 RESYNCHRONIZATION ATTEMPTED      0.00     0.00      N/C     0.00     SEQUENTIAL-CURSOR               0.00     0.00      N/C     0.00
 RESYNCHRONIZATION SUCCEEDED      0.00     0.00      N/C     0.00     SEQUENTIAL-NO ESA               0.00     0.00      N/C     0.00
                                                                      SEQUENTIAL-NO BUFFER            0.00     0.00      N/C     0.00
 CUR TYPE 1 INACTIVE DBATS        0.00      N/A      N/A      N/A    SEQUENTIAL-AUTONOMOUS PROC      0.00     0.00      N/C     0.00
 HWM TYPE 1 INACTIVE DBATS        1.00      N/A      N/A      N/A    SEQUENTIAL-NEGOTIATION          0.00     0.00      N/C     0.00
 TYPE 1 CONNECTIONS TERMINAT      0.00     0.00      N/A      N/A    ONE DB2 - COORDINATOR = NO      0.00     0.00      N/C     0.00
                                                                      ONE DB2 - ISOLATION LEVEL       0.00     0.00      N/C     0.00
 CUR INACTIVE CONNS (TYPE 2)      0.00      N/A      N/A      N/A    ONE DB2 - DCL TTABLE            0.00     0.00      N/C     0.00
 HWM INACTIVE CONNS (TYPE 2)      1.00      N/A      N/A      N/A    MEMBER SKIPPED (%)               N/C
 ACC QU INACT CONNS (TYPE 2)      2.00     0.02      N/A      N/A    REFORM PARAL-CONFIG CHANGED     0.00     0.00      N/C     0.00
 CUR QU INACT CONNS (TYPE 2)      0.00      N/A      N/A      N/A    REFORM PARAL-NO BUFFER          0.00     0.00      N/C     0.00
   MIN QUEUE TIME            0.000006      N/A      N/A      N/A
   MAX QUEUE TIME            0.000013      N/A      N/A      N/A
   AVG QUEUE TIME            0.000009      N/A      N/A      N/A
 HWM QU INACT CONNS (TYPE 2)      1.00      N/A      N/A      N/A

 CUR ACTIVE AND DISCON DBATS      0.67      N/A      N/A      N/A
 HWM ACTIVE AND DISCON DBATS      2.00      N/A      N/A      N/A
 HWM TOTL REMOTE CONNECTIONS      1.00      N/A      N/A      N/A

 CUR DISCON DBATS NOT IN USE      0.67      N/A      N/A      N/A
 HWM DISCON DBATS NOT IN USE      2.00      N/A      N/A      N/A
 DBATS CREATED                    1.00      N/A      N/A      N/A
 DISCON (POOL) DBATS REUSED       2.00      N/A      N/A      N/A

 CUR ACTIVE DBATS-BND DEALLC      0.00      N/A      N/A      N/A
 HWM ACTIVE DBATS-BND DEALLC      0.00      N/A      N/A      N/A
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-11
      GROUP: ODS5                               STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                              INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                      TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 CPU TIMES                              TCB TIME      PREEMPT SRB   NONPREEMPT SRB      CP CPU TIME   PREEMPT IIP SRB  CP CPU /COMMIT
 ------------------------------  --------------  ---------------  ---------------  ---------------  ---------------  --------------
 SYSTEM SERVICES ADDRESS SPACE         0.021839         0.000027         0.002247         0.024112         0.000760         0.024112
 DATABASE SERVICES ADDRESS SPACE       0.003424         0.001062         0.001478         0.005964         0.014037         0.005964
 IRLM                                  0.000002         0.000000         0.031411         0.031413         0.000000         0.031413
 DDF ADDRESS SPACE                     0.001269         0.001177         0.000287         0.002733         0.000000         0.002733

 TOTAL                                 0.026534         0.002265         0.035424         0.064222         0.014797         0.064222

 CPU TIMES 2                          CPU FOR I/O    INTEGRATED SYNCHRONIZATION (INSYNC) STATISTICS                 VALUE
 ------------------------------  ---------------    ---------------------------------------------  --------------------
 SYSTEM SERVICES ADDRESS SPACE          0.000332    CPU TIME (LOG READER)                                     0.000000
 DATABASE SERVICES ADDRESS SPACE        0.000000    ZIIP TIME (LOG READER)                                    0.000000
 IRLM                                   0.000000    ZIIP ELIGIBLE TIME (LOG READER)                           0.000000
 DDF ADDRESS SPACE                      0.000005

 TOTAL                                  0.000337

 CONNTYPE   CL1 ELAPSED       CL1 CPU    CL1 SE CPU   CL2 ELAPSED       CL2 CPU    CL2 SE CPU      CL3 SUSP   CL2 NOT ACC  QUANTITY
 --------  ------------  ------------  ------------  ------------  ------------  ------------  ------------  ------------  --------
 BATCH         0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.00
 CICS               N/P           N/P           N/P           N/P           N/P           N/P           N/P           N/P      0.00
 DDF           0.011592      0.001205      0.000000      0.001730      0.000780      0.000000      0.000926      0.000025      1.00
 IMS               N/P           N/P           N/P           N/P           N/P           N/P           N/P           N/P      0.00
 RRSAF         0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.00
 UTILITY            N/P           N/P           N/P           N/P           N/P           N/P           N/P           N/P      0.00

 DB2 APPL.PROGR.INTERFACE     QUANTITY  /SECOND  /THREAD  /COMMIT    DATA CAPTURE                QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  --------  -------  -------  -------    --------------------------  --------  -------  -------  -------
 ABENDS                           0.00     0.00      N/C     0.00    LOG RECORDS CAPTURED             0.00     0.00      N/C     0.00
 UNRECOGNIZED                     0.00     0.00      N/C     0.00    LOG READS PERFORMED              0.00     0.00      N/C     0.00
 COMMAND REQUESTS                 1.00     0.01      N/C     1.00    LOG RECORDS RETURNED             0.00     0.00      N/C     0.00
 READA REQUESTS                  13.00     0.15      N/C    13.00    DATA ROWS RETURNED               0.00     0.00      N/C     0.00
 READS REQUESTS                   0.00     0.00      N/C     0.00    DESCRIBES PERFORMED              0.00     0.00      N/C     0.00
 WRITE REQUESTS                   0.00     0.00      N/C     0.00    DATA DESCRIPTIONS RETURNED       0.00     0.00      N/C     0.00
                                                                      TABLES RETURNED                  0.00     0.00      N/C     0.00
 TOTAL                           14.00     0.16      N/C    14.00

 IFC DEST.   WRITTEN  NOT WRTN  BUF.OVER  NOT ACCP  WRT.FAIL    IFC RECORD COUNTS   WRITTEN  NOT WRTN
 ---------  --------  --------  --------  --------  --------    -----------------  --------  --------
 SMF            8.00      0.00      0.00      0.00      0.00    SYSTEM RELATED         3.00      0.00
 GTF            0.00      0.00       N/A      0.00      0.00    DATABASE RELATED       3.00      0.00
 OP1            0.00      0.00       N/A      0.00       N/A    ACCOUNTING             0.00      0.00
 OP2           12.00      0.00       N/A      0.00       N/A    START TRACE            0.00      0.00
 OP3            0.00      0.00       N/A      0.00       N/A    STOP TRACE             0.00      0.00
 OP4            0.00      0.00       N/A      0.00       N/A    SYSTEM PARAMETERS      1.00      0.00
 OP5            0.00      0.00       N/A      0.00       N/A    SYS.PARMS-BPOOLS       3.00      0.00
 OP6            0.00      0.00       N/A      0.00       N/A    AUDIT                  0.00      0.00
 OP7            0.00      0.00       N/A      0.00       N/A
 OP8            0.00      0.00       N/A      0.00       N/A    TOTAL                 10.00      0.00
 RES            0.00       N/A       N/A       N/A       N/A

 TOTAL         20.00      0.00                 0.00      0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-12
      GROUP: ODS5                              STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                          INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                     TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 ACCOUNTING ROLLUP            QUANTITY  /SECOND  /THREAD  /COMMIT    LATCH CNT   /SECOND   /SECOND   /SECOND   /SECOND
 --------------------------  ---------  -------  -------  -------    ---------  --------  --------  --------  --------
 ROLLUP THRESH RECS WRITTEN       0.00     0.00      N/C     0.00    LC01-LC04       0.00      0.00      0.00      0.00
 STORAGE THRESH RECS WRITTEN      0.00     0.00      N/C     0.00    LC05-LC08       0.00      0.00      0.00      0.00
 STALEN THRESH RECS WRITTEN       0.00     0.00      N/C     0.00    LC09-LC12       0.00      0.00      0.00      0.00
 RECS UNQUALIFIED FOR ROLLUP      0.00     0.00      N/C     0.00    LC13-LC16       0.00      0.00      0.00      0.00
                                                                    LC17-LC20       0.00      0.00      0.00      0.00
                                                                    LC21-LC24       0.00      0.00      0.90      0.00
                                                                    LC25-LC28       0.00      0.00      0.00      0.00
                                                                    LC29-LC32       0.00      0.00      0.00      0.00
                                                                    LC254           0.00

 MISCELLANEOUS                                VALUE
 ---------------------------------  --------------------
 HIGH LOG RBA                      00000000010093460C52
 BYPASS COL                                        0.00
 MAX SQL CASCADING LEVEL                           0.00
 MAX STOR LOB VALUES (MB)                          0.00
 MAX STOR XML VALUES (MB)                          0.00
 ARRAY EXPANSIONS                                  0.00
 SPARSE IX DISABLED                                0.00
 SPARSE IX BUILT WF                                0.00
 NO DM CALL RIDL/LPF                               0.00
 FETCH 1 BLOCK ONLY                                0.00
 RDS SORT PERFORMED                                1.00
 RDS SORTL USED                                    1.00
 ZAI STABILIZED PREPARE                            0.00
 ZAI SORT FEEDBACK USED                            0.00
 FTB THRESHOLD                                  1000.00
 FTB CRITERIA MEET                                 1.00
 FTB TRAVERSE ABOVE THE THRESHOLD                  0.00
 FTB TOTAL MEMORY ALLOCATION                       0.00
 FTB IN THE PREVIOUS OPTIMIZATION                  0.00
 FTB IN THE CURRENT OPTIMIZATION                   0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-13
      GROUP: ODS5                              STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                     TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                          INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                     TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 DBM1 AND MVS STORAGE BELOW 2 GB                        QUANTITY    DBM1 AND MVS STORAGE BELOW 2 GB   CONTINUED            QUANTITY
 ---------------------------------------------  ----------------  ---------------------------------------------  ----------------
 TOTAL DBM1 STORAGE BELOW 2 GB           (MB)               5.59    24 BIT LOW PRIVATE                      (MB)               0.17
  TOTAL GETMAINED STORAGE                (MB)               0.19    24 BIT HIGH PRIVATE                     (MB)               1.05
  TOTAL VARIABLE STORAGE                 (MB)               1.00    24 BIT PRIVATE CURRENT HIGH ADDRESS          0000000000031000
   TOTAL AGENT LOCAL STORAGE             (MB)               0.20    31 BIT EXTENDED LOW PRIVATE             (MB)              91.12
    TOTAL AGENT SYSTEM STORAGE           (MB)               0.16    31 BIT EXTENDED HIGH PRIVATE            (MB)              25.75
      NUMBER OF PREFETCH ENGINES                            5.00    31 BIT PRIVATE CURRENT HIGH ADDRESS          0000000041500000
      NUMBER OF DEFERRED WRITE ENGINES                      1.00    EXTENDED REGION SIZE (MAX)              (MB)            1095.00
      NUMBER OF CASTOUT ENGINES                             3.00    EXTENDED CSA SIZE                       (MB)             742.45
      NUMBER OF GBP WRITE ENGINES                           0.00
      NUMBER OF P-LOCK/NOTIFY EXIT ENGINES                  1.00    AVERAGE THREAD FOOTPRINT                (MB)               0.28
    TOTAL AGENT NON-SYSTEM STORAGE       (MB)               0.05    MAX NUMBER OF POSSIBLE THREADS                             2738
      TOTAL NUMBER OF ACTIVE USER THREADS                   4.67
        NUMBER OF ALLIED THREADS                            4.00    AVERAGE THREAD FOOTPRINT (TYPE II)      (MB)               N/A
        NUMBER OF ACTIVE DBATS                              0.00    MAX NUMBER OF POSSIBLE THREADS (TYPE II)                   N/A
        NUMBER OF POOLED DBATS                              0.67
      NUMBER OF PARALLEL CHILD THREADS                      0.00
   SYSTEM COPIES OF CACHED SQL STMTS     (MB)                N/A
     IN USE STORAGE                      (MB)                N/A
     INTVL HWM FOR ALLOCATED STATEMENTS  (MB)                N/A
   SYSTEM COPIES OF STATIC SQL           (MB)                N/A
     IN USE STORAGE                      (MB)                N/A
   THREAD PLAN AND PACKAGE STORAGE       (MB)               0.00
   BUFFER MANAGER STORAGE CNTL BLKS      (MB)               0.73
  TOTAL FIXED STORAGE                    (MB)               0.08
  TOTAL GETMAINED STACK STORAGE          (MB)               4.32
    TOTAL STACK STORAGE IN USE           (MB)               4.19
      SYSTEM AGENT STACK STORAGE IN USE  (MB)               3.84
 STORAGE CUSHION                         (MB)
109.54
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-14
      GROUP: ODS5                                STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                             INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

DBM1 STORAGE ABOVE 2 GB                                  QUANTITY
-----------------------------------------------  ------------------
GETMAINED STORAGE                        (MB)               97.99
  COMPRESSION DICTIONARY                 (MB)                0.06
  IN USE EDM DBD POOL                    (MB)                0.92
  IN USE EDM STATEMENT POOL              (MB)                0.06
  IN USE EDM RDS POOL                    (MB)                 N/A
  IN USE EDM SKELETON POOL               (MB)                0.22
FIXED STORAGE POOL                       (MB)                5.16
VARIABLE STORAGE POOL                    (MB)               57.37
STORAGE MANAGER CONTROL BLOCKS           (MB)                1.34
VIRTUAL BUFFER POOLS                     (MB)               31.25
VIRTUAL POOL CONTROL BLOCKS              (MB)                0.52
CASTOUT BUFFERS                          (MB)                0.38

SHARED GETMAINED STORAGE                 (MB)                4.88
  STORAGE FOR STMT DEPENDENCIES          (MB)                0.00
SHARED FIXED STORAGE                     (MB)                5.16
  RID POOL                               (MB)                0.00
SHARED VARIABLE STORAGE                  (MB)               19.98
  TOTAL AGENT LOCAL STORAGE              (MB)               18.38
    TOTAL AGENT SYSTEM STORAGE           (MB)                3.66
    TOTAL AGENT NON-SYSTEM STORAGE       (MB)               14.71
      THREAD COPIES OF CACHED SQL STMTS  (MB)                 N/A
        IN USE STORAGE                   (MB)                0.00
        STATEMENTS COUNT                                     0.00
        INT HWM FOR ALLOCATED STATEMENTS(MB)                 0.00
          STATEMENT COUNT AT INTVL HWM SET                   0.00
          DATE AT INTERVAL HWM SET                       11/06/23
          TIME AT INTERVAL HWM SET                      08:36:31.06
  DYNAMIC STMT CACHE CNTL BLKS           (MB)                0.75
  SYSTEM COPIES OF CACHED SQL STMTS      (MB)                0.02
    IN USE STORAGE                       (MB)                0.01
    INTVL HWM FOR ALLOCATED STATEMENTS   (MB)                0.01
  SYSTEM COPIES OF STATIC SQL            (MB)                0.11
    IN USE STORAGE                       (MB)                0.02
  THREAD PLAN AND PACKAGE STORAGE        (MB)                0.01
  ARRAY VARIABLE STORAGE                 (MB)                0.00
SHARED STORAGE MANAGER CNTL BLKS         (MB)                1.34
SHARED SYSTEM AGENT STACK STORAGE        (MB)              128.00
  STACK STORAGE IN USE                   (MB)               27.25
SHARED NON-SYSTEM AGENT STACK STORAGE    (MB)              384.00
  STACK STORAGE IN USE                   (MB)
2.84
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-15
      GROUP: ODS5                                STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                             INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

DIST AND MVS STORAGE BELOW 2 GB                          QUANTITY    DIST STORAGE ABOVE 2 GB                                  QUANTITY
-----------------------------------------------  ------------------  -----------------------------------------------  ------------------
TOTAL DIST STORAGE BELOW 2 GB            (MB)                1.35    FIXED STORAGE                            (MB)                0.11
 TOTAL GETMAINED STORAGE                 (MB)                0.00    GETMAINED STORAGE                        (MB)                0.00
 TOTAL VARIABLE STORAGE                  (MB)                0.28    VARIABLE STORAGE                         (MB)                0.38
   NUMBER OF ACTIVE CONNECTIONS                              0.00    STORAGE MANAGER CONTROL BLOCKS           (MB)                1.84
   NUMBER OF INACTIVE CONNECTIONS                            0.00
 TOTAL FIXED STORAGE                     (MB)                0.08
 TOTAL GETMAINED STACK STORAGE           (MB)                0.98
   TOTAL STACK STORAGE IN USE            (MB)                0.85
     SYSTEM AGENT STACK STORAGE IN USE   (MB)                0.68
STORAGE CUSHION                          (MB)              109.54

24 BIT LOW PRIVATE                       (MB)                0.24
24 BIT HIGH PRIVATE                      (MB)                0.32
24 BIT PRIVATE CURRENT HIGH ADDRESS                 0000000000043000
31 BIT EXTENDED LOW PRIVATE              (MB)               14.46
31 BIT EXTENDED HIGH PRIVATE             (MB)               11.85
31 BIT PRIVATE CURRENT HIGH ADDRESS                 000000003C776000
EXTENDED REGION SIZE (MAX)               (MB)             1095.00

REAL AND AUXILIARY STORAGE FOR DBM1                      QUANTITY    REAL AND AUXILIARY STORAGE FOR DIST                      QUANTITY
-----------------------------------------------  ------------------  -----------------------------------------------  ------------------
REAL STORAGE IN USE                      (MB)              259.57    REAL STORAGE IN USE                      (MB)               19.90
  31 BIT IN USE                          (MB)              101.13      31 BIT IN USE                          (MB)               17.39
  64 BIT IN USE                          (MB)              158.45      64 BIT IN USE                          (MB)                2.51
    64 BIT THREAD AND SYSTEM ONLY        (MB)              140.97        64 BIT THREAD AND SYSTEM ONLY        (MB)                2.34
HWM 64 BIT REAL STORAGE IN USE           (MB)              158.45    HWM 64 BIT REAL STORAGE IN USE           (MB)                2.51
AVERAGE THREAD FOOTPRINT                 (MB)               51.81    AVERAGE DBAT FOOTPRINT                   (MB)               29.34

AUXILIARY STORAGE IN USE                 (MB)                0.00    AUXILIARY STORAGE IN USE                 (MB)                0.00
  31 BIT IN USE                          (MB)                0.00      31 BIT IN USE                          (MB)                0.00
  64 BIT IN USE                          (MB)                0.00      64 BIT IN USE                          (MB)                0.00
    64 BIT THREAD AND SYSTEM ONLY        (MB)                0.00        64 BIT THREAD AND SYSTEM ONLY        (MB)                0.00
HWM 64 BIT AUX STORAGE IN USE            (MB)                0.00    HWM 64 BIT AUX STORAGE IN USE            (MB)                0.00

DISCARDED STORAGE ELIGIBLE FOR STEAL     (MB)                0.00    DISCARDED STORAGE ELIGIBLE FOR STEAL     (MB)
0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-16
       GROUP: ODS5                                STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
   SUBSYSTEM: OCC5                                                                            INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

 COMMON STORAGE BELOW AND ABOVE 2 GB                       QUANTITY    SUBSYSTEM SHARED STORAGE ABOVE 2 GB                    QUANTITY
 ------------------------------------------  ------------------    ------------------------------------------  ------------------
 EXTENDED CSA SIZE                    (MB)              742.45    REAL STORAGE IN USE                    (MB)               26.95
                                                                    SHARED THREAD AND SYSTEM               (MB)               18.77
 FIXED POOL BELOW                     (MB)                0.77      SHARED STACK STORAGE                   (MB)                8.18
 VARIABLE POOL BELOW                  (MB)                0.65    AVERAGE THREAD FOOTPRINT                 (MB)                5.77
 GETMAINED BELOW                      (MB)                0.11
                                                                  AUXILIARY STORAGE IN USE                 (MB)                0.00
 FIXED POOL ABOVE                     (MB)                3.48      SHARED THREAD AND SYSTEM               (MB)                0.00
 VARIABLE POOL ABOVE                  (MB)                6.02      SHARED STACK STORAGE                   (MB)                0.00
 GETMAINED ABOVE                      (MB)                0.23
 STORAGE MANAGER CONTROL BLOCKS ABOVE (MB)                1.34    DISCARDED STORAGE ELIGIBLE FOR STEAL     (MB)                0.00
                                                                    SHARED THREAD AND SYSTEM               (MB)                0.00
 REAL LOG MANAGER WRITE BUFFERS ABOVE (MB)                2.00      SHARED STACK STORAGE                   (MB)                0.00
 REAL LOG MANAGER CONTROL BLOCKS ABOVE (MB)               0.00
 AUX LOG MANAGER CONTROL BLOCKS ABOVE (MB)                0.00

 REAL STORAGE IN USE                  (MB)                4.55
 AVERAGE THREAD FOOTPRINT             (MB)                0.97

 AUXILIARY STORAGE IN USE             (MB)                0.00

 DISCARDED STORAGE ELIGIBLE FOR STEAL (MB)                0.00

 MVS LPAR SHARED STORAGE ABOVE 2 GB                        QUANTITY    REAL + AUX - DISC STORAGE IN USE - SUMMARY             QUANTITY
 ------------------------------------------  ------------------    ------------------------------------------  ------------------
 SHARED MEMORY OBJECTS                                       66.00    31/64-BIT PRIVATE (DBM1)               (MB)              259.57
 64 BIT SHARED STORAGE                (MB)          24118458.98    31/64-BIT PRIVATE (DIST)               (MB)               19.90
 HWM FOR 64 BIT SHARED STORAGE        (MB)          24118666.00    64-BIT SHARED THREAD AND SYSTEM        (MB)               18.77
 64 BIT SHARED STORAGE BACKED IN REAL (MB)              1606.74    64-BIT SHARED STACK                    (MB)                8.18
 AUX STORAGE USED FOR 64 BIT SHARED   (MB)                0.00    64-BIT COMMON                          (MB)                4.55
 64 BIT SHARED STORAGE PAGED IN FROM AUX (MB)             0.00    TOTAL REAL STORAGE IN USE              (MB)              310.97
 64 BIT SHARED STORAGE PAGED OUT TO AUX  (MB)             0.00


 IRLM STORAGE BELOW AND ABOVE 2 GB                         QUANTITY
 ------------------------------------------  ------------------
 EXTENDED CSA SIZE IN USE             (MB)                1.57
 HWM EXTENDED CSA SIZE IN USE         (MB)                1.57

 31 BIT PRIVATE IN USE                (MB)                5.50
 HWM 31 BIT PRIVATE IN USE            (MB)                5.50
 THRESHOLD 31 BIT PRIVATE             (MB)              985.50

 64 BIT PRIVATE IN USE                (MB)                5.00
 HWM 64 BIT PRIVATE IN USE            (MB)                5.00
 THRESHOLD 64 BIT PRIVATE             (MB)             1944.00

 64 BIT COMMON IN USE                 (MB)                0.00
 HWM 64 BIT COMMON IN USE             (MB)
0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                  PAGE: 1-17
       GROUP: ODS5                                STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
      MEMBER: OCC5                                                                                       TO: NOT SPECIFIED
   SUBSYSTEM: OCC5                                                                            INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

 WORKFILE DATABASE            QUANTITY  /SECOND  /THREAD  /COMMIT    CPU AND STORAGE METRICS                QUANTITY
 --------------------------  ---------  -------  -------  -------    --------------------------  ------------------
 TOTAL STORAGE CONFIG   (KB)    134.2M      N/A      N/A      N/A    CP LPAR                                  N/A
   TOT DGTT STOR CONFIG (KB)    134.2M      N/A      N/A      N/A    CPU UTILIZATION LPAR                     N/A
   TOT WF STOR CONFIG   (KB)      0.00      N/A      N/A      N/A    CPU UTILIZATION DB2                      N/A
 TOTAL STORAGE THRESHOLD (%)     90.00      N/A      N/A      N/A    CPU UTILIZATION DB2 MSTR                 N/A
                                                                    CPU UTILIZATION DB2 DBM1                 N/A
 MAX TOTAL STORAGE USED (KB)    128.00      N/A      N/A      N/A
   MAX DGTT STOR USED   (KB)      0.00      N/A      N/A      N/A    UNREFERENCED INTERVAL COUNT              N/A
   MAX WF STOR USED     (KB)    128.00      N/A      N/A      N/A
                                                                    REAL STORAGE LPAR      (MB)              N/A
 CUR TOTAL STORAGE USED (KB)      0.00      N/A      N/A      N/A    FREE REAL STORAGE LPAR (MB)              N/A
   CUR DGTT STOR USED   (KB)      0.00      N/A      N/A      N/A    USED REAL STORAGE DB2  (MB)             N/A
   CUR WF STOR USED     (KB)      0.00      N/A      N/A      N/A
   STORAGE IN 4K TS     (KB)      0.00      N/A      N/A      N/A    VIRTUAL STORAGE LPAR   (MB)              N/A
   STORAGE IN 32K TS    (KB)      0.00      N/A      N/A      N/A    FREE VIRTUAL STOR LPAR (MB)              N/A
                                                                    USED VIRTUAL STOR DB2  (MB)              N/A
 4K USED INSTEAD OF 32K TS        0.00     0.00      N/C     0.00
 32K USED INSTEAD OF 4K TS        0.00     0.00      N/C     0.00

 MAX ACTIVE (DM) IN-MEMORY        0.00      N/A      N/A      N/A
   MAX ACT (NONSORT) IN-MEM       0.00      N/A      N/A      N/A
 CUR ACTIVE (DM) IN-MEMORY        0.00      N/A      N/A      N/A
   CUR ACT (NONSORT) IN-MEM       0.00      N/A      N/A      N/A
 MAX STOR (DM) IN-MEM   (KB)      0.00      N/A      N/A      N/A
 CUR STOR (DM) IN-MEM   (KB)      0.00      N/A      N/A      N/A
 MAX ACTIVE (SORT) IN-MEMORY      0.00      N/A      N/A      N/A
 CUR ACTIVE (SORT) IN-MEMORY      0.00      N/A      N/A      N/A
 MAX STOR (SORT) IN-MEM (KB)      0.00      N/A      N/A      N/A
 CUR STOR (SORT) IN-MEM (KB)      0.00      N/A      N/A      N/A
 IN-MEM (NONSORT) OVERFLOWED      0.00     0.00      N/C     0.00
 IN-MEM WORKF NOT CREATED         0.00     0.00      N/C     0.00

 AGENT STORAGE CONFIG   (KB)      0.00      N/A      N/A      N/A
   NUMBER OF LIMIT EXCEEDED       0.00     0.00      N/C     0.00
 AGENT STORAGE THRESHOLD (%)      0.00      N/A      N/A      N/A
 MAX AGENT STORAGE USED (KB)    128.00      N/A      N/A      N/A

 DM FAST INSERT PIPES             0.00      N/A      N/A      N/A
 DM FAST INSERT PIPES DISAB       0.00      N/A      N/A      N/A

 SHORT-ON-STORAGE METRICS     QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  ---------  -------  -------  -------
 FULL SYSTEM CONTRACTIONS          0.00     0.00      N/C     0.00
 CRITICAL SHORTAGES                0.00     0.00      N/C     0.00
 ABENDS DUE TO SHORTAGES           0.00     0.00      N/C
0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-18
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                         TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

BP0    GENERAL               QUANTITY  /SECOND  /THREAD  /COMMIT    BP0    READ OPERATIONS       QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------    ---------------------------  --------  -------  -------  -------
CURRENT ACTIVE BUFFERS          28.00      N/A      N/A      N/A    BPOOL HIT RATIO (%)            100.00
UNAVAIL.BUFFER-VPOOL FULL        0.00     0.00      N/C     0.00    BPOOL HIT RATIO (%) SEQU       100.00
                                                                   BPOOL HIT RATIO (%) RANDOM     100.00
NUMBER OF DATASET OPENS          0.00     0.00      N/C     0.00    GETPAGE REQUEST                302.00     3.39      N/C   302.00
                                                                    GETPAGE REQS-SEQUENTIAL        90.00     1.01      N/C    90.00
BUFFERS ALLOCATED - VPOOL     2000.00      N/A      N/A      N/A     IN-MEM OVFL SEQ REQS           0.00     0.00      N/C     0.00
                                                                    GETPAGE REQS-RANDOM          212.00     2.38      N/C   212.00
DFHSM MIGRATED DATASET           0.00     0.00      N/C     0.00     IN-MEM OVFL RND REQS           0.00     0.00      N/C     0.00
DFHSM RECALL TIMEOUTS            0.00     0.00      N/C     0.00
                                                                   SYNCHRONOUS READS              0.00     0.00      N/C     0.00
VPOOL EXPANS. OR CONTRACT.       0.00     0.00      N/C     0.00    SYNC READS-SEQUENTIAL          0.00     0.00      N/C     0.00
VPOOL EXPANS. FAILURES           0.00     0.00      N/C     0.00     IN-MEM OVFL SEQ READS         0.00     0.00      N/C     0.00
                                                                    SYNC READS-RANDOM             0.00     0.00      N/C     0.00
CONCUR.PREF.I/O STREAMS-HWM      0.00      N/A      N/A      N/A     IN-MEM OVFL RND READS          0.00     0.00      N/C     0.00
PREF.I/O STREAMS REDUCTION       0.00     0.00      N/C     0.00
PARALLEL QUERY REQUESTS          0.00     0.00      N/C     0.00   GETPAGE PER SYN.READ-RANDOM      N/C
PARALL.QUERY REQ.REDUCTION       0.00     0.00      N/C     0.00   SEQUENTIAL PREFETCH REQUEST    0.00     0.00      N/C     0.00
PREF.QUANT.REDUCED TO 1/2        0.00     0.00      N/C     0.00   SEQUENTIAL PREFETCH READS      0.00     0.00      N/C     0.00
PREF.QUANT.REDUCED TO 1/4        0.00     0.00      N/C     0.00   PAGES READ VIA SEQ.PREFETCH    0.00     0.00      N/C     0.00
                                                                   S.PRF.PAGES READ/S.PRF.READ      N/C
NUMBER OF LPL INSERTS            0.00     0.00      N/C     0.00   LIST PREFETCH REQUESTS         0.00     0.00      N/C     0.00
                                                                   LIST PREFETCH READS            0.00     0.00      N/C     0.00
MIN BUFFERS ON SLRU           1326.33      N/A      N/A      N/A   PAGES READ VIA LIST PREFTCH    0.00     0.00      N/C     0.00
MAX BUFFERS ON SLRU           1327.00      N/A      N/A      N/A   L.PRF.PAGES READ/L.PRF.READ      N/C
SLRU LENGTH EQUALS VPSEQT        0.00     0.00      N/C     0.00   DYNAMIC PREFETCH REQUESTED    16.00     0.18      N/C    16.00
GETPAGE REQU RANDOM ON SLRU      0.00     0.00      N/C     0.00   DYNAMIC PREFETCH READS         0.00     0.00      N/C     0.00
                                                                   PAGES READ VIA DYN.PREFETCH    0.00     0.00      N/C     0.00
                                                                   D.PRF.PAGES READ/D.PRF.READ      N/C
                                                                   PREF.DISABLED-NO BUFFER        0.00     0.00      N/C     0.00
                                                                   PREF.DISABLED-NO READ ENG      0.00     0.00      N/C     0.00
                                                                   PAGE-INS REQUIRED FOR READ     0.00     0.00      N/C     0.00

                                                                   ZHYPERLINK READ I/O            0.00     0.00      N/C     0.00
                                                                   READ I/O - DASD CACHE HIT      0.00     0.00      N/C     0.00

BP0    WRITE OPERATIONS      QUANTITY  /SECOND  /THREAD  /COMMIT    BP0    SORT/MERGE            QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------    ---------------------------  --------  -------  -------  -------
BUFFER UPDATES                   9.00     0.10      N/C     9.00   MAX WORKFILES CONCURR. USED    0.00      N/A      N/A      N/A
PAGES WRITTEN                    0.00     0.00      N/C     0.00   MERGE PASSES REQUESTED         0.00     0.00      N/C     0.00
BUFF.UPDATES/PAGES WRITTEN       N/C                               MERGE PASS DEGRADED-LOW BUF    0.00     0.00      N/C     0.00
                                                                   WORKFILE REQ.REJCTD-LOW BUF    0.00     0.00      N/C     0.00
SYNCHRONOUS WRITES               0.00     0.00      N/C     0.00   WORKFILE REQ-ALL MERGE PASS    0.00     0.00      N/C     0.00
ASYNCHRONOUS WRITES              0.00     0.00      N/C     0.00   WORKFILE NOT CREATED-NO BUF    0.00     0.00      N/C     0.00
PAGES WRITTEN PER WRITE I/O      N/C                               WORKFILE PRF NOT SCHEDULED     0.00     0.00      N/C     0.00
PAGES WRTN FOR CASTOUT I/O       0.00     0.00      N/C     0.00
NUMBER OF CASTOUT I/O            0.00     0.00      N/C     0.00

HORIZ.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
VERTI.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
DM THRESHOLD                     0.00     0.00      N/C     0.00
PAGE-INS REQUIRED FOR WRITE      0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-19
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                 INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 BP32K  GENERAL               QUANTITY  /SECOND  /THREAD  /COMMIT    BP32K  READ OPERATIONS       QUANTITY  /SECOND  /THREAD  /COMMIT
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 CURRENT ACTIVE BUFFERS           0.00      N/A      N/A      N/A    BPOOL HIT RATIO (%)              N/C
 UNAVAIL.BUFFER-VPOOL FULL        0.00     0.00      N/C     0.00    BPOOL HIT RATIO (%) SEQU         N/C
                                                                    BPOOL HIT RATIO (%) RANDOM       N/C
 NUMBER OF DATASET OPENS          0.00     0.00      N/C     0.00    GETPAGE REQUEST                 0.00     0.00      N/C     0.00
                                                                     GETPAGE REQS-SEQUENTIAL        0.00     0.00      N/C     0.00
 BUFFERS ALLOCATED - VPOOL      250.00      N/A      N/A      N/A      IN-MEM OVFL SEQ REQS         0.00     0.00      N/C     0.00
                                                                     GETPAGE REQS-RANDOM            0.00     0.00      N/C     0.00
 DFHSM MIGRATED DATASET           0.00     0.00      N/C     0.00      IN-MEM OVFL RND REQS         0.00     0.00      N/C     0.00
 DFHSM RECALL TIMEOUTS            0.00     0.00      N/C     0.00
                                                                    SYNCHRONOUS READS               0.00     0.00      N/C     0.00
 VPOOL EXPANS. OR CONTRACT.       0.00     0.00      N/C     0.00     SYNC READS-SEQUENTIAL         0.00     0.00      N/C     0.00
 VPOOL EXPANS. FAILURES           0.00     0.00      N/C     0.00      IN-MEM OVFL SEQ READS        0.00     0.00      N/C     0.00
                                                                     SYNC READS-RANDOM             0.00     0.00      N/C     0.00
 CONCUR.PREF.I/O STREAMS-HWM      0.00      N/A      N/A      N/A      IN-MEM OVFL RND READS        0.00     0.00      N/C     0.00
 PREF.I/O STREAMS REDUCTION       0.00     0.00      N/C     0.00
 PARALLEL QUERY REQUESTS          0.00     0.00      N/C     0.00    GETPAGE PER SYN.READ-RANDOM      N/C
 PARALL.QUERY REQ.REDUCTION       0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH REQUEST     0.00     0.00      N/C     0.00
 PREF.QUANT.REDUCED TO 1/2        0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH READS       0.00     0.00      N/C     0.00
 PREF.QUANT.REDUCED TO 1/4        0.00     0.00      N/C     0.00    PAGES READ VIA SEQ.PREFETCH     0.00     0.00      N/C     0.00
                                                                    S.PRF.PAGES READ/S.PRF.READ      N/C
 NUMBER OF LPL INSERTS            0.00     0.00      N/C     0.00    LIST PREFETCH REQUESTS          0.00     0.00      N/C     0.00
                                                                    LIST PREFETCH READS             0.00     0.00      N/C     0.00
 MIN BUFFERS ON SLRU              0.00      N/A      N/A      N/A    PAGES READ VIA LIST PREFTCH     0.00     0.00      N/C     0.00
 MAX BUFFERS ON SLRU              0.00      N/A      N/A      N/A    L.PRF.PAGES READ/L.PRF.READ      N/C
 SLRU LENGTH EQUALS VPSEQT        0.00     0.00      N/C     0.00    DYNAMIC PREFETCH REQUESTED      0.00     0.00      N/C     0.00
 GETPAGE REQU RANDOM ON SLRU      0.00     0.00      N/C     0.00    DYNAMIC PREFETCH READS          0.00     0.00      N/C     0.00
                                                                    PAGES READ VIA DYN.PREFETCH     0.00     0.00      N/C     0.00
                                                                    D.PRF.PAGES READ/D.PRF.READ      N/C
                                                                    PREF.DISABLED-NO BUFFER         0.00     0.00      N/C     0.00
                                                                    PREF.DISABLED-NO READ ENG       0.00     0.00      N/C     0.00
                                                                    PAGE-INS REQUIRED FOR READ      0.00     0.00      N/C     0.00

                                                                    ZHYPERLINK READ I/O             0.00     0.00      N/C     0.00
                                                                    READ I/O - DASD CACHE HIT       0.00     0.00      N/C     0.00

 BP32K  WRITE OPERATIONS      QUANTITY  /SECOND  /THREAD  /COMMIT    BP32K  SORT/MERGE            QUANTITY  /SECOND  /THREAD  /COMMIT
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 BUFFER UPDATES                   0.00     0.00      N/C     0.00    MAX WORKFILES CONCURR. USED      0.00      N/A      N/A      N/A
 PAGES WRITTEN                    0.00     0.00      N/C     0.00    MERGE PASSES REQUESTED           0.00     0.00      N/C     0.00
 BUFF.UPDATES/PAGES WRITTEN       N/C                               MERGE PASS DEGRADED-LOW BUF      0.00     0.00      N/C     0.00
                                                                    WORKFILE REQ.REJCTD-LOW BUF      0.00     0.00      N/C     0.00
 SYNCHRONOUS WRITES               0.00     0.00      N/C     0.00    WORKFILE REQ-ALL MERGE PASS      0.00     0.00      N/C     0.00
 ASYNCHRONOUS WRITES              0.00     0.00      N/C     0.00    WORKFILE NOT CREATED-NO BUF      0.00     0.00      N/C     0.00
 PAGES WRITTEN PER WRITE I/O      N/C                               WORKFILE PRF NOT SCHEDULED       0.00     0.00      N/C     0.00
 PAGES WRTN FOR CASTOUT I/O       0.00     0.00      N/C     0.00
 NUMBER OF CASTOUT I/O            0.00     0.00      N/C     0.00

 HORIZ.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
 VERTI.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
 DM THRESHOLD                     0.00     0.00      N/C     0.00
 PAGE-INS REQUIRED FOR WRITE      0.00     0.00      N/C     0.00
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1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-20
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                 INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                    SCOPE: MEMBER                                        TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

 BP8K   GENERAL               QUANTITY  /SECOND  /THREAD  /COMMIT    BP8K   READ OPERATIONS       QUANTITY  /SECOND  /THREAD  /COMMIT
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 CURRENT ACTIVE BUFFERS           0.00      N/A      N/A      N/A    BPOOL HIT RATIO (%)              N/C
 UNAVAIL.BUFFER-VPOOL FULL        0.00     0.00      N/C     0.00    BPOOL HIT RATIO (%) SEQU         N/C
                                                                    BPOOL HIT RATIO (%) RANDOM       N/C
 NUMBER OF DATASET OPENS          0.00     0.00      N/C     0.00    GETPAGE REQUEST                 0.00     0.00      N/C     0.00
                                                                     GETPAGE REQS-SEQUENTIAL        0.00     0.00      N/C     0.00
 BUFFERS ALLOCATED - VPOOL     1000.00      N/A      N/A      N/A      IN-MEM OVFL SEQ REQS         0.00     0.00      N/C     0.00
                                                                     GETPAGE REQS-RANDOM            0.00     0.00      N/C     0.00
 DFHSM MIGRATED DATASET           0.00     0.00      N/C     0.00      IN-MEM OVFL RND REQS         0.00     0.00      N/C     0.00
 DFHSM RECALL TIMEOUTS            0.00     0.00      N/C     0.00
                                                                    SYNCHRONOUS READS               0.00     0.00      N/C     0.00
 VPOOL EXPANS. OR CONTRACT.       0.00     0.00      N/C     0.00     SYNC READS-SEQUENTIAL         0.00     0.00      N/C     0.00
 VPOOL EXPANS. FAILURES           0.00     0.00      N/C     0.00      IN-MEM OVFL SEQ READS        0.00     0.00      N/C     0.00
                                                                     SYNC READS-RANDOM             0.00     0.00      N/C     0.00
 CONCUR.PREF.I/O STREAMS-HWM      0.00      N/A      N/A      N/A      IN-MEM OVFL RND READS        0.00     0.00      N/C     0.00
 PREF.I/O STREAMS REDUCTION       0.00     0.00      N/C     0.00
 PARALLEL QUERY REQUESTS          0.00     0.00      N/C     0.00    GETPAGE PER SYN.READ-RANDOM      N/C
 PARALL.QUERY REQ.REDUCTION       0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH REQUEST     0.00     0.00      N/C     0.00
 PREF.QUANT.REDUCED TO 1/2        0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH READS       0.00     0.00      N/C     0.00
 PREF.QUANT.REDUCED TO 1/4        0.00     0.00      N/C     0.00    PAGES READ VIA SEQ.PREFETCH     0.00     0.00      N/C     0.00
                                                                    S.PRF.PAGES READ/S.PRF.READ      N/C
 NUMBER OF LPL INSERTS            0.00     0.00      N/C     0.00    LIST PREFETCH REQUESTS          0.00     0.00      N/C     0.00
                                                                    LIST PREFETCH READS             0.00     0.00      N/C     0.00
 MIN BUFFERS ON SLRU              0.00      N/A      N/A      N/A    PAGES READ VIA LIST PREFTCH     0.00     0.00      N/C     0.00
 MAX BUFFERS ON SLRU              0.00      N/A      N/A      N/A    L.PRF.PAGES READ/L.PRF.READ      N/C
 SLRU LENGTH EQUALS VPSEQT        0.00     0.00      N/C     0.00    DYNAMIC PREFETCH REQUESTED      0.00     0.00      N/C     0.00
 GETPAGE REQU RANDOM ON SLRU      0.00     0.00      N/C     0.00    DYNAMIC PREFETCH READS          0.00     0.00      N/C     0.00
                                                                    PAGES READ VIA DYN.PREFETCH     0.00     0.00      N/C     0.00
                                                                    D.PRF.PAGES READ/D.PRF.READ      N/C
                                                                    PREF.DISABLED-NO BUFFER         0.00     0.00      N/C     0.00
                                                                    PREF.DISABLED-NO READ ENG       0.00     0.00      N/C     0.00
                                                                    PAGE-INS REQUIRED FOR READ      0.00     0.00      N/C     0.00

                                                                    ZHYPERLINK READ I/O             0.00     0.00      N/C     0.00
                                                                    READ I/O - DASD CACHE HIT       0.00     0.00      N/C     0.00

 BP8K   WRITE OPERATIONS      QUANTITY  /SECOND  /THREAD  /COMMIT    BP8K   SORT/MERGE            QUANTITY  /SECOND  /THREAD  /COMMIT
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 BUFFER UPDATES                   0.00     0.00      N/C     0.00    MAX WORKFILES CONCURR. USED     0.00      N/A      N/A      N/A
 PAGES WRITTEN                    0.00     0.00      N/C     0.00    MERGE PASSES REQUESTED          0.00     0.00      N/C     0.00
 BUFF.UPDATES/PAGES WRITTEN       N/C                               MERGE PASS DEGRADED-LOW BUF     0.00     0.00      N/C     0.00
                                                                    WORKFILE REQ.REJCTD-LOW BUF     0.00     0.00      N/C     0.00
 SYNCHRONOUS WRITES               0.00     0.00      N/C     0.00    WORKFILE REQ-ALL MERGE PASS     0.00     0.00      N/C     0.00
 ASYNCHRONOUS WRITES              0.00     0.00      N/C     0.00    WORKFILE NOT CREATED-NO BUF     0.00     0.00      N/C     0.00
 PAGES WRITTEN PER WRITE I/O      N/C                               WORKFILE PRF NOT SCHEDULED      0.00     0.00      N/C     0.00
 PAGES WRTN FOR CASTOUT I/O       0.00     0.00      N/C     0.00
 NUMBER OF CASTOUT I/O            0.00     0.00      N/C     0.00

 HORIZ.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
 VERTI.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
 DM THRESHOLD                     0.00     0.00      N/C     0.00
 PAGE-INS REQUIRED FOR WRITE      0.00     0.00      N/C     0.00
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1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-21
      GROUP: ODS5                                STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                 INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                    SCOPE: MEMBER                                          TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

BP16K  GENERAL               QUANTITY  /SECOND  /THREAD  /COMMIT    BP16K  READ OPERATIONS       QUANTITY  /SECOND  /THREAD  /COMMIT
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CURRENT ACTIVE BUFFERS          0.00      N/A      N/A      N/A    BPOOL HIT RATIO (%)              N/C
UNAVAIL.BUFFER-VPOOL FULL       0.00     0.00      N/C     0.00    BPOOL HIT RATIO (%) SEQU         N/C
                                                                   BPOOL HIT RATIO (%) RANDOM       N/C
NUMBER OF DATASET OPENS         0.00     0.00      N/C     0.00    GETPAGE REQUEST                 0.00     0.00      N/C     0.00
                                                                    GETPAGE REQS-SEQUENTIAL        0.00     0.00      N/C     0.00
BUFFERS ALLOCATED - VPOOL     500.00      N/A      N/A      N/A      IN-MEM OVFL SEQ REQS          0.00     0.00      N/C     0.00
                                                                   GETPAGE REQS-RANDOM            0.00     0.00      N/C     0.00
DFHSM MIGRATED DATASET          0.00     0.00      N/C     0.00      IN-MEM OVFL RND REQS          0.00     0.00      N/C     0.00
DFHSM RECALL TIMEOUTS           0.00     0.00      N/C     0.00
                                                                   SYNCHRONOUS READS              0.00     0.00      N/C     0.00
VPOOL EXPANS. OR CONTRACT.      0.00     0.00      N/C     0.00     SYNC READS-SEQUENTIAL         0.00     0.00      N/C     0.00
VPOOL EXPANS. FAILURES          0.00     0.00      N/C     0.00      IN-MEM OVFL SEQ READS        0.00     0.00      N/C     0.00
                                                                    SYNC READS-RANDOM            0.00     0.00      N/C     0.00
CONCUR.PREF.I/O STREAMS-HWM     0.00      N/A      N/A      N/A      IN-MEM OVFL RND READS        0.00     0.00      N/C     0.00
PREF.I/O STREAMS REDUCTION      0.00     0.00      N/C     0.00
PARALLEL QUERY REQUESTS         0.00     0.00      N/C     0.00    GETPAGE PER SYN.READ-RANDOM      N/C
PARALL.QUERY REQ.REDUCTION      0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH REQUEST    0.00     0.00      N/C     0.00
PREF.QUANT.REDUCED TO 1/2       0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH READS      0.00     0.00      N/C     0.00
PREF.QUANT.REDUCED TO 1/4       0.00     0.00      N/C     0.00    PAGES READ VIA SEQ.PREFETCH    0.00     0.00      N/C     0.00
                                                                   S.PRF.PAGES READ/S.PRF.READ      N/C
NUMBER OF LPL INSERTS           0.00     0.00      N/C     0.00    LIST PREFETCH REQUESTS         0.00     0.00      N/C     0.00
                                                                   LIST PREFETCH READS            0.00     0.00      N/C     0.00
MIN BUFFERS ON SLRU             0.00      N/A      N/A      N/A    PAGES READ VIA LIST PREFTCH    0.00     0.00      N/C     0.00
MAX BUFFERS ON SLRU             0.00      N/A      N/A      N/A    L.PRF.PAGES READ/L.PRF.READ      N/C
SLRU LENGTH EQUALS VPSEQT       0.00     0.00      N/C     0.00    DYNAMIC PREFETCH REQUESTED     0.00     0.00      N/C     0.00
GETPAGE REQU RANDOM ON SLRU     0.00     0.00      N/C     0.00    DYNAMIC PREFETCH READS         0.00     0.00      N/C     0.00
                                                                   PAGES READ VIA DYN.PREFETCH    0.00     0.00      N/C     0.00
                                                                   D.PRF.PAGES READ/D.PRF.READ      N/C
                                                                   PREF.DISABLED-NO BUFFER        0.00     0.00      N/C     0.00
                                                                   PREF.DISABLED-NO READ ENG      0.00     0.00      N/C     0.00
                                                                   PAGE-INS REQUIRED FOR READ     0.00     0.00      N/C     0.00

                                                                   ZHYPERLINK READ I/O            0.00     0.00      N/C     0.00
                                                                   READ I/O - DASD CACHE HIT      0.00     0.00      N/C     0.00

BP16K  WRITE OPERATIONS      QUANTITY  /SECOND  /THREAD  /COMMIT    BP16K  SORT/MERGE            QUANTITY  /SECOND  /THREAD  /COMMIT
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BUFFER UPDATES                  0.00     0.00      N/C     0.00    MAX WORKFILES CONCURR. USED    0.00      N/A      N/A      N/A
PAGES WRITTEN                   0.00     0.00      N/C     0.00    MERGE PASSES REQUESTED         0.00     0.00      N/C     0.00
BUFF.UPDATES/PAGES WRITTEN       N/C                               MERGE PASS DEGRADED-LOW BUF    0.00     0.00      N/C     0.00
                                                                   WORKFILE REQ.REJCTD-LOW BUF    0.00     0.00      N/C     0.00
SYNCHRONOUS WRITES              0.00     0.00      N/C     0.00    WORKFILE REQ-ALL MERGE PASS    0.00     0.00      N/C     0.00
ASYNCHRONOUS WRITES             0.00     0.00      N/C     0.00    WORKFILE NOT CREATED-NO BUF    0.00     0.00      N/C     0.00
PAGES WRITTEN PER WRITE I/O      N/C                               WORKFILE PRF NOT SCHEDULED     0.00     0.00      N/C     0.00
PAGES WRTN FOR CASTOUT I/O      0.00     0.00      N/C     0.00
NUMBER OF CASTOUT I/O           0.00     0.00      N/C     0.00

HORIZ.DEF.WRITE THRESHOLD       0.00     0.00      N/C     0.00
VERTI.DEF.WRITE THRESHOLD       0.00     0.00      N/C     0.00
DM THRESHOLD                    0.00     0.00      N/C     0.00
PAGE-INS REQUIRED FOR WRITE     0.00     0.00      N/C     0.00
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1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-22
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                      SCOPE: MEMBER                                       TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

 TOTAL  GENERAL               QUANTITY  /SECOND  /THREAD  /COMMIT    TOTAL  READ OPERATIONS       QUANTITY  /SECOND  /THREAD  /COMMIT
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 CURRENT ACTIVE BUFFERS          28.00      N/A      N/A      N/A    BPOOL HIT RATIO (%)           100.00
 UNAVAIL.BUFFER-VPOOL FULL        0.00     0.00      N/C     0.00    BPOOL HIT RATIO (%) SEQU      100.00
                                                                    BPOOL HIT RATIO (%) RANDOM    100.00
 NUMBER OF DATASET OPENS          0.00     0.00      N/C     0.00    GETPAGE REQUEST               302.00     3.39      N/C   302.00
                                                                     GETPAGE REQS-SEQUENTIAL       90.00     1.01      N/C    90.00
 BUFFERS ALLOCATED - VPOOL     3750.00      N/A      N/A      N/A     IN-MEM OVFL SEQ REQS          0.00     0.00      N/C     0.00
                                                                     GETPAGE REQS-RANDOM          212.00     2.38      N/C   212.00
 DFHSM MIGRATED DATASET           0.00     0.00      N/C     0.00     IN-MEM OVFL RND REQS          0.00     0.00      N/C     0.00
 DFHSM RECALL TIMEOUTS            0.00     0.00      N/C     0.00
                                                                    SYNCHRONOUS READS              0.00     0.00      N/C     0.00
 VPOOL EXPANS. OR CONTRACT.       0.00     0.00      N/C     0.00     SYNC READS-SEQUENTIAL         0.00     0.00      N/C     0.00
 VPOOL EXPANS. FAILURES           0.00     0.00      N/C     0.00     IN-MEM OVFL SEQ READS         0.00     0.00      N/C     0.00
                                                                     SYNC READS-RANDOM             0.00     0.00      N/C     0.00
 CONCUR.PREF.I/O STREAMS-HWM      0.00      N/A      N/A      N/A     IN-MEM OVFL RND READS         0.00     0.00      N/C     0.00
 PREF.I/O STREAMS REDUCTION       0.00     0.00      N/C     0.00
 PARALLEL QUERY REQUESTS          0.00     0.00      N/C     0.00    GETPAGE PER SYN.READ-RANDOM    N/C
 PARALL.QUERY REQ.REDUCTION       0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH REQUEST    0.00     0.00      N/C     0.00
 PREF.QUANT.REDUCED TO 1/2        0.00     0.00      N/C     0.00    SEQUENTIAL PREFETCH READS      0.00     0.00      N/C     0.00
 PREF.QUANT.REDUCED TO 1/4        0.00     0.00      N/C     0.00    PAGES READ VIA SEQ.PREFETCH    0.00     0.00      N/C     0.00
                                                                    S.PRF.PAGES READ/S.PRF.READ    N/C
 NUMBER OF LPL INSERTS            0.00     0.00      N/C     0.00    LIST PREFETCH REQUESTS         0.00     0.00      N/C     0.00
                                                                    LIST PREFETCH READS            0.00     0.00      N/C     0.00
 MIN BUFFERS ON SLRU           1326.33      N/A      N/A      N/A    PAGES READ VIA LIST PREFTCH    0.00     0.00      N/C     0.00
 MAX BUFFERS ON SLRU           1327.00      N/A      N/A      N/A    L.PRF.PAGES READ/L.PRF.READ    N/C
 SLRU LENGTH EQUALS VPSEQT        0.00     0.00      N/C     0.00    DYNAMIC PREFETCH REQUESTED    16.00     0.18      N/C    16.00
 GETPAGE REQU RANDOM ON SLRU      0.00     0.00      N/C     0.00    DYNAMIC PREFETCH READS         0.00     0.00      N/C     0.00
                                                                    PAGES READ VIA DYN.PREFETCH    0.00     0.00      N/C     0.00
                                                                    D.PRF.PAGES READ/D.PRF.READ    N/C
                                                                    PREF.DISABLED-NO BUFFER        0.00     0.00      N/C     0.00
                                                                    PREF.DISABLED-NO READ ENG      0.00     0.00      N/C     0.00
                                                                    PAGE-INS REQUIRED FOR READ     0.00     0.00      N/C     0.00

                                                                    ZHYPERLINK READ I/O            0.00     0.00      N/C     0.00
                                                                    READ I/O - DASD CACHE HIT      0.00     0.00      N/C     0.00

 TOTAL  WRITE OPERATIONS      QUANTITY  /SECOND  /THREAD  /COMMIT    TOTAL  SORT/MERGE          QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  --------  -------  -------  -------    --------------------------  --------  -------  -------  -------
 BUFFER UPDATES                   9.00     0.10      N/C     9.00    MAX WORKFILES CONCURR. USED    0.00      N/A      N/A      N/A
 PAGES WRITTEN                    0.00     0.00      N/C     0.00    MERGE PASSES REQUESTED         0.00     0.00      N/C     0.00
 BUFF.UPDATES/PAGES WRITTEN       N/C                               MERGE PASS DEGRADED-LOW BUF    0.00     0.00      N/C     0.00
                                                                    WORKFILE REQ.REJCTD-LOW BUF    0.00     0.00      N/C     0.00
 SYNCHRONOUS WRITES               0.00     0.00      N/C     0.00    WORKFILE REQ-ALL MERGE PASS    0.00     0.00      N/C     0.00
 ASYNCHRONOUS WRITES              0.00     0.00      N/C     0.00    WORKFILE NOT CREATED-NO BUF    0.00     0.00      N/C     0.00
 PAGES WRITTEN PER WRITE I/O      N/C                               WORKFILE PRF NOT SCHEDULED     0.00     0.00      N/C     0.00
 PAGES WRTN FOR CASTOUT I/O       0.00     0.00      N/C     0.00
 NUMBER OF CASTOUT I/O            0.00     0.00      N/C     0.00

 HORIZ.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
 VERTI.DEF.WRITE THRESHOLD        0.00     0.00      N/C     0.00
 DM THRESHOLD                     0.00     0.00      N/C     0.00
 PAGE-INS REQUIRED FOR WRITE      0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-23
      GROUP: ODS5                                STATISTICS REPORT - LONG                       REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                INTERVAL FROM: 11/06/23 08:36:31.05
 DB2 VERSION: V12                                      SCOPE: MEMBER                                       TO: 11/06/23 08:38:00.27

 ---- HIGHLIGHTS ------------------------------------------------------------------------------
 INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
 INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
 INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:            0.000000    DATA SHARING MEMBER:      N/A

 GROUP BP0                    QUANTITY  /SECOND  /THREAD  /COMMIT    GROUP BP0    CONTINUED   QUANTITY  /SECOND  /THREAD  /COMMIT
 --------------------------  --------  -------  -------  -------    --------------------------  --------  -------  -------  -------
 GROUP BP R/W RATIO (%)           N/C      N/A      N/A      N/A    WRITE AND REGISTER             0.00     0.00      N/C     0.00
 GBP SYN.READ(XI) HIT RATIO(%)    N/C      N/A      N/A      N/A    WRITE AND REGISTER MULT        0.00     0.00      N/C     0.00
 GBP-DEPENDENT GETPAGES           0.00     0.00      N/C     0.00    CHANGED PGS SYNC.WRTN         0.00     0.00      N/C     0.00
 SYN.READ(XI)-DATA RETURNED       0.00     0.00      N/C     0.00    CHANGED PGS ASYNC.WRTN        0.00     0.00      N/C     0.00
 SYN.READ(XI)-NO DATA RETURN      0.00     0.00      N/C     0.00    PAGES WRITE & REG MULT        0.00     0.00      N/C     0.00
 SYN.READ(NF)-DATA RETURNED       0.00     0.00      N/C     0.00    READ FOR CASTOUT              0.00     0.00      N/C     0.00
 SYN.READ(NF)-NO DATA RETURN      0.00     0.00      N/C     0.00    READ FOR CASTOUT MULT         0.00     0.00      N/C     0.00
 UNREGISTER PAGE                  0.00     0.00      N/C     0.00
                                                                    PAGE P-LOCK LOCK REQ          0.00     0.00      N/C     0.00
 CLEAN PAGES SYNC.WRITTEN         0.00     0.00      N/C     0.00     SPACE MAP PAGES              0.00     0.00      N/C     0.00
 CLEAN PAGES ASYNC.WRTN           0.00     0.00      N/C     0.00     DATA PAGES                   0.00     0.00      N/C     0.00
 REG.PAGE LIST (RPL) REQUEST      0.00     0.00      N/C     0.00     INDEX LEAF PAGES             0.00     0.00      N/C     0.00
 NUMBER OF PAGES RETR.FROM GBP    0.00     0.00      N/C     0.00
 PAGES CASTOUT                    0.00     0.00      N/C     0.00    PAGE P-LOCK UNLOCK REQ        0.00     0.00      N/C     0.00
 UNLOCK CASTOUT                   0.00     0.00      N/C     0.00
                                                                    PAGE P-LOCK LOCK SUSP         0.00     0.00      N/C     0.00
 READ CASTOUT CLASS               0.00     0.00      N/C     0.00     SPACE MAP PAGES              0.00     0.00      N/C     0.00
 READ DIRECTORY INFO              0.00     0.00      N/C     0.00     DATA PAGES                   0.00     0.00      N/C     0.00
 READ STORAGE STATISTICS          1.00     0.01      N/C     1.00     INDEX LEAF PAGES             0.00     0.00      N/C     0.00
 REGISTER PAGE                    0.00     0.00      N/C     0.00
 DELETE NAME                      0.00     0.00      N/C     0.00    PAGE P-LOCK LOCK NEG          0.00     0.00      N/C     0.00
 ASYNCH GBP REQUESTS              0.00     0.00      N/C     0.00     SPACE MAP PAGES              0.00     0.00      N/C     0.00
 EXPLICIT X-INVALIDATIONS         0.00     0.00      N/C     0.00     DATA PAGES                   0.00     0.00      N/C     0.00
 CASTOUT CLASS THRESHOLD          0.00     0.00      N/C     0.00     INDEX LEAF PAGES             0.00     0.00      N/C     0.00
 GROUP BP CASTOUT THRESHOLD       0.00     0.00      N/C     0.00
 GBP CHECKPOINTS TRIGGERED        0.00     0.00      N/C     0.00    PAGES IN WRITE-AROUND         0.00     0.00      N/C     0.00
 WRITE FAILED-NO STORAGE          0.00     0.00      N/C     0.00

 WRITE TO SEC-GBP FAILED          0.00     0.00      N/C     0.00
 COMPL CHECKS SUSPENDED           0.00     0.00      N/C     0.00
 DELETE NAME LIST SEC-GBP         0.00     0.00      N/C     0.00
 DELETE NAME FROM SEC-GBP         0.00     0.00      N/C     0.00
 UNLOCK CASTOUT STATS SEC-GBP     0.00     0.00      N/C     0.00
 ASYNCH SEC-GBP REQUESTS          0.00     0.00      N/C     0.00

 IXLCACHE REQS WITH ASYNCH XI     0.00     0.00      N/C     0.00
 IXLAXISN SYNCH-UP CALLS          0.00     0.00      N/C     0.00
 IXLAXISN SUSPENDS WAITING XI     0.00     0.00      N/C     0.00
```

```
1   LOCATION: RS22ODS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                    PAGE: 1-24
      GROUP: ODS5                                STATISTICS REPORT - LONG                      REQUESTED FROM: NOT SPECIFIED
     MEMBER: OCC5                                                                                        TO: NOT SPECIFIED
  SUBSYSTEM: OCC5                                                                                 INTERVAL FROM: 11/06/23 08:36:31.05
DB2 VERSION: V12                                      SCOPE: MEMBER                                         TO: 11/06/23 08:38:00.27

---- HIGHLIGHTS ------------------------------------------------------------------------------------------------
INTERVAL START  : 11/06/23 08:36:31.05    SAMPLING START: 11/06/23 08:36:31.05    TOTAL THREADS      :     0.00
INTERVAL END    : 11/06/23 08:38:00.27    SAMPLING END  : 11/06/23 08:38:00.27    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:          1:29.214412    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A

DRDA REMOTE LOCS   GENERAL       SENT  RECEIVED    DRDA REMOTE LOCS   DDF CONN. DETAILS  QUANTITY
--------------------------  --------  --------    ------------------------------------  --------
CONNECTIONS                       0.00      1.00    ACTIVE CONNS FROM LOC - SNAP             0.00
CONNECTIONS QUEUED                0.00              ACTIVE CONNS FROM LOC - INT. HWM         1.00
CONNECTIONS DEALLOCATED           0.00              ACTIVE DBATS FOR LOC - SNAP              0.00
                                                    ACTIVE DBATS FOR LOC - INT. HWM          1.00
SQL STATEMENTS                    0.00      1.00    REST SERVICE REQUESTS                    0.00
COMMITS                           0.00      1.00    PROFILE SET SPECIAL REGS                 0.00
ROLLBACKS                         0.00      0.00    PROFILE SET GLOBAL VARS                  0.00
ROWS                              3.00      0.00    SYSPLEX WKLD BAL. USED                   0.00
MESSAGES                          6.00      6.00    TLS/SSL USED                             0.00
BYTES                          3269.00    789.00    TRUSTED CONTEXT USED                     0.00
BLOCKS                            4.00      0.00    AES ENCRYPTION USED                      0.00
                                                    XA GLOBAL TRANSACTION USED               0.00
THREAD INDOUBT-REM.L.COORD.       0.00              DRDA ENCRYPTION USED                     0.00
                                                    UID/PWD USED                             1.00
                                                    KERBEROS USED                            0.00
                                                    MFA USED                                 0.00
                                                    CLIENT CERTIFICATE USED                  0.00
                                                    FAILED SECURITY AUTH                     0.00

DRDA REMOTE LOCS   CLIENT  CONDITIONS  QUANTITY    DRDA REMOTE LOCS   REQUEST TERMINATION  QUANTITY
-----------------------------------  --------    ---------------------------------------  --------
WITH HOLD CURSOR NOT CLOSED               0.00    CONDBAT REACHED                             0.00
DGTT NOT DROPPED                          0.00    PROFILE EXCEPTION                           0.00
KEEPDYNAMIC PACKAGES USED                 0.00    MAXCONQN REACHED                            0.00
HIGH PERF DBATS USED                      0.00    MAXCONQW REACHED                            0.00
HELD LOB LOCATORS EXIST                   0.00
SP COMMIT PERFORMED                       0.00

DRDA REMOTE LOCS   THREAD TERMINATION  QUANTITY
-----------------------------------  --------
QUEUED - PROFILE EXCEPTION                0.00
TERMINATED - PROF EXCPTION                0.00
ABENDED                                   0.00
CANCELED                                  0.00

STATISTICS REPORT COMPLETE
```

Statistics Report and Trace Blocks

This section shows the individual blocks presented by OMEGAMON for Db2 PE reports and traces together with a short explanation of each field. The examples shown are taken from the statistics long reports and traces.

The layout of the Statistics report and trace blocks is the same. Statistics traces show times and events as delta records describing the activity between two consecutive DB2 record pairs. Statistics reports show times and events over a user-specified period of time.

Each block is presented in the default layout. Some block can have columns, rows or fields that are not included in the default layout. You can include columns, rows, and fields not shown in the default layouts with *user-tailored reporting* (UTR).

In the short report and trace, field names can differ slightly from the names shown in the long report or trace.

If a counter value or specific information in reports, in windows, or on panels is not shown, the following notation is used to indicate the reason:

N/A
Not applicable is shown if DB2 never produces a counter value in a specific context. Examples are:

- A counter is not available in one DB2 version.
- Counters are mutually exclusive.

N/C
Not calculated is shown for a derived field where the value cannot be calculated or is useless. Examples are:

- A divide by zero (percentages, ratios).
- Suppression of negative elapsed time values.
- Required counter values for calculation marked as N/A or N/P.
- Insufficient data or small counter values to allow significant statements (meaningless or misleading averages).

N/P
Not present is shown for a field where DB2 can present values, but does not in this instance. Examples are:

- When counter values are not generated because of operational conditions (a trace class is not active).
- An application does not provide a value because it is optional.

Accelerator Data Overview

This topic shows Accelerator Data report and trace blocks that are provided for the following versions of IBM DB2 Analytics Accelerator for z/OS.

Accelerator Data - Prior to Version 4

This topic shows detailed information about "Statistics - Accelerator Data - Prior to Version 4".

Note: This topic only refers to IBM DB2 Analytics Accelerator for z/OS prior to version 4.

The Statistics Accelerator report block is shown for each accelerator that provided services to the DB2 subsystem or to the DB2 data sharing group within the reported interval. The accelerator name is shown in the header line of each column together with the labels ACCELERATION and CONTINUED.

Note:

- The DB2 subsystem is connected with an accelerator via DRDA when submitting SQL queries. The performance counters of the DRDA connection (rows from CONNECTS TO ACCELERATOR to ROWS RECEIVED FROM ACCELERATOR and the four time counters at the bottom) are collected and reported on an individual subsystem or member basis.
- The other Statistics counters are collected periodically from the accelerator and reported as single subsystem values or as total data sharing group values if the reported subsystem is a member (with enabled acceleration) of a data sharing group.
- The full accelerator name is shown in the header if it does not exceed 16 characters. Otherwise, the name is replaced by a short name in the header and the long name is displayed at the end of the report.
- The field descriptions of the fields QUERIES SUCCESSFULLY EXECUTED, QUERIES FAILED TO EXECUTE, CURRENTLY EXECUTING QUERIES, and MAXIMUM EXECUTING QUERIES refer to SQL statements passed to the accelerator. For product identifiers of IBM DB2 Analytics Accelerator for z/OS prior to AQT04015, the SQL statements are SELECT queries passed to the accelerator.

Statistics - Accelerator Data - Prior to Version 4

The field labels shown in the following sample layout of "Statistics - Accelerator Data - Prior to Version 4" are described in the following section.

```
VMNPS31          ACCELERATION               QUANTITY    VMNPS31          CONTINUED                      QUANTITY
--------------------------------  ------------------    --------------------------------------  ------------------
QUERIES SUCCESSFULLY EXECUTED                   4.00    AVG QUEUE LENGTH (LAST 3 HRS)                     0.00
QUERIES FAILED TO EXECUTE                       3.00    AVG QUEUE LENGTH (LAST 24 HRS)                    0.00
  ACCELERATOR IN INVALID STATE                  0.00    MAXIMUM QUEUE LENGTH                              0.00
CURRENTLY EXECUTING QUERIES                     0.00    AVG QUEUE WAIT ELAPSED TIME                0.069951
MAXIMUM EXECUTING QUERIES                       2.00    MAX QUEUE WAIT ELAPSED TIME                9.457000

CONNECTS TO ACCELERATOR                         7.00    WORKER NODES                                      2.00
REQUESTS SENT TO ACCELERATOR                   14.00    WORKER NODES AVG CPU UTILIZATION (%)              0.00
  TIMED OUT                                     0.00    COORDINATOR AVG CPU UTILIZATION (%)               4.78
  FAILED                                        0.00
BYTES SENT TO ACCELERATOR                   13355.00    DISK STORAGE AVAILABLE (MB)                186768.00
BYTES RECEIVED FROM ACCELERATOR              8349.00      IN USE (%)                                    13.46
MESSAGES SENT TO ACCELERATOR                   77.00      IN USE FOR DATABASE (MB)                       1.00
MESSAGES RECEIVED FROM ACCEL                   77.00    DATA SLICES                                       6.00
BLOCKS SENT TO ACCELERATOR                      0.00    DATA SKEW                                         0.00
BLOCKS RECEIVED FROM ACCELERATOR                0.00
ROWS SENT TO ACCELERATOR                        0.00    PROCESSORS                                        8.00
ROWS RECEIVED FROM ACCELERATOR                  0.00

TCP/IP SERVICES ELAPSED TIME                2.324521    ELAPSED TIME IN ACCELERATOR                0.000000
WAIT TIME IN ACCELERATOR                    0.000000    CPU TIME SPENT IN ACCELERATOR              0.000000
```

IDENTIFIER

The accelerator server identifier.

Field Name: Q8STNAME

QUERIES SUCCESSFULLY EXECUTED

The number of SQL statements (sent by this DB2 system since accelerator start) that were successfully executed in the accelerator.

Field Name: Q8STSREQ

QUERIES FAILED TO EXECUTE

The number of SQL statements (sent by this DB2 system since accelerator start) that failed to be successfully executed for any reason.

Field Name: Q8STFREQ

ACCELERATOR IN INVALID STATE

The number of queries (sent by this DB2 system since accelerator start) that failed to be successfully executed, for example, because the accelerator was in an invalid state.

Field Name: Q8STFINV

CURRENTLY EXECUTING QUERIES

The number of currently (actively) executing SQL statements in the accelerator on behalf of all DB2 systems (Field name for DB2 Analytics Accelerator for z/OS Version 4: Q8STACTV_64).

Field Name: Q8STACTV

MAXIMUM EXECUTING QUERIES

The maximum number of SQL statements actively executing in the accelerator concurrently at any time since accelerator start on behalf of all DB2 systems (Field name for DB2 Analytics Accelerator for z/OS Version 4: Q8STMAXA_64).

Field Name: Q8STMAXA

CONNECTS TO ACCELERATOR

The number of connects to the accelerator from this DB2 system.

Field Name: Q8STCONN

REQUESTS SENT TO ACCELERATOR

The number of Distributed Relational Database Architecture (DRDA) requests sent by this DB2 system to the accelerator.

Field Name: Q8STREQ

TIMED OUT

The number of connections that were timed out when this DB2 system sent requests to the accelerator.

Field Name: Q8STTOUT

FAILED

The number of connections that failed when this DB2 system sent requests to the accelerator.

Field Name: Q8STFAIL

BYTES SENT TO ACCELERATOR

The total number of bytes sent to the accelerator.

Field Name: Q8STBYTS

BYTES RECEIVED FROM ACCELERATOR

The total number of bytes received from the accelerator.

Field Name: Q8STBYTR

MESSAGES SENT TO ACCELERATOR

The total number of messages sent to the accelerator.

Field Name: Q8STMSGS

MESSAGES RECEIVED FROM ACCEL

The total number of messages received from the accelerator.

Field Name: Q8STMSGR

BLOCKS SENT TO ACCELERATOR

The total number of blocks sent to the accelerator.

Field Name: Q8STBLKS

BLOCKS RECEIVED FROM ACCELERATOR

The total number of blocks received from the accelerator.

Field Name: Q8STBLKR

ROWS SENT TO ACCELERATOR

The total number of rows sent to the accelerator.

Field Name: Q8STROWS

ROWS RECEIVED FROM ACCELERATOR

The total number of rows received from the accelerator.

Field Name: Q8STROWR

TCP/IP SERVICES ELAPSED TIME

The accumulated accelerator services TCP/IP elapsed time measured in DB2. It starts when sending the requests to the accelerator and ends when receiving the results from the accelerator.

Field Name: Q8STTELA

WAIT TIME IN ACCELERATOR

The wait time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8STAWAT

AVG QUEUE LENGTH (LAST 3 HRS)

The average queue length during the last 3 hours at the accelerator.

Field Name: Q8STAVGQ03

AVG QUEUE LENGTH (LAST 24 HRS)

The average queue length during the last 24 hours at the accelerator.

Field Name: Q8STAVGQ24

MAXIMUM QUEUE LENGTH

The high watermark of the queue length at the accelerator (Field name for DB2 Analytics Accelerator for z/OS Version 4: Q8STMAXQ_64).

Field Name: Q8STMAXQ

AVG QUEUE WAIT ELAPSED TIME

The average wait time at the accelerator queue.

Field Name: Q8STQUEW

MAX QUEUE WAIT ELAPSED TIME

The maximum wait time at the accelerator queue.

Field Name: Q8STQUEM

WORKER NODES

The number of active worker nodes (Field name for DB2 Analytics Accelerator for z/OS Version 4: Q8STWNOD_64).

Field Name: Q8STWNOD

WORKER NODES AVG CPU UTILIZATION (%)

The current CPU utilization on the accelerator worker nodes. This is a snapshot, which is the average CPU utilization across all worker nodes (Field name for DB2 Analytics Accelerator for z/OS Version 4: Q8STWCPU_64).

Field Name: Q8STWCPU

COORDINATOR AVG CPU UTILIZATION (%)

The current CPU utilization on the accelerator coordinator node (Field name for DB2 Analytics Accelerator for z/OS Version 4: Q8STCCPU_64).

Field Name: Q8STCCPU

DISK STORAGE AVAILABLE (MB)

The disk storage (MB) available at the accelerator.

Field Name: Q8STDSKA

DISK STORAGE AVAILABLE - IN USE (%)

The current disk utilization of the accelerator worker nodes, expressed as percentage of the used I/O channels/resources.

Field Name: Q8STDSKU

DISK STORAGE AVAILABLE - IN USE FOR DATABASE (MB)

The disk storage in-use for accelerator databases for this DB2 system.

Field Name: Q8STDSKB

DATA SLICES

The number of data slices at the accelerator. This equals the degree of parallel I/O channels.

Field Name: Q8STNMDS

DATA SKEW

When table data is loaded into the accelerator, it may be unevenly distributed across the different data slices on the disks. This disparity is called data skew. The counter represents the accumulated skew over all tables that belong to the DB2 subsystem. The skew of a table is the ratio that shows how uneven the data slices are, as calculated by ((maximum data slice size - minimum data slice size) / median data slice size).

A high value indicates, that data reorganization can improve disk utilization and query performance.

Field Name: Q8STSKEW

PROCESSORS

The number of CPU cores available on all worker nodes.

Field Name: Q8STCORS

ELAPSED TIME IN ACCELERATOR

The accumulated elapsed time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8STAELA

CPU TIME SPENT IN ACCELERATOR

The CPU time spent in the accelerator when executing requests from the DB2 subsystem.

Field Name: Q8STACPU

Accelerator Data - Version 4 or later

With IBM Db2 Analytics Accelerator for z/OS version 4 or later, the Statistics report block shows performance data for the replication services which transmit data from Db2 to the accelerator.

The Statistics Accelerator report block is shown for each accelerator that provided services to the Db2 subsystem or to the Db2 data sharing group within the reported interval. The left side consists of accelerator performance metrics from a subsystem or data sharing group. The right side contains total values from an accelerator. The accelerator name is shown in the header line of each column.

For counters other than IBM Db2 Analytics Accelerator for z/OS version 4 or later, the replication values are shown in a Db2 subsystem or data sharing group view and in a total accelerator view. Most subsystem- or group-related replication fields are aggregated counters and shown as delta values in TRACE blocks and as apportioned interval values in the REPORT blocks on the left. The corresponding total accelerator values on the right are snapshot counters due to the fact that the replication can be disabled during the reporting period, at which point the accelerator summarizes values from enabled replication engines.

In addition, the status of accelerators and replication engines may be unknown, and Db2 externalizes negative values -1 for related performance counters. The Statistics component handles such values as follows:

- Unknown (negative) accelerator values are snapshot counters and presented as zero. This matches the behavior of previous Db2 Accelerator versions, where zero values have been provided in the performance counters.
- Unknown (negative) replication engine values are shown as N/P in Statistics reports and as -1 in the Statistics accelerator table of the Performance Database as long as the status of the replication engine is not known. Once the status is known and non-negative performance values occur, aggregated and snapshot counters are handled as usual. If the replication status becomes unknown again, the aggregated counters are externalized as zero and shown as non-negative delta and interval values once replication has resumed.

Note:

- The Db2 subsystem is connected with an accelerator via DRDA when submitting SQL queries. The performance counters of the DRDA connection (rows from CONNECTS TO ACCELERATOR to WAIT TIME IN ACCELERATOR) are collected and reported on an individual subsystem or member basis in the left part.
- The other Statistics counters are collected periodically from the accelerator and reported as single subsystem values or as total data sharing group values in the left part if the reported subsystem is a member (with enabled acceleration) of a data sharing group.
- The full accelerator name is shown in the header if it does not exceed 16 characters. Otherwise, the name is replaced by a short name in the header and the long name is displayed at the end of the report.
- The descriptions of the fields labeled with QUERIES refer to SQL statements passed to the accelerator. For product identifiers of IBM Db2 Analytics Accelerator for z/OS prior to AQT04015, the SQL statements are SELECT queries passed to the accelerator and the fields INSERT STMTS to ROLLBACK STMTS are N/A.

Statistics - Accelerator Data - Version 4 or later

```
TF3              FOR SUBSYSTEM/GROUP      QUANTITY   TF3            TOTAL ACCELERATOR       QUANTITY
-----------------------------------   -----------   -----------------------------------  ---------
QUERIES SUCCESSFULLY EXECUTED                1.00    QUERIES SUCCESSFULLY EXECUTED             1.00
QUERIES FAILED TO EXECUTE                    0.00    QUERIES FAILED TO EXECUTE                 0.00
CURRENTLY EXECUTING QUERIES                  0.70    CURRENTLY EXECUTING QUERIES               0.70
MAXIMUM EXECUTING QUERIES                    1.00    MAXIMUM EXECUTING QUERIES                 1.00
CPU TIME EXECUTING QUERIES               1.790000    CPU TIME EXECUTING QUERIES            1.790000
CPU TIME LOAD/ARCHIVE/RESTORE           20.260000    CPU TIME LOAD/ARCHIVE/RESTORE        20.260000
CURRENT QUEUE LENGTH                            0

INSERT STMTS SENT TO ACCELERATOR             0.00    DISK STORAGE AVAILABLE (MB)          8024544.00
UPDATE STMTS SENT TO ACCELERATOR             0.00    IN USE FOR ACCEL DB - ALL Db2 (MB)     15790.80
DELETE STMTS SENT TO ACCELERATOR       1204453.00    IN USE FOR ACCEL DB - THIS Db2(MB)       992.80
OPEN STMTS SENT TO ACCELERATOR        02373564.00    IN USE FOR TEMP DATA - ALL Db2(MB)             0
                                                     IN USE FOR LOG DATA - ALL Db2(MB)              0

CREATE STMTS SENT TO ACCELERATOR         12272.00    MAXIMUM QUEUE LENGTH                       0.00
DROP STMTS SENT TO ACCELERATOR           12272.00    CURRENT QUEUE LENGTH                       0.00
COMMIT STMTS SENT TO ACCELERATOR             0.00    AVG QUEUE WAIT ELAPSED TIME            0.025600
ROLLBACK STMTS SENT TO ACCELERATOR           4.00    MAX QUEUE WAIT ELAPSED TIME            0.464235
CONNECTS TO ACCELERATOR                      2.00
REQUESTS SENT TO ACCELERATOR             12254.00    MEMORY AVAILABLE - USER DATA (MB)              0
     TIMED OUT                               0.00    MEMORY AVAILABLE - USER REQS (MB)              0
     FAILED                                  0.00    SORT OVERFLOWS                                 0
BYTES SENT TO ACCELERATOR              1204453.00    BUFFER POOL HIT RATIO (%)                  0.00
BYTES RECEIVED FROM ACCELERATOR       402373564.00    TRANSFER RATE - INBOUND (KB/S)                0
MESSAGES SENT TO ACCELERATOR             12272.00    TRANSFER RATE - OUTBOUND (KB/S)               0
MESSAGES RECEIVED FROM ACCEL             12272.00
BLOCKS SENT TO ACCELERATOR                   0.00
BLOCKS RECEIVED FROM ACCELERATOR         12250.00
ROWS SENT TO ACCELERATOR                     0.00    WORKER NODES                               3.00
ROWS RECEIVED FROM ACCELERATOR               0.00    WORKER NODES DISK UTILIZATION (%)          0.00
                                                     WORKER NODES AVG CPU UTILIZATION (%)       2.09
TCP/IP SERVICES ELAPSED TIME            12.937895    COORDINATOR CPU UTILIZATION (%)           11.59
ELAPSED TIME IN ACCELERATOR              0.000000    PROCESSORS                                48.00
WAIT TIME IN ACCELERATOR                 0.000000    DATA SLICES                               22.00

CPU TIME FOR REPLICATION                 0.085255    CPU TIME FOR REPLICATION               0.148773
LOG RECORDS READ                           945.00    LOG RECORDS READ                     137055.00
LOG RECORDS FOR ACCEL TABLES               940.00    LOG RECORDS FOR ACCEL TABLES           1456.00

LOG RECORD BYTES PROCESSED               63209.00   LOG RECORD BYTES PROCESSED              97265.00
INSERT ROWS FOR ACCEL TABLES                 0.00   INSERT ROWS FOR ACCEL TABLES               0.00
UPDATE ROWS FOR ACCEL TABLES                 0.00   UPDATE ROWS FOR ACCEL TABLES               0.00
DELETE ROWS FOR ACCEL TABLES                 0.00   DELETE ROWS FOR ACCEL TABLES               0.00
REPLICATION LATENCY                      0.000000
REPLICATION VELOCITY                     0.405754   ACCELERATOR SERVER START   12/16/13 09:38:08.97
REPLICATION STATUS CHANGE     12/16/13 09:38:49.79   ACCELERATOR STATUS CHANGE  12/16/13 09:38:14.66
REPLICATION STATUS                       UNKNOWN    ACCELERATOR STATUS                      ONLINE

WAITFORDATA - SUCCESSFUL                        0   WAITFORDATA - SUCCESSFUL                   0
WAITFORDATA - TIMEDOUT                          0   WAITFORDATA - TIMED OUT                    0
```

The fields shown in this record block are described below. Db2 field names are shown in brackets next to each report field.

IDENTIFIER [Q8STNAME]

The accelerator server identifier.

QUERIES SUCCESSFULLY EXECUTED [Q8STSREQ]

The number of SQL statements (sent by this Db2 system since accelerator start) that were successfully executed in the accelerator.

QUERIES FAILED TO EXECUTE [Q8STFREQ]

The number of SQL statements (sent by this Db2 system since accelerator start) that failed to be successfully executed for any reason.

CURRENTLY EXECUTING QUERIES [Q8STNQCS]

The number of currently executing SQL statements in the accelerator on behalf of this Db2 system.

MAXIMUM EXECUTING QUERIES [Q8STMNQS]

Shows the maximum number of SQL statements executing in the accelerator at any time since accelerator start on behalf of this Db2 system.

CPU TIME EXECUTING QUERIES [Q8STTCQS]

The total CPU cost associated with executing SQL statements in the accelerator on behalf of this Db2 system.

CPU TIME LOAD/ARCHIVE/RESTORE [Q8STTCMS]

The total CPU cost spent in the accelerator for data maintenance operations from this Db2 system. Replication-related operations are not included.

CURRENT QUEUE LENGTH [Q8STCQLS]

The current queue length at the accelerator for this Db2 system.

INSERT STMTS SENT TO ACCELERATOR [Q8STINSC]

The number of INSERT statements sent by the Db2 system to the accelerator.

UPDATE STMTS SENT TO ACCELERATOR [Q8STUPDC]

The number of UPDATE statements sent by the Db2 system to the accelerator.

DELETE STMTS SENT TO ACCELERATOR [Q8STDELC]

The number of DELETE statements sent by the Db2 system to the accelerator.

OPEN STMTS SENT TO ACCELERATOR [Q8STOPNC]

The number of OPEN statements sent by the Db2 system to the accelerator.

CREATE STMTS SENT TO ACCELERATOR [Q8STCRTC]

The number of CREATE statements sent by the Db2 system to the accelerator.

DROP STMTS SENT TO ACCELERATOR [Q8STDRPC]

The number of DROP statements sent by the Db2 system to the accelerator.

COMMIT STMTS SENT TO ACCELERATOR [Q8STCMTC]

The number of COMMIT statements sent by the Db2 system to the accelerator.

ROLLBACK STMTS SENT TO ACCELERATOR [Q8STRBKC]

The number of ROLLBACK statements sent by the Db2 system to the accelerator.

CONNECTS TO ACCELERATOR [Q8STCONN]

The number of connects to the accelerator from this Db2 system.

REQUESTS SENT TO ACCELERATOR [Q8STREQ]

The number of Distributed Relational Database Architecture (DRDA) requests sent by this Db2 system to the accelerator.

REQUESTS SENT TO ACCELERATOR - TIMED OUT [Q8STTOUT]

The number of connections that were timed out when this Db2 system sent requests to the accelerator.

REQUESTS SENT TO ACCELERATOR - FAILED [Q8STFAIL]

The number of connections that failed when this Db2 system sent requests to the accelerator.

BYTES SENT TO ACCELERATOR [Q8STBYTS]

The total number of bytes sent to the accelerator.

BYTES RECEIVED FROM ACCELERATOR [Q8STBYTR]

The total number of bytes received from the accelerator.

MESSAGES SENT TO ACCELERATOR [Q8STMSGS]

The total number of messages sent to the accelerator.

MESSAGES RECEIVED FROM ACCEL. [Q8STMSGR]

The total number of messages received from the accelerator.

BLOCKS SENT TO ACCELERATOR [Q8STBLKS]

The total number of blocks sent to the accelerator.

BLOCKS RECEIVED FROM ACCELERATOR [Q8STBLKR]

The total number of blocks received from the accelerator.

ROWS SENT TO ACCELERATOR [Q8STROWS]

The total number of rows sent to the accelerator.

ROWS RECEIVED FROM ACCELERATOR [Q8STROWR]

The total number of rows received from the accelerator.

TCP/IP SERVICES ELAPSED TIME [Q8STTELA]

The accumulated accelerator services TCP/IP elapsed time measured in Db2. It starts when sending the requests to the accelerator and ends when receiving the results from the accelerator.

ELAPSED TIME IN ACCELERATOR [Q8STAELA]

The accumulated elapsed time spent in the accelerator when executing requests from the Db2 subsystem.

WAIT TIME IN ACCELERATOR [Q8STAWAT]

The wait time spent in the accelerator when executing requests from the Db2 subsystem.

CPU TIME FOR REPLICATION [Q8STTCCS]

The total CPU cost associated with the replication apply process for this Db2 system.

LOG RECORDS READ [Q8STNLRS]

The number of log records read by the replication capture agent for this Db2 system.

LOG RECORDS READ - LOG RECORDS FOR ACCEL TABLES [Q8STNLTS]

The number of log records (read by the replication capture agent for this Db2 system) that are applicable to tables in this accelerator.

LOG RECORD BYTES PROCESSED [Q8STNBS]

The number of log record bytes processed by the replication capture agent for this Db2 system.

INSERT ROWS FOR ACCEL TABLES [Q8STNIS]

The number of INSERT rows applicable to accelerator tables that were processed by the replication capture agent for this Db2 system.

UPDATE ROWS FOR ACCEL TABLES [Q8STNUS]

The number of UPDATE rows applicable to accelerator tables that were processed by the replication capture agent for this Db2 system.

DELETE ROWS FOR ACCEL TABLES [Q8STNDS]

The number of DELETE rows applicable to accelerator tables that were processed by the replication capture agent for this Db2 system.

REPLICATION LATENCY [Q8STCRL]

The current replication latency for this Db2 system. Latency is defined as the time difference between the timestamp, when the last log record was applied to the target, compared to the current time.

REPLICATION VELOCITY [Q8STVLCS]

The number of Db2 log seconds applied per elapsed second. Db2 log seconds is a measure of the elapsed time between the creation time of the first log record and the last log record applied in a given interval. If the number of log seconds applied is less than the number of seconds elapsed - if the velocity is less than one - then the replication process will not be able to complete.

REPLICATION STATUS CHANGE [Q8STTLSC]

The timestamp when the last change of the accelerator replication state occurred for this Db2 system.

REPLICATION STATUS [Q8STCSS]

The current replication state of the accelerator for this subsystem. The current replication state can be:

STARTED
Replication-enabled tables on this subsystem are currently being replicated (0).

STOPPED
Replication on this subsystem is stopped, no error occurred (1).

ERROR
An error occurred in the replication components for this system (2).

STARTING
Replication components for this subsystem are starting (3).

STOPPING
Replication components are in the process of stopping, for example, waiting until all in-progress work is done (4).

UNKNOWN
Replication state could not be determined (255).

WAITFORDATA - SUCCESSFUL [Q8STTDPS]

The number of queries using the wait for data protocol that were successfully sent to the accelerator.

WAITFORDATA - TIMED OUT [Q8STEDPS]

The number of queries using the wait for data protocol that had their wait time expire.

QUERIES SUCCESSFULLY EXECUTED [Q8STNQSA]

The number of SQL statements (sent by all Db2 systems since accelerator start) that successfully executed in the accelerator.

QUERIES FAILED TO EXECUTE [Q8STNQFA]

Shows the number of SQL statements (sent by all Db2 systems since accelerator start) that were not successfully executed for any reason.

CURRENTLY EXECUTING QUERIES [Q8STACTV]

The number of currently (actively) executing SQL statements in the accelerator on behalf of all Db2 systems (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STACTV_64).

MAXIMUM EXECUTING QUERIES [Q8STMAXA]

The maximum number of SQL statements actively executing in the accelerator concurrently at any time since accelerator start on behalf of all Db2 systems (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STMAXA_64).

CPU TIME EXECUTING QUERIES [Q8STTCQA]

The total CPU cost associated with executing SQL statements in the accelerator on behalf of all Db2 systems.

CPU TIME LOAD/ARCHIVE/RESTORE [Q8STTCMA]

The total CPU cost spent in the accelerator for data maintenance operations from all Db2 systems. Replication-related operations are not included.

DISK STORAGE AVAILABLE (MB) [Q8STDSKA]

The disk storage (MB) available at the accelerator.

DISK STORAGE AVAILABLE - IN USE FOR ACCEL DB - ALL Db2 (MB) [Q8STDSA]

The disk storage (MB) in-use for accelerator databases for all Db2 systems.

DISK STORAGE AVAILABLE - IN USE FOR ACCEL DB - THIS Db2(MB) [Q8STDSKB]

The disk storage in-use for accelerator databases for this Db2 system.

DISK STORAGE AVAILABLE - IN USE FOR TEMP DATA - ALL Db2 (MB) [Q8STTSA]

The amount of disk space used by all paired Db2 subsystems for temporary data.

DISK STORAGE AVAILABLE - IN USE FOR LOG DATA - ALL Db2 (MB) [Q8STLSA]

The amount of disk space used by all paired Db2 subsystems for log data.

MAXIMUM QUEUE LENGTH [Q8STMAXQ]

The high watermark of the queue length at the accelerator (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STMAXQ_64).

CURRENT QUEUE LENGTH [Q8STCQL]

The current queue length at the accelerator.

AVG QUEUE WAIT ELAPSED TIME [Q8STQUEW]

The average wait time at the accelerator queue.

MAX QUEUE WAIT ELAPSED TIME [Q8STQUEM]

The maximum wait time at the accelerator queue.

MEMORY AVAILABLE - USER DATA (MB) [Q8STTMUD]

The total memory available on the accelerator for user data.

MEMORY AVAILABLE - USER REQUESTS (MB) [Q8STTMPS]

The total memory available on the accelerator for user requests.

SORT OVERFLOWS [Q8STOFLW]

The number of sort overflows in the accelerator. A sort overflow means that the SQL statement could not be processed entirely in memory.

BUFFER POOL HIT RATIO (%) [Q8STABHR]

The buffer pool hit ratio for all requests processed by this accelerator.

TRANSFER RATE - INBOUND (KB/S) [Q8STANUI]

The current inbound network data transfer rate in kilobytes per second.

TRANSFER RATE - OUTBOUND (KB/S) [Q8STANUO]

The current outbound network data transfer rate in kilobytes per second.

WORKER NODES [Q8STWNOD]

The number of active worker nodes (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STWNOD_64).

WORKER NODES DISK UTILIZATION (%) [Q8STDSKU]

The current disk utilization of the accelerator worker nodes, expressed as percentage of the used I/O channels/resources.

WORKER NODES AVG CPU UTILIZATION (%) [Q8STWCPU]

The current CPU utilization on the accelerator worker nodes. This is a snapshot, which is the average CPU utilization across all worker nodes (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STWCPU_64).

COORDINATOR CPU UTILIZATION (%) [Q8STCCPU]

The current CPU utilization on the accelerator coordinator node (Field name for IBM Db2 Analytics Accelerator for z/OS Version 4: Q8STCCPU_64).

PROCESSORS [Q8STCORS]

The number of CPU cores available on all worker nodes.

DATA SLICES [Q8STNMDS]

The number of data slices at the accelerator. This equals the degree of parallel I/O channels.

CPU TIME FOR REPLICATION [Q8STTCCA]

The total CPU cost associated with the replication apply process for all Db2 systems.

LOG RECORDS READ [Q8STNLRA]

The number of log records read by the replication capture agents for all Db2 systems.

LOG RECORDS READ - LOG RECORDS FOR ACCEL TABLES [Q8STNLTA]

The number of log records read by the replication capture agents for all Db2 systems that are applicable to tables in this accelerator.

LOG RECORD BYTES PROCESSED [Q8STNBA]

The number of log record bytes processed by the replication capture agents for all Db2 systems.

INSERT ROWS FOR ACCEL TABLES [Q8STNIA]

The number of INSERT rows applicable to accelerator tables that were processed by the replication capture agents for all Db2 systems.

UPDATE ROWS FOR ACCEL TABLES [Q8STNUA]

The number of UPDATE rows applicable to accelerator tables that were processed by the replication capture agents for all Db2 systems.

DELETE ROWS FOR ACCEL TABLES [Q8STNDA]

The number of DELETE rows applicable to accelerator tables that were processed by the replication capture agents for all Db2 systems.

ACCELERATOR SERVER START [Q8STTART]

The timestamp when the accelerator server process started last time.

ACCELERATOR STATUS CHANGE [Q8STTATC]

The timestamp when the last change of the accelerator occurred.

ACCELERATOR STATUS [Q8STTATE]

Accelerator state. If Q8STPRID is 'AQT04010' or higher, the accelerator state can be:

Initializing
IDAA or the Accelerator backend is currently starting up; no processing can currently take place (0).

Online
IDAA and the Accelerator backend are available and fully operational (1).

Offline
IDAA is available, but the Accelerator backend is not (3).

Maintenance
A maintenance operation is currently running; no query processing can occur (5).

Unknown
IDAA or the Accelerator backend is in an unknown state (255).

If Q8STPRID is lower than 'AQT04010', the accelerator state can be:

INITIALIZED (0).

ONLINE (1).

PAUSED (2).

OFFLINE (3).

STOPPED (4).

MAINTENANCE (5).

DOWN (6).

UNKNOWN (7).

WAITFORDATA - SUCCESSFUL [Q8STTDPA]

The number of queries using the wait for data protocol that were successfully sent to the accelerator.

WAITFORDATA - TIMED OUT [Q8STEDPA]

The number of queries using the wait for data protocol that had their wait time expire.

Accounting Rollup

This topic shows detailed information about "Statistics - Accounting Rollup".

Statistics - Accounting Rollup

The field labels shown in the following sample layout of "Statistics - Accounting Rollup" are described in the following section.

```
ACCOUNTING ROLLUP            QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  ---------  -------  -------  -------
ROLLUP THRESH RECS WRITTEN       4.00     0.02      N/C     0.12
STORAGE THRESH RECS WRITTEN      0.00     0.00      N/C     0.00
STALEN THRESH RECS WRITTEN       0.00     0.00      N/C     0.00
RECS UNQUALIFIED FOR ROLLUP      0.00     0.00      N/C     0.00
```

ROLLUP THRESH RECS WRITTEN

The number of roll-up accounting records written due to roll-up threshold exceeded.

Field Name: QWSDARTH

STORAGE THRESH RECS WRITTEN

The number of roll-up accounting records written due to roll-up accounting storage threshold exceeded.

Field Name: QWSDARSG

STALEN THRESH RECS WRITTEN

The number of roll-up accounting records written due to staleness threshold exceeded.

Field Name: QWSDARST

RECS UNQUALIFIED FOR ROLLUP

The number of records that failed to qualify for accounting roll-up because all roll-up key fields are equal to NULL or because of NULL values that are not permitted.

Field Name: QWSDARIR

Aggregated Accounting Statistics

This topic shows detailed information about "Statistics - Aggregated Accounting Statistics".

IFCID 369 contains aggregated Accounting data from IFCID 3 listed by connection type.

IFCID 369 is started using the START TRACE command for STATISTICS CLASS(9). IFCID 3 must also be enabled (ACCOUNTING CLASS(1)) to get 369 trace records. IFCID 369 values are aggregated each time an IFCID 3 is written and contain total values. In the Statistics reports, IFCID 369 delta values are calculated to show which IFCID 3 events occurred in a Statistics interval.

In contrast to Accounting reports, the IFCID 369 statistics performance metrics cannot distinguish between IFCID 3 records for parallel and non-parallel threads. In Accounting, the elapsed times of parallel threads are derived from IFCID 3 of the originating thread. In IFCID 369, all times (even the elapsed times of the originating thread and parallel subtasks) are aggregated and shown as such in the

Statistics report. That is why IFCID 369 can provide more diagnostics on what is currently happening in a Db2 subsystem and whether there are bottlenecks (also for parallel subtasks).

For more information on the Accounting fields referred to in the field descriptions below, see:

- “Times - Class 1 - Application Time ” on page 218
- “Times - Class 2 - DB2 Time ” on page 223

Statistics - Aggregated Accounting Statistics

The field labels shown in the following sample layout of "Statistics - Aggregated Accounting Statistics" are described in the following section.

```
CONNTYPE   CL1 ELAPSED       CL1 CPU    CL1 SE CPU   CL2 ELAPSED       CL2 CPU    CL2 SE CPU      CL3 SUSP   CL2 NOT ACC  QUANTITY
--------  -------------  ------------  ------------  ------------  ------------  ------------  ------------  ------------  --------
BATCH         0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.000000      0.00
CICS               N/P           N/P           N/P           N/P           N/P           N/P           N/P           N/P      0.00
DDF        3:20.927303      9.873839      8.240478     55.917303      8.697064      6.742272     39.852088      7.368151  15895.00
IMS                N/P           N/P           N/P           N/P           N/P           N/P           N/P           N/P      0.00
RRSAF      1:04.091521      0.143129      0.000000      0.050749      0.044200      0.000000      0.000062      0.006487     10.00
UTILITY      21.317271      0.712988      0.031434      1.224435      0.189245      0.031434      0.987360      0.047829     72.00
```

CL1 ELAPSED

The class 1 elapsed time aggregated by connection type. See also the description of Accounting field ADRECETT.

Note: In contrast to ADRECETT, elapsed times of parallel records are included in SDRECETT.

Field Name: SDRECETT

CL1 CPU

The class 1 CPU time aggregated by connection type. See also the description of Accounting field ADCPUT.

Field Name: SDCPUT

CL1 SE CPU

The sum of several accumulated CPU times consumed while running on an IBM specialty engine in all environments and aggregated by connection type. See also the description of Accounting field AWACC1Z.

Field Name: SWACC1Z

CL2 ELAPSED

The class 2 elapsed time aggregated by connection type. See also the description of Accounting field ADDB2ETT.

Note: In contrast to ADDB2ETT, elapsed times of parallel records are included in SDDB2ETT.

Field Name: SDDB2ETT

CL2 CPU

The class 1 CPU time aggregated by connection type. See also the description of Accounting field ADDBCPUT.

Field Name: SDDBCPUT

CL2 SE CPU

The accumulated and consumed class 2 time on an IBM specialty engine aggregated by connection type. See also the description of Accounting field AWACC2Z.

Field Name: SWACC2Z

CL3 SUSP

The waiting time for all types of class 3 suspensions aggregated by connection type. See also the description of Accounting field ADTSUST.

Field Name: SDTSUST

CL2 NOT ACC

The time not accounted in Db2 and aggregated by connection type. See also the description of Accounting field ADNOTACC.

Note: In contrast to ADNOTACC, unaccounted times of parallel records are included in SDNOTACC.

Field Name: SDNOTACC

QUANTITY

The number of parallel child agents, Accounting intervals, or autonomous procedures rolled up for all threads of the connection type. See also the description of Accounting field QWACPCNT.

Field Name: SWACPCNT

Authorization Management

This topic shows detailed information about "Statistics - Authorization Management".

There are three authorization caches, located in the EDM pool:

- Plan, one cache per plan
- Package, one per subsystem
- Routine, for stored procedures and user-defined functions, one per subsystem

Allied threads (CICS, IMS, TSO, batch) are checked for EXECUTE authority at plan level. The package, and routine authorization caches only check EXECUTE authority for distributed applications.

The size of the plan authorization cache is set at BIND time, with the option CACHESIZE. When this is not specified, the default is taken from the ZPARM AUTHCACHE.

If you run the plan infrequently, or if authority to run the plan is granted to PUBLIC, you might want to turn off caching for the plan so that DB2 does not use unnecessary storage. In this case specify a value of 0 for the CACHESIZE option.

Any plan that you run repeatedly is a good candidate for tuning by using the CACHESIZE option. Also, if you have a plan that a large number of users run concurrently, you might want to use a larger CACHESIZE.

The size of the package authorization cache is determined by ZPARM CACHEPAC.

The size of the routine authorization cache is determined by ZPARM CACHERAC.

Statistics - Authorization Management

The field labels shown in the following sample layout of "Statistics - Authorization Management" are described in the following section.

```
AUTHORIZATION MANAGEMENT     QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
TOTAL AUTH ATTEMPTS             53.00     0.29      N/C     1.61
TOTAL AUTH SUCC                 53.00     0.29      N/C     1.61
PLAN-AUTH SUCC-W/O CATALOG       0.00     0.00      N/C     0.00
PLAN-AUTH SUCC-PUB-W/O CAT       0.00     0.00      N/C     0.00

PKG-AUTH SUCC-W/O CATALOG       16.00     0.09      N/C     0.48
PKG-AUTH SUCC-PUB-W/O CAT        0.00     0.00      N/C     0.00
PKG-AUTH UNSUCC-CACHE            1.00     0.01      N/C     0.03
PKG CACHE OVERWRT - AUTH ID      0.00     0.00      N/C     0.00
PKG CACHE OVERWRT - ENTRY        0.00     0.00      N/C     0.00

RTN-AUTH SUCC-W/O CATALOG       12.00     0.07      N/C     0.36
RTN-AUTH SUCC-PUB-W/O CAT       12.00     0.07      N/C     0.36
RTN-AUTH UNSUCC-CACHE            4.00     0.02      N/C     0.12
RTN CACHE OVERWRT - AUTH ID      0.00     0.00      N/C     0.00
RTN CACHE OVERWRT - ENTRY        0.00     0.00      N/C     0.00
RTN CACHE - ENTRY NOT ADDED      0.00     0.00      N/C     0.00
```

TOTAL AUTH ATTEMPTS

The number of authorization checks performed for plans, packages, and stored procedures since DB2 was started. This includes successful and failed checks.

Field Name: QTAUCHK

TOTAL AUTH SUCC

The number of successful authorization checks performed on plans, packages, and stored procedures, since DB2 was started.

Field Name: QTAUSUC

PLAN-AUTH SUCC-W/O CATALOG

The number of successful authorization checks that do not use the DB2 catalog (including plan cache checks and public checks).

Background and Tuning Information

For transaction level security, ENABLE and DISABLE on BIND PACKAGE should be used to ensure adequate security. Granting execute authority on the plan to public should be adequate.

Field Name: QTAUCCH

PLAN-AUTH SUCC-PUB-W/O CAT

The number of successful authorization checks based on EXECUTE authority granted to PUBLIC.

Field Name: QTAUPUB

PKG-AUTH SUCC-W/O CATALOG

The number of successful package EXECUTE authorization checks without accessing the DB2 catalog.

Field Name: QTPACAUT

PKG-AUTH SUCC-PUB-W/O CAT

The number of successful package EXECUTE authorization checks without accessing the DB2 catalog. Package EXECUTE authority was granted to PUBLIC in the package authorization cache.

Field Name: QTPACPUB

PKG-AUTH UNSUCC-CACHE

The number of unsuccessful package EXECUTE authorization checks in the package authorization cache. No applicable entry was found in the cache and DB2 catalog access was used.

Field Name: QTPACNOT

PKG CACHE OVERWRT - AUTH ID

The number of times an authorization ID was overwritten to add another one to the package authorization cache.

Field Name: QTPACOW1

PKG CACHE OVERWRT - ENTRY

The number of times an entry for a collection-ID or package-ID was overwritten to add another one to the package authorization cache.

Field Name: QTPACOW2

RTN-AUTH SUCC-W/O CATALOG

The number of times the routine authorization cache was checked successfully of EXECUTE authority on a stored procedure or user-defined function. The DB2 catalog was not accessed. This counter includes the number of PUBLIC authorization checks.

Field Name: QTRACAUT

RTN-AUTH SUCC-PUB-W/O CAT

Number of successful authorization checks for user-defined function or stored procedure execution authority when that authority is held by PUBLIC. The DB2 catalog was not checked.

Field Name: QTRACPUB

RTN-AUTH UNSUCC-CACHE

Number of unsuccessful authorization checks for user-defined function or stored procedure EXECUTE authority because no applicable entry was found in the routine authorization cache.

Field Name: QTRACNOT

RTN CACHE OVERWRT - AUTH ID

Number of times that DB2 overwrote an authorization ID in the routine authorization cache.

Field Name: QTRACOW1

RTN CACHE OVERWRT - ENTRY

Number of times that DB2 overwrote a routine entry in the routine authorization cache.

An entry in the routine authorization cache can refer to a function or procedure or to all functions or procedures within a specific schema.

Field Name: QTRACOW2

RTN CACHE - ENTRY NOT ADDED

Number of times that DB2 could not add an entry to the routine authorization cache.

An entry in the routine authorization cache can refer to a function or procedure or to all functions or procedures within a specific schema.

Field Name: QTRACNAC

Buffer Pool General

This topic shows detailed information about "Statistics - Buffer Pool General".

This block is only printed when the buffer pool is active. If more than one 4 KB or 32 KB buffer pool block is present, a summary block showing buffer pool totals is also printed. If the report contains both 4 KB and 32 KB buffer pool blocks, a block showing the totals for all buffer pools is printed.

Statistics - Buffer Pool General

The field labels shown in the following sample layout of "Statistics - Buffer Pool General" are described in the following section.

```
BP0    GENERAL                QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
CURRENT ACTIVE BUFFERS        164.00      N/A      N/A      N/A
UNAVAIL.BUFFER-VPOOL FULL       0.00     0.00     0.00     0.00

NUMBER OF DATASET OPENS         0.00     0.00     0.00     0.00

BUFFERS ALLOCATED - VPOOL    5000.00      N/A      N/A      N/A

DFHSM MIGRATED DATASET          0.00     0.00     0.00     0.00
DFHSM RECALL TIMEOUTS           0.00     0.00     0.00     0.00

VPOOL EXPANS. OR CONTRACT.      0.00     0.00     0.00     0.00
VPOOL EXPANS. FAILURES          0.00     0.00     0.00     0.00

CONCUR.PREF.I/O STREAMS-HWM     0.00      N/A      N/A      N/A
PREF.I/O STREAMS REDUCTION      0.00     0.00     0.00     0.00
PARALLEL QUERY REQUESTS         0.00     0.00     0.00     0.00
PARALL.QUERY REQ.REDUCTION      0.00     0.00     0.00     0.00
PREF.QUANT.REDUCED TO 1/2       0.00     0.00     0.00     0.00
PREF.QUANT.REDUCED TO 1/4       0.00     0.00     0.00     0.00

NUMBER OF LPL INSERTS           0.00     0.00     0.00     0.00

MIN BUFFERS ON SLRU             0.00      N/A      N/A      N/A
MAX BUFFERS ON SLRU             0.00      N/A      N/A      N/A
SLRU LENGTH EQUALS VPSEQT       0.00     0.00     0.00     0.00
GETPAGE REQU RANDOM ON SLRU     0.00     0.00     0.00     0.00
```

CURRENT ACTIVE BUFFERS

The total number of currently active (nonstealable) buffers. This field is an instantaneous sample of the number of buffers in the buffer pool that were updated or in use at the time this monitor data was requested. Because this field gives a snapshot value at statistics collection time, it only shows a problem if it happens at this time.

Background and Tuning Information

The buffer pool might be too small if the percentage of active pages in the buffer pool is beyond the deferred write threshold (DWQT).

Field Name: QBSTCBA

UNAVAIL.BUFFER-VPOOL FULL

The number of times a usable buffer could not be located in the virtual buffer pool because the virtual buffer pool was full.

Background and Tuning Information

Ideally, this value should be 0. Any other value indicates that the buffer pool is underallocated. In this case, use the ALTER BUFFERPOOL command to increase the virtual buffer pool size until this value remains at 0.

Field Name: QBSTXFL

NUMBER OF DATASET OPENS

The number of data sets physically opened successfully. This value is cumulative from the start of the DB2 statistics interval.

Field Name: QBSTDSO

BUFFERS ALLOCATED - VPOOL

The number of buffers allocated for a virtual buffer pool.

Note: In DB2 10, the buffer pool size can increase continuously by up to 25% for each DB2 restart. In DB2 11, the AUTOSIZE option of the ALTER BUFFERPOOL command can limit the range within VPSIZEMIN and VPSIZEMAX.

Background and Tuning Information

You should monitor the buffer pool hit ratio field to find the optimum size of the buffer pool. Usually the buffer pool hit ratio is improved by increasing the size of the buffer pool. However, paging the buffer pool storage impacts DB2 performance if the virtual buffer pool is too large.

Page-ins Required for Read I/O (QBSTRPI) and Page-ins Required for Write I/O (QBSTWPI) are useful when determining whether paging affects the performance of a certain buffer pool. The Resource Measurement Facility (RMF) also provides reports on MVS paging activity:

Storage Paging
When the virtual buffer pool is extended into expanded storage, MVS storage paging activity occurs. If a large buffer pool size results in excessive storage paging, consider allocating more real storage to the LPAR.

Paging to Auxiliary Storage
If the virtual buffer pool size requirements exceed the central storage and expanded storage available, the oldest buffer pool pages migrate to auxiliary paging storage. When these pages are accessed subsequently, I/O must bring them back into real storage. This should be avoided. You could have a smaller buffer pool and let DB2 do the I/O rather than use MVS paging with its I/O CPU overhead. This is a situation that you (as the system programmer) should monitor.

You can use the ALTER BUFFERPOOL command to alter the size of the virtual buffer pool.

Changing the size of the virtual buffer pool implicitly changes the buffer pool thresholds. See the Deferred Write Threshold Reached field (QBSTDWT).

Field Name: QBSTVPL

DFHSM MIGRATED DATASET

The number of times migrated data sets were encountered.

Field Name: QBSTMIG

DFHSM RECALL TIMEOUTS

The number of recall timeouts.

Field Name: QBSTRTO

VPOOL EXPANS. OR CONTRACT.

The number of successful virtual buffer pool expansions or contractions due to the ALTER BUFFERPOOL command. An increase in this counter indicates that buffer-pool-related system parameters have been changed.

Field Name: QBSTVPA

This is an *exception* field.

VPOOL EXPANS. FAILURES

The total number of virtual buffer pool expansion failures due to the lack of virtual storage space.

Background and Tuning Information

Ideally, this value should be 0. If it is not, check the virtual storage allocation of the DB2 database address space for areas that can be reduced. For example, you can reduce the size of other buffer pools.

Field Name: QBSTXFV

This is an *exception* field.

CONCUR.PREF.I/O STREAMS-HWM

The highest number of concurrent prefetch I/O streams allocated to support a parallel I/O or CP query in this buffer pool. It reflects prefetch activities for non-workfile page sets.

This number only applies to query I/O and CP parallelism.

Field Name: QBSTXIS

This is an *exception* field.

PREF.I/O STREAMS REDUCTION

The total number of requested prefetch I/O streams that were denied because of a lack of buffer pool storage space.

It only applies to query I/O and CP parallelism.

For example, if 100 prefetch I/O streams are requested and only 80 are granted, then 20 is added to the number in this field.

Background and Tuning Information

Consider increasing the size of the buffer pool if this value is not 0.

The ratio of this field and the Reduced parallel query requests field gives the average degree of parallel query processing that was reduced because of insufficient buffer pool space. The Prefetch I/O streams - Concurrent streams - high-water mark field gives the highest degree of parallel query processing that was reduced for one or more queries processed in parallel.

The number in this field reflects the prefetch activities for non-workfile page sets.

Field Name: QBSTJIS

This is an *exception* field.

PARALLEL QUERY REQUESTS

The total number of requests made for parallel query support in this buffer pool. This field only applies to non-workfile page sets in query I/O and CP parallelism.

Field Name: QBSTPQO

PARALL.QUERY REQ.REDUCTION

The number of times that DB2 could not allocate the requested number of buffer pages to allow a parallel group to run as planned.

This field only applies to non-workfile page sets in query I/O and CP parallelism.

Background and Tuning Information

This is caused by a shortage of storage in the buffer pool. A nonzero value could suggest that the buffer pool is too small. You can increase it using the ALTER BUFFERPOOL command.

Field Name: QBSTPQF

This is an *exception* field.

PREF.QUANT.REDUCED TO 1/2

The total number of times prefetch quantity is reduced from normal to 50% of normal. The normal size depends on the page size of the buffer pool.

This field only applies to query I/O and CP parallelism.

Background and Tuning Information

The number in this field indicates when DB2 had to reduce the sequential prefetch quantity to continue executing concurrently with parallel queries in the system. If the number is small, it may be tolerable.

Field Name: QBSTPL1

This is an *exception* field.

PREF.QUANT.REDUCED TO 1/4

The total number of times prefetch quantity is reduced from 50% to 25% of normal. The normal size depends on the page size of the buffer pool.

This field only applies to query I/O and CP parallelism.

Background and Tuning Information

The query response for parallel queries can be significantly degraded if the value in this field is not 0.

Field Name: QBSTPL2

This is an *exception* field.

NUMBER OF LPL INSERTS

The number of times that one or more pages were added to the logical page list (LPL).

Field Name: QBSTLPL

MIN BUFFERS ON SLRU

The minimum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period. This is the low-water mark (LWM) within an interval.

Field Name: QBSTSMIN

MAX BUFFERS ON SLRU

The maximum number of buffers on the sequential least-recently-used (SLRU) chain in the last statistical period. This is the high-water mark (HWM) within an interval.

Field Name: QBSTSMAX

SLRU LENGTH EQUALS VPSEQT

The number of times when the length of the sequential least-recently-used (SLRU) chain equals the sequential steal threshold VPSEQT.

Field Name: QBSTHST

GETPAGE REQU RANDOM ON SLRU

The number of times that the random Getpage request has a buffer hit and the buffer is on the least-recently-used (SLRU) chain.

Field Name: QBSTRHS

Buffer pool read statistics report

This topic shows detailed information about "Statistics - Buffer Pool Read".

This block is only printed when the buffer pool is active. If more than one 4 KB or 32 KB buffer pool block is present, a summary block showing buffer pool totals is also printed. If the report contains both 4 KB and 32 KB buffer pool blocks, a block showing the totals for all buffer pools is printed.

Statistics - Buffer Pool Read

```
BP0    READ OPERATIONS        QUANTITY  /SECOND  /THREAD  /COMMIT
-------------------------   --------  -------  -------  -------
BPOOL HIT RATIO (%)              50.90
BPOOL HIT RATIO (%) SEQU         50.89
BPOOL HIT RATIO (%) RANDOM       68.93
GETPAGE REQUEST                 259.0M    99.9K    16.2M   259.0M
 GETPAGE REQS-SEQUENTIAL        258.9M    99.9K    16.2M   258.9M
  IN-MEM OVFL SEQ REQS            0.00     0.00     0.00     0.00
 GETPAGE REQS-RANDOM            102.1K    39.41  6384.00   102.1K
  IN-MEM OVFL RND REQS            0.00     0.00     0.00     0.00

SYNCHRONOUS READS              31736.00    12.24  1983.50    31.7K
 SYNC READS-SEQUENTIAL         31653.00    12.21  1978.31    31.7K
  IN-MEM OVFL SEQ READS            0.00     0.00     0.00     0.00
 SYNC READS-RANDOM               83.00     0.03     5.19    83.00
  IN-MEM OVFL RND READS            0.00     0.00     0.00     0.00

GETPAGE PER SYN.READ-RANDOM     1230.65
SEQUENTIAL PREFETCH REQUEST     7976.6K  3077.54   498.5K  7976.6K
SEQUENTIAL PREFETCH READS       7956.0K  3069.58   497.2K  7956.0K
PAGES READ VIA SEQ.PREFETCH      127.1M    49.1K  7946.8K   127.1M
S.PRF.PAGES READ/S.PRF.READ      15.98
LIST PREFETCH REQUESTS            0.00     0.00     0.00     0.00
LIST PREFETCH READS               0.00     0.00     0.00     0.00
PAGES READ VIA LIST PREFTCH       0.00     0.00     0.00     0.00
L.PRF.PAGES READ/L.PRF.READ        N/C
DYNAMIC PREFETCH REQUESTED       57.00     0.02     3.56    57.00
DYNAMIC PREFETCH READS           53.00     0.02     3.31    53.00
PAGES READ VIA DYN.PREFETCH     370.00     0.14    23.13   370.00
D.PRF.PAGES READ/D.PRF.READ       6.98
PREF.DISABLED-NO BUFFER           0.00     0.00     0.00     0.00
PREF.DISABLED-NO READ ENG         0.00     0.00     0.00     0.00
PAGE-INS REQUIRED FOR READ        0.00     0.00     0.00     0.00
ZHYPERLINK READ I/O              32641  2748.97      N/C      N/C
READ I/O - DASD CACHE HIT        62259  5243.35      N/C      N/C
```

BPOOL HIT RATIO (%)

The percentage of Getpage operations that were satisfied by a page already in the buffer pool.

The value is calculated as the ratio of number of successful Getpage operations minus the number of pages read from DASD (both synchronously and using prefetch), to the number of successful Getpage operations, expressed as a percentage.

Background and Tuning Information

The highest possible hit ratio is 100%, that is, when every page requested is always in the buffer pool. If the requested page is not in the buffer pool, the hit ratio is 0% or less. If the hit ratio is negative, this means that prefetch brought pages into the buffer pool that are not subsequently referenced, either because the query stops before it reaches the end of the table space, or because the prefetched pages are stolen by DB2 for reuse before the query can access them. A low buffer pool hit ratio is not necessarily bad. The hit ratio is a relative value, based on the type of application. For example, an application that browses large data might have a buffer pool hit ratio of 0. Watch for those cases where the hit ratio drops significantly for the same application. Here are some suggestions to increase the buffer hit ratio:

- Run the REORG utility for indexes or table spaces associated with the virtual buffer pool.
- Reserve more pages for random I/O by setting the SEQUENTIAL STEAL THRESHOLD (VPSEQT) to a lower value.
- Increase the buffer pool as long as the cost of paging does not outweigh the benefit of I/O avoidance.
- Establish more separate buffer pools, perhaps to isolate different applications.
- Place the objects that are accessed only sequentially in a separate buffer pool.

When the hit ratio is negative, it means that prefetch has brought pages into the buffer pool that are not subsequently referenced, either because the query stops before it reaches the end of the table

space, or because the prefetched pages are stolen by DB2 for reuse before the query can access them.

The hit ratio measurement becomes less meaningful if the buffer pool is used by additional processes, such as utilities or work files.

Field Name: SBUFFRAT

BPOOL HIT RATIO (%) SEQU

The percentage of sequential Getpage operations that were satisfied by a page already in the buffer pool.

Field Name: SBUFFSEQ

BPOOL HIT RATIO (%) RANDOM

The percentage of random Getpage operations that were satisfied by a page already in the buffer pool. If this value is low, it indicates that page residency in the buffer pool is too low, therefore the buffer pool may be too small.

Field Name: SBUFFRDM

GETPAGE REQUEST

The number of Getpage requests including conditional and unconditional requests.

Field Name: QBSTGET

GETPAGE REQS-SEQUENTIAL

The number of Getpage requests issued by sequential access requesters.

Field Name: QBSTSGT

IN-MEM OVFL SEQ REQS

The number of sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTASGE

This is an *exception* field.

GETPAGE REQS-RANDOM

The number of random Getpage requests.

Field Name: SDGETRAN

IN-MEM OVFL RND REQS

The number of non-sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTAGET

This is an *exception* field.

SYNCHRONOUS READS

The number of synchronous read I/O operations performed by DB2 for applications and utilities.

Background and Tuning Information

This number includes both Synchronous Reads Sequential Access Only (QBSTSIO) and synchronous read operations for non-sequential access.

You can use this value and the value of Synchronous Reads Sequential Access Only to calculate the number of Non-Sequential Synchronous Reads.

Check the buffer pool hit ratio if the number of non-sequential synchronous reads is larger than expected.

Field Name: QBSTRIO

This is an *exception* field.

SYNC READS-SEQUENTIAL

The number of synchronous read I/O requests issued by sequential access requesters.

Background and Tuning Information

Sequential synchronous read I/Os can occur because:

- Prefetch is disabled (QBSTSPD).
- Prefetch pages could have been stolen from the buffer pool before the Getpage request is issued for those pages. Subsequently the pages are reread synchronously. A negative buffer pool hit ratio can indicate the same problem.
- The pages requested are not consecutive: DB2 estimated the selected range of pages to be so small that prefetch would make no sense. See also Sequential Prefetch Requested (QBSTSEQ).

It is normal to have a small value for SYNC READ I/O (SEQUENTIAL) because before the sequential prefetch is scheduled, the first page of a prefetch is read by SYNC READ I/O. However, if this number is large, consider increasing the size of the buffer pool or reviewing the sequential steal thresholds (VPSEQT and HPSEQT).

Field Name: QBSTSIO

This is an *exception* field.

IN-MEM OVFL SEQ READS

The number of synchronous read I/O operations for sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTASSE

This is an *exception* field.

SYNC READS-RANDOM

The number of random synchronous read I/O requests.

Field Name: SDSTRAN

This is an *exception* field.

IN-MEM OVFL RND READS

The number of synchronous read I/O operations for non-sequential GETPAGE requests using overflowed buffers.

If this counter has a non-zero value, the buffer pool size should be increased.

Field Name: QBSTASYN

This is an *exception* field.

GETPAGE PER SYN.READ-RANDOM

The number of random Getpage requests per random synchronous read I/O request.

Background and Tuning Information

This ratio is a good indicator of read efficiency in a transaction environment. The higher the number is, the better.

Field Name: SBRGPRIO

SEQUENTIAL PREFETCH REQUEST

The number of sequential prefetch requests. This counter is incremented for each PREFETCH request (which can result in an I/O read). If the prefetch results in an I/O read, up to 64 pages may be read for SQL, and up to 128 pages for utilities. A request does not result in an I/O read if all pages to be prefetched are already in the buffer pool.

This counter does not include sequential detection, which is recorded in the Dynamic Prefetch - Requested field.

Background and Tuning Information

Sequential prefetch reads a sequential set of pages. It allows CP and I/O operations to be overlapped. DB2 determines at BIND time whether sequential prefetch is used or not.

Sequential prefetch is generally used for a table space scan.

The number of prefetch requests by itself is not a good indicator for efficiency of prefetching:

- At run time not every prefetch request results in read I/O: the Sequential Prefetch Reads field (QBSTPIO) shows the number of read I/O operations caused by sequential prefetch. The Prefetch Disabled No Buffer (QBSTSPD) and Prefetch Disabled No Read Engine fields (QBSTREE) show the number of times prefetch was disabled because buffers and read engines had not been available.
- Check the value in the buffer pool hit ratio. A negative value indicates that prefetched pages are stolen from the buffer pool before they are read. The pages are subsequently reread synchronously. There will be also a large value in the Synchronous Reads Total (QBSTRIO) field.
- Decreasing the size of the buffer pool can reduce the prefetch quantity, leading to a larger number of prefetch requests. See also the Sequential Prefetch Pages Read field (QBSTSPP).

Field Name: QBSTSEQ

This is an *exception* field.

SEQUENTIAL PREFETCH READS

The number of asynchronous read I/O operations due to normal sequential prefetch (applications and utilities).

Background and Tuning Information

Prefetch Read I/O is not activated if one of the following conditions applies:

- All pages in the prefetch range are already in the buffer pool.
- Prefetch is disabled (QBSTSPD).

This means that the value in this field is usually smaller than the number of sequential prefetch requests (QBSTSEQ).

Field Name: QBSTPIO

This is an *exception* field.

PAGES READ VIA SEQ.PREFETCH

The total number of pages read due to a normal sequential prefetch. A sequential prefetch request does not result in a read I/O if all the pages you want are found in the buffer pool.

Background and Tuning Information

For requests issued by application programs, the number of pages per READ I/O primarily depends on the page size and the size of the buffer pool. Normally sixty-four 4 KB pages (or eight 32 KB pages) is the maximum prefetch quantity for table space scans, whether data or index. Utilities use a prefetch quantity of up to 64 pages.

The number of pages per READ I/O can be lower because:

- Pages within the prefetch range may already be in the buffer pool.
- Not enough pages are available because of a buffer shortage.

- A prefetch quantity of 8 pages or less is used for work files.

A small value for this ratio can indicate:

- A good performing buffer pool being so large that most of the pages, which had otherwise to be prefetched, are cached in the buffer pool. In this case, the buffer pool hit ratio should be high.
- A buffer shortage condition, reducing the efficiency of sequential prefetch. This could mean, for example, work-file prefetch quantity reduction from 8 to 4 to 2, as the number of available buffers shrinks. In this case, you should consider tuning the buffer pool.

Field Name: QBSTSPP

This is an *exception* field.

S.PRF.PAGES READ/S.PRF.READ

The number of sequential prefetch pages read per sequential prefetch read I/O operation.

Field Name: SBRPPRIO

This is an *exception* field.

LIST PREFETCH REQUESTS

The number of list prefetch requests.

List prefetch allows DB2 to access data pages efficiently even when the required data pages are not contiguous. It allows CP and I/O operations to be overlapped.

Background and Tuning Information

DB2 determines at BIND time whether sequential prefetch is used. List prefetch is chosen as follows:

- Usually with a single index that has a cluster ratio lower than 80%.
- Sometimes on a single index with a high cluster ratio, if the estimated amount of data to be accessed is too small to make sequential prefetch efficient.
- Always to access data by multiple index access.
- Always to access data from the inner table during a hybrid join.

DB2 never chooses list prefetch if the estimated number of RIDs to be processed takes more than 50% of the RID pool. During execution time, list prefetch processing terminates if more than 25% of the rows (with a minimum of 4075) in the table must be accessed.

Data pages are read in quantities equal to the sequential prefetch quantity (QBSTSEQ), which depends on buffer pool size and is usually 64 pages.

Field Name: QBSTLPF

This is an *exception* field.

LIST PREFETCH READS

The number of asynchronous read I/O operations caused by the list prefetch.

The number of pages read is shown by the List Prefetch Pages Read (QBSTLPP) field.

Background and Tuning Information

Prefetch Read I/O is not activated if one of the following conditions apply:

- All pages in the prefetch range are already in the buffer pool.
- Prefetch is disabled (Prefetch Disabled No Read Engine - QBSTREE).

This means that the value in this field is usually less than the number of list prefetch requests (QBSTLPF).

Field Name: QBSTLIO

This is an *exception* field.

PAGES READ VIA LIST PREFTCH

The number of pages read via list prefetch.

Field Name: QBSTLPP

L.PRF.PAGES READ/L.PRF.READ

The number of list prefetch pages read per list prefetch read I/O.

Field Name: SDLPPPIO

This is an *exception* field.

DYNAMIC PREFETCH REQUESTED

The number of dynamic prefetch requests. Dynamic prefetch is the process that is triggered because of sequential detection. If the prefetch request results in an I/O read, up to 32 advancing pages can be read at a time.

Background and Tuning Information

Dynamic prefetch reads a sequential set of pages. It allows CP and I/O operations to be overlapped. If DB2 does not choose prefetch at bind time it can sometimes use it at execution time. The method is called sequential detection.

The number of prefetch requests by itself is not a good indicator for efficiency of prefetching because:

- At run time not every prefetch request results in read I/O: the Dynamic Prefetch Reads field shows the number of read I/O operations caused by dynamic prefetch. The Prefetch Disabled No Buffer (QBSTSPD) and Prefetch Disabled No Read Engine (QBSTREE) fields show the number of times prefetch was disabled because buffers and read engines had not been available.
- Prefetch pages can be stolen from the buffer pool before they are read. This is indicated by a negative buffer pool hit ratio. The pages are subsequently reread synchronously. This will also cause an unexpectedly large value for total synchronous reads (QBSTRIO).

Decreasing the size of the buffer pool can reduce the prefetch quantity (QBSTDPP), leading to a larger number of prefetch requests.

Field Name: QBSTDPF

This is an *exception* field.

DYNAMIC PREFETCH READS

The number of asynchronous read I/Os because of dynamic prefetch. The number of pages read is recorded in the Dynamic Prefetch Pages Read field.

Background and Tuning Information

A prefetch request does not result in an I/O if one of the following conditions apply:

- All pages to be prefetched are already in the buffer pool.
- The prefetch is canceled.

This means that the value in this field is usually smaller than the number of dynamic prefetch requests.

Field Name: QBSTDIO

This is an *exception* field.

PAGES READ VIA DYN.PREFETCH

The number of pages read because of dynamic prefetch. Dynamic prefetch is the process that is triggered by sequential detection.

Background and Tuning Information

The ratio of Dynamic Prefetch Pages Read to Dynamic Prefetch Reads is between 0 and 32.

DB2 can fetch up to 32 pages per prefetch.

The number of pages per READ I/O can be lower because:

- Pages within the prefetch range are already in the buffer pool.
- Not as many pages are available due to a buffer shortage.

A small value for this ratio can indicate:

- A good performing buffer pool being large enough to contain pages that would otherwise be prefetched. This is indicated by a high buffer pool hit ratio.
- A buffer shortage condition, which reduces the efficiency of dynamic prefetch. In this instance the buffer pool hit ratio will be low. Consider tuning the buffer pool.

Field Name: QBSTDPP

This is an *exception* field.

D.PRF.PAGES READ/D.PRF.READ

The number of dynamic prefetch pages read per dynamic prefetch read I/O.

Field Name: SDDPPPIO

This is an *exception* field.

PREF.DISABLED-NO BUFFER

The total number of times sequential prefetch was disabled because buffers were not available.

Field Name: QBSTSPD

This is an *exception* field.

PREF.DISABLED-NO READ ENG

The total number of times a prefetch is disabled because of an unavailable read engine.

Background and Tuning Information

Because there are 600 read engines, a maximum of 600 concurrent prefetch operations can be processed at a time. When this maximum is reached, prefetching is disabled and this count is incremented. The value in this field should be close to 0.

Field Name: QBSTREE

This is an *exception* field.

PAGE-INS REQUIRED FOR READ

The number of page-ins required for a read I/O.

Note: A non-zero value can be accepted if a buffer pool expansion via ALTER BPSIZE occurs. In other situations, a non-zero value indicates a shortage of real storage relative to the buffer pool size.

Field Name: QBSTRPI

This is an *exception* field.

ZHYPERLINK READ – I/O

The number of successful reads using zHyperLink during the reported interval.

Field Name: QBSTSYIO

READ I/O – DASD CACHE HIT

The number of read I/Os where the requested data was found in the DASD subsystem cache during the reported interval.

Field Name: QBSTSIOC

Buffer Pool Sort/Merge

This topic shows detailed information about "Statistics - Buffer Pool Sort/Merge".

This block is only printed when the buffer pool is active. If more than one 4 KB or 32 KB buffer pool block is present, a summary block showing buffer pool totals is also printed. If the report contains both 4 KB and 32 KB buffer pool blocks, a block showing the totals for all buffer pools is printed.

Statistics - Buffer Pool Sort/Merge

The field labels shown in the following sample layout of "Statistics - Buffer Pool Sort/Merge" are described in the following section.

```
BP0    SORT/MERGE            QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------
MAX WORKFILES CONCURR. USED      0.00      N/A      N/A      N/A
MERGE PASSES REQUESTED           0.00     0.00      N/C      N/C
MERGE PASS DEGRADED-LOW BUF      0.00     0.00      N/C      N/C
WORKFILE REQ.REJCTD-LOW BUF      0.00     0.00      N/C      N/C
WORKFILE REQ-ALL MERGE PASS      0.00     0.00      N/C      N/C
WORKFILE NOT CREATED-NO BUF      0.00     0.00      N/C      N/C
WORKFILE PRF NOT SCHEDULED       0.00     0.00      N/C      N/C
```

MAX WORKFILES CONCURR. USED

The maximum number of work files concurrently used during merge processing within this statistics period.

Ideally, each work file needs 16 buffers to allow DB2 to perform a sequential prefetch for work files.

Field Name: QBSTWFM

This is an *exception* field.

MERGE PASSES REQUESTED

The total number of merge passes for DB2 sort activities. This value reflects how many merge passes were requested for DB2 to determine the number of work files permitted to support each merge pass.

Field Name: QBSTWFR

MERGE PASS DEGRADED-LOW BUF

The number of times that a merge pass was not efficiently performed due to a shortage of space in the buffer pool. The number in this field is incremented for each merge pass where the maximum number of work files allowed is less than the number of work-files requested.

Background and Tuning Information

The maximum number of work files allowed is calculated as follows:

- Buffers consumed = 2 * (work files already allocated)
- Buffers available = (sequential steal threshold * buffer pool size - buffers consumed)
- Maximum work files allowed = buffers available / (2 * 8)

The default for the sequential steal threshold is 0.8.

Ideally, the number in this field should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are too many concurrent work files. For example, there could be a number of concurrently open cursors that require sorting. Consider increasing the buffer pool size using the ALTER BUFFERPOOL command.

Field Name: QBSTWFF

This is an *exception* field.

WORKFILE REQ.REJCTD-LOW BUF

The total number of work files that were rejected during all merge passes because of insufficient buffer resources.

Background and Tuning Information

This field and the degraded low buffers field determine the average number of work files that cannot be honored at each merge pass because of insufficient buffer pool space.

Ideally, the number in this field should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are too many concurrent work files. For example, there could be a number of concurrently open cursors that require sorting. Consider increasing the size of the buffer pool using the ALTER BUFFERPOOL command.

Note that, when there are many concurrent sorts or large sorts, it is a good idea to dedicate a separate buffer pool for sort work files. This will greatly facilitate work-file performance tuning.

Field Name: QBSTWFD

This is an *exception* field.

WORKFILE REQ-ALL MERGE PASS

The total number of work files requested for all merge passes.

This field and the Merge Passes Requested field determine the average number of work files requested in a single merge pass.

For DB2 to perform an efficient prefetch for work files, each workfile should have at least 16 dedicated buffers. Work files used during sort phase processing or other non-sort-related processing are not included in this number.

Field Name: QBSTWFT

WORKFILE NOT CREATED-NO BUF

This field is only applicable if DB2 is running under MVS/XA .

The number of times a work file could not be created due to insufficient buffer resources. It indicates that a sort is in progress and limited in regard to the number of work files it can use.

Background and Tuning Information

Ideally, this should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are many concurrent work files. For example, there could be a number of open cursors that require sorting.

Generally, sorts are performed more efficiently with additional work files, but there are internal DB2 limits on the number of work files a transaction can have. It is possible that at run time a transaction cannot use as many work files as it had planned. You can control this by increasing the buffer pool size (ALTER BUFFERPOOL), or changing the transaction so it requires fewer concurrent work files.

Field Name: QBSTMAX

This is an *exception* field.

WORKFILE PRF NOT SCHEDULED

The number of times a sequential prefetch was not scheduled for a work file because the dynamic prefetch quantity is zero.

Background and Tuning Information

The work-file prefetch checks the dynamic prefetch quantity (normally 1 to 8 pages). When the quantity is zero, the value in this field is incremented. A high number in this field implies that the buffer pool is too small.

Ideally, the number in this field should be 0. Otherwise, it indicates a shortage of buffer pool space or that there are many concurrent work files. For example, there could be a number of concurrently open cursors that require sorting.

Consider increasing the size of the buffer pool or allocating a buffer pool specifically for DSNDB07 usage. This can be especially effective with high-use query systems whose reports make extensive use of sort activity.

Field Name: QBSTWKPD

This is an *exception* field.

Buffer Pool Write

This topic shows detailed information about "Statistics - Buffer Pool Write".

This block is only printed when the buffer pool is active. If more than one 4 KB or 32 KB buffer pool block is present, a summary block showing buffer pool totals is also printed. If the report contains both 4 KB and 32 KB buffer pool blocks, then a block showing the totals for all buffer pools is printed.

Statistics - Buffer Pool Write

The field labels shown in the following sample layout of "Statistics - Buffer Pool Write" are described in the following section.

```
BP0    WRITE OPERATIONS      QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------
BUFFER UPDATES                6257.00    34.42      N/C      N/C
PAGES WRITTEN                  939.00     5.17      N/C      N/C
BUFF.UPDATES/PAGES WRITTEN       6.66

SYNCHRONOUS WRITES              75.00     0.41      N/C      N/C
ASYNCHRONOUS WRITES            282.00     1.55      N/C      N/C
PAGES WRITTEN PER WRITE I/O      2.63
PAGES WRTN FOR CASTOUT I/O       0.00     0.00      N/C      N/C
NUMBER OF CASTOUT I/O            0.00     0.00      N/C      N/C

HORIZ.DEF.WRITE THRESHOLD        0.00     0.00      N/C      N/C
VERTI.DEF.WRITE THRESHOLD        0.00     0.00      N/C      N/C
DM THRESHOLD                     0.00     0.00      N/C      N/C
PAGE-INS REQUIRED FOR WRITE      0.00     0.00      N/C      N/C
```

BUFFER UPDATES

The number of times buffer updates were requested against pages in the buffer pool.

Background and Tuning Information

The ratio of Buffer Updates to Pages Written (QBSTPWS) suggests a high level of efficiency as it increases, because more updates are being externalized per physical write.

Buffer updates per pages written depends strongly on the type of application. For example, a batch program that processes a table in skip sequential mode with a high row update frequency in a dedicated environment can achieve very good update efficiency. In contrast, update efficiency tends to be lower for transaction processing applications, because transaction processing tends to be random.

The following can influence the number of updates per page:

Number of rows per page
A small PCTFREE value gathers more rows on the same page. However, at the same time this can impact concurrency.

Buffer pool size and deferred write thresholds
Increase DWQT and VDWQT or the size of the buffer pool. This causes DB2 to let page updates accumulate in the buffer pool. Therefore, the probability that more updates per page get captured increases. This effect is less significant if the buffer pool is concurrently used by several transactions, it also depends on the type of transaction.

Field Name: QBSTSWS

This is an *exception* field.

PAGES WRITTEN

The number of pages in the buffer pool written to DASD.

Background and Tuning Information

Consider the ratio of Pages Written per write I/O. The number of write I/O operations includes Asynchronous Writes (QBSTWIO) and Synchronous Writes (QBSTIMW).

The ratio of pages per write I/O suggests a high level of efficiency as the ratio increases, because more pages are being externalized per physical write.

The following factors impact the ratio of pages written per write I/O:

Checkpoint frequency
At checkpoint time, I/Os are scheduled to write all updated pages on the deferred write queue to DASD. If this occurs too frequently, the deferred write queue does not grow large enough to achieve a high ratio of pages written per write I/O.

The checkpoint frequency depends on the number of logs written between two consecutive checkpoints. This number is set at installation time; see the field CHECKPOINT FREQ of installation panel DSNTIPN.

Frequency of active log switch
DB2 takes a system checkpoint each time the active log is switched. High frequency of active log switches causes the problem described under checkpoint frequency.

Buffer pool size and deferred write thresholds
The deferred write thresholds (VDWQT and DWQT) are a function of buffer pool size. If the buffer pool size is decreased, these thresholds are reached more frequently, causing I/Os to be scheduled more often to write some of the pages on the deferred write queue to DASD. This prevents the deferred write queue from growing large enough to achieve a high ratio of pages written per write I/O.

Number of data sets, and the spread of updated pages across them
The efficiency of write I/O also depends on the number of data sets associated with the buffer pool and spread of updated pages across them. Because of the nature of batch processing, the ratio of pages written to write I/Os can be expected to be higher than that expected for transaction type workloads.

To determine update efficiency, use also the value in the Buffer Updates field (QBSTSWS) to check the number of buffer updates per page written.

Field Name: QBSTPWS

This is an *exception* field.

BUFF.UPDATES/PAGES WRITTEN

The number of buffer updates per page written from the buffer pool to DASD.

The ratio of BUFFER UPDATES (QBSTSWS) to PAGES WRITTEN (QBSTPWS) suggests a high level of efficiency as the ratio increases, because more updates are being externalized per physical write. For example, if there are 10 updates on the same page before it is externalized, then the ratio is 10:1 or 10. If all 10 updates are on 10 distinct pages, then the ratio is 10:10 or 1.

Background and Tuning Information

Buffer updates per pages written depends strongly on the type of application. For example, a batch program that processes a table in skip sequential mode with a high row update frequency in a dedicated environment can achieve very good update efficiency. In contrast, update efficiency tends to be lower for transaction processing applications, because transaction processing tends to be random.

The following factors can influence the number of updates per page:

Number of rows per page
A small PCTFREE value will gather more rows on the same page. However, at the same time this can have impact on concurrency.

Buffer pool size and deferred write thresholds
Increase DWQT and VDWQT or the size of the buffer pool. This would tell DB2 to let page updates accumulate in the buffer pool. This means, the probability that more updates per page get captured increases. This effect is less significant if the buffer pool is concurrently used by multiple transactions, it depends on the type of transaction.

Field Name: SBRBUPW

SYNCHRONOUS WRITES

The total number of immediate writes.

Immediate writes occur when:

- An immediate write threshold (IWTH) is reached
- No deferred write engines are available
- More than two checkpoints pass without a page being written.

Sometimes DB2 uses synchronous writes even when the IWTH is not exceeded. As an example, when more than two checkpoints pass without a page being written. This type of situation does not indicate a buffer shortage.

Background and Tuning Information

A small number of immediate writes can be expected. Synchronous writes occur if there are too many checkpoints and/or the buffer pool is too small.

If a large number of synchronous writes occur, monitor the DM Critical Threshold Reached (QBSTDMC) field. Reaching Immediate Write Threshold (IWTH-97.5%) implies that the Data Management Threshold (DMTH-95%) has been crossed. You can ignore the value in the immediate write field when DM Critical Threshold Reached is zero. Otherwise consider increasing the size of the buffer pool. You can use the ALTER BUFFERPOOL command.

Check also the System Event Checkpoint field (QWSDCKPT) in the Subsystem Services block to see whether the frequency of DB2 checkpoints should be reduced. To do this, increase the value of ZPARM LOGLOAD.

Field Name: QBSTIMW

This is an *exception* field.

ASYNCHRONOUS WRITES

The number of asynchronous write I/O operations performed by media manager to a direct access storage device.

Field Name: QBSTWIO

This is an *exception* field.

PAGES WRITTEN PER WRITE I/O

The number of pages written from the buffer pool to DASD per synchronous or asynchronous write I/O. This count does not include preformatting I/O, such as I/O needed to prepare a data set for use.

Background and Tuning Information

The following factors impact the ratio of pages written per write I/O:

Checkpoint frequency
At checkpoint time, I/Os are scheduled to write all updated pages on the deferred write queue to DASD. If this occurs too frequently, the deferred write queue does not grow large enough to achieve a high ratio of pages written per write I/O.

The checkpoint frequency depends on the number of logs written between two consecutive checkpoints. This number is set at installation time; see the field CHECKPOINT FREQ of installation panel DSNTIPN.

Frequency of active log switch
DB2 takes a system checkpoint each time the active log is switched. High frequency of active log switches causes the problem described under checkpoint frequency.

Buffer pool size and deferred write thresholds
The deferred write thresholds (VDWQT and DWQT) are a function of buffer pool size. If the buffer pool size is decreased, these thresholds are reached more frequently, causing I/Os to be scheduled more often to write some of the pages on the deferred write queue to DASD. This prevents the deferred write queue from growing large enough to achieve a high ratio of pages written per write I/O.

Number of data sets, and the spread of updated pages across them
The efficiency of write I/O also depends on the number of data sets associated with the buffer pool and spread of updated pages across them. Because of the nature of batch processing, the ratio of pages written to write I/Os can be expected to be higher than that expected for transaction type workloads.

To determine update efficiency check also the ratio Buffer Updates / Pages Written (SBRBUPW).

Field Name: SBRPWWIO

PAGES WRTN FOR CASTOUT I/O

The number of pages written for castout I/O operations.

Field Name: QBSTPCO

NUMBER OF CASTOUT I/O

The number of castout I/O operations.

Field Name: QBSTCIO

HORIZ.DEF.WRITE THRESHOLD

The number of times the deferred write threshold (DWTH) was reached.

This threshold is a percentage of the virtual buffer pool that might be occupied by unavailable pages, including both updated pages and pages in use. DB2 checks this threshold when an update to a page is completed. If the percentage of unavailable pages in the virtual buffer pool exceeds the threshold, write operations are scheduled for enough data sets (up to 128 pages per data set) to reduce the number of unavailable buffers to 10% below the threshold.

Background and Tuning Information

The default value for this threshold is 30%. You can change that to any value from 0% to 90% by using the DWQT option on the ALTER BUFFERPOOL command.

The deferred write thresholds, DWQT and VDWQT, are specified as a percentage, their absolute value depends on the size of the virtual buffer pool.

Consider the following aspects when changing the deferred write thresholds:

Optimize the ratio of pages written per write I/O
The ratio can be monitored using the Pages Written (QBSTPWS) field.

When the buffer pool is relatively small, the default thresholds could prevent the deferred write queue from growing large enough to achieve a high ratio of pages written per write I/O. Raising these thresholds will, in this instance, reduce the I/O write frequency, increasing the number of pages written per I/O.

Distribute I/O evenly over time
If a virtual buffer pool is very large, it is unlikely that the default values of either DWQT or VDWQT will ever be reached. In this case, write I/Os tend to occur in surges, triggered by DB2

checkpoints. Lowering the VDWQT and the DWQT could improve performance by distributing the write I/Os more evenly over time.

Impact on other buffer pool thresholds
Increasing DWQT and VDWQT allows updated pages to use a larger portion of the virtual buffer pool. Large DWQT and VDWQT can have a significant effect on the other thresholds. For example, in work load where pages are frequently updated, and the updated pages exceed the size of the virtual buffer pool, setting both DWQT and VDWQT to 90% would probably cause frequent threshold-reached events for sequential prefetch (and possibly the data management and immediate write).

Field Name: QBSTDWT

This is an *exception* field.

VERTI.DEF.WRITE THRESHOLD

The number of times the vertical deferred write threshold (VDWQT) was reached. This threshold is similar to the deferred write threshold but it applies to the number of updated pages for one single page set in the buffer pool. If the percentage or number of updated pages for the data set exceeds the threshold, writes up to 128 pages are scheduled for that data set.

Field Name: QBSTDWV

This is an *exception* field.

DM THRESHOLD

The number of times the data manager critical threshold (DMTH-95%) was reached.

This field shows how many times a page was immediately released because the data management threshold was reached.

The threshold is checked before a page is read or updated. If the threshold has not been exceeded, DB2 accesses the page in the virtual buffer pool once for each page, no matter how many rows are retrieved or updated in that page. If the threshold has been exceeded, Getpage requests and RELEASEs apply to rows instead of pages. That is, if more than one row is retrieved or updated in a page, more than one Getpage request and RELEASE is performed on that page.

Background and Tuning Information

Avoid reaching this threshold wherever possible because it significantly affects CPU usage. Set virtual buffer pool sizes large enough or reduce the workload on the buffer pool.

Field Name: QBSTDMC

This is an *exception* field.

PAGE-INS REQUIRED FOR WRITE

The number of page-ins required for a write I/O.

Field Name: QBSTWPI

Common Storage Below and Above 2 GB

This topic shows detailed information about "Statistics - Common Storage Below and Above 2 GB".

Statistics - Common Storage Below and Above 2 GB

The field labels shown in the following sample layout of "Statistics - Common Storage Below and Above 2 GB" are described in the following section.

```
COMMON STORAGE BELOW AND ABOVE 2 GB                    QUANTITY
-----------------------------------------  ------------------
EXTENDED CSA SIZE                    (MB)            256.49

FIXED POOL BELOW                     (MB)              6.94
```

```
VARIABLE POOL BELOW                     (MB)              1.11
GETMAINED BELOW                         (MB)              0.07

FIXED POOL ABOVE                        (MB)              9.96
VARIABLE POOL ABOVE                     (MB)              0.00
GETMAINED ABOVE                         (MB)              0.00
STORAGE MANAGER CONTROL BLOCKS ABOVE    (MB)              1.34

REAL LOG MANAGER WRITE BUFFERS ABOVE    (MB)              0.00
REAL LOG MANAGER CONTROL BLOCKS ABOVE   (MB)              0.00
AUX LOG MANAGER CONTROL BLOCKS ABOVE    (MB)              0.00

REAL STORAGE IN USE                     (MB)             11.18
AVERAGE THREAD FOOTPRINT                (MB)              0.01

AUXILIARY STORAGE IN USE                (MB)              0.00

DISCARDED STORAGE ELIGIBLE FOR STEAL    (MB)              1.17
```

EXTENDED CSA SIZE (MB)

The size of the common storage area (CSA) above the 16 MB line.

Field Name: QW0225EC

FIXED POOL BELOW (MB)

The amount of storage allocated for 31-bit common fixed pool storage.

Field Name: QW0225FC

VARIABLE POOL BELOW (MB)

The amount of storage allocated for 31-bit common variable pool storage.

Field Name: QW0225VC

GETMAINED BELOW (MB)

The amount of storage allocated for 31-bit common getmained storage.

Field Name: QW0225GC

FIXED POOL ABOVE (MB)

The amount of storage allocated for 64-bit common fixed pool storage.

Field Name: QW0225FCG

VARIABLE POOL ABOVE (MB)

The amount of storage allocated for 64-bit common variable pool storage.

Field Name: QW0225VCG

GETMAINED ABOVE (MB)

The amount of storage allocated for 64-bit common getmained storage.

Field Name: QW0225GCG

STORAGE MANAGER CONTROL BLOCKS ABOVE (MB)

The amount of storage allocated for 64-bit common storage for storage manager control structures.

Field Name: QW0225SMC

REAL LOG MANAGER WRITE BUFFERS ABOVE (MB)

The amount of real storage in the 64-bit common area in use for Log Manager write buffers.

Field Name: S225LWR

REAL LOG MANAGER CONTROL BLOCKS ABOVE (MB)

The amount of real storage in the 64-bit common area in use for Log Manager control blocks.

Field Name: S225LCR

AUX LOG MANAGER CONTROL BLOCKS ABOVE (MB)

The amount of auxiliary storage in the 64-bit common area in use for Log Manager control blocks.

Field Name: S225LCA

REAL STORAGE IN USE (MB)

The amount of real storage in use for 64-bit common storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225CSR

AVERAGE THREAD FOOTPRINT (MB)

The current average real storage in use for common storage of active user threads (allied threads + active and pooled DBATs).

Field Name: S225CTFR

AUXILIARY STORAGE IN USE (MB)

The amount of auxiliary storage in use for 64-bit common storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225CSA

DISCARDED STORAGE ELIGIBLE FOR STEAL (MB)

Number of High Common discarded storage eligible for Page Steal. Currently backed storage which is still charged to DB2, minus this count, is the true REAL Storage usage at this time.

Field Name: S225CSD

CPU and Storage Metrics

This topic shows detailed information about "Statistics - CPU and Storage Metrics".

This block shows information about CPU usage and storage metrics gathered by the z/OS Resource Measurement Facility (RMF) interface. The subsystem parameter ZOSMETRICS must be set to YES for enabling DB2 to retrieve data from RMF.

Statistics - CPU and Storage Metrics

The field labels shown in the following sample layout of "Statistics - CPU and Storage Metrics" are described in the following section.

```
CPU AND STORAGE METRICS                QUANTITY
-------------------------  ------------------
CP LPAR                                  4.00
CPU UTILIZATION LPAR                   255.47
CPU UTILIZATION DB2                      0.04
CPU UTILIZATION DB2 MSTR                 0.00
CPU UTILIZATION DB2 DBM1                 0.00

UNREFERENCED INTERVAL COUNT            65535.00
REAL STORAGE LPAR      (MB)             3071.00
FREE REAL STORAGE LPAR (MB)              268.00
USED REAL STORAGE DB2  (MB)              240.00

VIRTUAL STORAGE LPAR   (MB)            17051.26
FREE VIRTUAL STOR LPAR (MB)            13828.00
USED VIRTUAL STOR DB2  (MB)              332.00
```

CP LPAR

The number of standard central processors (CPs) on the logical partition (LPAR) at the end of the defined Monitor III gatherer time interval (called MINTIME). This value does not include ZIIPs. This value is from Resource Measurement Facility (RMF) field CPUG3_PRCON.

Field Name: QWOSLNCP

CPU UTILIZATION LPAR

The percentage of the MINTIME time interval during which RMF reported that the entire LPAR was in use, averaged for a single processor. This value is calculated using Resource Measurement Facility (RMF) field CPUG3_LOGITI.

Field Name: QWOSLPRU

CPU UTILIZATION DB2

The percentage of the MINTIME time interval during which RMF reported that all DB2 address spaces were in use, calculated for a single processor.

Field Name: QWOSDB2U

CPU UTILIZATION DB2 MSTR

The percentage of the MINTIME time interval during which RMF reported that the DB2 MSTR address space was in use, calculated for a single processor.

Field Name: QWOSMSTU

CPU UTILIZATION DB2 DBM1

The percentage of the MINTIME time interval during which RMF reported that the DB2 DBM1 address space was in use, calculated for a single processor.

Field Name: QWOSDBMU

UNREFERENCED INTERVAL COUNT

The Unreferenced Interval Count (UIC). This value is RMF field GEIAHUIC_VE.

Field Name: QWOSLUIC

REAL STORAGE LPAR (MB)

The total real storage in the LPAR, in MB. This value is derived from RMF field GEIRPOOL_VE, which is the number of online real storage frames.

Field Name: QWOSLRST

FREE REAL STORAGE LPAR (MB)

The free real storage in the LPAR, in MB. This value is derived from RMF field GEIRAFC, which is the number of available real storage frames.

Field Name: QWOSLRSF

USED REAL STORAGE DB2 (MB)

The real storage used by DB2 subsystems, in MB. This value is the sum of the following values for all DB2 address spaces in the LPAR, converted to MB:

- The number of frames for swapped-in users. This value is derived from RMF field ASIFMCT_VE.
- The number of frames for idle users. This value is derived from RMF field ASIFMCTI_VE.

Field Name: QWOSDRSU

VIRTUAL STORAGE LPAR (MB)

The total virtual storage in the LPAR, in MB. This value is the sum of the following values for all address spaces in the LPAR:

- The number of frames for swapped-in users. This value is derived from RMF field ASIFMCT_VE.
- The number of frames for idle users. This value is derived from RMF field ASIFMCTI_VE.
- The number of auxiliary slots. This value is derived from RMF field ASIAUXSC_VE.

Field Name: QWOSLVST

FREE VIRTUAL STOR LPAR (MB)

The free virtual storage in the LPAR, in MB. This value is the sum of the following values, converted to MB:

- The total real storage in the LPAR (QWOSLRST)
- The number of currently available slots (RMF field GEISLTA)

Field Name: QWOSLVSF

USED VIRTUAL STOR DB2 (MB)

The virtual storage used by DB2 subsystems, in MB. This value is the sum of the following values for all DB2 address spaces in the LPAR, converted to MB:

- The number of frames for swapped-in users. This value is derived from RMF field ASIFMCT_VE.
- The number of frames for idle users. This value is derived from RMF field ASIFMCTI_VE.

Field Name: QWOSDVSU

CPU Times

This topic shows detailed information about "Statistics - CPU Times".

This block shows statistics data of CPU timer values for each resource manager and control address space.

DB2 can generate parallel tasks for the efficient execution of queries. Parallel tasks are executable units composed of special SRBs (service request block), which are called preemptable SRBs. With preemptable SRBs, the z/OS dispatcher can interrupt a task at any time to run other work at the same or higher dispatching priority. For non-distributed parallel work, parallel tasks run under a type of preemptable SRB, which is called a client SRB. The client SRB lets the parallel task inherit the importance of the originating address space. For distributed requests, the parallel tasks run under a preemptable SRB, which is called an enclave SRB.

Statistics - CPU Times

The field labels shown in the following sample layout of "Statistics - CPU Times" are described in the following section.

```
CPU TIMES                          TCB TIME      PREEMPT SRB   NONPREEMPT SRB      CP CPU TIME  PREEMPT IIP SRB  CP CPU /COMMIT
-------------------------------  ---------------  ---------------  ---------------  ---------------  ---------------  --------------
SYSTEM SERVICES ADDRESS SPACE          0.120789         0.037248         0.027924         0.185961         0.000000        0.005635
DATABASE SERVICES ADDRESS SPACE        0.403656         0.218449         0.009574         0.631680         0.000000        0.019142
IRLM                                   0.000043         0.000000         0.224940         0.224983         0.000000        0.006818
DDF ADDRESS SPACE                      0.005795         1.122965         0.007127         1.135886         0.000000        0.034421

TOTAL                                  0.530282         1.378663         0.269566         2.178511         0.000000        0.066015
```

SYSTEM SERVICES ADDRESS SPACE - TCB TIME

TCB time for the system services address space.

Field Name: SSTCBT

DATABASE SERVICES ADDRESS SPACE - TCB TIME

TCB time used for database services address space.

Field Name: SDTCBT

IRLM - TCB TIME

IRLM TCB time.

Field Name: SDITCBT

DDF ADDRESS SPACE - TCB TIME

DDF address space TCB time.

Field Name: SDDFTCBT

TOTAL - TCB TIME

Total TCB time for all address spaces.

Field Name: SDTLTCBT

SYSTEM SERVICES ADDRESS SPACE - PREEMPT SRB

The preemptable SRB time for the system services address space, not including preemptable SRB time consumed on an IBM zIIP.

Field Name: SSPSRB

DATABASE SERVICES ADDRESS SPACE - PREEMPT SRB

The preemptable SRB time for the database services address space, not including preemptable SRB time consumed on an IBM zIIP.

Field Name: SDPSRB

IRLM - PREEMPT SRB

The preemptable SRB time for the IRLM address space, not including preemptable SRB time consumed on an IBM zIIP.

Field Name: SDIPSRB

DDF ADDRESS SPACE - PREEMPT SRB

The preemptable SRB time for the DDF address space, not including preemptable SRB time consumed on an IBM zIIP.

Field Name: SDDFPSRB

TOTAL - PREEMPT SRB

Total preemptable SRB time for all address spaces, not including preemptable SRB time consumed on an IBM zIIP.

Field Name: SDTLPSRB

SYSTEM SERVICES ADDRESS SPACE - NONPREEMPT SRB

The nonpreemptable SRB time for the system services address space.

Field Name: SSNPSR

DATABASE SERVICES ADDRESS SPACE - NONPREEMPT SRB

The nonpreemptable SRB time for the database services address space.

Field Name: SDNPSR

IRLM - NONPREEMPT SRB

The nonpreemptable SRB time for the IRLM address space.

Field Name: SDINPSR

DDF ADDRESS SPACE - NONPREEMPT SRB

The nonpreemptable SRB time for the DDF address space.

Field Name: SDDFNPSR

TOTAL - NONPREEMPT SRB

Total nonpreemptable SRB time for all address spaces.

Field Name: SDTLNPSR

SYSTEM SERVICES ADDRESS SPACE - CP CPU TIME

System services address space total time.

Field Name: SSTOTT

DATABASE SERVICES ADDRESS SPACE - CP CPU TIME

Database services address space total time.

Field Name: SDTOTT

IRLM - CP CPU TIME

IRLM address space total time.

Field Name: SDITOTT

DDF ADDRESS SPACE - CP CPU TIME

DDF address space total time.

Field Name: SDDFTOTT

TOTAL - CP CPU TIME

Total CPU time for all address spaces.

Field Name: SDTLTOTT

SYSTEM SERVICES ADDRESS SPACE - PREEMPT IIP SRB

The preemptable SRB time for the system services address space consumed on an IBM zIIP.

Field Name: SSPSRZ

DATABASE SERVICES ADDRESS SPACE - PREEMPT IIP SRB

The preemptable SRB time for the database services address space consumed on an IBM zIIP.

Field Name: SDPSRZ

IRLM - PREEMPT IIP SRB

The preemptable SRB time for the IRLM address space consumed on an IBM zIIP.

Field Name: SDIPSRZ

DDF ADDRESS SPACE - PREEMPT IIP SRB

The preemptable SRB time for the DDF address space consumed on an IBM zIIP.

Field Name: SDDFPSRZ

TOTAL - PREEMPT IIP SRB

Total preemptable SRB time for all address spaces consumed on an IBM zIIP.

Field Name: SDTLPSRZ

CPU Times 2

This topic shows detailed information about "Statistics - CPU Times 2".

Statistics - CPU Times 2

The field labels shown in the following sample layout of "Statistics - CPU Times 2" are described in the following section.

```
CPU TIMES 2                        CPU FOR I/O
-------------------------------  ---------------
SYSTEM SERVICES ADDRESS SPACE           0.178884
DATABASE SERVICES ADDRESS SPACE         0.048322
IRLM                                    0.000000
DDF ADDRESS SPACE                       0.000000

TOTAL                                   4.243888
```

SYSTEM SERVICES ADDRESS SPACE - TIO TIME

CPU time for I/O interrupt processing for the system services address space.

Field Name: SSTIOT

DATABASE SERVICES ADDRESS SPACE - TIO TIME

CPU time for I/O interrupt processing for the database services address space.

Field Name: SDTIOT

IRLM - TIO TIME

CPU time for I/O interrupt processing for the IRLM address space.

Field Name: SDITIOT

DDF ADDRESS SPACE - TIO TIME

CPU time for I/O interrupt processing for the DDF address space.

Field Name: SDDFTIOT

TOTAL - TIO TIME

Total CPU time for I/O interrupt processing.

Field Name: SDTLTIOT

Data Capture

This topic shows detailed information about "Statistics - Data Capture".

Statistics - Data Capture

The field labels shown in the following sample layout of "Statistics - Data Capture" are described in the following section.

```
DATA CAPTURE                 QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------
LOG RECORDS CAPTURED             0.00     0.00      N/C     0.00
LOG READS PERFORMED              0.00     0.00      N/C     0.00
LOG RECORDS RETURNED             0.00     0.00      N/C     0.00
DATA ROWS RETURNED               0.00     0.00      N/C     0.00
DESCRIBES PERFORMED              0.00     0.00      N/C     0.00
DATA DESCRIPTIONS RETURNED       0.00     0.00      N/C     0.00
TABLES RETURNED                  0.00     0.00      N/C     0.00
```

LOG RECORDS CAPTURED

The number of log records retrieved for which data capture processing was invoked.

Field Name: QWSDCDLC

LOG READS PERFORMED

The total number of data capture log reads for processing IFI reads requests for IFCID 185.

Field Name: QWSDCDLR

LOG RECORDS RETURNED

The total number of data capture log records returned.

Field Name: QWSDCDRR

DATA ROWS RETURNED

The total number of data capture data rows returned.

Field Name: QWSDCDDR

DESCRIBES PERFORMED

The total number of data capture describes performed.

A data capture describe is the process of getting descriptive information about a DB2 table from the catalog.

Field Name: QWSDCDMB

DATA DESCRIPTIONS RETURNED

The total number of data capture describes performed.

A data capture describe is the process of getting descriptive information about a DB2 table from the catalog.

Field Name: QWSDCDDD

TABLES RETURNED

The total number of data capture tables returned to the caller of the IFI reads call for IFCID 185.

Field Name: QWSDCDTB

Data set statistics report

This topic shows detailed information about "Statistics - Data Set Statistics".

Within IFCID 199, DB2 externalizes data set performance counters for open data sets that had high I/O activities (at least 1 I/O per second) in the last Statistics interval (determined by system parameter STATIME). The metrics are reported with respect to a page set to which a data set belongs and which makes up a DB2 table space or index space. The average values are calculated with respect to the I/O start and end times shown in the report.

You have to use the DSETSTAT report option for creating the data set Statistics report block. The report shows data set metrics from the perspective of buffer pools which are assigned to page sets and related data sets. The DSETSTAT report option is ignored in the Statistics REPORT or SAVE subcommand if an INTERVAL(X) option with X>0 has been specified.

Statistics - Data Set Statistics

```
---- HIGHLIGHTS ------------------------------------------------------------------------------------------
INTERVAL START  : 02/09/19 08:51:48.20    SAMPLING START: 02/09/19 08:51:48.20    TOTAL THREADS      :    16.00
INTERVAL END    : 02/09/19 09:35:00.08    SAMPLING END  : 02/09/19 09:35:00.08    TOTAL COMMITS      :     1.00
INTERVAL ELAPSED:         43:11.878763    OUTAGE ELAPSED:          0.000000    DATA SHARING MEMBER:      N/A

 BPOOL   DATABASE   TYPE         I/O START TIME     SYNCH I/O AVG   SYN I/O AVG DELAY   ASYN I/O AVG DELAY   CURRENT PAGES (VP)
         SPACENAM    GBP           I/O END TIME     ASYNC I/O AVG   SYN I/O MAX DELAY   ASYN I/O MAX DELAY   CHANGED PAGES (VP)
             PART   SHDW                         ASY I/O PGS AVG   ZHL I/O AVG DELAY                        NUMBER OF GETPAGES
                                                    ZHL I/O AVG   ZHL I/O MAX DELAY
------  --------   ----   --------------------   ---------------   -----------------   ------------------   ------------------
BP0     DB2HYP22    TSP   02/09/19 08:51:48.20              3.29            0.04233              0.01700               28.69
        TSHYP22       N   02/09/19 09:30:00.09             794.33            0.36200              1.32900                0.00
              1       N                                   15.99            0.04233                                   30782.2K
                                                           3.28            0.10000
BP0     DB2HYP22    TSP   02/09/19 08:51:48.20              2.54            0.04955              0.01756              352.35
        TSHYP22       N   02/09/19 09:30:00.09             794.39            0.51400              1.33100                0.00
              2       N                                   15.99            0.04913                                   30783.9K
                                                           2.54            0.08800
BP0     DB2PYH22    TSP   02/09/19 08:14:50.88              1.65            0.17300              0.01800             1787.00
        TSPYH22       N   02/09/19 09:30:00.09             381.80            1.79200              2.21600                0.00
              1       N                                   15.99            0.00000                                   57725.2K
                                                           0.00            0.00000
BP0     DB2PYH22    TSP   02/09/19 08:14:50.89              1.64            0.17400              0.01800               18.00
        TSPYH22       N   02/09/19 09:30:00.09             381.78            6.77500              0.96200                0.00
              2       N                                   15.96            0.00000                                   57719.2K
```

BPOOL

The name of the buffer pool to which this information refers.

Field Name: S199BPNM

DATABASE

Database name.

Field Name: S199DBNM

SPACENAM

Pageset name, which can be a table space or an index space.

This is derived from the internal pageset identifier. For a table space this is the value in the PSID column in SYSIBM.SYSTABLESPACE of the catalog when the DB2 trace record was written. For an index space, this is the value in the ISOBID column in SYSIBM.SYSINDEXES.

When OMEGAMON XE for DB2 PE cannot determine the pageset name, the ID is shown in hexadecimal.

Field Name: S199OBNM

PART

For a partitioned table space or index space, this is the partition number. For a nonpartitioned table space or index space, this is the data set number.

Field Name: QW0199DN

TYPE

This field indicates whether the pageset is a table space (T or TSP) or an index space (I or IDX).

Field Name: S199TYP

GBP

The value in this field specifies whether the pageset is group buffer pool dependent. This is only possible if DB2 has been set up for data sharing.

Field Name: S199GBP

SHDW

Indicates if it is a shadow data set.

Field Name: QW0199SD

I/O START TIME

The start time of the I/O activities for this data set externalized in the data set Statistics record. The field value is derived from QW0199SC.

Field Name: S199SC

I/O END TIME

The end time of the I/O activities for this dataset externalized in the data set Statistics record.

Field Name: S199EC

SYNCH I/O AVG

Average number of synchronous I/Os for the pageset, per second.

Field Name: S199SPAV

ASYNC I/O AVG

Average number of asynchronous I/Os for the pageset, per second.

Field Name: S199ACAV

ASY I/O PGS AVG

Average number of pageset pages read or written per asynchronous I/O.

Field Name: S199APAV

SYN I/O AVG DELAY

Average synchronous I/O delay for pages in the pageset, in milliseconds.

Field Name: QW0199S1

SYN I/O MAX DELAY

Maximum synchronous I/O delay for pages in the pageset, in milliseconds.

Field Name: QW0199S2

ZHL I/O AVG

The average number of zHyperLink I/Os for the pageset, per second.

Field Name: S199ZPA1

ZHL I/O AVG DELAY

The average zHyperLink I/O delay for the pageset, in milliseconds.

Field Name: QW0199Z1

ZHL I/O MAX DELAY

The maximum zHyperLink I/O delay for the pageset, in milliseconds.

Field Name: QW0199Z2

ASYN I/O AVG DELAY

Average asynchronous I/O delay for pages in the pageset, in milliseconds.

Field Name: QW0199A1

ASYN I/O MAX DELAY

The maximum asynchronous I/O delay for pages in the pageset, in milliseconds.

Field Name: QW0199A2

CURRENT PAGES (VP)

Number of pageset pages in the virtual buffer pool.

Field Name: QW0199VP

CHANGED PAGES (VP)

Number of changed page set pages in the virtual buffer pool.

Field Name: QW0199VD

NUMBER OF GETPAGES

The current number of Getpage requests.

Field Name: QW0199GP

Data Sharing Locking

This topic shows detailed information about "Statistics - Data Sharing Locking".

In this example, the quantities per thread show as not calculated (N/C) because DB2 threads remained open during the reporting period.

Statistics - Data Sharing Locking

The field labels shown in the following sample layout of "Statistics - Data Sharing Locking" are described in the following section.

```
DATA SHARING LOCKING          QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  ---------  -------  -------  -------
GLOBAL CONTENTION RATE (%)       0.68
FALSE CONTENTION RATE (%)        0.00
P/L-LOCKS XES RATE (%)          97.56

LOCK REQUESTS (P-LOCKS)          56.00     0.02      N/C      N/C
UNLOCK REQUESTS (P-LOCKS)        34.00     0.01      N/C      N/C
CHANGE REQUESTS (P-LOCKS)        22.00     0.01      N/C      N/C

SYNCH.XES - LOCK REQUESTS      3759.00     1.06      N/C      N/C
SYNCH.XES - CHANGE REQUESTS       7.00     0.00      N/C      N/C
SYNCH.XES - UNLOCK REQUESTS    3770.00     1.07      N/C      N/C
BACKGROUND.XES -CHILD LOCKS       4.00     0.00      N/C      N/C
ASYNCH.XES -CONVERTED LOCKS      13.00     0.00      N/C      N/C

SUSPENDS - IRLM GLOBAL CONT      52.00     0.01      N/C      N/C
SUSPENDS - XES GLOBAL CONT.       0.00     0.00      N/C      N/C
SUSPENDS - FALSE CONT. MBR        0.00     0.00      N/C      N/C
SUSPENDS - FALSE CONT. LPAR        N/A      N/A      N/A      N/A
NO DELAY LOCK REQ REJECTS         0.00     0.00      N/C      N/C
INCOMPATIBLE RETAINED LOCK        0.00     0.00      N/C      N/C

NOTIFY MESSAGES SENT             28.00     0.01      N/C      N/C
NOTIFY MESSAGES RECEIVED         42.00     0.01      N/C      N/C
P-LOCK/NOTIFY EXITS ENGINES     500.00      N/A      N/A      N/A
P-LCK/NFY EX.ENGINE UNAVAIL       0.00     0.00      N/C      N/C

PSET/PART P-LCK NEGOTIATION      20.00     0.01      N/C      N/C
PAGE P-LOCK NEGOTIATION           0.00     0.00      N/C      N/C
OTHER P-LOCK NEGOTIATION         12.00     0.00      N/C      N/C
P-LOCK CHANGE DURING NEG.        30.00     0.01      N/C      N/C
```

GLOBAL CONTENTION RATE (%)

The total number of suspends because of contention divided by the total number of synchronous requests that went to XES, and the lock requests that were converted from synchronous to asynchronous locks, and the locks because of child lock propagation.

Note: If multiple members from the same data sharing group run on the same LPAR, the global contention rate should be ignored for a member where the QTGSFCON flag is zero. The QTGSFCON flag indicates whether the false contention is reported at the subsystem (=1) or LPAR level (=0).

Field Name: SGLOBRAT

FALSE CONTENTION RATE (%)

The total number of suspends because of false contention divided by the total number of synchronous requests that went to XES, and the lock requests that were converted from synchronous to asynchronous locks, and the locks because of child lock propagation. A false contention is if two different locks on different resources hash to the same lock entry.

Note: If multiple members from the same data sharing group run on the same LPAR, the global contention rate should be ignored for a member where the QTGSFCON flag is zero. The QTGSFCON flag indicates whether the false contention is reported at the subsystem (=1) or LPAR level (=0).

Background and Tuning Information

Try to keep the false contention rate to no more than 50% of the total global lock contention.

Field Name: SFLSERAT

P/L-LOCKS XES RATE (%)

Shows the percentage of P/L-lock requests that were propagated to XES synchronously.

Background and Tuning Information

This number reflects the effects of explicit hierarchical locking and other locking optimizations. Assuming a 100% Data Sharing workload, a value of 94% would mean that 6% of all Transaction Locks were not propagated to XES due to Data Sharing locking optimizations.

DB2 has some optimizations to reduce the necessity to go beyond the local IRLM whenever possible:

- Explicit hierarchical locking allows IRLM to grant child locks locally when there is no inter-DB2 R/W interest on the parent.
- If there is a single DB2 with update interest and multiple DB2s with read-only interest, DB2 propagates fewer locks than when all DB2s have update interest in the page set.
- All locks that go beyond the local IRLM are owned by the subsystem, not by an individual work unit. This allows for another optimization. Only the most restrictive lock mode for an object on a given subsystem must be propagated to XES and the coupling facility. A new lock that is equal to or less restrictive than one currently being held is not propagated.

Field Name: SLLOCRAT

LOCK REQUESTS (P-LOCKS)

The number of lock requests for P-locks.

Field Name: QTGSLPLK

UNLOCK REQUESTS (P-LOCKS)

The number of unlock requests for P-locks.

Field Name: QTGSUPLK

CHANGE REQUESTS (P-LOCKS)

The number of change requests for P-locks.

Field Name: QTGSCPLK

SYNCH.XES - LOCK REQUESTS

The number of P/L-lock requests propagated to z/OS XES synchronously.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGSLSLM

SYNCH.XES - CHANGE REQUESTS

The number of change requests propagated to z/OS XES synchronously, including logical and physical locks.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGSCSLM

SYNCH.XES - UNLOCK REQUESTS

The number of unlock requests propagated to z/OS XES synchronously, including logical and physical locks.

This number is not incremented if the request is suspended before going to XES.

Field Name: QTGSUSLM

BACKGROUND.XES -CHILD LOCKS

The number of resources propagated by IRLM to z/OS XES asynchronously, including logical and physical locks.

This can happen when new inter-DB2 interest occurs on a parent resource or when a request completes after the requester's execution unit was suspended.

Field Name: QTGSKIDS

ASYNCH.XES -CONVERTED LOCKS

The number of synchronous to asynchronous heuristic conversions for LOCK requests in XES. This conversion is done when XES determines that it is more efficient to drive the request asynchronously to the coupling facility (CF).

Field Name: QTGSFLSE

SUSPENDS - IRLM GLOBAL CONT

The number of suspensions due to IRLM global resource contention. All IRLM lock states were in conflict on the same resource.

Global contention requires intersystem communication to resolve the lock conflict whereas local contention does not.

Field Name: QTGSIGLO

SUSPENDS - XES GLOBAL CONT.

The number of suspensions due to z/OS XES global resource contention. The z/OS XES lock states were in conflict but the IRLM lock states were not.

IRLM has many lock states but XES is only aware of the exclusive and shared lock states.

Field Name: QTGSSGLO

SUSPENDS - FALSE CONT. MBR

The total number of false contentions for LOCK and UNLOCK requests. A false contention occurs when different resource names hash to the same entry in the coupling facility (CF) lock table. The CF detects contention within the hash entry, and XES uses intersystem messaging to determine that no actual resource contention exists.

Note: The QTGSFCON flag indicates whether the false contention is reported at subsystem (=1) or LPAR level (=0).

Field Name: STGSFLM1

SUSPENDS - FALSE CONT. LPAR

The total number of false contentions for LOCK and UNLOCK requests. A false contention occurs when different resource names hash to the same entry in the coupling facility (CF) lock table. The CF detects contention within the hash entry, and XES uses intersystem messaging to determine that no actual resource contention exists.

Note: The QTGSFCON flag indicates whether the false contention is reported at subsystem (=1) or LPAR level (=0).

Field Name: STGSFLM2

NO DELAY LOCK REQ REJECTS

The total number of failed DB2 lock requests to XES to process without delay. XES rejects the lock request because it could not process it synchronously.

Field Name: QTGSCREJ

INCOMPATIBLE RETAINED LOCK

The number of global lock or change requests denied or suspended due to an incompatible retained lock.

Field Name: QTGSDRTA

NOTIFY MESSAGES SENT

The number of notify messages sent.

Field Name: QTGSNTFY

NOTIFY MESSAGES RECEIVED

The number of notify messages received.

Field Name: QTGSNTFR

P-LOCK/NOTIFY EXITS ENGINES

The maximum number of engines available for physical lock exit or notify exit requests.

Field Name: QTGSPEMX

P-LCK/NFY EX.ENGINE UNAVAIL

The number of times an engine is not available for physical lock exit or notify exit requests.

Field Name: QTGSPEQW

PSET/PART P-LCK NEGOTIATION

The number of times this DB2 was driven to negotiate a partition or page set physical lock due to changing inter-DB2 interest levels on the partition or page set.

Field Name: QTGSPPPE

PAGE P-LOCK NEGOTIATION

The number of times this DB2 negotiated a page physical lock because of physical lock contention within DB2.

Field Name: QTGSPGPE

OTHER P-LOCK NEGOTIATION

The number of times this DB2 was driven to negotiate a physical lock type other than page set, partition, or page.

Field Name: QTGSOTPE

P-LOCK CHANGE DURING NEG.

The number of times a physical lock change request was issued during physical lock negotiation.

Field Name: QTGSCHNP

DBM1 and MVS Storage Below 2 GB

The DBM1 and MVS Storage Below 2 GB block shows information about storage allocation within the DBM1 address space. Storage quantities are shown in megabytes, this means that when you want to compare this with absolute values, as stored in the performance database, for example, you need to multiply the value shown by 1048576 (1024*1024). Similarly where a quantity is shown followed by a K, for example 262.1K, the quantity shown is 262.1MB*1000 (262.1*1048576*1000 bytes).

Statistics - DBM1 and MVS Storage Below 2 GB

```
DBM1 AND MVS STORAGE BELOW 2 GB                        QUANTITY
-------------------------------------------     ------------------
TOTAL DBM1 STORAGE BELOW 2 GB (MB)                          6.52
 TOTAL GETMAINED STORAGE (MB)                               0.52
TOTAL VARIABLE STORAGE (MB)                                 1.11
  TOTAL AGENT LOCAL STORAGE (MB)                            0.32
   TOTAL AGENT SYSTEM STORAGE (MB)                          0.22
     NUMBER OF PREFETCH ENGINES                             0.23
     NUMBER OF DEFERRED WRITE ENGINES                       9.00
     NUMBER OF CASTOUT ENGINES                              1.00
     NUMBER OF GBP WRITE ENGINES                            7.00
     NUMBER OF P-LOCK/NOTIFY EXIT ENGINES                   1.00
  TOTAL AGENT NON-SYSTEM STORAGE (MB)                       2.00
   TOTAL NUMBER OF ACTIVE USER THREADS                      0.10
     NUMBER OF ALLIED THREADS                               7.00
     NUMBER OF ACTIVE DBATS                                 7.00
     NUMBER OF POOLED DBATS                                 0.00
   NUMBER OF PARALLEL CHILD THREADS                         0.00
SYSTEM COPIES OF CACHED SQL STMTS (MB)                      0.00
   IN USE STORAGE (MB)                                      7.00
   HWM FOR ALLOCATED STATEMENTS (MB)                        1.00
  SYSTEM COPIES OF STATIC SQL (MB)                          7.00
    IN USE STORAGE (MB)                                     1.00
  THREAD PLAN AND PACKAGE STORAGE (MB)                      2.00
  BUFFER MANAGER STORAGE CNTL BLKS (MB)                     0.10
 TOTAL FIXED STORAGE (MB)                                   7.00
 TOTAL GETMAINED STACK STORAGE (MB)                         7.00
   TOTAL STACK STORAGE IN USE (MB)                          6.52
     SYSTEM AGENT STACK STORAGE IN USE (MB)                 0.52
  STORAGE CUSHION (MB)                                      1.11

DBM1 AND MVS STORAGE BELOW 2 GB   CONTINUED           QUANTITY
-------------------------------------------     ------------------
 24 BIT LOW PRIVATE                        (MB)              0.24
 24 BIT HIGH PRIVATE                       (MB)              1.24
 24 BIT PRIVATE CURRENT HIGH ADDRESS                 0000000000044000
 31 BIT EXTENDED LOW PRIVATE               (MB)            165.86
 31 BIT EXTENDED HIGH PRIVATE              (MB)            315.38
 31 BIT PRIVATE CURRENT HIGH ADDRESS                 000000003CA95000
 EXTENDED REGION SIZE (MAX)                (MB)           1244.00
 EXTENDED CSA SIZE                         (MB)            632.12

 AVERAGE THREAD FOOTPRINT                  (MB)              0.18
 MAX NUMBER OF POSSIBLE THREADS                              4038

 AVERAGE THREAD FOOTPRINT (TYPE II)        (MB)               N/A
 MAX NUMBER OF POSSIBLE THREADS (TYPE II)                     N/A
```

TOTAL DBM1 STORAGE BELOW 2 GB (MB)

Total DBM1 storage. This includes:

- Fixed length storage use
- Getmained storage
- Save areas
- Variables

Field Name: SW0225DB

TOTAL GETMAINED STORAGE (MB)

Total storage acquired by GETMAIN. This includes space for virtual pools, EDM pool, compression dictionary, castout buffers, and the data space lookaside buffer, and data space buffer pool control blocks.

This figure can be different from the sum of GETMAIN storage items shown in the statistics DBM1 storage, because DB2 does not produce grouping statistics for all GETMAIN storage.

Field Name: QW0225GM

TOTAL VARIABLE STORAGE (MB)

Total storage used by all variable pools. This includes storage used by:

- System agents
- Local agents
- RID pool
- Pipe manager subpool
- Local dynamic statement cache control blocks
- Local dynamic statement cache statement pool
- Buffer and data manager trace tables

- A list of objects in restricted state including the new PRO state. If consumption of this storage pool is high, review restrictive exception state of database objects and check whether they can be resolved or reduced.

Field Name: QW0225VR

TOTAL AGENT LOCAL STORAGE (MB)

The amount of storage allocated for agent-related local storage. This storage is used for operations such as sort.

Background and Tuning Information

Sorting requires a large amount of virtual storage because there can be multiple copies of the data being sorted at a given time.

DB2 Sort uses two kinds of storage pool for various internal control structures and data records, an agent-related local storage pool and a global sort pool. To take advantage of the 64-bit addressability for larger storage pool, some high level sort control structures are kept in agent-related storage below the 2 GB bar, which contain 64-bit pointers to areas in the global sort pool above the 2 GB bar. The sort pool above 2 GB contains sort tree nodes and data buffers.

Field Name: QW0225AL

TOTAL AGENT SYSTEM STORAGE (MB)

Storage used by system agents.

Field Name: QW0225AS

NUMBER OF PREFETCH ENGINES

Number of engines used for sequential, list, and dynamic prefetch.

Field Name: QW0225PF

NUMBER OF DEFERRED WRITE ENGINES

Number of engines used for deferred write operations.

Field Name: QW0225DW

NUMBER OF CASTOUT ENGINES

Number of engines available for data-sharing castout processing.

Field Name: QW0225CE

NUMBER OF GBP WRITE ENGINES

Number of engines for group buffer pool writes.

Field Name: QW0225GW

NUMBER OF P-LOCK/NOTIFY EXIT ENGINES

Number of data sharing P-Lock engines and Notify Exit engines.

Field Name: QW0225PL

TOTAL AGENT NON-SYSTEM STORAGE (MB)

Total Agent Non-System Storage. It is the difference between the Total Agent Local Storage (QW0225AL) and the Total Agent System Storage (QW0225AS).

Field Name: SW0225AN

TOTAL NUMBER OF ACTIVE USER THREADS

Total number of active user threads. This includes all active allied threads and the current number of active DBATs.

Field Name: SACUSTHR

NUMBER OF ALLIED THREADS

The number of active allied threads.

Field Name: QW0225AT

NUMBER OF ACTIVE DBATS

The number of active connections, or active and disconnected DBAT threads.

Field Name: SACDBATS

NUMBER OF POOLED DBATS

The current number of disconnected (pooled) DBATs that are available to process type 2 inactive or new connections.

Field Name: QDSTNADS

NUMBER OF PARALLEL CHILD THREADS

The number of active parallel child threads.

Field Name: QW0225PT

SYSTEM COPIES OF CACHED SQL STMTS (MB)

The total shareable storage allocated for dynamic SQL statements used by active threads.

- For DB2 11, this field is derived from QW0225SC8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225SC and related to storage below the bar. The storage is used for executable code sequences (xPROC).

Field Name: SW0225SC

IN USE STORAGE (MB)

The total shareable storage requested for dynamic SQL statements used by active threads.

- For DB2 11, this field is derived from QW0225LS8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225LS and related to storage below the bar. The storage is used for executable code sequences (xPROC).

Field Name: SW0225LS

HWM FOR ALLOCATED STATEMENTS (MB)

A statistics interval high-water mark of requested shareable storage for dynamic SQL statements used by active threads.

- For DB2 11, this field is derived from QW0225HS8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225HS and related to storage below the bar. The storage is used for executable code sequences (xPROC).

Field Name: SW0225HS

SYSTEM COPIES OF STATIC SQL (MB)

The total shareable storage allocated for static SQL statements.

- For DB2 11, this field is derived from QW0225SX8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225SX and used for storage of executable code sequences (xPROC) below the bar.

Field Name: SW0225SX

IN USE STORAGE (MB)

The total storage requested for shareable static SQL statements.

- For DB2 11, this field is derived from QISEKSPA and related to storage above the bar.

- Prior to DB2 11, this field is derived from QISEKSPA8 and used for storage of executable code sequences (xPROC) below the bar.

Field Name: SISEKSPA

THREAD PLAN AND PACKAGE STORAGE (MB)

The storage allocated to plans and packages below the bar.

Field Name: SISESQB

BUFFER MANAGER STORAGE CNTL BLKS (MB)

Storage used for page set control blocks.

Field Name: QW0225BB

TOTAL FIXED STORAGE (MB)

Total amount of fixed storage.

Field Name: QW0225FX

TOTAL GETMAINED STACK STORAGE (MB)

Total GETMAINED storage allocated for program stack use.

Field Name: QW0225GS

TOTAL STACK STORAGE IN USE (MB)

The amount of stack storage that is in use.

Field Name: QW0225SU

SYSTEM AGENT STACK STORAGE IN USE (MB)

The amount of 31-bit stack storage that is in use for system agents. This is a subset of QW0225SU.

Field Name: QW0225SS

STORAGE CUSHION (MB)

Storage reserved to allow DB2 to complete critical functions while short on storage. This includes the contract warning cushion, storage reserved for must-complete operations, and storage for MVS use.

Field Name: STORCUSH

24 BIT LOW PRIVATE
The amount of private MVS storage below the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Field Name: QW0225LO

24 BIT HIGH PRIVATE
The amount of private MVS storage below the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Field Name: QW0225HI

24 BIT PRIVATE CURRENT HIGH ADDRESS
The current high address of the 24-bit private region.

Field Name: QW0225TP

31 BIT PRIVATE CURRENT HIGH ADDRESS
The current high address of the 31-bit private region.

Field Name: QW0225EP

31 BIT EXTENDED LOW PRIVATE
The amount of private MVS storage above the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Field Name: QW0225EL

31 BIT EXTENDED HIGH PRIVATE
The amount of private MVS storage above the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Field Name: QW0225EH

EXTENDED CSA SIZE
The size of the common storage area (CSA) above the 16 MB line.

Field Name: QW0225EC

EXTENDED REGION SIZE (MAX)
The maximum amount of MVS private storage available above the 16 MB line.

Field Name: QW0225RG

AVERAGE THREAD FOOTPRINT
The current average memory usage of active user threads (allied threads and DBATs).

Field Name: SW0225TF

MAX NUMBER OF POSSIBLE THREADS
The maximum number of possible threads. This value is derived from the storage size and average memory usage of active user threads.

Field Name: SW0225MT

AVERAGE THREAD FOOTPRINT (TYPE II)
The current average memory usage of active allied threads and the maximum number of active DBATs that existed. The formula used for this value is suited for Enterprise Resource Planning (ERP) systems, such as SAP.

Field Name: SW0225TS

MAX NUMBER OF POSSIBLE THREADS (TYPE II)
The maximum number of possible threads. It depends on the storage size and average memory usage of active allied threads and the maximum number of active DBATs that existed.

Field Name: SW0225MS

DBM1 Storage Above 2 GB

This topic shows detailed information about "Statistics - DBM1 Storage Above 2 GB".

Statistics - DBM1 Storage Above 2 GB

The field labels shown in the following sample layout of "Statistics - DBM1 Storage Above 2 GB" are described in the following section.

```
DBM1 STORAGE ABOVE 2 GB                                  QUANTITY
-------------------------------------------  ------------------
GETMAINED STORAGE                       (MB)              411.40
  COMPRESSION DICTIONARY                (MB)                0.00
  IN USE EDM DBD POOL                   (MB)                1.28
  IN USE EDM STATEMENT POOL             (MB)               13.02
  IN USE EDM RDS POOL                   (MB)                 N/A
  IN USE EDM SKELETON POOL              (MB)                1.05
FIXED STORAGE POOL                      (MB)                7.65
VARIABLE STORAGE POOL                   (MB)               30.68
STORAGE MANAGER CONTROL BLOCKS          (MB)                6.71
VIRTUAL BUFFER POOLS                    (MB)             1244.62
VIRTUAL POOL CONTROL BLOCKS             (MB)               12.67
CASTOUT BUFFERS                         (MB)                0.00

SHARED GETMAINED STORAGE                (MB)               33.45
  STORAGE FOR STMT DEPENDENCIES         (MB)               29.35
SHARED FIXED STORAGE                    (MB)                3.57
  RID POOL                              (MB)                1.00
SHARED VARIABLE STORAGE                 (MB)               95.11
  TOTAL AGENT LOCAL STORAGE             (MB)               84.71
    TOTAL AGENT SYSTEM STORAGE          (MB)                7.50
    TOTAL AGENT NON-SYSTEM STORAGE      (MB)               77.21
      THREAD COPIES OF CACHED SQL STMTS (MB)                 N/A
        IN USE STORAGE                  (MB)                0.11
        STATEMENTS COUNT                                    9.57
        HWM FOR ALLOCATED STATEMENTS    (MB)                0.59
          STATEMENT COUNT AT HWM                           24.00
          DATE AT HWM                                   02/27/14
          TIME AT HWM                                 13:15:30.39
  DYNAMIC STMT CACHE CNTL BLKS          (MB)                1.18
  SYSTEM COPIES OF CACHED SQL STMTS     (MB)                 N/A
    IN USE STORAGE                      (MB)                 N/A
    HWM FOR ALLOCATED STATEMENTS        (MB)                 N/A
  SYSTEM COPIES OF STATIC SQL           (MB)                 N/A
    IN USE STORAGE                      (MB)                 N/A
  THREAD PLAN AND PACKAGE STORAGE       (MB)                0.59
  ARRAY VARIABLE STORAGE                (MB)                 N/A
SHARED STORAGE MANAGER CNTL BLKS        (MB)                3.09
SHARED SYSTEM AGENT STACK STORAGE       (MB)              256.00
  STACK STORAGE IN USE                  (MB)               41.97
SHARED NON-SYSTEM AGENT STACK STORAGE   (MB)              768.00
  STACK STORAGE IN USE                  (MB)                8.47
```

GETMAINED STORAGE (MB)

Total storage acquired by GETMAIN. This includes space for the compression dictionary, and statement and DBD cache that can be used by the Environmental Descriptor Manager (EDM).

This figure can be different from the sum of GETMAIN storage items shown in the statistics DBM1 storage, because DB2 does not produce grouping statistics for all GETMAIN storage.

Field Name: QW0225GA

COMPRESSION DICTIONARY (MB)

Storage space allocated for the compression dictionary.

Field Name: QW0225CD

IN USE EDM DBD POOL (MB)

The amount of storage used by database descriptors in the EDM DBD pool above the 2 GB bar.

Field Name: SISEDBDP

IN USE EDM STATEMENT POOL (MB)

The amount of storage used by cached dynamic SQL statements in the EDM Statement pool above the 2 GB bar.

Field Name: SISEDYNP

IN USE EDM RDS POOL (MB)

The amount of storage used by objects in the EDM RDS pool above the 2 GB bar.

Field Name: SISECPTA

IN USE EDM SKELETON POOL (MB)

The amount of storage used by objects in the EDM Skeleton pool above the 2 GB bar.

Field Name: SISESKCP

FIXED STORAGE POOL (MB)

The total amount of fixed storage above the 2 GB bar.

Field Name: QW0225FA

VARIABLE STORAGE POOL (MB)

Amount of variable storage available above the 2 GB bar.

Field Name: QW0225VA

STORAGE MANAGER CONTROL BLOCKS (MB)

Total 64-bit storage allocated for storage manager control structures.

Field Name: QW0225SM

VIRTUAL BUFFER POOLS (MB)

Total storage allocated for virtual buffer pools above the 2 GB bar.

Field Name: SVPOOLZ

VIRTUAL POOL CONTROL BLOCKS (MB)

Storage used for primary virtual pool control blocks above the 2 GB bar.

Field Name: SBSTVPLZ

CASTOUT BUFFERS (MB)

Storage used for castout buffers.

Field Name: SW0225C2

SHARED GETMAINED STORAGE (MB)

The amount of virtual shared storage acquired by GETMAIN above the 2 GB bar.

Field Name: QW0225SG

STORAGE FOR STMT DEPENDENCIES (MB)

The amount of storage allocated above the 2 GB bar to support object dependencies on statements that are in the Dynamic Statement Cache (DB2 field: QW0225DMH).

Field Name: SW225DMH

SHARED FIXED STORAGE (MB)

The amount of total fixed virtual shared storage above the 2 GB bar.

Field Name: QW0225SF

RID POOL (MB)

Storage for RID list processing such as list prefetch, index ANDing, and ORing.

Field Name: QW0225RP

SHARED VARIABLE STORAGE (MB)

The amount of virtual shared variable storage above the 2 GB bar.

Field Name: QW0225SV

TOTAL AGENT LOCAL STORAGE (MB)

The amount of storage allocated for agent-related 64-bit local storage (DB2 field: QW0225ALG).

Field Name: SW225ALG

TOTAL AGENT SYSTEM STORAGE (MB)

The amount of 64-bit storage used by system agents (DB2 field: QW0225ASG).

Field Name: SW225ASG

TOTAL AGENT NON-SYSTEM STORAGE (MB)

The amount of 64-bit storage used by non-system agents. It is the difference between the Total Agent Local Storage (QW0225ALG) and the Total Agent System Storage (QW0225ASG).

Field Name: SW225ANG

THREAD COPIES OF CACHED SQL STMTS (MB)

This field is provided for consistency purposes. It has a value of N/A. The value can be estimated by the HWM FOR ALLOCATED STATEMENTS (QW0225H2).

Field Name: SW0225DY

IN USE STORAGE (MB)

The total non-shareable storage requested for dynamic SQL statements used by active threads. This value is related to shared agent local variable pools above the bar.

Field Name: QW0225L2

STATEMENTS COUNT

The number of dynamic SQL local cache statements used by active threads. This value is related to shared agent local variable pools above the bar.

Field Name: QW0225LC

HWM FOR ALLOCATED STATEMENTS (MB)

This value is related to shared agent local variable pools above the bar.

Field Name: QW0225H2

STATEMENT COUNT AT HWM

The number of dynamic SQL local cache statements used by active threads at high storage time. This value is related to shared agent local variable pools above the bar.

Field Name: QW0225HC

DATE AT HWM

The timestamp at high-water storage.

Field Name: QW0225HT

TIME AT HWM

The timestamp at high-water storage.

Field Name: QW0225HT

DYNAMIC STMT CACHE CNTL BLKS (MB)

The total statement cache storage blocks above the bar (64-bit shared variable pool).

Field Name: QW0225S2

SYSTEM COPIES OF CACHED SQL STMTS (MB)

The total shareable storage allocated for dynamic SQL statements used by active threads.

- For DB2 11, this field is derived from QW0225SC8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225SC and related to storage below the bar. The storage is used for executable code sequences (xPROC).

Field Name: SW0225SC

IN USE STORAGE (MB)

The total shareable storage requested for dynamic SQL statements used by active threads.

- For DB2 11, this field is derived from QW0225LS8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225LS and related to storage below the bar. The storage is used for executable code sequences (xPROC).

Field Name: SW0225LS

HWM FOR ALLOCATED STATEMENTS (MB)

A statistics interval high-water mark of requested shareable storage for dynamic SQL statements used by active threads.

- For DB2 11, this field is derived from QW0225HS8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225HS and related to storage below the bar. The storage is used for executable code sequences (xPROC).

Field Name: SW0225HS

SYSTEM COPIES OF STATIC SQL (MB)

The total shareable storage allocated for static SQL statements.

- For DB2 11, this field is derived from QW0225SX8 and related to storage above the bar.
- Prior to DB2 11, this field is derived from QW0225SX and used for storage of executable code sequences (xPROC) below the bar.

Field Name: SW0225SX

IN USE STORAGE (MB)

The total storage requested for shareable static SQL statements.

- For DB2 11, this field is derived from QISEKSPA and related to storage above the bar.
- Prior to DB2 11, this field is derived from QISEKSPA8 and used for storage of executable code sequences (xPROC) below the bar.

Field Name: SISEKSPA

THREAD PLAN AND PACKAGE STORAGE (MB)

The storage allocated to plans and packages above the bar.

Field Name: SISESQA

ARRAY VARIABLE STORAGE

The amount of storage in use for array variables.

Field Name: QW0225AR

SHARED STORAGE MANAGER CNTL BLKS (MB)

The amount of 64-bit shared storage allocated for storage manager control structures (DB2 field: QW0225SMS).

Field Name: SW225SMS

SHARED SYSTEM AGENT STACK STORAGE (MB)

The amount of 64-bit shared storage allocated for system agent stack use (DB2 field: QW0225GSG_SYS).

Field Name: SW225GSY

STACK STORAGE IN USE (MB)

The amount of 64-bit shared system agent stack that is in use (DB2 field: QW0225SUG_SYS).

Field Name: SW225SSY

SHARED NON-SYSTEM AGENT STACK STORAGE (MB)

The amount of 64-bit shared storage allocated for non-system agent stack use (DB2 field: QW0225GSG).

Field Name: SW225GSG

STACK STORAGE IN USE (MB)

The amount of 64-bit shared non-system agent stack that is in use (DB2 field: QW0225SUG).

Field Name: SW225SUG

Dynamic SQL Statement

This topic shows detailed information about "Statistics - Dynamic SQL Statement".

Statistics - Dynamic SQL Statement

The field labels shown in the following sample layout of "Statistics - Dynamic SQL Statement" are described in the following section.

```
DYNAMIC SQL STMT             QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
PREPARE REQUESTS               210225  3503.74      N/C   328.99
  FULL PREPARES                 42681   711.35      N/C    66.79
  SHORT PREPARES               154592  2576.53      N/C   241.93

SHORT PREPARES                 154592  2576.53      N/C   241.93
  BASED ON CACHE               141640  2360.66      N/C   221.66
  BASED ON CATALOG              12952   215.87      N/C    20.27

LOOK-UP IN CATALOG              42685   711.41      N/C    66.80

CACHE HIT RATIO         (%)     73.54      N/A      N/A      N/A
CACHE+CATALOG HIT RATIO (%)     79.70      N/A      N/A      N/A

TOTAL PREPARES                 210232  3503.86      N/C   329.00
  EXPLICIT PREPARES            210232  3503.86      N/C   329.00
  IMPLICIT PREPARES                 0     0.00      N/C     0.00

STABILIZED PREPARES             12948   215.80      N/C    20.26
PREPARES AVOIDED                    0     0.00      N/C     0.00
CACHE LIMIT EXCEEDED                0     0.00      N/C     0.00
PREP STMT PURGED                    0     0.00      N/C     0.00
LOCAL CACHE HIT RATIO (%)         N/C      N/A      N/A      N/A

CSWL - STMTS PARSED                 0     0.00      N/C     0.00
CSWL - LITS REPLACED                0     0.00      N/C     0.00
CSWL - MATCHES FOUND                0     0.00      N/C     0.00
CSWL - DUPLS CREATED                0     0.00      N/C     0.00
```

PREPARE REQUESTS

The number of requests for prepared statement cache sections.

Field Name: QISEDSG

PREPARE REQUESTS - FULL PREPARES

The number of full prepare requests.

A Full Prepare occurs for both Explicit Prepare and Implicit Prepare requests when the skeleton copy of the prepared SQL statement is not found in global dynamic SQL cache in the EDM pool.

Field Name: QISEDSI

PREPARE REQUESTS - SHORT PREPARES

The number of short prepare requests.

A Short Prepare is executed for both Explicit Prepare and Implicit Prepare requests when the skeleton copy of the prepared SQL statement is found in global dynamic SQL cache in the EDM pool.

For DB2 12 or later, this number also includes the number of catalog loads to solve a prepare request.

Field Name: SPREPSHT

SHORT PREPARES

The number of short prepare requests.

A Short Prepare is executed for both Explicit Prepare and Implicit Prepare requests when the skeleton copy of the prepared SQL statement is found in global dynamic SQL cache in the EDM pool.

For DB2 12 or later, this number also includes the number of catalog loads to solve a prepare request.

Field Name: SPREPSHT

SHORT PREPARES - BASED ON CACHE

The number of short prepare requests based on cache.

For DB2 12 or later, the number of loads from the catalog is excluded.

Field Name: SCACHSHT

SHORT PREPARES - BASED ON CATALOG

The number of times a dynamic SQL statement is found in a catalog.

Field Name: QISEDPSF

LOOK-UP IN CATALOG

The number of look-ups in a catalog to satisfy a dynamic SQL statement prepare request.

This field is updated when a statement is not found in the cache and the criteria is met to look for it in the catalog table. It is only incremented on the first look up and not if there are multiple rows that might be a match. This is a system level value so it will be the number of times it has been checked since DB2 was started. It is incremented even if no copies of the statement have been captured.

Field Name: QISEDPSL

CACHE HIT RATIO (%)

The cache hit ratio in percent.

This field is a performance indicator for dynamic SQL statement execution. If this number is high, many fast Short Prepares cause a good performance. If this number is low, many slow Full Prepares lower the statement execution.

Field Name: SCACHHRA

CACHE+CATALOG HIT RATIO (%)

The cache and catalog hit ratio in percent.

This field is a performance indicator for dynamic SQL statement execution when DPS (Dynamic Plan Stability) is used. It provides how efficient DB2 loads dynamic statements from the catalog and the cache. Always observe this field in combination with the Cache Hit Ratio to identify how efficient DPS works.

Field Name: STOTCHRA

TOTAL PREPARES

The number of all Explicit and Implicit prepare requests.

An Explicit Prepare occurs when an SQL PREPARE or EXECUTE IMMEDIATE is requested by the application. An Explicit Prepare always results in either a Short Prepare or a Full Prepare.

An Implicit Prepare occurs when the user copy of the prepared SQL statement no longer exists in the local dynamic SQL cache. An Implicit Prepare always results in either a Short Prepare or a Full Prepare.

Field Name: SPREPSUM

TOTAL PREPARES - EXPLICIT PREPARES

The number of SQL PREPARE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXPREP

TOTAL PREPARES - IMPLICIT PREPARES

An implicit prepare occurs when the user copy of the prepared SQL statement no longer exists in the local dynamic SQL cache and the application plan or package is bound with KEEPDYNAMIC YES.

If the skeleton copy of the prepared SQL statement exists in the global dynamic SQL cache in the EDM pool, a short prepare is executed, otherwise a full prepare is executed.

Field Name: QXSTIPRP

STABILIZED PREPARES

The number of loads from the catalog.

It shows the number of times a PREPARE request was satisfied by making a copy from the stabilized statement in the SYSIBM.SYSDYNQRY catalog table. The stabilized statement search is done only when no matching statement was found in the prepared statement cache. This field should be identical to QISEDPSL, but it is reported from the QXST section (SQL Statement Execution).

Field Name: QXSTSFND

PREPARES AVOIDED

This field indicates the number of times where no SQL PREPARE or EXECUTE IMMEDIATE was issued by the application and a copy of a prepared SQL statement was found in local dynamic SQL cache.

When an application plan or package is bound with KEEPDYNAMIC YES, a copy of each prepared SQL statement for the application thread is held in the local dynamic SQL cache and kept across a commit boundary.

An application thread can save the total cost of a prepare by using a copy of the prepared statement in the local dynamic SQL cache from an earlier prepare by the same thread. To do this, the application must be modified to avoid issuing repetitive SQL PREPAREs for the same SQL statement.

Field Name: QXSTNPRP

CACHE LIMIT EXCEEDED

The number of times statements are invalidated in the local dynamic SQL cache because the MAXKEEPD limit has been reached and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDEXP

PREP STMT PURGED

The number of times statements are invalidated in the local dynamic SQL cache because of SQL DDL or updated RUNSTATS information and prepared SQL statements in the local dynamic SQL cache have to be reclaimed.

Field Name: QXSTDINV

LOCAL CACHE HIT RATIO (%)

The local cache hit ratio. This shows the percentage of SQL statements that avoided prepares because the statements were retrieved from the local cache. It indicates the effectiveness of the local SQL statement cache.

A value near to 100 indicates that in most cases DB2 found skeleton copies of prepared statements in local dynamic cache and avoided statement prepares.

A value near to 0 indicates that in most cases skeleton copies of prepared statements were not found in local dynamic cache and implicit prepares were performed.

Field Name: SLCACRAT

CSWL - STMTS PARSED

The number of times DB2 parsed dynamic statements because CONCENTRATE STATEMENTS WITH LITERALS behavior was used for the prepare of the statement for the dynamic statement cache.

Field Name: QXSTCWLP

CSWL - LITS REPLACED

The number of times DB2 replaced at least one literal in a dynamic statement because CONCENTRATE STATEMENTS WITH LITERALS was used for the prepare of the statement for dynamic statement cache.

Field Name: QXSTCWLR

CSWL - MATCHES FOUND

The number of times DB2 found a matching reusable copy of a dynamic statement in cache during prepare of a statement that had literals replaced because of CONCENTRATE STATEMENTS WITH LITERALS.

Field Name: QXSTCWLM

CSWL - DUPLS CREATED

The number of times DB2 created a duplicate STMT instance in the statement cache for a dynamic statement that had literals replaced by CONCENTRATE STATEMENTS WITH LITERALS behavior. The duplicate STMT instance was needed because a cache match failed because the literal reusability criteria was not met.

Field Name: QXSTCWLD

DB2 API

This topic shows detailed information about "Statistics - DB2 API".

Statistics - DB2 API

The field labels shown in the following sample layout of "Statistics - DB2 API" are described in the following section.

```
DB2 APPL.PROGR.INTERFACE     QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
ABENDS                          0.00     0.00      N/C     0.00
UNRECOGNIZED                    0.00     0.00      N/C     0.00
COMMAND REQUESTS                0.00     0.00      N/C     0.00
READA REQUESTS                  0.00     0.00      N/C     0.00
READS REQUESTS                  0.00     0.00      N/C     0.00
WRITE REQUESTS                  0.00     0.00      N/C     0.00

TOTAL                           0.00     0.00      N/C     0.00
```

ABENDS

The number of instrumentation facility interface (IFI) abends.

Field Name: QWSDSCA

UNRECOGNIZED

The number of calls made to IFI using a function that is not recognized by the interface.

Field Name: QWSDSCU

COMMAND REQUESTS

The number of calls made to IFI using the COMMAND function.

Field Name: QWSDSCCO

READA REQUESTS

The number of calls made to IFI using the READA (read asynchronous data) function.

Field Name: QWSDSCRA

READS REQUESTS

The number of calls made to IFI using the READS (read synchronous data) function.

Field Name: QWSDSCRS

WRITE REQUESTS

The number of calls made to IFI using the WRITE function.

Field Name: QWSDSCWR

TOTAL

The total number of calls made to IFI.

Field Name: SDIFITOT

DB2 Commands

This topic shows detailed information about "Statistics - DB2 Commands".

Statistics - DB2 Commands

The field labels shown in the following sample layout of "Statistics - DB2 Commands" are described in the following section.

```
DB2 COMMANDS                QUANTITY  /SECOND
--------------------------  --------  -------
DISPLAY DATABASE                0.00     0.00
DISPLAY THREAD                  0.00     0.00
DISPLAY UTILITY                 0.00     0.00
DISPLAY TRACE                   0.00     0.00
DISPLAY RLIMIT                  0.00     0.00
DISPLAY LOCATION                0.00     0.00
DISPLAY ARCHIVE                 0.00     0.00
DISPLAY BUFFERPOOL              0.00     0.00
DISPLAY GROUPBUFFERPOOL         0.00     0.00
DISPLAY GROUP                   0.00     0.00
DISPLAY PROCEDURE               0.00     0.00
DISPLAY FUNCTION                0.00     0.00
DISPLAY LOG                     0.00     0.00
DISPLAY DDF                     0.00     0.00
DISPLAY PROFILE                 0.00     0.00
DISPLAY ACCEL                   0.00     0.00
DISPLAY DYNQUERYCAPTURE         0.00     0.00

ALTER BUFFERPOOL                0.00     0.00
ALTER GROUPBUFFERPOOL           0.00     0.00
ALTER UTILITY                   0.00     0.00

START DATABASE                  0.00     0.00
START TRACE                     1.00     0.01
START DB2                       0.00     0.00
START RLIMIT                    0.00     0.00
START DDF                       0.00     0.00
START PROCEDURE                 0.00     0.00
START FUNCTION                  0.00     0.00
START PROFILE                   0.00     0.00
START ACCEL                     0.00     0.00
START DYNQUERYCAPTURE           0.00     0.00

STOP DATABASE                   0.00     0.00
STOP TRACE                      0.00     0.00
STOP DB2                        0.00     0.00
STOP RLIMIT                     0.00     0.00
STOP DDF                        0.00     0.00
STOP PROCEDURE                  0.00     0.00
STOP FUNCTION                   0.00     0.00
STOP PROFILE                    0.00     0.00
STOP ACCEL                      0.00     0.00
STOP DYNQUERYCAPTURE            0.00     0.00


DB2 COMMANDS     CONTINUED  QUANTITY  /SECOND
--------------------------  --------  -------
MODIFY TRACE                    1.00     0.01
MODIFY DDF                      0.00     0.00
CANCEL THREAD                   0.00     0.00
TERM UTILITY                    0.00     0.00

RECOVER BSDS                    0.00     0.00
RECOVER INDOUBT                 0.00     0.00
RESET INDOUBT                   0.00     0.00
RESET GENERICLU                 0.00     0.00
ARCHIVE LOG                     0.00     0.00

SET ARCHIVE                     0.00     0.00
SET LOG                         0.00     0.00
SET SYSPARM                     0.00     0.00

ACCESS DATABASE                 0.00     0.00

UNRECOGNIZED COMMANDS           0.00     0.00

TOTAL                           2.00     0.01
```

DISPLAY DATABASE

The number of DB2 DISPLAY DATABASE commands issued to view objects within one or more DB2 databases. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR0

DISPLAY THREAD

The number of DB2 DISPLAY THREAD commands issued to view threads active within the DB2 subsystem. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR1

DISPLAY UTILITY

The number of DB2 DISPLAY UTILITY commands issued to view the status of one or more DB2 utilities. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR2

DISPLAY TRACE

The number of DB2 DISPLAY TRACE commands issued to determine the currently active DB2 traces. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRC

DISPLAY RLIMIT

The number of DB2 DISPLAY RLIMIT commands issued to view the current status of the DB2 resource limit facility. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRG

DISPLAY LOCATION

The number of DB2 DISPLAY LOCATION commands issued to display statistics about threads with a distributed relationship. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRL

DISPLAY ARCHIVE

The number of DB2 DISPLAY ARCHIVE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRQ

DISPLAY BUFFERPOOL

The number of DB2 DISPLAY BUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRO

DISPLAY GROUPBUFFERPOOL

The number of DB2 DISPLAY GROUPBUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRT

DISPLAY GROUP

The number of DB2 DISPLAY GROUP commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRX

DISPLAY PROCEDURE

The number of DB2 DISPLAY PROCEDURE commands executed. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRU

DISPLAY FUNCTION

The number of DB2 DISPLAY FUNCTION commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRZ

DISPLAY LOG

The number of DB2 DISPLAY LOG commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTX3

DISPLAY DDF

The number of DB2 DISPLAY DDF commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTX5

DISPLAY PROFILE

The number of DB2 DISPLAY PROFILE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTSD

DISPLAY ACCEL

The number of DB2 DISPLAY ACCEL commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTDA

DISPLAY DYNQUERYCAPTURE

The number of DISPLAY DYNQUERYCAPTURE DB2 commands.

Field Name: Q9STCTDQ

ALTER BUFFERPOOL

The number of DB2 ALTER BUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRN

ALTER GROUPBUFFERPOOL

The number of DB2 ALTER GROUPBUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRS

ALTER UTILITY

The number of DB2 ALTER UTILITY commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRY

START DATABASE

The number of DB2 START DATABASE commands issued to make a database available for use. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR5

START TRACE

The number of DB2 START TRACE commands issued to initiate a DB2 trace. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR6

START DB2

The number of DB2 START DB2 commands issued to bring up a DB2 subsystem. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR7

START RLIMIT

The number of DB2 START RLIMIT commands issued to enable the DB2 resource limit facility. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRE

START DDF

The number of DB2 START DDF commands issued to enable the DB2 distributed data facility. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRI

START PROCEDURE

The number of DB2 START PROCEDURE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRV

START FUNCTION

The number of DB2 START FUNCTION commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTX0

START PROFILE

The number of DB2 START PROFILE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTSS

START ACCEL

The number of DB2 START ACCEL commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTSA

START DYNQUERYCAPTURE

The number of START DYNQUERYCAPTURE DB2 commands.

Field Name: Q9STCTSQ

STOP DATABASE

The number of DB2 STOP DATABASE commands issued to prevent access to a DB2 database. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR8

STOP TRACE

The number of DB2 STOP TRACE commands issued to terminate one or more active DB2 traces. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR9

STOP DB2

The number of DB2 STOP DB2 commands issued to terminate the DB2 subsystem. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRA

STOP RLIMIT

The number of DB2 STOP RLIMIT commands issued to disable the DB2 resource limit facility. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRF

STOP DDF

The number of DB2 STOP DDF commands issued to disable the DB2 distributed data facility. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRJ

STOP PROCEDURE

The number of DB2 STOP PROCEDURE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRW

STOP FUNCTION

The number of DB2 STOP FUNCTION commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTX1

STOP PROFILE

The number of DB2 STOP PROFILE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTST

STOP ACCEL

The number of DB2 STOP ACCEL commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTXA

STOP DYNQUERYCAPTURE

The number of STOP DYNQUERYCAPTURE DB2 commands.

Field Name: Q9STCTXQ

MODIFY TRACE

The number of DB2 MODIFY TRACE commands issued to alter trace events (IFCIDs) for an active trace. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRH

MODIFY DDF

The number of DB2 MODIFY DDF commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTMD

CANCEL THREAD

The number of DB2 CANCEL THREAD commands issued to cancel a thread. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRK

TERM UTILITY

The number of DB2 TERM UTILITY commands issued to stop execution of a DB2 utility. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRB

RECOVER BSDS

The number of DB2 RECOVER BSDS commands issued to reestablish dual bootstrap data sets after one has been disabled by a data set error. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR3

RECOVER INDOUBT

The number of DB2 RECOVER INDOUBT commands issued to recover threads left indoubt because DB2 or a transaction manager could not automatically recover them. This includes normal and abnormal completion of the command.

Field Name: Q9STCTR4

RESET INDOUBT

The number of DB2 RESET INDOUBT commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRR

RESET GENERICLU

The number of DB2 RESET GENERICLU commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRD

ARCHIVE LOG

The number of DB2 ARCHIVE LOG commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRM

SET ARCHIVE

The number of DB2 SET ARCHIVE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTRP

SET LOG

The number of DB2 SET LOG commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTX2

SET SYSPARM

The number of DB2 SET SYSPARM commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTX4

ACCESS DATABASE

The number of DB2 ACCESS DATABASE commands issued. This includes normal and abnormal completion of the command.

Field Name: Q9STCTAD

UNRECOGNIZED COMMANDS

The number of commands not recognized by DB2. The number is incremented if the command verb or primary keyword cannot be determined. For example:

- "-DISPLOX DATABASE(*)" is an unknown verb.
- "-DISPLAY FATAFASE(*)" is an unknown primary keyword.

Field Name: Q9STEROR

TOTAL

The total number of DB2 commands that were issued.

Field Name: SDSTTOTL

DIST Storage Above 2 GB

This topic shows detailed information about "Statistics - DIST Storage Above 2 GB".

Statistics - DIST Storage Above 2 GB

The field labels shown in the following sample layout of "Statistics - DIST Storage Above 2 GB" are described in the following section.

```
DIST STORAGE ABOVE 2 GB                                  QUANTITY
-----------------------------------------  ------------------
FIXED STORAGE                         (MB)                0.96
GETMAINED STORAGE                     (MB)                0.00
VARIABLE STORAGE                      (MB)               40.66
STORAGE MANAGER CONTROL BLOCKS        (MB)                8.47
```

GETMAINED STORAGE (MB)

Total storage acquired by GETMAIN. This includes space for the compression dictionary, and statement and DBD cache that can be used by the Environmental Descriptor Manager (EDM).

This figure can be different from the sum of GETMAIN storage items shown in the statistics DBM1 storage, because DB2 does not produce grouping statistics for all GETMAIN storage.

Field Name: QW0225GA

FIXED STORAGE (MB)

The total amount of fixed storage above the 2 GB bar.

Field Name: QW0225FA

VARIABLE STORAGE (MB)

Amount of variable storage available above the 2 GB bar.

Field Name: QW0225VA

STORAGE MANAGER CONTROL BLOCKS (MB)

Total 64-bit storage allocated for storage manager control structures.

Field Name: QW0225SM

DIST and MVS Storage Below 2 GB

This topic shows detailed information about "Statistics - DIST and MVS Storage Below 2 GB".

Statistics - DIST and MVS Storage Below 2 GB

The field labels shown in the following sample layout of "Statistics - DIST and MVS Storage Below 2 GB" are described in the following section.

```
DIST AND MVS STORAGE BELOW 2 GB                        QUANTITY
-----------------------------------------  ------------------
TOTAL DIST STORAGE BELOW 2 GB          (MB)              133.03
 TOTAL GETMAINED STORAGE               (MB)                0.04
 TOTAL VARIABLE STORAGE                (MB)               14.21
   NUMBER OF ACTIVE CONNECTIONS                          967.74
   NUMBER OF INACTIVE CONNECTIONS                          0.00
 TOTAL FIXED STORAGE                   (MB)                0.85
 TOTAL GETMAINED STACK STORAGE         (MB)              117.92
   TOTAL STACK STORAGE IN USE          (MB)              117.89
     SYSTEM AGENT STACK STORAGE IN USE (MB)               15.73
STORAGE CUSHION                        (MB)              358.03

24 BIT LOW PRIVATE                     (MB)                0.23
24 BIT HIGH PRIVATE                    (MB)                0.21
24 BIT PRIVATE CURRENT HIGH ADDRESS          0000000000042000
31 BIT EXTENDED LOW PRIVATE            (MB)                5.14
31 BIT EXTENDED HIGH PRIVATE           (MB)              147.14
31 BIT PRIVATE CURRENT HIGH ADDRESS          0000000018325000
EXTENDED REGION SIZE (MAX)             (MB)             1666.00
```

TOTAL DIST STORAGE BELOW 2 GB (MB)

Total DIST storage below the bar. This includes:

- Fixed length storage use
- Getmained storage
- Save areas
- Variables

Field Name: SW0225DI

TOTAL GETMAINED STORAGE (MB)

Total storage acquired by GETMAIN. This includes space for virtual pools, EDM pool, compression dictionary, castout buffers, and the data space lookaside buffer, and data space buffer pool control blocks.

This figure can be different from the sum of GETMAIN storage items shown in the statistics DBM1 storage, because DB2 does not produce grouping statistics for all GETMAIN storage.

Field Name: QW0225GM

TOTAL VARIABLE STORAGE (MB)

Total storage used by all variable pools. This includes storage used by:

- System agents
- Local agents
- RID pool
- Pipe manager subpool
- Local dynamic statement cache control blocks
- Local dynamic statement cache statement pool
- Buffer and data manager trace tables
- A list of objects in restricted state including the new PRO state. If consumption of this storage pool is high, review restrictive exception state of database objects and check whether they can be resolved or reduced.

Field Name: QW0225VR

NUMBER OF ACTIVE CONNECTIONS

The number of active connections, or active and disconnected DBAT threads.

Field Name: SACDBATS

NUMBER OF INACTIVE CONNECTIONS

The current number of type 2 inactive connections.

Field Name: QDSTCIN2

TOTAL FIXED STORAGE (MB)

Total amount of fixed storage.

Field Name: QW0225FX

TOTAL GETMAINED STACK STORAGE (MB)

Total GETMAINED storage allocated for program stack use.

Field Name: QW0225GS

TOTAL STACK STORAGE IN USE (MB)

The amount of stack storage that is in use.

Field Name: QW0225SU

SYSTEM AGENT STACK STORAGE IN USE (MB)

The amount of 31-bit stack storage that is in use for system agents. This is a subset of QW0225SU.

Field Name: QW0225SS

STORAGE CUSHION (MB)

Storage reserved to allow DB2 to complete critical functions while short on storage. This includes the contract warning cushion, storage reserved for must-complete operations, and storage for MVS use.

Field Name: STORCUSH

24 BIT LOW PRIVATE (MB)

The amount of private MVS storage below the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Field Name: QW0225LO

24 BIT HIGH PRIVATE (MB)

The amount of private MVS storage below the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Field Name: QW0225HI

24 BIT PRIVATE CURRENT HIGH ADDRESS

The current high address of the 24-bit private region.

Field Name: QW0225TP

31 BIT EXTENDED LOW PRIVATE (MB)

The amount of private MVS storage above the 16 MB line. This storage is obtained from bottom upward, usually for unauthorized programs.

Field Name: QW0225EL

31 BIT EXTENDED HIGH PRIVATE (MB)

The amount of private MVS storage above the 16 MB line. This storage is obtained from top downward, usually for authorized programs.

Field Name: QW0225EH

31 BIT PRIVATE CURRENT HIGH ADDRESS

The current high address of the 31-bit private region.

Field Name: QW0225EP

EXTENDED REGION SIZE (MAX) (MB)

The maximum amount of MVS private storage available above the 16 MB line.

Field Name: QW0225RG

DRDA Remote Locations

This topic shows detailed information about "Statistics - DRDA Remote Locations".

It shows information about remote locations of Distributed Relational Database Architecture (DRDA).

Statistics - DRDA Remote Locations

The field labels shown in the following sample layout of "Statistics - DRDA Remote Locations" are described in the following section.

```
DRDA REMOTE LOCS   GENERAL       SENT  RECEIVED    DRDA REMOTE LOCS   DDF CONN. DETAILS  QUANTITY
--------------------------  --------  --------    ----------------------------------  --------
CONNECTIONS                     0.00     12.00    ACTIVE CONNS FROM LOC - SNAP             1.63
CONNECTIONS QUEUED              0.00              ACTIVE CONNS FROM LOC - INT. HWM         5.00
CONNECTIONS DEALLOCATED         0.00              ACTIVE DBATS FOR LOC - SNAP              0.00
                                                  ACTIVE DBATS FOR LOC - INT. HWM          2.00
SQL STATEMENTS                  0.00     14.00    REST SERVICE REQUESTS                    0.00
COMMITS                         0.00     10.00    PROFILE SET SPECIAL REGS                 0.00
ROLLBACKS                       0.00     19.00    PROFILE SET GLOBAL VARS                  0.00
ROWS                            2.00      0.00    SYSPLEX WKLD BAL. USED                   0.00
MESSAGES                      111.00    111.00    TLS/SSL USED                             0.00
BYTES                        8286.00  18707.00    TRUSTED CONTEXT USED                     0.00
BLOCKS                          4.00      0.00    AES ENCRYPTION USED                      0.00
                                                  XA GLOBAL TRANSACTION USED               0.00
THREAD INDOUBT-REM.L.COORD.     0.00              DRDA ENCRYPTION USED                     0.00
                                                  UID/PWD USED                            12.00
                                                  KERBEROS USED                            0.00
                                                  MFA USED                                 0.00
                                                  CLIENT CERTIFICATE USED                  0.00
                                                  FAILED SECURITY AUTH                     0.00

DRDA REMOTE LOCS   CLIENT  CONDITIONS  QUANTITY    DRDA REMOTE LOCS   REQUEST TERMINATION  QUANTITY
-------------------------------------  --------    ----------------------------------------  --------
WITH HOLD CURSOR NOT CLOSED                0.00    CONDBAT REACHED                              0.00
DGTT NOT DROPPED                           0.00    PROFILE EXCEPTION                            0.00
KEEPDYNAMIC PACKAGES USED                  0.00    MAXCONQN REACHED                             0.00
HIGH PERF DBATS USED                       0.00    MAXCONQW REACHED                             0.00
HELD LOB LOCATORS EXIST                    0.00
SP COMMIT PERFORMED                        0.00

DRDA REMOTE LOCS   THREAD TERMINATION  QUANTITY
-------------------------------------  --------
QUEUED - PROFILE EXCEPTION                 0.00
TERMINATED - PROF EXCPTION                 0.00
ABENDED                                    0.00
CANCELED                                   0.00
```

GENERAL - SENT - CONNECTIONS

The number of conversations that were initiated from the requester location. This value is maintained at the requester location.

A conversation is a specific instance of using TCP/IP or SNA LU 6.2 to transfer information between a requester and a server. A conversation is a logical connection between a requester and a server.

Field Name: QLSTCNVS

GENERAL - SENT - CONNECTIONS QUEUED

The number of conversation requests queued by the distributed data facility and waiting for allocation. This value is maintained at the requester location.

Background and Tuning Information

When this value is high, increase the limit for the number of conversations.

Field Name: QLSTCNVQ

GENERAL - SENT - CONNECTIONS DEALLOCATED

The number of conversations that were deallocated from this site to the remote site.

Field Name: QLSTCNVT

GENERAL - SENT - SQL STATEMENTS

The number of SQL statements sent to the remote server. This value is updated at the requester location.

Field Name: QLSTSQLS

GENERAL - SENT - COMMITS

The number of commit requests sent to the server (single-phase commit protocol) and the committed requests sent to the participant (two-phase commit protocol).

Field Name: QLSTCOMS

GENERAL - SENT - ROLLBACKS

The number of abort requests sent to the server (single-phase commit protocol) and backout requests sent to the participant (two-phase commit protocol).

Field Name: QLSTABRS

GENERAL - SENT - ROWS

The number of data rows sent to the requester location (includes SQLDA). This value is updated at the server location.

Field Name: QLSTROWS

GENERAL - SENT - MESSAGES

The number of messages sent to the remote location. A message is a group of characters and control bit sequences transferred on a single TCP/IP or SNA API call. This value is maintained at the location where the messages originated.

Field Name: QLSTMSGS

GENERAL - SENT - BYTES

The number of bytes of data sent to the requester location. This value is maintained at the server location.

Field Name: QLSTBYTS

GENERAL - SENT - BLOCKS

The number of blocks transmitted using block fetch. This value is maintained at the server location.

Field Name: QLSTBTBF

GENERAL - SENT - THREAD INDOUBT-REM.L.COORD.

The number of threads that became indoubt with the remote location as the coordinator (two-phase commit operations only). A large value might indicate network problems.

Field Name: QLSTINDT

GENERAL - RECEIVED - CONNECTIONS

The number of conversations that were initiated from the requester to the server location. This value is updated at the server location.

Field Name: QLSTCNVR

GENERAL - RECEIVED - SQL STATEMENTS

The number of SQL statements received from the requester location. This value is updated at the server location.

Field Name: QLSTSQLR

GENERAL - RECEIVED - COMMITS

The number of commit requests received from the requester (single-phase commit protocol) and committed requests received from the coordinator (two-phase commit protocol).

Field Name: QLSTCOMR

GENERAL - RECEIVED - ROLLBACKS

The number of abort requests received from the requester (single-phase commit protocol) and backout requests received from the coordinator (two-phase commit protocol).

Field Name: QLSTABRR

GENERAL - RECEIVED - ROWS

The number of data rows received from the server location. This value is maintained at the requester location.

Note:

- This value does not include any SQLDA or SQLCA transmitted.
- Block fetch can significantly affect the number of rows sent across the network. When used with nonupdate cursors, block fetch groups as many rows as possible into the message buffer, and transmits the buffer over the network without requiring a VTAM message. Consequently, more rows of data might be sent from the server location than are received by the requester location.

  This is especially true when DB2 private protocol is used because multiple blocks can be transmitted from the server with no intervening messages from the requester.

Field Name: QLSTROWR

GENERAL - RECEIVED - MESSAGES

The number of messages received by VTAM from the remote location. This value is maintained at the location where the messages were received.

More messages might be sent from the server location than are received by the requester due to the manner in which distributed SQL statements are processed internally.

Field Name: QLSTMSGR

GENERAL - RECEIVED - BYTES

The number of bytes of data received from the server location. This value is maintained at the requester location.

More bytes of data might be sent from the server location than are received by the requester due to the manner in which distributed SQL statements are processed internally.

Field Name: QLSTBYTR

GENERAL - RECEIVED - BLOCKS

The number of blocks received from the remote location using block fetch. This value is maintained at the requester location.

Field Name: QLSTBRBF

DDF CONN. DETAILS - ACTIVE CONNS FROM LOC - SNAP

Current number of active connections from this location.

Field Name: QLSTNCNV

DDF CONN. DETAILS - ACTIVE CONNS FROM LOC - INT. HWM

Highest number of active connections from this location since the last statistics trace interval for a statistics trace request. For a READS request, highest number of active connections from this location since DDF was started.

Field Name: QLSTHCNV

DDF CONN. DETAILS - ACTIVE DBATS FOR LOC - SNAP

Current number of active threads in use by this location.

Field Name: QLSTNTHD

DDF CONN. DETAILS - ACTIVE DBATS FOR LOC - INT. HWM

Highest number of active threads in use by this location since the last statistics trace interval for a statistics trace request. For a READS request, highest number of active threads in use by this location since DDF was started.

Field Name: QLSTHTHD

DDF CONN. DETAILS - REST SERVICE REQUESTS

Number of times that a connection from the remote site invoked a rest service.

Field Name: QLSTNRE1

DDF CONN. DETAILS - PROFILE SET SPECIAL REGS

Number of times that a connection from the remote site caused a system monitoring profile to set special registers.

Field Name: QLSTNSSR

DDF CONN. DETAILS - PROFILE SET GLOBAL VARS

Number of times that a connection from the remote site caused a system monitoring profile to set global variables.

Field Name: QLSTNSGV

DDF CONN. DETAILS - SYSPLEX WKLD BAL. USED

Number of connections from the remote site using sysplex workload balancing.

Field Name: QLSTNWLB

DDF CONN. DETAILS - TLS/SSL USED

Number of connections from the remote site configured with SSL and AT/TLS support.

Field Name: QLSTNTLS

DDF CONN. DETAILS - TRUSTED CONTEXT USED

Number of connections from the remote site under control of a trusted context.

Field Name: QLSTNTRS

DDF CONN. DETAILS - AES ENCRYPTION USED

Number of connections from the remote site using AES encryption.

Field Name: QLSTNAES

DDF CONN. DETAILS - XA GLOBAL TRANSACTION USED

Number of connections from the remote site under control of an XA global transaction.

Field Name: QLSTNXA

DDF CONN. DETAILS - DRDA ENCRYPTION USED

Number of connections from the remote site using DRDA data encryption.

Field Name: QLSTNENC

DDF CONN. DETAILS - UID/PWD USED

Number of connections from the remote site using userid and/or password authentication.

Field Name: QLSTNPWD

DDF CONN. DETAILS - KERBEROS USED

Number of connections from the remote site using kerberos authentication.

Field Name: QLSTNKER

DDF CONN. DETAILS - MFA USED

Number of connections from the remote site using multifactor authentication.

Field Name: QLSTNMFA

DDF CONN. DETAILS - CLIENT CERTIFICATE USED

Number of connections from the remote site using client certificate authentication.

Field Name: QLSTNCCA

DDF CONN. DETAILS - FAILED SECURITY AUTH

Number of times that a connection from the remote site had security authentication failures.

Field Name: QLSTFSEC

CLIENT CONDITIONS - WITH HOLD CURSOR NOT CLOSED

Number of times that cursors defined with HOLD prevented thread pooling.

Field Name: QLSTHCR1

CLIENT CONDITIONS - DGTT NOT DROPPED

Number of times where the existence of active declared global temp tables prevented thread pooling.

Field Name: QLSTDGTT

CLIENT CONDITIONS - KEEPDYNAMIC PACKAGES USED

Number of times where the usage of keepdynamic packages prevented thread pooling.

Field Name: QLSTKPD1

CLIENT CONDITIONS - HIGH PERF DBATS USED

Number of times where the usage of high performance DBATs prevented thread pooling.

Field Name: QLSTHIP1

CLIENT CONDITIONS - HELD LOB LOCATORS EXIST

Number of times where the existence of active held lob locators prevented thread pooling.

Field Name: QLSTHLO1

CLIENT CONDITIONS - SP COMMIT PERFORMED

Number of times where a stored procedure issued commit prevented thread pooling.

Field Name: QLSTSPC1

REQUEST TERMINATION - CONDBAT REACHED

Number of connections from the remote site that were terminated due to CONDBAT being reached.

Field Name: QLSTCNV1

REQUEST TERMINATION - PROFILE EXCEPTION

Number of connections from the remote site that were terminated due to system monitoring profile exception.

Field Name: QLSTCNV2

REQUEST TERMINATION - MAXCONQN REACHED

Number of connections from the remote site that were terminated due to MAXCONQN being reached.

Field Name: QLSTCNV3

REQUEST TERMINATION - MAXCONQW REACHED

Number of connections from the remote site that were terminated due to MAXCONQW being reached.

Field Name: QLSTCNV4

THREAD TERMINATION - QUEUED - PROFILE EXCEPTION

Number of times where threads used by connections from the remote site were queued due to a system monitoring profile exception.

Field Name: QLSTNTH4

THREAD TERMINATION - TERMINATED - PROF EXCPTION

Number of times where threads used by connections from the remote site were terminated due to a system monitoring profile exception.

Field Name: QLSTNTH3

THREAD TERMINATION - ABENDED

Number of times where threads used by connections from the remote site abended.

Field Name: QLSTNTH1

THREAD TERMINATION - CANCELLED

Number of times where threads used by connections from the remote site were canceled.

Field Name: QLSTNTH2

EDM Pool Activity

This topic shows detailed information about "Statistics - EDM Pool Activity".

Statistics - EDM Pool Activity

The field labels shown in the following sample layout of "Statistics - EDM Pool Activity" are described in the following section.

```
EDM POOL                     QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
PAGES IN DBD POOL (ABOVE)         N/A      N/A      N/A      N/A
  HELD BY DBD                   87.00      N/A      N/A      N/A
    STEALABLE PAGES              0.00      N/A      N/A      N/A
  FREE PAGES                      N/A      N/A      N/A      N/A
% PAGES IN USE                   6.96      N/A      N/A      N/A
FAILS DUE TO DBD POOL FULL       0.00     0.00      N/C     0.00

PAGES IN STMT POOL (ABOVE)    1250.00      N/A      N/A      N/A
  HELD BY STATEMENTS             3.54      N/A      N/A      N/A
  FREE PAGES                  1246.46      N/A      N/A      N/A
FAILS DUE TO STMT POOL FULL      0.00     0.00      N/C     0.00

PAGES IN SKEL POOL (ABOVE)        N/A      N/A      N/A      N/A
  HELD BY SKCT                   0.00      N/A      N/A      N/A
  HELD BY SKPT                  16.53      N/A      N/A      N/A
    STEALABLE PAGES             16.53      N/A      N/A      N/A
  FREE PAGES                      N/A      N/A      N/A      N/A
% PAGES IN USE                   0.00      N/A      N/A      N/A
FAILS DUE TO SKEL POOL FULL      0.00     0.00      N/C     0.00

DBD REQUESTS                    18.00     0.10      N/C     0.55
DBD NOT FOUND                    0.00     0.00      N/C     0.00
DBD HIT RATIO (%)              100.00      N/A      N/A      N/A
CT REQUESTS                      0.00     0.00      N/C     0.00
CT NOT FOUND                     0.00     0.00      N/C     0.00
CT HIT RATIO (%)                  N/C      N/A      N/A      N/A
PT REQUESTS                     17.00     0.09      N/C     0.52
PT NOT FOUND                     1.00     0.01      N/C     0.03
PT HIT RATIO (%)                94.12      N/A      N/A      N/A

PKG SEARCH NOT FOUND             0.00     0.00      N/C     0.00
PKG SEARCH NOT FOUND INSERT      0.00     0.00      N/C     0.00
PKG SEARCH NOT FOUND DELETE      0.00     0.00      N/C     0.00

STATEMENTS IN GLOBAL CACHE       1.18      N/A      N/A      N/A
```

PAGES IN DBD POOL (ABOVE)

This field shows the number of pages in the DBD pool above the 2 GB bar.

Field Name: QISEDPGE

HELD BY DBD

The current number of pages used for database descriptors (DBDs). This is a snapshot value.

Field Name: QISEDBD

STEALABLE PAGES

The current number of stealable pages used for database descriptors (DBDs).

Field Name: QISEDLRU

FREE PAGES (Prior to Db2 12)

This field shows the number of free pages in the DBD pool above the 2 GB bar.

Field Name: QISEDFRE

This is an *exception* field.

% PAGES IN USE

The percentage of DBD pages in use expressed as complement of the percentage of available DBD pages (ratio of stealable and free pages to the total number). The % PAGES IN USE value is calculated as a ratio of HELD BY pages to the EDM pool's storage reclaim threshold QISEDPGE.

For Db2 V12 the SISEDPIU 'PAGES IN DBD POOL (ABOVE) - % PAGES IN USE' value is calculated as a ratio of 'HELD BY' pages to the EDM pool's storage reclaim threshold QISEDPGE.

Field Name: SISEDPIU

FAILS DUE TO DBD POOL FULL

This field shows the total number of failures because the DBD pool above the 2 GB bar was full.

Field Name: QISEDFAL

This is an *exception* field.

PAGES IN STMT POOL (ABOVE)

The current number of pages in the EDM Statement pool above the 2 GB bar. This is a snapshot value.

Field Name: QISECPGE

HELD BY STATEMENTS

The number of pages in the EDM Statement pool above the 2 GB bar that is used for cached dynamic SQL statements. This is a snapshot value.

Field Name: QISEDYNP

FREE PAGES

The number of pages currently not used by any object in the EDM Statement pool above the 2 GB bar.

Field Name: QISECFRE

FAILS DUE TO STMT POOL FULL

The total number of failures because the EDM Statement pool above the 2 GB bar was full. For DB2 12 this field shows N/A.

Field Name: QISECFAL

PAGES IN SKEL POOL (ABOVE)

The current number of pages in the EDM skeleton pool above the 2 GB bar.

Field Name: QISEKPGE

HELD BY SKCT

The current number of pages used for skeleton cursor tables (SKCTs). This is a snapshot value.

Field Name: QISESKCT

HELD BY SKPT

The current number of pages used for skeleton package tables (SKPTs). This is a snapshot value.

Field Name: QISESKPT

STEALABLE PAGES

The current number of stealable pages used for skeleton cursor and package tables.

Field Name: QISEKLRU

FREE PAGES (Prior to DB2 12)

The number of pages currently not used by any object in the EDM skeleton pool above the 2 GB bar.

Field Name: QISEKFRE

% PAGES IN USE

The percentage of skeleton pages in use expressed as complement of the percentage of available skeleton pages (ratio of stealable and free pages to the total number). The % PAGES IN USE value is calculated as a ratio of HELD BY pages to the EDM pool's storage reclaim threshold QISEKPGE.

For Db2 V12, the SISEKPIU 'PAGES IN SKEL POOL (ABOVE) - % PAGES IN USE' value is calculated as a ratio of 'HELD BY' pages to the EDM pool's storage reclaim threshold QISEKPGE.

Field Name: SISEKPIU

FAILS DUE TO SKEL POOL FULL

The total number of failures because the EDM skeleton pool above the 2 GB bar was full.

Field Name: QISEKFAL

DBD REQUESTS

The number of requests for database descriptors (DBDs).

Field Name: QISEDBDG

DBD NOT FOUND

The total number of times database descriptors were loaded from DASD.

To find the number of times the DBD was already in the EDM pool, subtract this value from the value of Requests for sections - DBD field.

Field Name: QISEDBDL

This is an *exception* field.

DBD HIT RATIO (%)

The ratio of successful requests for database descriptors (DBD) from the EDM pool to the total number of requests for database descriptors expressed as a percentage.

Field Name: SERDBLR

This is an *exception* field.

CT REQUESTS

The number of requests for cursor table (CT) sections.

Field Name: QISECTG

This is an *exception* field.

CT NOT FOUND

The number of times a cursor table section was loaded from DASD.

To find the number of times the CT was found in the EDM pool, subtract this value from the value of the Requests for sections - CT field.

Field Name: QISECTL

This is an *exception* field.

CT HIT RATIO (%)

The ratio of successful requests for cursor tables from the EDM pool to the total number of requests for cursor tables expressed as a percentage.

Field Name: SERCTLR

This is an *exception* field.

PT REQUESTS

The number of requests for package table (PT) sections.

Field Name: QISEKTG

This is an *exception* field.

PT NOT FOUND

The number of times a package table section was loaded from DASD.

To find the number of times the PT was already in the EDM pool, subtract this value from the value of the Requests for sections - PT field.

Field Name: QISEKTL

This is an *exception* field.

PT HIT RATIO (%)

The ratio of successful package table requests from the EDM pool to the total number of package table requests, expressed as a percentage.

Field Name: SERPTLR

This is an *exception* field.

PKG SEARCH NOT FOUND

When a package is bound with a wild card (*) for package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a cached record was located during package binding.

Field Name: QISEKNFM

PKG SEARCH NOT FOUND INSERT

When a package is bound with a wild card (*) for package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a record was added to the cache during package binding.

Field Name: QISEKNFA

PKG SEARCH NOT FOUND DELETE

When a package is bound with a wild card (*) for package names, in the form of PKLIST(COL1.*,COL2.*.....), EDM generates a NOT-FOUND record to avoid future I/O if a collection ID/package name combination does not exist.

This field shows how often a record was removed from the cache during package binding.

Field Name: QISEKNFR

STATEMENTS IN GLOBAL CACHE

Number of statements in the global cache.

Field Name: QISESTMT

Global DDF Activity

This topic shows detailed information about "Statistics - Global DDF Activity".

Statistics - Global DDF Activity

The field labels shown in the following sample layout of "Statistics - Global DDF Activity" are described in the following section.

```
GLOBAL DDF ACTIVITY          QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
DBAT/CONN QUEUED-MAX ACTIVE      0.00     0.00     0.00      N/A
CONN REJECTED-MAX CONNECTED      0.00     0.00     0.00      N/A
CONN CLOSED - MAX QUEUED         0.00     0.00     0.00      N/A
CONN CLOSED - MAX WAIT           0.00     0.00     0.00      N/A

COLD START CONNECTIONS           0.00     0.00     0.00     0.00
WARM START CONNECTIONS           0.00     0.00     0.00     0.00
RESYNCHRONIZATION ATTEMPTED      0.00     0.00     0.00     0.00
RESYNCHRONIZATION SUCCEEDED      0.00     0.00     0.00     0.00

CUR TYPE 1 INACTIVE DBATS        0.00      N/A      N/A      N/A
HWM TYPE 1 INACTIVE DBATS        2.00      N/A      N/A      N/A
TYPE 1 CONNECTIONS TERMINAT      0.00     0.00      N/A      N/A

CUR INACTIVE CONNS (TYPE 2)      0.02      N/A      N/A      N/A
HWM INACTIVE CONNS (TYPE 2)     14.00      N/A      N/A      N/A
ACC QU INACT CONNS (TYPE 2)      2.00     0.00      N/A      N/A
CUR QU INACT CONNS (TYPE 2)      0.00      N/A      N/A      N/A
  MIN QUEUE TIME             0.000109      N/A      N/A      N/A
  MAX QUEUE TIME             0.000109      N/A      N/A      N/A
  AVG QUEUE TIME             0.000109      N/A      N/A      N/A
HWM QU INACT CONNS (TYPE 2)      8.00      N/A      N/A      N/A

CUR ACTIVE AND DISCON DBATS      0.00      N/A      N/A      N/A
HWM ACTIVE AND DISCON DBATS     11.00      N/A      N/A      N/A
HWM TOTL REMOTE CONNECTIONS     14.00      N/A      N/A      N/A

CUR DISCON DBATS NOT IN USE      0.00      N/A      N/A      N/A
HWM DISCON DBATS NOT IN USE     11.00      N/A      N/A      N/A
DBATS CREATED                    1.00      N/A      N/A      N/A
DISCON (POOL) DBATS REUSED       1.00      N/A      N/A      N/A
DBATS TERM SINCE DDF START       0.00      N/A      N/A      N/A

CUR ACTIVE DBATS-BND DEALLC      0.00      N/A      N/A      N/A
HWM ACTIVE DBATS-BND DEALLC      0.00      N/A      N/A      N/A

CUR ACTIVE DBATS-BND KEEPDY      0.00      N/A      N/A      N/A
HWM ACTIVE DBATS-BND KEEPDY      0.00      N/A      N/A      N/A

ILOS CANCELS DECLINED            0.00      N/A      N/A      N/A
```

DBAT/CONN QUEUED-MAX ACTIVE

The number of times a DBAT or connection was queued because it reached the ZPARM maximum for active remote threads (MAXDBAT).

Field Name: QDSTQDBT

CONN REJECTED-MAX CONNECTED

The number of connections that were rejected because the ZPARM limit for maximum remote connections (CONDBAT) was reached.

Field Name: QDSTQCRT

CONN CLOSED - MAX QUEUED

The number of queued client connections whose TCP/IP sockets were closed because the system parameter MAXCONQN was exceeded.

The socket close only occurs when the DB2 subsystem is a member of a data sharing group and DB2 was started with DDF THREADS set to INACTIVE.

Field Name: QDSTNCQC

CONN CLOSED - MAX WAIT

The number of queued client connections whose TCP/IP socket were closed due to system parameter MAXCONQW being exceeded.

The socket close only occurs when the DB2 subsystem is a member of a data sharing group and DB2 was started with DDF THREADS set to INACTIVE.

Field Name: QDSTNCCW

COLD START CONNECTIONS

The number of cold start connections with all remote locations (two-phase commit operations only).

Field Name: QDSTCSTR

WARM START CONNECTIONS

The number of warm start connections with all remote locations (two-phase commit operations only).

Field Name: QDSTWSTR

RESYNCHRONIZATION ATTEMPTED

The number of resynchronization connections attempted with all remote locations (two-phase commit operations only).

Background and Tuning Information

A large value can indicate network or system problems.

Field Name: QDSTRSAT

RESYNCHRONIZATION SUCCEEDED

The number of resynchronization connections that succeeded with all remote locations (two-phase commit operations only).

Background and Tuning Information

If the value of this field is much less than the number of resynchronizations attempted, network problems might exist.

Field Name: QDSTRSSU

CUR TYPE 1 INACTIVE DBATS

The current number of inactive DBATs type 1 (snapshot).

Field Name: QDSTQCIT

HWM TYPE 1 INACTIVE DBATS

The maximum number of inactive type 1 DBATs.

This value is a high-water mark.

Field Name: QDSTQMIT

TYPE 1 CONNECTIONS TERMINAT

The number of threads or connections that were terminated instead of being made type 1 inactive because the maximum number of type 1 inactive threads was reached (MAXTYPE1).

Field Name: QDSTNITC

CUR INACTIVE CONNS (TYPE 2)

The current number of type 2 inactive connections.

Field Name: QDSTCIN2

HWM INACTIVE CONNS (TYPE 2)

The maximum number of concurrent type 2 inactive connections that existed.

This value is a high-water mark for QDSTCIN2.

Field Name: QDSTMIN2

ACC QU INACT CONNS (TYPE 2)

The number of RECEIVE requests on type 2 inactive or new connections that are queued to be serviced by a disconnected (pooled) DBAT.

Field Name: QDSTQIN2

CUR QU INACT CONNS (TYPE 2)

The current number of type 2 inactive or new connections that are queued waiting for a database access thread (DBAT).

Field Name: QDSTNQR2

MIN QUEUE TIME

The minimum queue time of a type 2 inactive or new connection that was queued waiting for a database access thread (DBAT) in the last statistical period.

Field Name: QDSTNQMN

MAX QUEUE TIME

The maximum queue time of a type 2 inactive or new connection that was queued waiting for a database access thread (DBAT) in the last statistical period.

Field Name: QDSTNQMX

AVG QUEUE TIME

The average queue time of a type 2 inactive or new connection that was queued waiting for a database access thread (DBAT) in the last statistical period.

Field Name: QDSTNQAV

HWM QU INACT CONNS (TYPE 2)

The maximum number of type 2 inactive or new connections that are queued waiting for a database access thread.

This value is a high-water mark for QDSTNQR2.

Field Name: QDSTMQR2

CUR ACTIVE AND DISCON DBATS

The current number of active and disconnected (pooled) DBATs.

Field Name: QDSTCNAT

HWM ACTIVE AND DISCON DBATS

The maximum number of active and disconnected (pooled) DBATs that existed.

This value is a high-water mark for QDSTCNAT.

Field Name: QDSTHWAT

HWM TOTL REMOTE CONNECTIONS

The maximum number of active and remote connections. This value is a high-water mark.

Field Name: QDSTHWDT

CUR DISCON DBATS NOT IN USE

The current number of disconnected (pooled) DBATs that are available to process type 2 inactive or new connections.

Field Name: QDSTNADS

HWM DISCON DBATS NOT IN USE

The maximum number of disconnected (pooled) DBATs that are available to process type 2 inactive or new connections.

This value is a high-water mark for QDSTNADS.

Field Name: QDSTMADS

DBATS CREATED

The number of requests that required a database access thread (DBAT) to be created to process the request.

Note: This does not include database access threads created to replace disconnected (pooled) DBATs that terminated because they reached their reuse limit.

Field Name: QDSTNDBA

DISCON (POOL) DBATS REUSED

The number of requests that were satisfied by assigning a disconnected (pooled) DBAT to process the request.

Field Name: QDSTPOOL

DBATS TERM SINCE DDF START

The number of times that a DBAT has been terminated since DDF was started.

Field Name: QDSTNDBT

CUR ACTIVE DBATS-BND DEALLC

The current number of DBATs that are active because the associated packages were bound with RELEASE(DEALLOCATE).

Field Name: QDSTNARD

HWM ACTIVE DBATS-BND DEALLC

The maximum number of DBATs that are active because the associated packages were bound with RELEASE(DEALLOCATE).

Field Name: QDSTMARD

CUR ACTIVE DBATS-BND KEEPDY

The current number of DBATS that are active due to usage of packages bound with KEEPDYNAMIC(YES).

Field Name: QDSTNAKD

HWM ACTIVE DBATS-BND KEEPDY

The maximum number of DBATS that are active due to usage of packages bound with KEEPDYNAMIC(YES).

Field Name: QDSTMAKD

ILOS CANCELS DECLINED

The number of ILOS cancels declined due to CPU contention.

Field Name: QDSTNLSC

Group Buffer Pool Activity

This topic shows detailed information about "Statistics - Group Buffer Pool Activity".

This block shows activity for the group buffer pool connected to the reported DB2 system. The counters are cumulative from the time when the buffer pool was first connected. If more than one 4 KB or 32 KB group buffer pool block is printed, blocks showing the 4 KB and 32 KB group buffer pool totals are printed. If the report contains both 4 KB and 32 KB group buffer pool blocks, a block showing the totals of all group buffer pools is printed.

Statistics - Group Buffer Pool Activity

The field labels shown in the following sample layout of "Statistics - Group Buffer Pool Activity" are described in the following section.

```
GROUP BP0                       QUANTITY  /SECOND  /THREAD  /COMMIT
-----------------------------   --------  -------  -------  -------
GROUP BP R/W RATIO (%)             71.22      N/A      N/A      N/A
GBP SYN.READ(XI) HIT RATIO(%)       5.51      N/A      N/A      N/A
GBP-DEPENDENT GETPAGES           6212.00     0.15    22.43     3.28
SYN.READ(XI)-DATA RETURNED        197.00     0.00     0.71     0.10
SYN.READ(XI)-NO DATA RETURN      3379.00     0.08    12.20     1.79
SYN.READ(NF)-DATA RETURNED          1.00     0.00     0.00     0.00
SYN.READ(NF)-NO DATA RETURN         0.00     0.00     0.00     0.00
UNREGISTER PAGE                     0.00     0.00     0.00     0.00

CLEAN PAGES SYNC.WRITTEN            0.00     0.00     0.00     0.00
CLEAN PAGES ASYNC.WRTN              0.00     0.00     0.00     0.00
REG.PAGE LIST (RPL) REQUEST       115.00     0.00     0.42     0.06
NUMBER OF PAGES RETR.FROM GBP       0.00     0.00     0.00     0.00
PAGES CASTOUT                      37.00     0.00     0.13     0.02
UNLOCK CASTOUT                     37.00     0.00     0.13     0.02

READ CASTOUT CLASS                223.00     0.01     0.81     0.12
READ DIRECTORY INFO                 0.00     0.00     0.00     0.00
READ STORAGE STATISTICS          4907.00     0.12    17.71     2.59
REGISTER PAGE                       0.00     0.00     0.00     0.00
DELETE NAME                        93.00     0.00     0.34     0.05
ASYNCH GBP REQUESTS              2959.00     0.07    10.68     1.56
EXPLICIT X-INVALIDATIONS            0.00     0.00     0.00     0.00
CASTOUT CLASS THRESHOLD             0.00     0.00     0.00     0.00
GROUP BP CASTOUT THRESHOLD          0.00     0.00     0.00     0.00
GBP CHECKPOINTS TRIGGERED         175.00     0.00     0.63     0.09
WRITE FAILED-NO STORAGE             0.00     0.00     0.00     0.00

WRITE TO SEC-GBP FAILED             0.00     0.00     0.00     0.00
COMPL CHECKS SUSPENDED              0.00     0.00     0.00     0.00
DELETE NAME LIST SEC-GBP            0.00     0.00     0.00     0.00
DELETE NAME FROM SEC-GBP            0.00     0.00     0.00     0.00
UNLOCK CASTOUT STATS SEC-GBP        0.00     0.00     0.00     0.00
ASYNCH SEC-GBP REQUESTS             0.00     0.00     0.00     0.00
IXLCACHE REQS WITH ASYNCH XI        1.00     0.00     0.00     0.00
IXLAXISN SYNCH-UP CALLS             1.00     0.00     0.00     0.00
IXLAXISN SUSPENDS WAITING XI        0.00     0.00     0.00     0.00


GROUP BP0    CONTINUED          QUANTITY  /SECOND  /THREAD  /COMMIT
----------------------------    --------  -------  -------  -------
WRITE AND REGISTER                114.00     0.00     0.41     0.06
WRITE AND REGISTER MULT            24.00     0.00     0.09     0.01
CHANGED PGS SYNC.WRTN             278.00     0.01     1.00     0.15
CHANGED PGS ASYNC.WRTN              0.00     0.00     0.00     0.00
PAGES WRITE & REG MULT            164.00     0.00     0.59     0.09
READ FOR CASTOUT                   37.00     0.00     0.13     0.02
READ FOR CASTOUT MULT               0.00     0.00     0.00     0.00

PAGE P-LOCK LOCK REQ              394.00     0.01     1.42     0.21
 SPACE MAP PAGES                   94.00     0.00     0.34     0.05
 DATA PAGES                       231.00     0.01     0.83     0.12
 INDEX LEAF PAGES                  69.00     0.00     0.25     0.04

PAGE P-LOCK UNLOCK REQ            440.00     0.01     1.59     0.23

PAGE P-LOCK LOCK SUSP               0.00     0.00     0.00     0.00
 SPACE MAP PAGES                    0.00     0.00     0.00     0.00
 DATA PAGES                         0.00     0.00     0.00     0.00
 INDEX LEAF PAGES                   0.00     0.00     0.00     0.00

PAGE P-LOCK LOCK NEG                0.00     0.00     0.00     0.00
 SPACE MAP PAGES                    0.00     0.00     0.00     0.00
 DATA PAGES                         0.00     0.00     0.00     0.00
 INDEX LEAF PAGES                   0.00     0.00     0.00     0.00

PAGES IN WRITE-AROUND               0.00     0.00     0.00     0.00
```

GROUP BP R/W RATIO (%)

The group buffer pool read/write ratio. This reflects the effectiveness of the group buffer pool and whether the GBPCACHE NONE option can be used.

Field Name: SGBRWRAT

GBP SYN.READ(XI) HIT RATIO(%)

The percentage of all requests made to read a page from the group buffer pool because the page was invalidated in the member's buffer pool, which found the data in the group buffer pool and did not have to retrieve the page from DASD.

Background and Tuning Information

For highly active group buffer pools, consider increasing the GBP size if the SYN.READ(XI) HIT RATIO percent is smaller than 90.

Field Name: SGBXIRAT

GBP-DEPENDENT GETPAGES

The number of Getpages made for GBP-dependent objects.

Field Name: QBGLGG

SYN.READ(XI)-DATA RETURNED

The number of requests made to read a page from the group buffer pool because the page was invalidated in the member's buffer pool. The member found the required page in the group buffer pool.

Background and Tuning Information

When you increase the size of the group buffer pool (GBP), the number of pages returned from the GBP can increase. Conversely, decreasing the size of the GBP can cause DB2 to return fewer pages because the GBP cannot hold pages long enough to allow them to be retrieved again.

Field Name: QBGLXD

This is an *exception* field.

SYN.READ(XI)-NO DATA RETURN

The number of requests to read a page from the group buffer pool that were required because the page was invalidated in the member's buffer pool. The member did not find the data in the group buffer pool and had to retrieve the page from DASD.

Background and Tuning Information

Normally, when the page in a member's buffer is cross invalidated, the buffer is refreshed from the group buffer pool. In this instance, the requested page was not found in the group buffer pool though the page set is still GBP-dependent. The page has been removed from the group buffer pool for one of two reasons:

- Shortage of data pages and consequent reclamation of this page
- Shortage of directory entries and consequent removal of the page together with cross invalidation of that page in the local buffer pools of all members using that page.

If the value in this field is high, you may want to tune the group buffer pool (GBP). Depending on the reason, increase the number of GBP data pages, increase the size of the directory entry space, or increase both the number of GBP data pages and the space for directory entries. Oversizing the group buffer pool can cause unnecessary GBP checkpoint overhead.

Field Name: QBGLXR

SYN.READ(NF)-DATA RETURNED

The number of requests made to read a page from the group buffer pool because the page was not in the buffer pool of the member. The member found the page in the group buffer pool.

Background and Tuning Information

The requesting member needs a page from a table space or index that is GBP-dependent or has GBPCACHE ALL defined. To get that page, the group buffer pool is checked before the page set on DASD.

If the group buffer pool is used to cache both clean and changed pages (GBPCACHE ALL is used for all data), you can try to get more pages returned from the group buffer pool by increasing the size of the group buffer pool. Do not tune the GBP based on this counter if it is used for caching changed pages only (GBPCACHE CHANGED).

Field Name: QBGLMD

This is an *exception* field.

SYN.READ(NF)-NO DATA RETURN

The number of requests made to read a page from the group buffer pool because the page was not in the member's buffer pool. The member did not find the required data in the group buffer pool and had to retrieve the page from DASD.

Background and Tuning Information

The requesting member needs a page from a table space or index that is GBP-dependent or has GBPCACHE ALL defined. To get that page, the group buffer pool is checked before the page set on DASD.

You can compare the value in this counter with the number of pages that were returned from the group buffer pool, see Sync.Read (Not Found) - Data Returned. If the group buffer pool is used to cache both clean and changed pages (GBPCACHE ALL is used for all data), you can try to get more pages returned from the group buffer pool by increasing the size of the group buffer pool. Do not tune the GBP based on this counter if it is used for caching changed pages only (GBPCACHE CHANGED).

Field Name: QBGLMR

UNREGISTER PAGE

The number of times DB2 unregistered interest for a single page. This happens when DB2 steals pages from the member's buffer pool that belong to GBP-dependent page sets or partitions.

Background and Tuning Information

A large value here indicates that the local buffer pool contains a mixture of GBP-dependent data and non-GBP-dependent data.

The page stolen from the local buffer pool is replaced by a new one. This counter makes a distinction on whether the new page depends on the group buffer pool or not.

Usually a page of a GBP-dependent page set or partition is replaced by a page that is also GBP-dependent. In this instance, the unregister request for the page being stolen is combined with the read and register request for the new page. These combined requests do not contribute to this counter.

If, however, a page of a GBP-dependent page set or partition is replaced by a page that is not GBP-dependent, then only an unregister request is sent to the coupling facility. These separate requests are counted here.

Field Name: QBGLDG

CLEAN PAGES SYNC.WRITTEN

The number of clean pages that were synchronously written to the group buffer pool from the virtual pool.

Background and Tuning Information

Only GBPCACHE ALL causes clean (unchanged) pages to be written to the coupling facility. The pages are written to the coupling facility even if the page set is not GBP-dependent. If group buffer pool

caching works effectively for prefetch, the value in this field should be much smaller than the value in Synchronous Read (Not Found) - Data Returned.

Field Name: QBGLWC

This is an *exception* field.

CLEAN PAGES ASYNC.WRTN

The number of clean pages that were asynchronously written to the group buffer pool from the virtual pool.

Background and Tuning Information

Only GBPCACHE ALL causes clean (unchanged) pages to be written to the group coupling facility. In this instance pages are written even if the page set is not GBP-dependent. Asynchronous write is done under prefetch processing.

If group buffer pool caching works effectively for prefetch, the value in this field should be much smaller than the combined values in:

- Synchronous Read (Not Found) - Data Returned
- Asynchronous Reads - Data Returned
- Clean pages - Read after register page list

Field Name: QBGLAC

This is an *exception* field.

REG.PAGE LIST (RPL) REQUEST

The number of register page list (RPL) requests made by prefetch. The group buffer pool must be allocated in a group coupling facility with CFLEVEL=2 or higher.

Background and Tuning Information

Performance might be improved by enabling RPL.

Field Name: QBGLAX

This is an *exception* field.

NUMBER OF PAGES RETR.FROM GBP

The number of coupling facility reads performed by prefetch to retrieve a changed page from the group buffer pool.

Field Name: QBGLAY

This is an *exception* field.

PAGES CASTOUT

The number of data pages that were cast out of the group buffer pool of the member.

Castout to a page set or partition is done by the castout owner of the page set or partition. This is normally the DB2 subsystem that had the first update intent on the page set or partition.

Background and Tuning Information

The number of pages written per I/O is normally close to the value of this field divided by the value in Unlock Castout.

For example, if an average of four pages is written per castout write I/O, the number of pages cast out should be four times the number in this field.

Because DB2 usually includes more than one page in the request to write pages to DASD, the number in this field should always be significantly more than Unlock Castout. If it is not (for example, when "unlock castout" is more than half of "pages castout"), the castout write I/O is inefficient; probably because you have random update patterns on the DB2 data or a low castout threshold.

Field Name: QBGLRC

This is an *exception* field.

UNLOCK CASTOUT

The number of times DB2 issued an unlock request to the coupling facility for completed castout I/Os.

When pages are cast out to DASD, they are locked for castout in the coupling facility. This castout lock is not an IRLM lock; it is to ensure that only one system can cast out a given page at a time.

Background and Tuning Information

The number of pages written per I/O is normally close to the value of pages castout divided by the value of this field.

For example, if an average of four pages is written per castout write I/O, the number of pages cast out should be four times the value in this field.

Because DB2 usually includes more than one page in a write request, the number in this field should always be significantly less than pages castout. If it is not (for example, when "unlock castout" is more than half of "pages castout"), the castout write I/O is inefficient; possibly because you have random update patterns on the DB2 data or a low castout threshold.

Field Name: QBGLUN

READ CASTOUT CLASS

The number of requests made to the group buffer pool to determine which pages, from a particular page set or partition, must be cast out because they are cached as changed pages.

This request is issued either by the page set or partition castout owner, or, when the group buffer pool castout threshold is reached, by the group buffer pool structure owner.

Field Name: QBGLCC

READ DIRECTORY INFO

The number of requests issued by the group buffer pool structure owner to read the directory entries of all changed pages in the group buffer pool.

This request is issued at group buffer pool checkpoints to record the oldest recovery log record sequence number (LRSN). It is used as a basis for recovery if the group buffer pool fails.

Such requests might have to be issued several times for each group buffer pool checkpoint to read the directory entries for all changed pages.

Background and Tuning Information

If the value of this counter appears to be abnormally high, consider upgrading the coupling facility to CFLEVEL=2 or higher to raise the number of directory entries that can be read with one request. You can also increase the group buffer pool checkpoint interval, but this can lengthen the recovery for the group buffer pool.

Field Name: QBGLRD

READ STORAGE STATISTICS

The number of times DB2 requested statistics information from the group buffer pool. It is issued by the group buffer pool structure owner at timed intervals to determine whether the group buffer pool castout threshold (GBPOOLT) has been reached.

Field Name: QBGLOS

REGISTER PAGE

The number of times DB2 registered interest in a single page.

These are "register-only" requests, which means that DB2 is not requesting any data back from the request.

This request is made only to create a directory entry for the page to be used for cross-invalidation when the page set or partition P-lock is downgraded from S to IS mode, or from SIX to IX mode.

Field Name: QBGLRG

DELETE NAME

The number of requests made by DB2 to delete directory and data entries associated with a particular page set or partition from the group buffer pool.

DB2 issues this request when it changes a page set or partition from GBP-dependent to non GBP-dependent. DB2 also issues this request for objects that are defined with GBPCACHE ALL when those objects are first opened.

Background and Tuning Information

This counter is a measure of how often page sets or partitions change between being and not being dependent on the group buffer pool.

You can prevent DB2 going in and out of GBP dependency too often by tuning the following subsystem parameters that affect data sets when they are switched to a different state:

PCLOSEN
Pseudoclose frequency. The number of checkpoints required before a data set that was not updated can be a pseudoclose candidate.

If the PCLOSEN condition is met, the page set or partition is converted from read-write to read-only state. Depending on other concurrent users, this could raise the chance for the page set or partition to go out of GBP dependency.

PCLOSET
Pseudoclose time. The amount of time (in minutes) that must elapse before a data set can be a pseudoclose candidate.

If the PCLOSEN or PCLOSET condition is met, the page set or partition is converted from read-write to read-only state. Depending on other concurrent users, this could raise the chance for the page set or partition to go out of GBP dependency.

LOGLOAD
The number of log records that DB2 writes between successive checkpoints.

These parameters are specified in the CHECKPOINT FREQ field in panel DSNTIPN.

Field Name: QBGLDN

ASYNCH GBP REQUESTS

The number of IXLCACHE invocations for the primary group buffer pool.

Field Name: QBGLHS

EXPLICIT X-INVALIDATIONS

The number of times an explicit coupling facility cross-invalidation request was issued.

Field Name: QBGLEX

CASTOUT CLASS THRESHOLD

The number of times group buffer pool castout was initiated because the group buffer pool class castout threshold was detected.

Background and Tuning Information

The class castout threshold is one of two group buffer pool thresholds. In most cases the default value for the class threshold (5 percent) is a good choice. Depending on your workload, altering this value can reduce DASD contention during castout.

Field Name: QBGLCT

This is an *exception* field.

GROUP BP CASTOUT THRESHOLD

The number of times a group buffer pool castout was initiated because the group buffer pool castout threshold was detected.

Background and Tuning Information

The GBP castout threshold, GBP class castout threshold, and the length of the GBP checkpoint interval determine the castout characteristics of the group buffer pool.

You can consider this threshold a safety margin to protect the group buffer pool from being accidentally flooded by overactive applications.

In most situations, the default value for the group buffer pool castout threshold of 30 percent is a good choice. Use the ALTER GROUPBUFFERPOOL command to tune the group buffer pool thresholds.

Field Name: QBGLGT

This is an *exception* field.

GBP CHECKPOINTS TRIGGERED

The number of group buffer pool checkpoints triggered by this member.

Background and Tuning Information

The value of this counter depends on the length of the group buffer pool checkpoint interval.

Field Name: QBGLCK

WRITE FAILED-NO STORAGE

The number of coupling facility write requests that could not complete due to a lack of coupling facility storage resources.

Background and Tuning Information

A value greater than zero indicates that the data page resources of the coupling facility are being consumed faster than the DB2 castout processes can free them.

On write failure, the affected DB2 member initiates castout and retries several times, and finally, if it is a changed page, it will be added to the logical page list (LPL) requiring recovery.

If the problem is not simply due to a momentary surge in activity, you need either to decrease the group buffer pool castout thresholds, or to increase the number of data entries in the group buffer pool. To increase the number of data entries, you can do one of the following:

- Increase the total size of the group buffer pool.
- Adjust the ratio of directory entries to data entries in favor of data entries.

Field Name: QBGLWF

This is an *exception* field.

WRITE TO SEC-GBP FAILED

The number of coupling facility requests to write changed pages to the secondary group buffer pool for duplexing that failed because of a lack of storage in the coupling facility.

Field Name: QBGL2F

This is an *exception* field.

COMPL CHECKS SUSPENDED

The number of completion checks for writes to the secondary GBP that were suspended because the write had not yet been completed.

Field Name: QBGL2S

DELETE NAME LIST SEC-GBP

The number of DELETE NAME LIST requests to delete pages from the secondary group buffer pool that have just been cast out from the primary.

Field Name: QBGL2D

DELETE NAME FROM SEC-GBP

The number of group buffer pool requests to delete a page from the secondary group buffer pool. These requests are issued by the group buffer pool structure owner to delete orphaned data entries in the secondary GBP as part of the garbage collection logic.

Field Name: QBGL2N

UNLOCK CASTOUT STATS SEC-GBP

The number of coupling facility requests to read the castout statistics for the secondary group buffer pool. These requests are issued by the group buffer pool structure owner to check for orphaned data entries in the secondary group buffer pool.

Field Name: QBGL2R

ASYNCH SEC-GBP REQUESTS

The number of asynchronous IXLCACHE invocations for the secondary group buffer pool.

Field Name: QBGL2H

IXLCACHE REQS WITH ASYNCH XI

Specifies the number of IXLCACHE requests with asynchronous cross- invalidation (XI).

Field Name: QBGLWX

IXLAXISN SYNCH-UP CALLS

Specifies the number of asynchronous XLAXISN synch-up calls to determine whether all outstanding cross- invalidation (XI) notifications have been delivered.

Field Name: QBGLSU

IXLAXISN SUSPENDS WAITING XI

Specifies the number of suspensions of IXLAXISN sync-up calls that occurred while waiting for asynchronous cross- invalidation (XI) to complete.

Field Name: QBGLAS

WRITE AND REGISTER

The number of Write and Register requests.

Field Name: QBGLWS

WRITE AND REGISTER MULT

The number of Write and Register Multiple requests.

Field Name: QBGLWM

CHANGED PGS SYNC.WRTN

The number of changed pages written synchronously to the group buffer pool.

Pages are written with Write and Register (WAR) requests or Write and Register Multiple (WARM) requests.

At commit time changed pages are forced from the virtual buffer pool of the member to the coupling facility.

Background and Tuning Information

In data sharing, changed pages must have been written to the group buffer pool by the time a transaction commits. The pages are written either synchronously (force at commit) or asynchronously, for example, when a local buffer pool threshold is reached or at a member's checkpoint. The number of pages that have to be forced out synchronously (in "burst mode") at commit time can be reduced if asynchronous writes are triggered more frequently.

You can use the vertical deferred write threshold (VDWQT) to reduce the number of pages that have to be forced out synchronously and to increase the number of pages that are asynchronously written before the transaction commits. For GBP-dependent page sets, writes triggered by the vertical deferred write threshold go to the coupling facility. You can cause changed pages to be written out quicker and in smaller increments, by reducing the vertical deferred write threshold (VDWQT).

Field Name: QBGLSW

This is an *exception* field.

CHANGED PGS ASYNC.WRTN

The number of changed pages written asynchronously to the group buffer pool.

Pages are written in response to Write and Register (WAR) and Write and Register Multiple (WARM) requests.

Changed pages can be written from the member's virtual buffer pool to the group coupling facility before the application commits. This happens when, for example, a local buffer pool threshold is reached, or when P-lock negotiation forces the pages on the vertical deferred write queue to be written to the group buffer pool.

Background and Tuning Information

In data sharing, changed pages must have been written to the group buffer pool before a transaction commits. The pages are written either synchronously during commit processing or asynchronously before the transaction commits when, for example, a local buffer pool threshold is reached or at a member's checkpoint. See Changed Pages - Written Synchronously for the number of changed pages synchronously written to the group buffer pool.

The vertical deferred write threshold (VDWQT) can be used to reduce the number of pages that have to be forced out synchronously and to increase the number of pages that are asynchronously written before the transaction commits. For GBP-dependent page sets, writes triggered by the vertical deferred write threshold go to the coupling facility. If you want changed pages to be written out quicker and in smaller increments, you can lower the vertical deferred write threshold (VDWQT).

Field Name: QBGLAW

This is an *exception* field.

PAGES WRITE & REG MULT

The number of pages written using Write and Register Multiple (WARM) requests.

Field Name: QBGLWP

READ FOR CASTOUT

The number of Read For Castout requests. One page read per request.

Field Name: QBGLCR

READ FOR CASTOUT MULT

The number of Read For Castout Multiple requests.

Field Name: QBGLCM

PAGE P-LOCK LOCK REQ

The sum of all page P-lock lock requests.

Field Name: SBGLPLR

SPACE MAP PAGES

The number of page P-lock lock requests for space map pages.

Field Name: QBGLP1

DATA PAGES

The number of page P-lock requests for data pages.

Field Name: QBGLP2

INDEX LEAF PAGES

The number of page P-lock requests for index leaf pages.

Field Name: QBGLP3

PAGE P-LOCK UNLOCK REQ

The number of page P-lock unlock requests.

Field Name: QBGLU1

PAGE P-LOCK LOCK SUSP

The sum of all page P-lock lock suspensions.

Field Name: SBGLPLS

SPACE MAP PAGES

The number of page P-lock suspensions for space map pages.

Field Name: QBGLS1

DATA PAGES

The number of page P-lock suspensions for data pages.

Field Name: QBGLS2

INDEX LEAF PAGES

The number of page P-lock suspensions for index leaf pages.

Field Name: QBGLS3

PAGE P-LOCK LOCK NEG

The sum of all page P-lock lock negotiations.

Field Name: SBGLPLN

SPACE MAP PAGES

The number of page P-lock negotiations for space map pages.

Field Name: QBGLN1

DATA PAGES

The number of page P-lock negotiations for data pages.

Field Name: QBGLN2

INDEX LEAF PAGES

The number of page P-lock negotiations for index leaf pages.

Field Name: QBGLN3

PAGES IN WRITE-AROUND

The number of changed pages that were written to disk through group buffer pool write-around due to condition write failures to the group buffer pool.

Field Name: QBGLWA

Highlights

This topic shows detailed information about "Statistics - Highlights".

The sample shows the Statistics Highlights block for the long report. The description also shows additional fields printed with the Statistics short report.

Statistics - Highlights

The field labels shown in the following sample layout of "Statistics - Highlights" are described in the following section.

```
---- HIGHLIGHTS -------------------------------------------------------------------------------------
INTERVAL START  : 07/26/10 19:32:45.57    SAMPLING START: 07/26/10 19:32:45.57    TOTAL THREADS      :     0.00
INTERVAL END    : 07/26/10 19:35:47.34    SAMPLING END  : 07/26/10 19:35:47.34    TOTAL COMMITS      :    33.00
INTERVAL ELAPSED:          3:01.768843    OUTAGE ELAPSED:             0.000000    DATA SHARING MEMBER:      N/A
```

INTERVAL START

The start time of the period represented by this report or trace entry.

For a trace, it is the timestamp of the DB2 Statistics records pair which marks the beginning of the delta record represented by the trace entry.

For the group page of group-scope reports it is the beginning of the earliest interval across reported members.

For SAVE data, it is the timestamp of the first DB2 Statistics report pair used to derive a row in the statistics SAVE and FILE tables.

For FILE, it is the timestamp of the DB2 Statistics records pair which marks the beginning of the delta record represented by a row in the statistics SAVE and FILE tables.

Field Name: SDBEGREC

INTERVAL END

The end time of the period represented by this report or trace entry.

For a trace, it is the timestamp of the DB2 statistics records pair which marks the end of the delta record represented by the trace entry.

For the group page of group-scope reports it is the ending of the latest interval across reported members.

For SAVE data, it is the timestamp of the last DB2 statistics report pair used to derive a row in the statistics SAVE and FILE tables.

For FILE, it is the timestamp of the DB2 statistics records pair which marks the end of the delta record represented by a row in the statistics SAVE and FILE tables.

Field Name: SDENDREC

INTERVAL ELAPSED

The elapsed time of the period represented by this report or trace entry.

For a trace, it is the time elapsed between two consecutive DB2 statistics records pairs which mark the beginning and the end of the delta record represented by the trace entry. For a report, it is the elapsed time for the period within the interval record for which the DB2 statistics data is available.

For the group page of group-scope reports it is the average elapsed time of all the reported members.

Field Name: SDELTIME

SAMPLING START

The timestamp of the first DB2 statistics records pair used to derive a report entry (an interval record). For example, when INTERVAL(0) is specified, the sampling start coincides with the interval record start time in member-scope reports.

Field Name: SDSAMPST

SAMPLING END

The timestamp of the last DB2 statistics records pair used to derive a report entry (an interval record). For example, when INTERVAL(0) is specified, the sampling start coincides with the interval record end time in member-scope reports.

Field Name: SDSAMPEN

OUTAGE ELAPSED

The time for which OMEGAMON XE for DB2 PE detected discontinuity in the available DB2 statistics data. The most common reason for this is a stop or start of the reported DB2 system within the reported interval. For the group page of group-scope reports it is the average outage time of all reported members.

Field Name: SDOUTEL

TOTAL THREADS

The number of successful create thread requests. It does not include DBATs.

A thread is required before an application can use SQL. When established, a thread can have one or more secondary authorization IDs.

A thread is needed to perform any DB2 activity. For example, a thread is needed to run a DB2 utility to perform an IFI request such as READS, or to process a DB2 command such as -DISPLAY THREAD. However, a thread is not created if the command failed because of a syntax error.

Background and Tuning Information

Thread reuse can help improve performance.

The term *thread reuse* only applies to IMS and CICS attachments. In the case of the TSO attachment facility and the call attachment facility (CAF), threads cannot be reused, because the threads are allocated to the user address space.

Thread reuse should be considered in the following cases:

- If transaction volume is high:

  High volume transactions should achieve a high percentage of thread reuse. If threads are reused on low volume transactions, the number of threads needed increases because these threads are not automatically terminated by IMS when not being used. This may result in too many idle threads for the level of the DB2 workload. Under CICS, protected threads are terminated after about 45 seconds if no transaction eligible to reuse the thread has been received.
- If thread creation cost is significant:

  As a rule of thumb, more than 5% of the total CPU cost of transaction processing is considered significant.

The ACQUIRE and RELEASE parameters of BIND should be specified to minimize the thread creation cost, while providing the needed concurrency:

- If most of the application plan's SQL statements are executed, then ACQUIRE(ALLOCATE) is cheaper than ACQUIRE(USE).
- If only a small number of the SQL statements are executed, ACQUIRE(USE) becomes cheaper and improves concurrency, because the required resources are only acquired (locked) when the plan actually references (uses) them. An example would be a generalized plan used by many different transactions. It would contain multiple logic paths referencing different tables.

Note that, when packages are involved, ACQUIRE(USE) is always implicitly used.

- Concurrency in thread reuse is based on page locking provided by the IS and IX intent locks, whose duration is governed by ACQUIRE and RELEASE of BIND.

  RELEASE(DEALLOCATE) is strongly recommended for thread-reuse transactions to reduce transaction CPU time.

When thread reuse is implemented, monitor the EDM pool. It should be sufficient in size to accommodate expanding plans where the next transaction requires additional plan sections over those that are already part of the plan.

Field Name: Q3STCTHD

This is an *exception* field.

TOTAL COMMITS

The total number of commits during the interval covered by the report or trace. This includes commit, read-only commit, sync, and rollback events. DBATs executed on this location are not included in reports generated with the SCOUPE(GROUP) subcommand option.

Field Name: SDCOMMIT

This is an *exception* field.

DATA SHARING MEMBER

In group-scope reports, this field shows the name of the member for which statistics is presented, and, on the group total page, the number of DB2 subsystems in the reported data sharing group. In member-scope reports, this field shows N/A.

Field Name: QWHAMEMN

This is an *exception* field.

INCREMENTAL BINDS

The number of incremental binds (excluding prepare). It is incremented by:

- SQL statements with BIND VALIDATE(RUN) that fail at bind time and are bound again at execution time
- Static DDL statements (such as CREATE TABLE, DROP TABLE, LOCK TABLE) that use DB2 private protocol

Background and Tuning Information

If a plan is bound with VALIDATE(RUN), DB2 performs validity checks at bind time and rechecks any failures at run time. This can result in catalog contention and degraded application performance, depending on the number of statements flagged and how many times they are executed. Avoid VALIDATE(RUN) if possible. Ensure that all objects are created and all privileges are granted before bind, and select the VALIDATE(BIND) option.

Field Name: QXINCRB

This is an *exception* field.

DBAT QUEUED

The number of times a DBAT or connection was queued because it reached the ZPARM maximum for active remote threads (MAXDBAT).

Field Name: QDSTQDBT

This is an *exception* field.

AUTH SUCC.W/OUT CATALOG

The number of successful authorization checks that do not use the DB2 catalog (including plan cache checks and public checks).

Background and Tuning Information

For transaction level security, ENABLE and DISABLE on BIND PACKAGE should be used to ensure adequate security. Granting execute authority on the plan to public should be adequate.

Field Name: QTAUCCH

DB2 Command

The total number of DB2 commands that were issued.

Field Name: SDSTTOTL

BUFF.UPDT/PAGES WRITTEN

The number of buffer updates per page written from the buffer pool to DASD.

The ratio of BUFFER UPDATES (QBSTSWS) to PAGES WRITTEN (QBSTPWS) suggests a high level of efficiency as the ratio increases, because more updates are being externalized per physical write. For example, if there are 10 updates on the same page before it is externalized, then the ratio is 10:1 or 10. If all 10 updates are on 10 distinct pages, then the ratio is 10:10 or 1.

Background and Tuning Information

Buffer updates per pages written depends strongly on the type of application. For example, a batch program that processes a table in skip sequential mode with a high row update frequency in a dedicated environment can achieve very good update efficiency. In contrast, update efficiency tends to be lower for transaction processing applications, because transaction processing tends to be random.

The following factors can influence the number of updates per page:

Number of rows per page
A small PCTFREE value will gather more rows on the same page. However, at the same time this can have impact on concurrency.

Buffer pool size and deferred write thresholds
Increase DWQT and VDWQT or the size of the buffer pool. This would tell DB2 to let page updates accumulate in the buffer pool. This means, the probability that more updates per page get captured increases. This effect is less significant if the buffer pool is concurrently used by multiple transactions, it depends on the type of transaction.

Field Name: SBRBUPW

TOTAL API

The total number of calls made to IFI.

Field Name: SDIFITOT

PAGES WRITTEN/WRITE I/O

The number of pages written from the buffer pool to DASD per synchronous or asynchronous write I/O. This count does not include preformatting I/O, such as I/O needed to prepare a data set for use.

Background and Tuning Information

The following factors impact the ratio of pages written per write I/O:

Checkpoint frequency
At checkpoint time, I/Os are scheduled to write all updated pages on the deferred write queue to DASD. If this occurs too frequently, the deferred write queue does not grow large enough to achieve a high ratio of pages written per write I/O.

The checkpoint frequency depends on the number of logs written between two consecutive checkpoints. This number is set at installation time; see the field CHECKPOINT FREQ of installation panel DSNTIPN.

Frequency of active log switch
DB2 takes a system checkpoint each time the active log is switched. High frequency of active log switches causes the problem described under checkpoint frequency.

Buffer pool size and deferred write thresholds
The deferred write thresholds (VDWQT and DWQT) are a function of buffer pool size. If the buffer pool size is decreased, these thresholds are reached more frequently, causing I/Os to be scheduled more often to write some of the pages on the deferred write queue to DASD. This prevents the deferred write queue from growing large enough to achieve a high ratio of pages written per write I/O.

Number of data sets, and the spread of updated pages across them
The efficiency of write I/O also depends on the number of data sets associated with the buffer pool and spread of updated pages across them. Because of the nature of batch processing, the ratio of pages written to write I/Os can be expected to be higher than that expected for transaction type workloads.

To determine update efficiency check also the ratio Buffer Updates / Pages Written (SBRBUPW).

Field Name: SBRPWWIO

MEMBER

In group-scope reports, this field shows the name of the member for which statistics is presented, and, on the group total page, the number of DB2 subsystems in the reported data sharing group. In member-scope reports, this field shows N/A.

Field Name: QWHAMEMN

IFC Destinations

This topic shows detailed information about "Statistics - IFC Destinations".

Statistics - IFC Destinations

The field labels shown in the following sample layout of "Statistics - IFC Destinations" are described in the following section.

```
IFC DEST.   WRITTEN  NOT WRTN  BUF.OVER  NOT ACCP  WRT.FAIL
---------  --------  --------  --------  --------  --------
SMF           40.00      0.00      0.00      0.00      0.00
GTF            0.00      0.00       N/A      0.00      0.00
OP1            0.00      0.00       N/A      0.00       N/A
OP2            0.00      0.00       N/A      0.00       N/A
OP3            0.00      0.00       N/A      0.00       N/A
OP4            0.00      0.00       N/A      0.00       N/A
OP5            0.00      0.00       N/A      0.00       N/A
OP6            0.00      0.00       N/A      0.00       N/A
OP7            0.00      0.00       N/A      0.00       N/A
OP8            0.00      0.00       N/A      0.00       N/A
RES            0.00       N/A       N/A       N/A       N/A

TOTAL         40.00      0.00                 0.00      0.00
```

SMF - WRITTEN

The total number of SMF records successfully written.

Field Name: SDISMFWR

GTF - WRITTEN

The total number of GTF records successfully written.

Field Name: SDIGTFWR

OP1 - WRITTEN

The total number of OP1 records successfully written.

Field Name: SDIOP1WR

OP2 - WRITTEN

The total number of OP2 records successfully written.

Field Name: SDIOP2WR

OP3 - WRITTEN

The total number of OP3 records successfully written.

Field Name: SDIOP3WR

OP4 - WRITTEN

The total number of OP4 records successfully written.

Field Name: SDIOP4WR

OP5 - WRITTEN

The total number of OP5 records successfully written.

Field Name: SDIOP5WR

OP6 - WRITTEN

The total number of OP6 records successfully written.

Field Name: SDIOP6WR

OP7 - WRITTEN

The total number of OP7 records successfully written.

Field Name: SDIOP7WR

OP8 - WRITTEN

The total number of OP8 records successfully written.

Field Name: SDIOP8WR

RES - WRITTEN

The total number of RES records successfully written.

Field Name: SDIRTTWR

TOTAL WRITTEN

The total number of IFC records successfully written.

Field Name: SDTOTW

SMF - NOT WRITTEN

The total number of SMF records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDISMFNW

GTF - NOT WRITTEN

The total number of GTF records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIGTFNW

OP1 - NOT WRITTEN

The total number of OP1 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP1NW

OP2 - NOT WRITTEN

The total number of OP2 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP2NW

OP3 - NOT WRITTEN

The total number of OP3 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP3NW

OP4 - NOT WRITTEN

The total number of OP4 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP4NW

OP5 - NOT WRITTEN

The total number of OP5 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP5NW

OP6 - NOT WRITTEN

The total number of OP6 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP6NW

OP7 - NOT WRITTEN

The total number of OP7 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP7NW

OP8 - NOT WRITTEN

The total number of OP8 records not written. This field should be 0. Otherwise, records may have been lost.

Field Name: SDIOP8NW

TOTAL NOT WRITTEN

The total number of IFC records not written.

Field Name: SDTOTNW

SMF - BUF.OVER

The total number of SMF buffer overruns. Ideally, this field should be 0 or very small.

Field Name: SDISMFBF

SMF - NOT ACCP

The total number of SMF records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDISMFRA

GTF - NOT ACCP

The total number of GTF records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIGTFRA

OP1 - NOT ACCP

The total number of OP1 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP1RA

OP2 - NOT ACCP

The total number of OP2 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP2RA

OP3 - NOT ACCP

The total number of OP3 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP3RA

OP4 - NOT ACCP

The total number of OP4 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP4RA

OP5 - NOT ACCP

The total number of OP5 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP5RA

OP6 - NOT ACCP

The total number of OP6 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP6RA

OP7 - NOT ACCP

The total number of OP7 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP7RA

OP8 - NOT ACCP

The total number of OP8 records not accepted. Ideally, this field should be 0 or very small.

Field Name: SDIOP8RA

TOTAL NOT ACCP

The total number of IFC records not accepted.

Field Name: SDTOTNA

SMF - WRT.FAIL

The total number of SMF write failures. Ideally, this field should be 0 or very small.

Field Name: SDISMFWF

GTF - WRT.FAIL

The total number of GTF write failures. Ideally, this field should be 0 or very small.

Field Name: SDIGTFWF

TOTAL WRT.FAIL

The total number of IFC write failures.

Field Name: SDTOTWF

IFC Record Counts

This topic shows detailed information about "Statistics - IFC Record Counts".

Statistics - IFC Record Counts

The field labels shown in the following sample layout of "Statistics - IFC Record Counts" are described in the following section.

```
IFC RECORD COUNTS   WRITTEN  NOT WRTN
-----------------  --------  --------
SYSTEM RELATED         4.00      0.00
DATABASE RELATED       4.00      0.00
ACCOUNTING             4.00      0.00
START TRACE            2.00      0.00
STOP TRACE             1.00      0.00
SYSTEM PARAMETERS      5.00      0.00
SYS.PARMS-BPOOLS       4.00      0.00
AUDIT                  0.00      0.00

TOTAL                 24.00      0.00
```

SYSTEM RELATED (WRITTEN)

The number of system-related records written.

Field Name: SDISRRW

DATABASE RELATED (WRITTEN)

The number of database-related records written.

Field Name: SDIDRRW

ACCOUNTING (WRITTEN)

The number of accounting records written.

Field Name: SDIACTW

START TRACE (WRITTEN)

The number of start trace records written.

Field Name: SDISTRW

STOP TRACE (WRITTEN)

The number of stop trace records written.

Field Name: SDISTPW

SYSTEM PARAMETERS (WRITTEN)

The number of DB2 system parameter records written.

Field Name: SDIZPMW

SYS.PARMS-BPOOLS (WRITTEN)

The number of DB2 system parameter buffer pool records written.

Field Name: SDBSCRSW

AUDIT (WRITTEN)

The number of DB2 audit records written.

Field Name: SDIAUDW

TOTAL (WRITTEN)

The total number of records that were successfully written.

Field Name: SDTSCRSW

SYSTEM RELATED (NOT WRTN)

The number of system-related records not written. Ideally, this field should be 0 or very small.

Field Name: SDISRRN

DATABASE RELATED (NOT WRTN)

The number of database-related records not written. Ideally, this field should be 0 or very small.

Field Name: SDIDRRN

ACCOUNTING (NOT WRTN)

The number of accounting records not written. Ideally, this field should be 0 or very small.

Field Name: SDIACTN

START TRACE (NOT WRTN)

The number of start trace records not written. Ideally, this field should be 0 or very small.

Field Name: SDISTRN

STOP TRACE (NOT WRTN)

The number of stop trace records not written. Ideally, this field should be 0 or very small.

Field Name: SDISTPN

SYSTEM PARAMETERS (NOT WRTN)

The number of DB2 system parameter records not written. Ideally, this field should be 0 or very small.

Field Name: SDIZPMN

SYS.PARMS-BPOOLS (NOT WRTN)

The number of DB2 system parameter buffer pool records not written. Ideally, this field should be 0 or very small.

Field Name: SDBSCRNW

AUDIT (NOT WRTN)

The number of DB2 audit records that were not written.

Field Name: SDIAUDN

TOTAL (NOT WRTN)

The total number of records that were not written.

Field Name: SDTSCRNW

IRLM Storage Below and Above 2 GB (DB2 11)

This topic shows detailed information about "Statistics - IRLM Storage Below and Above 2 GB (DB2 11)".

Statistics - IRLM Storage Below and Above 2 GB (DB2 11)

The field labels shown in the following sample layout of "Statistics - IRLM Storage Below and Above 2 GB (DB2 11)" are described in the following section.

```
IRLM STORAGE BELOW AND ABOVE 2 GB
-----------------------------------------
EXTENDED CSA SIZE IN USE               (MB)
HWM EXTENDED CSA SIZE IN USE           (MB)

31 BIT PRIVATE IN USE                  (MB)
HWM 31 BIT PRIVATE IN USE              (MB)
THRESHOLD 31 BIT PRIVATE               (MB)

64 BIT PRIVATE IN USE                  (MB)
HWM 64 BIT PRIVATE IN USE              (MB)
THRESHOLD 64 BIT PRIVATE               (MB)

64 BIT COMMON IN USE                   (MB)
HWM 64 BIT COMMON IN USE               (MB)
```

EXTENDED CSA SIZE IN USE (MB)

The total amount of Extended Common Service Area (ECSA) storage in use by Internal Resource Lock Manager (IRLM) pools (DB2 field: QW0225I_BBECSA).

Field Name: S225IECU

HWM EXTENDED CSA SIZE IN USE (MB)

The high-water mark of ECSA storage allocated by IRLM pools (DB2 field: QW0225I_BBECSAH).

Field Name: S225IECH

31 BIT PRIVATE IN USE (MB)

The total amount of 31-bit private storage in use by IRLM pools (DB2 field: QW0225I_BBPVT).

Field Name: S225IBPU

HWM 31 BIT PRIVATE IN USE (MB)

The high-water mark of 31-bit private storage allocated by IRLM pools (DB2 field: QW0225I_BBPVH).

Field Name: S225IBPH

THRESHOLD 31 BIT PRIVATE (MB)

The threshold of 31-bit private storage available for normal IRLM execution. Only requests for storage by "must complete" tasks will be granted if this threshold is exceeded (DB2 field: QW0225I_BPMAX).

Field Name: S225IBPT

64 BIT PRIVATE IN USE (MB)

The total amount of 64-bit private storage in use by IRLM pools (DB2 field: QW0225I_ABPVT).

Field Name: S225IAPU

HWM 64 BIT PRIVATE IN USE (MB)

The high-water mark of 64-bit private storage allocated by IRLM pools (DB2 field: QW0225I_ABPVH).

Field Name: S225IAPH

THRESHOLD 64 BIT PRIVATE (MB)

The threshold of 64-bit private storage available for normal IRLM execution. Only requests for storage by "must complete" tasks will be granted if this threshold is exceeded (DB2 field: QW0225I_APMAX).

Field Name: S225IAPT

64 BIT COMMON IN USE (MB)

The total amount of 64-bit common storage in use by IRLM pools (DB2 field: QW0225I_ABCSA).

Field Name: S225IACU

HWM 64 BIT COMMON IN USE (MB)

The high-water mark of 64-bit common storage allocated by IRLM pools (DB2 field: QW0225I_ABCSH).

Field Name: S225IACH

Latch Counters

This topic shows detailed information about "Statistics - Latch Counters".

The QVLS latch counters represent the number of suspends that were performed by agents that attempted to obtain a latch.

There is not a one-to-one relationship between the QVLS counters and IFCID 56 or 57, because an agent might suspend multiple times or not at all, while trying to obtain a latch. That is why the QVLS counters are not directly related to Accounting Class 3.

Statistics - Latch Counters

The field labels shown in the following sample layout of "Statistics - Latch Counters" are described in the following section.

```
LATCH CNT   /SECOND   /SECOND   /SECOND   /SECOND
---------  --------  --------  --------  --------
LC01-LC04      0.00      0.00      0.00      0.00
LC05-LC08      0.00      0.00      0.00      0.00
LC09-LC12      0.00      0.00      0.00      0.00
LC13-LC16      0.00      0.00      0.00      0.00
LC17-LC20      0.00      0.00      0.00      0.00
LC21-LC24      0.00      0.00      0.00      0.01
LC25-LC28      0.00      0.00      0.00      0.00
LC29-LC32      0.00      0.01      0.00      0.00
LC254          0.00
```

LC01

This field is infrequently used.

Field Name: QVLSLC01

LC02

The predominant latch usage is: Global authorization cache.

Field Name: QVLSLC02

LC03

The predominant latch usage is: DDF disconnect.

Field Name: QVLSLC03

LC04

The predominant latch usage is: SYSSTRING cache.

Field Name: QVLSLC04

LC05

The predominant latch usage is: IRLM data sharing exits or RLF.

Field Name: QVLSLC05

LC06

The predominant latch usage is: Data sharing index split.

Field Name: QVLSLC06

LC07

The predominant latch usage is: Index lotch and OBD allocation.

Field Name: QVLSLC07

LC08

The predominant latch usage is: Query parallelism.

Field Name: QVLSLC08

LC09

The predominant latch usage is: Utilities or stored procedure URIDs.

Field Name: QVLSLC09

LC10

The predominant latch usage is for Sequence objects (stand-alone and table-based Identity Column). DB2 12 latch contention can be significantly reduced for the Identity Column in a data-sharing environment because of the reduction in log force write.

Field Name: QVLSLC10

LC11

The predominant latch usage is for Sequence objects (stand-alone and table-based Identity Column) for concurrent transactions. DB2 12 latch contention can be significantly reduced for the Identity Column in a data-sharing environment because of the reduction in log force write.

Field Name: QVLSLC11

LC12

The predominant latch usage is database allocation control latch (latch class X'0C') or WebSphere global transaction ID latch (latch class X'4C').

Field Name: QVLSLC12

LC13

The predominant latch usage is: Pageset operations.

Field Name: QVLSLC13

LC14

The predominant latch usage is represented by various buffer pool related activities, including buffer pool control block and pool serialization.

Field Name: QVLSLC14

LC15

The predominant latch usage is: ARCHIVE LOG MODE(QUIESCE).

Field Name: QVLSLC15

LC16

The predominant latch usage is: UR synonym chain.

Field Name: QVLSLC16

LC17

The predominant latch usage is: RURE chain.

Field Name: QVLSLC17

LC18

The predominant latch usage is: DDF resynch list.

Field Name: QVLSLC18

LC19

The predominant latch usage is logical log write (in contrast to physical log write).

Field Name: QVLSLC19

LC20

The predominant latch usage is: System checkpoint.

Field Name: QVLSLC20

LC21

The predominant latch usage is: Accounting rollup.

Field Name: QVLSLC21

LC22

The predominant latch usage is: Internal checkpoint.

Field Name: QVLSLC22

LC23

The predominant latch usage is Buffer Manager latch for page latch contention timer queue or deferred write latch. Both types of latches have latch class X'17'.

Field Name: QVLSLC23

LC24

The predominant latch usage is EDM LRU latch or Buffer Manager prefetch scheduling latch. EDM LRU latch can be identified by latch class X'18' while Buffer Manager prefetch scheduling latch can be identified by latch class X'38' in a latch contention trace.

Field Name: QVLSLC24

LC25

The predominant latch usage is: EDM hash latch.

Field Name: QVLSLC25

LC26

The predominant latch usage is: Dynamic statement cache.

Field Name: QVLSLC26

LC27

The predominant latch usage is: stored procedure queue latch and UDF.

Field Name: QVLSLC27

LC28

The predominant latch usage is: Stored procedures or authorization cache.

Field Name: QVLSLC28

LC29

The predominant latch usage is: Field procs and DDF transaction manager.

Field Name: QVLSLC29

LC30

The predominant latch usage is: Agent services.

Field Name: QVLSLC30

LC31

The predominant latch usage is: Storage manager.

Field Name: QVLSLC31

LC32

The predominant latch usage is shared storage pool latch.

Field Name: QVLSLC32

LC254

The predominant latch usage is: Index latch.

Field Name: QVLSLC254

Locking Activity

This topic shows detailed information about "Statistics - Locking Activity".

Statistics - Locking Activity

The field labels shown in the following sample layout of "Statistics - Locking Activity" are described in the following section.

```
LOCKING ACTIVITY             QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------   --------  -------  -------  -------
SUSPENSIONS (ALL)               15.00     0.08      N/C     0.45
SUSPENSIONS (LOCK ONLY)          0.00     0.00      N/C     0.00
SUSPENSIONS (IRLM LATCH)        15.00     0.08      N/C     0.45
SUSPENSIONS (OTHER)              0.00     0.00      N/C     0.00

TIMEOUTS                         0.00     0.00      N/C     0.00
DEADLOCKS                        0.00     0.00      N/C     0.00

LOCK REQUESTS                11626.00    63.96      N/C   352.30
UNLOCK REQUESTS               2745.00    15.10      N/C    83.18
QUERY REQUESTS                   0.00     0.00      N/C     0.00
CHANGE REQUESTS                389.00     2.14      N/C    11.79
OTHER REQUESTS                   0.00     0.00      N/C     0.00

LOCK ESCALATION (SHARED)         0.00     0.00      N/C     0.00
LOCK ESCALATION (EXCLUSIVE)      0.00     0.00      N/C     0.00

DRAIN REQUESTS                   7.00     0.04      N/C     0.21
DRAIN REQUESTS FAILED            0.00     0.00      N/C     0.00
CLAIM REQUESTS                 999.00     5.50      N/C    30.27
CLAIM REQUESTS FAILED            0.00     0.00      N/C     0.00
```

SUSPENSIONS (ALL)

The total number of suspensions.

Field Name: SLRSUSP

SUSPENSIONS (LOCK ONLY)

The number of times a lock could not be obtained and the unit of work was suspended.

Background and Tuning Information

This number should be low, ideally 0.

The number of lock suspensions is a function of the lock requests. Lock suspensions (or conflicts) can happen on either LOCK REQUEST or CHANGE REQUEST.

Suspensions are highly dependent on the application and table space locking protocols.

Field Name: QTXASLOC

This is an *exception* field.

SUSPENSIONS (IRLM LATCH)

The number of latch suspensions.

Field Name: QTXASLAT

This is an *exception* field.

SUSPENSIONS (OTHER)

The number of suspensions caused by something other than lock or latch.

Field Name: QTXASOTH

This is an *exception* field.

TIMEOUTS

The number of times a unit of work was suspended for a time exceeding the timeout value. This number should be low, ideally 0.

Field Name: QTXATIM

This is an *exception* field.

DEADLOCKS

The number of times deadlocks were detected. This number should be low, ideally 0.

Background and Tuning Information

Deadlocks occur when two or more application processes each hold locks on resources that the others need, without which they cannot proceed. Ensure that all applications accessing the same tables access them in the same order.

To improve concurrency:

- Use row level locking instead of page level locking to minimize deadlocks.
- For small tables use page level locking with MAXROWS 1.

To minimize deadlocks:

- Delay updates to just before commit.
- Use SELECT with the FOR UPDATE clause to use U lock.
- Adjust the deadlock detection cycle parameter DEADLOK in the IRLM procedure.

This field is incremented once for each deadlock encountered. There is no correlation between this field and the deadlock events reported in the Locking report set or the number of IFCID 172 records written. This field reports all deadlocks, regardless of how they were resolved. The locking report and record trace IFCID 172 show only those deadlocks that were resolved by DB2.

Field Name: QTXADEA

This is an *exception* field.

LOCK REQUESTS

The number of requests to lock a resource.

Field Name: QTXALOCK

This is an *exception* field.

UNLOCK REQUESTS

The number of requests to unlock a resource.

This value can be less than the number of lock requests because DB2 can release several locks with a single unlock request.

Field Name: QTXAUNLK

QUERY REQUESTS

The number of query requests.

Field Name: QTXAQRY

CHANGE REQUESTS

The number of change requests.

Field Name: QTXACHG

OTHER REQUESTS

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

Field Name: QTXAIRLM

LOCK ESCALATION (SHARED)

The number of times the maximum page locks per table space are exceeded, and the table space lock escalates from a page lock (IS) to a table space lock (S) for this thread. You can specify the number of locks allowed per table space with the LOCKS PER TABLE(SPACE) parameter on the DB2 install panel DSNTIPJ.

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than normal.

Field Name: QTXALES

This is an *exception* field.

LOCK ESCALATION (EXCLUSIVE)

The number of times the maximum page locks per table space are exceeded and the table space lock escalates from a page lock (IX) to a table space lock (X).

Background and Tuning Information

Escalations can cause unpredictable response times. Lock escalations should only happen when an application process updates or references (if repeatable read is used) more pages than it normally does.

A useful rule of thumb is to compare the number of escalations (shared and exclusive) to the successful escalations (those that did not cause deadlocks and timeouts). If this value, or the number Lock escalations - shared and if the number of timeouts or deadlocks is also not 0, the timeout or deadlock is probably caused by the escalation.

If many escalations cause deadlocks and timeouts, the recommendation is to change the escalation threshold value. Use of ANY is extremely useful to prevent unnecessary and expensive page locks, for example locking all pages in a tablespace.

Lock escalations, shared or exclusive, should not be expected in a transaction environment.

Field Name: QTXALEX

This is an *exception* field.

DRAIN REQUESTS

The number of drain requests.

Field Name: QTXADRNO

This is an *exception* field.

DRAIN REQUESTS FAILED

The number of unsuccessful drain requests.

Field Name: QTXADRUN

This is an *exception* field.

CLAIM REQUESTS

The number of claim requests.

Field Name: QTXACLNO

This is an *exception* field.

CLAIM REQUESTS FAILED

The number of unsuccessful claim requests.

Field Name: QTXACLUN

This is an *exception* field.

Log Activity

This topic shows detailed information about "Statistics - Log Activity".

Statistics - Log Activity

The field labels shown in the following sample layout of "Statistics - Log Activity" are described in the following section.

```
LOG ACTIVITY                 QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------   --------  -------  -------  -------
READS SATISFIED-OUTPUT BUFF     96.00     0.53      N/C     2.91
READS SATISFIED-OUTP.BUF(%)    100.00
READS SATISFIED-ACTIVE LOG       0.00     0.00      N/C     0.00
READS SATISFIED-ACTV.LOG(%)      0.00
READS SATISFIED-ARCHIVE LOG      0.00     0.00      N/C     0.00
READS SATISFIED-ARCH.LOG(%)      0.00

TAPE VOLUME CONTENTION WAIT      0.00     0.00      N/C     0.00
READ DELAYED-UNAVAIL.RESOUR      0.00     0.00      N/C     0.00
ARCHIVE LOG READ ALLOCATION      0.00     0.00      N/C     0.00
ARCHIVE LOG WRITE ALLOCAT.       0.00     0.00      N/C     0.00
CONTR.INTERV.OFFLOADED-ARCH      0.00     0.00      N/C     0.00
LOOK-AHEAD MOUNT ATTEMPTED       0.00     0.00      N/C     0.00
LOOK-AHEAD MOUNT SUCCESSFUL      0.00     0.00      N/C     0.00

UNAVAILABLE OUTPUT LOG BUFF      0.00     0.00      N/C     0.00
OUTPUT LOG BUFFER PAGED IN       0.00     0.00      N/C     0.00

LOG RECORDS CREATED          19276.00   106.05      N/C   584.12
LOG CI CREATED                 861.00     4.74      N/C    26.09
LOG WRITE I/O REQ (LOG1&2)     554.00     3.05      N/C    16.79
LOG CI WRITTEN (LOG1&2)       2004.00    11.02      N/C    60.73
LOG RATE FOR 1 LOG (MB)          N/A     0.02      N/A      N/A
```

READS SATISFIED-OUTPUT BUFF

The number of log reads satisfied from the output buffer.

Background and Tuning Information

This field, together with the reads satisfied from active log and reads satisfied from archive log (QJSTRACT and QJSTRARH) fields indicate how efficiently DB2 retrieves log records. Use these numbers to adjust the number of output buffers and the total active log capacity to maximize DB2 performance.

Field Name: QJSTRBUF

This is an *exception* field.

READS SATISFIED-OUTP.BUF(%)

The percentage of log reads that were satisfied in the output log buffer.

Field Name: SARLRBUF

READS SATISFIED-ACTIVE LOG

The number of log reads satisfied from the active log data set.

Background and Tuning Information

This field, together with the reads satisfied from archive log and reads satisfied from output buffer fields, indicate how efficiently DB2 retrieves log records. Use these numbers to adjust the number of output buffers and the total active log capacity to maximize DB2 performance. Ideally, this value should be 0 or very small.

Field Name: QJSTRACT

This is an *exception* field.

READS SATISFIED-ACTV.LOG(%)

The percentage of log reads satisfied from the active log.

Field Name: SARLRACT

This is an *exception* field.

READS SATISFIED-ARCHIVE LOG

The number of log reads satisfied from the archive log data set.

Background and Tuning Information

This field, together with the reads satisfied from active log and reads satisfied from output buffer fields indicate how efficiently DB2 retrieves log records. Use these numbers to adjust the number of output buffers and the total active log capacity to maximize DB2 performance. Ideally, this value should be 0 or very small.

Field Name: QJSTRARH

This is an *exception* field.

READS SATISFIED-ARCH.LOG(%)

The percentage of log reads that were satisfied from the archive log data set.

Field Name: SARLRARC

This is an *exception* field.

TAPE VOLUME CONTENTION WAIT

The number of read accesses that were delayed because of a tape volume contention when only one reader per tape is possible.

Background and Tuning Information

This field shows the number of agents forced to wait because a tape volume was already in use by another. If this number is not 0, increase the read tape units on the archive log data set parameters panel DSNTIPA.

Field Name: QJSTTVC

This is an *exception* field.

READ DELAYED-UNAVAIL.RESOUR

The number of read accesses delayed due to unavailable resources.

Background and Tuning Information

Generally, this can be due to insufficient tape units allocated. If this is so, reissue the SET ARCHIVE command and use a higher value for the count parameter. Another (although unlikely) cause is insufficient archive log read service task availability.

Field Name: QJSTWUR

This is an *exception* field.

ARCHIVE LOG READ ALLOCATION

The number of archive log read allocations.

It indicates the frequency of archive log open and close activity.

Background and Tuning Information

A high number indicates a need for more or larger active log data sets. This value should be small, ideally 0.

Field Name: QJSTALR

This is an *exception* field.

ARCHIVE LOG WRITE ALLOCAT.

The number of archive log write allocations.

It indicates the frequency of archive log open and close activity.

Background and Tuning Information

A high number indicates a need for more or larger active log data sets. This value should be small, ideally 0.

Field Name: QJSTALW

CONTR.INTERV.OFFLOADED-ARCH

The number of control intervals (CIs) offloaded from the active log to the archive log.

Field Name: QJSTCIOF

LOOK-AHEAD MOUNT ATTEMPTED

The number of look ahead (tape volume) mounts attempted.

Background and Tuning Information

This field and field QJSTLAMS (label LOOK-AHEAD MOUNT SUCCESSFUL) show the efficiency of look ahead for tape mounts.

Field Name: QJSTLAMA

LOOK-AHEAD MOUNT SUCCESSFUL

The number of successful look-ahead (tape volume) mounts. It indicates the look-ahead mounting performance gains.

Background and Tuning Information

For maximum performance, this field and field QJSTLAMA (label LOOK-AHEAD MOUNT ATTEMPTED) should be equal. To find the number of failed attempts, subtract the value in this field from LOOK-AHEAD MOUNT ATTEMPTED. Too many failed attempts negate potential performance gains. This can be caused by not having enough tape units available. Issue the DISPLAY ARCHIVE command and note the current count value. Then issue the SET ARCHIVE command using a higher value for the count parameter.

Field Name: QJSTLAMS

UNAVAILABLE OUTPUT LOG BUFF

The number of waits caused by an unavailable output log buffer.

When DB2 wants to write a log record and the log buffer is not available, DB2 and the application must wait for an available log buffer.

Background and Tuning Information

Another possible cause is that the size of the write threshold might be too close to the size of the output buffer.

If this field is not 0, increase the number in the output buffer field on installation panel DSNTIPL to increase the number of output buffers or increase the size of the buffer.

Field Name: QJSTWTB

This is an *exception* field.

OUTPUT LOG BUFFER PAGED IN

The number of times an output log buffer had to be paged in before it could be initialized. The log-write latch is held at this point.

Background and Tuning Information

A nonzero value could indicate that the output log buffer size is too large, or there is insufficient real storage to back up the output log buffer size.

Field Name: QJSTBPAG

LOG RECORDS CREATED

The number of log write requests.

The log record is written asynchronously to the log buffer. The application does not wait for the record to be written to the log data set and regains control immediately.

Buffered log records are written to DASD when the buffer threshold is exceeded.

Field Name: QJSTWRNW

LOG CI CREATED

The number of active log output control intervals created.

Background and Tuning Information

Log records are placed sequentially in output log buffers, which are formatted as VSAM control intervals. The control intervals are written to a set of predefined DASD active log data sets, which are used sequentially and recycled.

The ratio of this field to write output log buffers should be low.

Rules of thumb:

The lower the value, the better. A high value indicates that too many I/Os are required for the number of log buffers created.

It is possible that WRTTHRSH is set too low. It is also possible that transactions could be arriving so infrequently that at commit time force requests are not queued and each force request is individually triggering an I/O of its log buffers.

Field Name: QJSTBFFL

LOG WRITE I/O REQ (LOG1&2)

The total number of log-write I/O requests (such as media manager calls). This is the sum of the IFCID 038/039 pairs and includes both copy1 and copy2 active log data set writes.

Background and Tuning Information

This value should correspond to the active log write I/O activity in an RMF report.

Field Name: QJSTLOGW

LOG CI WRITTEN (LOG1&2)

The total number of log control intervals (CIs) written. This includes CI rewrites and both copy1 and copy2 active log data set writes. If a given CI is rewritten 5 times, this counter is incremented by 5.

Field Name: QJSTCIWR

LOG RATE FOR 1 LOG (MB)

The log rate for the active log data sets in MB per second. This figure is valid for dual logging, if single logging is used, multiply the value shown by 2.

Background and Tuning Information

To calculate this rate (mega bytes/second) at which data is written to the active log data set, multiply the value of field QJSTCIWR (label LOG CI WRITTEN (LOG1&2)) by 4096 and divide it by 1024 * 1024 * statistics-interval-seconds * 2. When the value exceeds 10MB/sec per log copy, you should examine I/O tuning of log data sets (for example, using faster log devices and/or I/O striping, using variable-length or compressed log record layouts to reduce log data size).

Field Name: SJSTCIWR

Miscellaneous statistics report

This topic shows detailed information about "Statistics - Miscellaneous".

Statistics - Miscellaneous

The field labels shown in the following sample layout of "Statistics - Miscellaneous" are described in the following section.

```
MISCELLANEOUS                          VALUE
-----------------------  --------------------
HIGH LOG RBA              00000000000169B80695
BYPASS COL                                0.00
MAX SQL CASCADING LEVEL                   0.00
MAX STOR LOB VALUES (MB)                  0.00
MAX STOR XML VALUES (MB)                  0.00
ARRAY EXPANSIONS                          0.00
SPARSE IX DISABLED                        0.00
SPARSE IX BUILT WF                        0.00
NO DM CALL RIDL/LPF                       0.00
FETCH 1 BLOCK ONLY                        0.00
```

HIGH LOG RBA

The high-used RBA address of the log (DB2 field prior to DB2 11: QWSDLR).

Field Name: QWSDLRG

BYPASS COL

The total number of columns (rows x columns) for which an invalid select procedure was encountered.

DB2 bypasses invalid select procedures which can cause some degradation in performance.

Field Name: QISTCOLS

MAX SQL CASCAD LEVEL

The maximum level of indirect SQL cascading. This includes cascading because of triggers, UDFs, or stored procedures.

Field Name: QXCASCDP

This is an *exception* field.

MAX STOR LOB VALUES (MB)

Maximum storage used for LOB values.

Field Name: QXSTLOBV

This is an *exception* field.

MAX STOR XML VALUES (MB)

Maximum storage used for XML values.

Field Name: QXSTXMLV

ARRAY EXPANSIONS

The number of times an array variable is expanded beyond 32 KB.

Field Name: QXSTARRAY_EXPANSIONS

SPARSE IX DISABLED

The number of times that sparse index was disabled because of insufficient storage.

Field Name: QXSISTOR

SPARSE IX BUILT WF

The number of times that sparse-index built a physical work file for probing.

Field Name: QXSIWF

NO DM CALL RIDL/LPF

The number of times that RDS did not call data manager for RID list retrieval for multiple index access or list prefetch because runtime adaptive index processing was able to determine the outcome.

Field Name: QXRSDMAD

FETCH 1 BLOCK ONLY

The number of times that RDS fetched one block and made no subsequent requests for additional blocks.

Field Name: QXR1BOAD

MVS LPAR Shared Storage Above 2 GB

This topic shows detailed information about "Statistics - MVS LPAR Shared Storage Above 2 GB".

Statistics - MVS LPAR Shared Storage Above 2 GB

The field labels shown in the following sample layout of "Statistics - MVS LPAR Shared Storage Above 2 GB" are described in the following section.

```
MVS LPAR SHARED STORAGE ABOVE 2 GB                      QUANTITY
-----------------------------------------  ------------------
SHARED MEMORY OBJECTS                                      2.00
64 BIT SHARED STORAGE                   (MB)          163840.00
HWM FOR 64 BIT SHARED STORAGE           (MB)          491520.00
64 BIT SHARED STORAGE BACKED IN REAL    (MB)            2240.80
AUX STORAGE USED FOR 64 BIT SHARED      (MB)               0.00
64 BIT SHARED STORAGE PAGED IN FROM AUX (MB)               0.00
64 BIT SHARED STORAGE PAGED OUT TO AUX  (MB)               0.00
```

SHARED MEMORY OBJECTS

The number of shared memory objects allocated for this MVS LPAR (DB2 field: QW0225SHRNMOMB).

Field Name: SW225SMO

64 BIT SHARED STORAGE (MB)

The amount of 64-bit shared storage allocated for this MVS LPAR (including hidden pages).

Field Name: S225SPG

HWM FOR 64 BIT SHARED STORAGE (MB)

High water mark of 64-bit shared storage allocated for this MVS LPAR (DB2 field: QW0225SHRGBYTES).

Field Name: SW225SGB

64 BIT SHARED STORAGE BACKED IN REAL (MB)

The amount of 64-bit shared storage backed in real storage for this MVS LPAR.

Field Name: S225SRL

AUX STORAGE USED FOR 64 BIT SHARED (MB)

The amount of auxiliary storage used for 64-bit shared storage for this MVS LPAR (including reserved auxiliary slots for pages that are paged in).

Field Name: S225SAX

64 BIT SHARED STORAGE PAGED IN FROM AUX (MB)

The amount of 64-bit shared storage paged in from auxiliary storage for this MVS LPAR.

Field Name: S225SPI

64 BIT SHARED STORAGE PAGED OUT TO AUX (MB)

The amount of 64-bit shared storage paged out to auxiliary storage for this MVS LPAR.

Field Name: S225SPO

Open/Close Activity

This topic shows detailed information about "Statistics - Open/Close Activity".

Statistics - Open/Close Activity

The field labels shown in the following sample layout of "Statistics - Open/Close Activity" are described in the following section.

```
OPEN/CLOSE ACTIVITY          QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
OPEN DATASETS - HWM             79.00      N/A      N/A      N/A
OPEN DATASETS                   64.34      N/A      N/A      N/A
DS NOT IN USE,NOT CLOSE-HWM     79.00      N/A      N/A      N/A
DS NOT IN USE,NOT CLOSED        55.43      N/A      N/A      N/A
IN USE DATA SETS                 8.91      N/A      N/A      N/A

DSETS CLOSED-THRESH.REACHED      0.00     0.00      N/C     0.00

DSETS CONVERTED R/W -> R/O       7.00     0.04      N/C     0.21
```

OPEN DATASETS - HWM

The maximum number of data sets concurrently open since the last time DB2 was started. This is a high-water mark (HWM).

Background and Tuning Information

Monitor this field to see whether you are reaching the maximum number of open data sets permissible.

Note: The maximum number of open data sets is 200,000. The default is 20,000.

Field Name: QTMAXDS

This is an *exception* field.

OPEN DATASETS

The number of data sets concurrently open (snapshot).

Field Name: QTDSOPN

DS NOT IN USE,NOT CLOSE-HWM

The maximum number of data sets on the deferred close queue. It is a high-water mark representing the maximum number of data sets that are not in use but have not been physically closed yet.

Field Name: QTMAXPB

This is an *exception* field.

DS NOT IN USE,NOT CLOSED

The number of data sets that are not currently used, but are not closed due to a deferred close (snapshot).

Field Name: QTSLWDD

This is an *exception* field.

IN USE DATA SETS

The number of data sets currently in use (snapshot).

Field Name: SDINUSEC

This is an *exception* field.

DSETS CLOSED-THRESH.REACHED

The number of data sets that were closed because the total number of open data sets reached the deferred close threshold value. The deferred close value is based on the value of DSMAX or the MVS DD limit (whichever is smaller).

Field Name: QTDSDRN

This is an *exception* field.

DSETS CONVERTED R/W -> R/O

The number of infrequently updated data sets that are converted from R/W to R/O state. An updated data set is considered infrequently updated when it has not been updated for either 5 consecutive DB2 checkpoints or 60 minutes. For tablespace data sets, the switching from R/W to R/O state means the SYSLGRNG entry is closed.

Field Name: QTPCCT

This is an *exception* field.

Plan/Package Activity

This topic shows detailed information about "Statistics - Plan/Package Activity".

Statistics - Plan/Package Activity

The field labels shown in the following sample layout of "Statistics - Plan/Package Activity" are described in the following section.

```
PLAN/PACKAGE PROCESSING      QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------   --------  -------  -------  -------
INCREMENTAL BINDS               0.00     0.00      N/C     0.00

PLAN ALLOCATION ATTEMPTS        2.00     0.01      N/C     0.06
PLAN ALLOCATION SUCCESSFUL      2.00     0.01      N/C     0.06
PACKAGE ALLOCATION ATTEMPT     17.00     0.09      N/C     0.52
PACKAGE ALLOCATION SUCCESS     17.00     0.09      N/C     0.52

PLANS BOUND                     0.00     0.00      N/C     0.00
BIND ADD SUBCOMMANDS            0.00     0.00      N/C     0.00
BIND REPLACE SUBCOMMANDS        0.00     0.00      N/C     0.00
TEST BINDS NO PLAN-ID           0.00     0.00      N/C     0.00
PACKAGES BOUND                 14.00     0.08      N/C     0.42
BIND ADD PACKAGE SUBCOMMAND    49.00     0.27      N/C     1.48
BIND REPLACE PACKAGE SUBCOM    14.00     0.08      N/C     0.42

AUTOMATIC BIND ATTEMPTS         0.00     0.00      N/C     0.00
AUTOMATIC BINDS SUCCESSFUL      0.00     0.00      N/C     0.00
AUTO.BIND INVALID RES. IDS      0.00     0.00      N/C     0.00
AUTO.BIND PACKAGE ATTEMPTS      0.00     0.00      N/C     0.00
AUTO.BIND PACKAGES SUCCESS      0.00     0.00      N/C     0.00

REBIND SUBCOMMANDS              0.00     0.00      N/C     0.00
ATTEMPTS TO REBIND A PLAN       0.00     0.00      N/C     0.00
PLANS REBOUND                   0.00     0.00      N/C     0.00
REBIND PACKAGE SUBCOMMANDS      0.00     0.00      N/C     0.00
ATTEMPTS TO REBIND PACKAGE      0.00     0.00      N/C     0.00
PACKAGES REBOUND                0.00     0.00      N/C     0.00

FREE PLAN SUBCOMMANDS           0.00     0.00      N/C     0.00
ATTEMPTS TO FREE A PLAN         0.00     0.00      N/C     0.00
PLANS FREED                     0.00     0.00      N/C     0.00
FREE PACKAGE SUBCOMMANDS        0.00     0.00      N/C     0.00
ATTEMPTS TO FREE A PACKAGE      0.00     0.00      N/C     0.00
PACKAGES FREED                  0.00     0.00      N/C     0.00
```

INCREMENTAL BINDS

The number of incremental binds (excluding prepare). It is incremented by:

- SQL statements with BIND VALIDATE(RUN) that fail at bind time and are bound again at execution time
- Static DDL statements (such as CREATE TABLE, DROP TABLE, LOCK TABLE) that use DB2 private protocol

Background and Tuning Information

If a plan is bound with VALIDATE(RUN), DB2 performs validity checks at bind time and rechecks any failures at run time. This can result in catalog contention and degraded application performance, depending on the number of statements flagged and how many times they are executed. Avoid VALIDATE(RUN) if possible. Ensure that all objects are created and all privileges are granted before bind, and select the VALIDATE(BIND) option.

Field Name: QXINCRB

This is an *exception* field.

PLAN ALLOCATION ATTEMPTS

The number of times a request was made to allocate a bound plan for an agent.

It represents the number of times DB2 was requested to create a thread by the attachment facility for the user. This does not include allocations for DB2 system agents.

Field Name: QTALLOCA

This is an *exception* field.

PLAN ALLOCATION SUCCESSFUL

The number of successful plan allocation attempts.

The cause of plan allocation failure could be plan unavailability or attempting to allocate a nonexistent plan.

Field Name: QTALLOC

PACKAGE ALLOCATION ATTEMPT

The number of attempts to allocate a package.

Field Name: QTPKALLA

PACKAGE ALLOCATION SUCCESS

The number of successful package allocation attempts.

Background and Tuning Information

Package allocation failure can occur when a package is unavailable or does not exist.

A high count of the number of packages unsuccessfully allocated (QTPKALLA - QTPKALL) typically occurs when a package list with multiple collections is used and frequently-used packages are found in the back end rather than in the front end of a package list. For example, when a package is found in the tenth collection, QTPKALLA is incremented by 10, one for each collection searched, but QTPKALL is incremented by 1.

A high number of packages unsuccessfully allocated can be accompanied by a high count of the number of unsuccessful checks for package execute authority made using the package authorization check because an application entry was not found in the cache (QTPACNOT). In this case, placing frequently used packages in the front end of a package list would reduce the number of Buffer Manager Getpages to the catalog/directory tablespaces.

Field Name: QTPKALL

PLANS BOUND

The number of plans successfully bound and kept for future agent allocations.

This field represents the sum of successful BIND ADD (QTBINDA) and successful BIND REPLACE (QTBINDR) commands. This counter is not incremented for BIND subcommands with no plan ID specified, as identified by QTTESTB. Note that QTBINDA + QTBINDR is not necessarily equal to this field. It is equal only if all BIND ADD and BIND REPLACE subcommands issued are successful.

Field Name: QTPLNBD

BIND ADD SUBCOMMANDS

The number of successful and unsuccessful BIND ADD subcommands issued.

The sum of QTBINDA, QTBINDR, and QTTESTB equals the total number of BIND subcommands.

Field Name: QTBINDA

BIND REPLACE SUBCOMMANDS

The number of successful and unsuccessful BIND REPLACE subcommands issued.

Field Name: QTBINDR

TEST BINDS NO PLAN-ID

The number of BIND subcommands issued without a plan ID.

Field Name: QTTESTB

PACKAGES BOUND

The number of packages bound and kept for future package allocations.

It is the sum of successful BIND ADD PACKAGE and BIND REPLACE PACKAGE subcommands, but only if all these commands are really issued successfully.

Field Name: QTPKGBD

BIND ADD PACKAGE SUBCOMMAND

The number of successful and unsuccessful BIND ADD PACKAGE subcommands issued.

Field Name: QTBINDPA

BIND REPLACE PACKAGE SUBCOM

The number of successful and unsuccessful BIND REPLACE PACKAGE subcommands issued.

Field Name: QTBINDPR

AUTOMATIC BIND ATTEMPTS

The number of attempts to autobind a plan. This occurs when the plan was invalidated by modifications to the declarations of the data referenced by the programs bound as part of the plan. For example, dropping an index when it is used in the plan results in automatic bind.

Field Name: QTABINDA

AUTOMATIC BINDS SUCCESSFUL

The number of plans successfully autobound.

Field Name: QTABIND

AUTO.BIND INVALID RES. IDS

The number of requests to allocate a nonexistent plan or package. This is the number of all plan and package allocation attempts that failed because the resource was unavailable or the object did not exist.

Field Name: QTINVRID

AUTO.BIND PACKAGE ATTEMPTS

The number of attempts to autobind a package.

Background and Tuning Information

If YES was specified, or defaulted, for autobind on DB2 install panel DSNTIPB, an autobind occurs when a plan or package:

- Is invalid because declarations of the data referenced by the program or package were modified. For example, when an index used in a package is dropped, an automatic bind occurs when the package is run for the first time after the index was dropped.
- Was bound in a later release and is used in a previous release for the first time.
- Was used in a previous release but is later remigrated and used in a later release for the first time.

Field Name: QTAUTOBA

This is an *exception* field.

AUTO.BIND PACKAGES SUCCESS

The number of packages successfully autobound.

Field Name: QTPKABND

This is an *exception* field.

REBIND SUBCOMMANDS

The number of REBIND subcommands issued. More than one plan can be rebound with a single REBIND subcommand. If the value in this field is 1, the number of plans you are attempting to rebind is shown in the Rebind - plan attempts field.

Field Name: QTREBIND

ATTEMPTS TO REBIND A PLAN

The number of attempts to rebind a plan. This number can be larger than the value shown in the Rebind - plan subcommands field because you can specify more than one plan in a single REBIND subcommand.

Field Name: QTRBINDA

PLANS REBOUND

The number of rebind attempts that completed successfully. This field is equal to the Rebind - Plan attempts field if all specified plans rebound successfully.

Field Name: QTPLNRBD

REBIND PACKAGE SUBCOMMANDS

The number of REBIND PACKAGE subcommands issued. More than one package can be rebound with a single subcommand. If the value in this field is 1, Rebind - package attempts shows the number of packages you are attempting to rebind.

Field Name: QTRBINDP

ATTEMPTS TO REBIND PACKAGE

The number of attempts to rebind a package. This can be larger than the value shown in Rebind package subcommands because you can rebind more than one package with a single command.

Field Name: QTRBNDPA

PACKAGES REBOUND

The number of packages successfully rebound. If all specified packages were rebound successfully, this field is equal to Rebind package attempts.

Field Name: QTPKGRBD

FREE PLAN SUBCOMMANDS

The number of FREE subcommands issued.

More than one plan can be freed with a single FREE subcommand. If this field is 1, then the number of plans you are trying to free is shown in ATTEMPTS TO FREE A PLAN.

Field Name: QTFREE

ATTEMPTS TO FREE A PLAN

The number of attempts to free a plan.

This value can be larger than FREE PLAN SUBCOMMANDS because multiple plan IDs can be specified in a single FREE subcommand.

Field Name: QTFREEA

PLANS FREED

The number of times a plan was successfully freed.

Freeing a plan can fail if someone else is using the plan and holds a lock on it.

Field Name: QTPLNFRD

FREE PACKAGE SUBCOMMANDS

The number of FREE PACKAGE subcommands issued.

More than one package can be freed with a single FREE subcommand. If the value in this field is 1, then the number of packages you are attempting to free is shown in ATTEMPTS TO FREE A PACKAGE.

Field Name: QTFREEP

ATTEMPTS TO FREE A PACKAGE

The number of attempts to free a package. This number can be larger than FREE PACKAGE SUBCOMMANDS because you can free several packages with a single command.

Field Name: QTFREEAP

PACKAGES FREED

The number of times a package was successfully freed. If all the specified packages were freed successfully, the value of this field is equal to ATTEMPTS TO FREE A PACKAGE.

Field Name: QTPKGFRD

Query Parallelism

This topic shows detailed information about "Statistics - Query Parallelism".

This block shows information about query parallelism used by DB2 to perform parallel operations in SQL query processing. Dependent on various settings, DB2 may create parallel groups for a query where each parallel group consists of a set of tasks or I/O operations that can be executed in parallel. The degree of parallelism is the number of parallel tasks or I/O operations that DB2 determines. It can be used for the operations on the parallel group.

The DB2 users can limit the maximum number of parallel operations to reduce the resource consumption of a parallelism environment, and even DB2 may decide during execution time to reduce the planned degree of parallelism in order to respond to system limitations.

Statistics - Query Parallelism

The field labels shown in the following sample layout of "Statistics - Query Parallelism" are described in the following section.

```
QUERY PARALLELISM            QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
MAX DEGREE - ESTIMATED           0.00      N/A      N/A      N/A
MAX DEGREE - PLANNED             0.00      N/A      N/A      N/A
MAX DEGREE - EXECUTED            0.00      N/A      N/A      N/A
PARALLEL GROUPS EXECUTED         0.00     0.00     0.00     0.00
 RAN AS PLANNED                  0.00     0.00     0.00     0.00
 RAN REDUCED-STORAGE             0.00     0.00     0.00     0.00
 RAN REDUCED-NEGOTIATION         0.00     0.00     0.00     0.00
 SEQUENTIAL-CURSOR               0.00     0.00     0.00     0.00
 SEQUENTIAL-NO ESA               0.00     0.00     0.00     0.00
 SEQUENTIAL-NO BUFFER            0.00     0.00     0.00     0.00
 SEQUENTIAL-AUTONOMOUS PROC      0.00     0.00     0.00     0.00
 SEQUENTIAL-NEGOTIATION          0.00     0.00     0.00     0.00
 ONE DB2 - COORDINATOR = NO      0.00     0.00     0.00     0.00
 ONE DB2 - ISOLATION LEVEL       0.00     0.00     0.00     0.00
 ONE DB2 - DCL TTABLE            0.00     0.00     0.00     0.00
MEMBER SKIPPED (%)                N/C
REFORM PARAL-CONFIG CHANGED      0.00     0.00     0.00     0.00
REFORM PARAL-NO BUFFER           0.00     0.00     0.00     0.00
```

MAX DEGREE - ESTIMATED

The maximum degree of parallelism estimated for a parallel group at bind time based on the cost formula. If the parallel group contains a host variable or parameter marker, then bind time will estimate the parallel group degree based on a valid assumption value.

Field Name: QXMAXESTIDG

MAX DEGREE - PLANNED

The maximum degree of parallelism planned for a parallel group. It is the ideal parallel group degree obtained at execution time after the host variable or parameter marker value is "plug-in" and before buffer pool negotiation and system negotiation are performed.

Field Name: QXMAXPLANDG

MAX DEGREE - EXECUTED

The maximum degree of parallelism executed among all parallel groups to indicate the extent to which queries were processed in parallel.

Field Name: QXMAXDEG

PARALLEL GROUPS EXECUTED

The total number of parallel groups executed.

Field Name: QXTOTGRP

RAN AS PLANNED

The total number of parallel groups that executed in the planned parallel degree. This field is incremented by one for each parallel group that executed in the planned degree of parallelism (as determined by DB2).

Field Name: QXNORGRP

RAN REDUCED-STORAGE

The total number of parallel groups that did not reach the planned parallel degree because of a lack of storage space or contention on the buffer pool.

The exception field name is QXREDGRP.

Background and Tuning Information

If this field is not 0, increase the size of the current buffer pool using the ALTER BUFFERPOOL command or use the ALTER TABLESPACE command to assign table spaces accessed by this query to a different buffer pool.

Field Name: QXREDGRP

This is an *exception* field.

RAN REDUCED-NEGOTIATION

The total number of parallel groups that did not reach the planned parallel degree due to system negotiation result of system stress level.

Field Name: QXSTOREDGRP

SEQUENTIAL-CURSOR

The total number of parallel groups that fell back to sequential mode due to a cursor that can be used by UPDATE or DELETE.

Field Name: QXDEGCUR

SEQUENTIAL-NO ESA

The total number of parallel groups that fell back to sequential mode due to a lack of ESA sort support.

Field Name: QXDEGESA

SEQUENTIAL-NO BUFFER

The total number of parallel groups that fell back to sequential mode due to a storage shortage or contention on the buffer pool.

The exception field name is QXDEGBUF.

Field Name: QXDEGBUF

SEQUENTIAL-AUTONOMOUS PROC

The total number of parallel groups that fell back to sequential mode under an autonomous procedure.

Field Name: QXDEGAT

SEQUENTIAL-NEGOTIATION

The total number of parallel groups that fell back to sequential mode due to system negotiation result of system stress level.

Field Name: QXSTODGNGRP

ONE DB2 - COORDINATOR = NO

The total number of parallel groups executed on a single DB2 subsystem due to the COORDINATOR subsystem value being set to NO. When the statement was bound, the COORDINATOR subsystem value was set to YES. This situation can also occur when a package or plan is bound on a DB2 subsystem with COORDINATOR=YES, but is run on a DB2 subsystem with COORDINATOR=NO.

Field Name: QXCOORNO

ONE DB2 - ISOLATION LEVEL

The total number of parallel groups executed on a single DB2 subsystem due to repeatable-read or read-stability isolation.

Field Name: QXISORR

ONE DB2 - DCL TTABLE

The number of parallel groups in a query block that were downgraded to CPU parallelism because they referenced a UDF and a declared temporary table was detected at execution time.

DB2 enforces execution on a single DB2 (CPU parallelism), in this instance, because it cannot determine at incremental bind time for the statement whether the UDF will reference the declared temporary table. Other parallel groups in the same statement are not necessarily downgraded.

Field Name: QXDEGDTT

MEMBER SKIPPED (%)

The percentage of parallel groups that were not distributed over the data sharing group because one or more DB2 members did not have enough buffer pool storage. This only applies to parallel groups that were intended to run in sysplex query parallelism.

Background and Tuning Information

This percentage is only recorded when the buffer pool is defined to allow for parallelism. For example, if VPXPSEQT=0 on an assistant, DB2 does not send parallel work there, and the percentage is not increased.

Field Name: SXXCRAT

REFORM PARAL-CONFIG CHANGED

The total number of parallel groups where DB2 reformulated the parallel portion of the access path because of a change in the number of active members, or because of a change of processor models on which they run, from bind time to run time. This counter is incremented only on the parallelism coordinator at run time.

Field Name: QXREPOP1

REFORM PARAL-NO BUFFER

The total number of parallel groups in which DB2 reformulated the parallel portion of the access path because there were insufficient buffer-pool resources. This counter is incremented only at the parallelism coordinator at run time.

Field Name: QXREPOP2

Real and Auxiliary Storage for DBM1

This topic shows detailed information about "Statistics - Real and Auxiliary Storage for DBM1".

Statistics - Real and Auxiliary Storage for DBM1

The field labels shown in the following sample layout of "Statistics - Real and Auxiliary Storage for DBM1" are described in the following section.

```
REAL AND AUXILIARY STORAGE FOR DBM1                    QUANTITY
-----------------------------------------  ------------------
REAL STORAGE IN USE                    (MB)             8403.51
  31 BIT IN USE                        (MB)              160.28
  64 BIT IN USE                        (MB)             8243.23
    64 BIT THREAD AND SYSTEM ONLY      (MB)              394.61
HWM 64 BIT REAL STORAGE IN USE         (MB)             8243.23
AVERAGE THREAD FOOTPRINT               (MB)                0.57

AUXILIARY STORAGE IN USE               (MB)                0.00
  31 BIT IN USE                        (MB)                0.00
  64 BIT IN USE                        (MB)                0.00
    64 BIT THREAD AND SYSTEM ONLY      (MB)                0.00
HWM 64 BIT AUX STORAGE IN USE          (MB)                0.00

DISCARDED STORAGE ELIGIBLE FOR STEAL   (MB)                0.00
```

REAL STORAGE IN USE (MB)

The amount of real storage in use for 31-bit and 64-bit private pools.

Field Name: SW0225RL

31 BIT IN USE (MB)

The amount of real storage in use for 31-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225RL31

64 BIT IN USE (MB)

The amount of real storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225VPR

64 BIT THREAD AND SYSTEM ONLY (MB)

The amount of real storage in use for 64-bit private pools that does not include buffer pool storage.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225PSR

HWM 64 BIT REAL STORAGE IN USE (MB)

High water mark of real storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225GPR

AVERAGE THREAD FOOTPRINT (MB)

The current average real storage in use for private DBM1 storage of active user threads (allied threads + active and pooled DBATs).

Field Name: S225DTFR

AUXILIARY STORAGE IN USE (MB)

The amount of auxiliary storage in use for 31-bit and 64-bit private pools.

Field Name: SW0225AX

31 BIT IN USE (MB)

The amount of auxiliary storage in use for 31-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225AX31

64 BIT IN USE (MB)

The amount of auxiliary storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225VAS

64 BIT THREAD AND SYSTEM ONLY (MB)

The amount of auxiliary storage in use for 64-bit private pools that does not include buffer pool storage.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225PSA

HWM 64 BIT AUX STORAGE IN USE (MB)

High water mark of auxiliary storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225GAS

DISCARDED STORAGE ELIGIBLE FOR STEAL (MB)

Number of Private discarded storage eligible for Page Steal. Currently backed storage which is still charged to DB2, minus this count, is the true REAL Storage usage at this time.

Field Name: S225PSD

Real and Auxiliary Storage for DIST

This topic shows detailed information about "Statistics - Real and Auxiliary Storage for DIST".

Statistics - Real and Auxiliary Storage for DIST

The field labels shown in the following sample layout of "Statistics - Real and Auxiliary Storage for DIST" are described in the following section.

```
REAL AND AUXILIARY STORAGE FOR DIST                    QUANTITY
-----------------------------------------  ------------------
REAL STORAGE IN USE                    (MB)               86.89
  31 BIT IN USE                        (MB)               59.47
  64 BIT IN USE                        (MB)               27.41
    64 BIT THREAD AND SYSTEM ONLY      (MB)               27.40
HWM 64 BIT REAL STORAGE IN USE         (MB)               27.41
AVERAGE DBAT FOOTPRINT                 (MB)                0.09

AUXILIARY STORAGE IN USE               (MB)                0.00
  31 BIT IN USE                        (MB)                0.00
  64 BIT IN USE                        (MB)                0.00
    64 BIT THREAD AND SYSTEM ONLY      (MB)                0.00
HWM 64 BIT AUX STORAGE IN USE          (MB)                0.00

DISCARDED STORAGE ELIGIBLE FOR STEAL   (MB)                0.00
```

REAL STORAGE IN USE (MB)

The amount of real storage in use for 31-bit and 64-bit private pools.

Field Name: SW0225RL

31 BIT IN USE (MB)

The amount of real storage in use for 31-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225RL31

64 BIT IN USE (MB)

The amount of real storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225VPR

64 BIT THREAD AND SYSTEM ONLY

The amount of real storage in use for 64-bit private pools that does not include buffer pool storage.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225PSR

HWM 64 BIT REAL STORAGE IN USE (MB)

High water mark of real storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225GPR

AVERAGE DBAT FOOTPRINT

The current average real storage in use for private DIST storage of active and pooled DBATs.

Field Name: S225DDFR

AUXILIARY STORAGE IN USE (MB)

The amount of auxiliary storage in use for 31-bit and 64-bit private pools.

Field Name: SW0225AX

31 BIT IN USE (MB)

The amount of auxiliary storage in use for 31-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225AX31

64 BIT IN USE (MB)

The amount of auxiliary storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225VAS

64 BIT THREAD AND SYSTEM ONLY

The amount of auxiliary storage in use for 64-bit private pools that does not include buffer pool storage.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225PSA

HWM 64 BIT AUX STORAGE IN USE (MB)

High water mark of auxiliary storage in use for 64-bit private pools.

Note: This value is available from z/OS V1.11.

Field Name: S225GAS

DISCARDED STORAGE ELIGIBLE FOR STEAL (MB)

Number of Private discarded storage eligible for Page Steal. Currently backed storage which is still charged to DB2, minus this count, is the true REAL Storage usage at this time.

Field Name: S225PSD2

Real Storage in Use - Summary

This topic shows detailed information about "Statistics - Real Storage in Use - Summary".

Statistics - Real Storage in Use - Summary

The field labels shown in the following sample layout of "Statistics - Real Storage in Use - Summary" are described in the following section.

```
REAL + AUX - DISC STORAGE IN USE - SUMMARY              QUANTITY
-----------------------------------------  ------------------
31/64-BIT PRIVATE (DBM1)               (MB)              8403.51
31/64-BIT PRIVATE (DIST)               (MB)                86.89
64-BIT SHARED THREAD AND SYSTEM        (MB)              1998.18
64-BIT SHARED STACK                    (MB)               187.84
64-BIT COMMON                          (MB)                10.01
TOTAL REAL STORAGE IN USE              (MB)            10686.43
```

31/64-BIT PRIVATE (DBM1) (MB)

The amount of Real + Auxiliary - Discarded storage in use for 31-bit and 64-bit DBM1 private pools.

Field Name: Q225RPS

31/64-BIT PRIVATE (DIST) (MB)

The amount of Real + Auxiliary - Discarded storage in use for 31-bit and 64-bit DIST private pools.

Field Name: S225RPS

64-BIT SHARED THREAD AND SYSTEM (MB)

The amount of Real + Auxiliary - Discarded storage in use for 64-bit shared storage. This does not include shared stack storage. This is recorded at the subsystem level.

Field Name: S225SRS

64-BIT SHARED STACK (MB)

The amount of Real + Auxiliary - Discarded storage in use for 64-bit shared stack storage. This is recorded at the subsystem level.

Field Name: S225KRS

64-BIT COMMON (MB)

The amount of Real + Auxiliary - Discarded storage in use for 64-bit common storage.

Field Name: S225CRS

TOTAL REAL STORAGE IN USE (MB)

The total amount of Real + Auxiliary - Discarded storage in use.

Field Name: S225RLTL

RID List Processing

This topic shows detailed information about "Statistics - RID List Processing".

The RID pool is used for:

- List prefetch
- Multiple index access
- Hybrid joins

DB2 uses a matching index scan to collect those record identifiers (RID) that match the selection criteria and places them in a list in the RID pool. The list is sorted by page number, which is contained in the RID. DB2 then uses the sorted list to access the table by reading up to 32 pages per I/O and attempting to read ahead one block of 32 pages before use.

The RID pool is allocated dynamically as it is needed. The maximum size of the pool is determined by the ZPARM MAXRBLK.

The work file database is used to store a RID list when the RID pool storage cannot contain all the RIDs of the list. When RID pool storage overflow occurs for a RID list, DB2 attempts to store the RID list in work file storage instead of falling back to a relational scan.

The maximum number of RIDs (measured in RID blocks) that DB2 is allowed to store in the work file database is determined by ZPARM MAXTEMPS_RID.

Statistics - RID List Processing

The field labels shown in the following sample layout of "Statistics - RID List Processing" are described in the following section.

```
RID LIST PROCESSING          QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
SUCCESSFUL                   8680.8K  4667.07      N/C     7.28
NOT USED-NO STORAGE             0.00     0.00      N/C     0.00
NOT USED-MAX LIMIT              0.00     0.00      N/C     0.00
NOT USED-NOT CONSTRUCTED       14.00     0.03      N/C     0.19

MAX RID BLOCKS ALLOCATED      147.00      N/A      N/A      N/A
CURRENT RID BLOCKS ALLOCAT.     7.74      N/A      N/A      N/A

MAX RID BLOCKS OVERFLOWED       0.00      N/A      N/A      N/A
CURRENT RID BLOCKS OVERFL.      0.00      N/A      N/A      N/A

STORAGE LIMIT EXCEEDED          0.00     0.00      N/C     0.00
RDS LIMIT EXCEEDED              0.00     0.00      N/C     0.00
DM LIMIT EXCEEDED               0.00     0.00      N/C     0.00
PROC.LIMIT EXCEEDED             0.00     0.00      N/C     0.00
OVERFLOWED-NO STORAGE           0.00     0.00      N/C     0.00
OVERFLOWED-MAX LIMIT            0.00     0.00      N/C     0.00
INTERRUPTED (HJ)-NO STORAGE     0.00     0.00      N/C     0.00
INTERRUPTED (HJ)-MAX LIMIT      0.00     0.00      N/C     0.00
SKIPPED-INDEX KNOWN             0.00     0.00      N/C     0.00
```

SUCCESSFUL

The number of times RID list (also called RID pool) processing is used.

During RID (RECORD ID) list processing, DB2 uses an index to produce a list of candidate RIDs, which is called a RID list. The RID list can be sorted and intersected (ANDed) or unioned (ORed) with other RID lists before actually accessing the data pages. RID list processing is used for a single index (index access with list prefetch) or for multiple indexes (multiple index access), which is when the RID lists are ANDed and ORed.

This field is incremented once for a given table access when RID list processing is used for index access with list prefetch, for multiple index access, or for both. For multiple index access, if a final RID list is obtained through ANDing and ORing of RID lists, the counter is incremented once, even if not all indexes were used by the RIDs in the multiple index access.

Background and Tuning Information

A nonzero value in this field indicates that DB2 has used list prefetch. If this is the case, check the access path selection.

Field Name: QXMIAP

This is an *exception* field.

NOT USED-NO STORAGE

The number of times DB2 detected that no storage was available to hold a list of RIDs during a given RID list process involving one index (single index access with list prefetch) or multiple indexes (multiple index access).

This field can be incremented during retrieval, sorting, ANDing, and ORing of RID lists for index access with list prefetch (single index). For single index access, this field can only be incremented once per access. For multiple index access, it can be incremented for every index involved in the ANDing and ORing of RID lists.

Field Name: QXNSMIAP

This is an *exception* field.

NOT USED-MAX LIMIT

The number of times DB2 detected that a RID list exceeded one or more internal limits during a given RID list (or RID pool) process involving one index (single index access with list prefetch) or multiple indexes (multiple index access). The internal limits include the physical limitation of the number of RIDs a RID list can hold and threshold values for the retrieval, ORing, and ANDing of RIDs.

For index access with list prefetch (single index), this field can only be incremented during RID list retrieval. For multiple index access, this field can be incremented during RID list retrieval, ANDing, and ORing. This counter reflects the number of times internal limits or threshold values were exceeded for the RID lists obtained directly from an index as well as for RID lists derived during the ANDing and ORing process.

Background and Tuning Information

Before you increase the RID list storage size, investigate the cause of the failure using the statistics record or the performance trace. You can specify the size for the RID list on the DB2 installation panel DSNTIPC.

Field Name: QXMRMIAP

This is an *exception* field.

NOT USED-NOT CONSTRUCTED

The number of times RID list processing was not used. This field is incremented once when RID list processing could not be used for a given table access for Index Access with list prefetch and/or for Multiple Index Access.

For example, RID list processing is used with multiple index access when performing ANDing. If the retrieved RID list of one leg exceeds a certain threshold and Db2 decides to not use this RID list, field QXMRMIAP is incremented by 1. But a final RID list can still be obtained based on the other legs of the ANDing. So, RID list processing is still used successfully.

This may cause some confusion. So, this counter QXRFMIAP show exactly how many times a final RID list could not be constructed and "RID list processing was not used".

Field Name: QXRFMIAP

MAX RID BLOCKS ALLOCATED

The highest number of RID blocks in use at any time since DB2 startup. This is a high-water mark.

Field Name: QISTRHIG

This is an *exception* field.

CURRENT RID BLOCKS ALLOCAT.

The number of RID blocks currently in use (snapshot value).

Field Name: QISTRCUR

This is an *exception* field.

MAX RID BLOCKS OVERFLOWED

This field is currently not set by DB2.

Field Name: QISTWFRHIG

CURRENT RID BLOCKS OVERFL.

This field is currently not set by DB2.

Field Name: QISTWFRCUR

STORAGE LIMIT EXCEEDED

The number of times the DBM1 storage was exhausted during RID list processing.

Background and Tuning Information

This failure occurs when the DBM1 storage limit is reached.

Field Name: QISTRSTG

This is an *exception* field.

RDS LIMIT EXCEEDED

The number of times when the number of RIDs that can fit into the guaranteed number of RID blocks was greater than the maximum limit (25% of table size).

Background and Tuning Information

Ideally, this value should be 0.

The matching index scan part of the RID list processing scanned more than 25% of the index. RID list processing is then terminated, the index scan is abandoned and normally replaced by a tablespace scan.

Reasons for this are:

- Inaccurate or incomplete RUNSTATS statistics. To avoid this, you should collect all statistics on a regular basis, especially simple and correlated column statistics. Using RUNSTATS with SHRLEVEL(CHANGE) does not prevent access to data.
- Optimizer error. In this instance, you could disable RID list processing by adding the clause OPTIMIZE FOR 1 ROW to the SQL statement, or force the access path to index only by adding the necessary columns to the index.

Field Name: QISTRLLM

This is an *exception* field.

DM LIMIT EXCEEDED

The number of times the number of RID entries required to process the SQL was greater than the physical limit. In Db2 Version 11 and earlier, the limit is approximately 26 million RIDs. In Db2 Version 12, the limit is approximately 16 million RIDs.

Field Name: QISTRPLM

This is an *exception* field.

PROC.LIMIT EXCEEDED

The number of times the maximum RID pool storage was exceeded.

The size is determined by the installation parameter RID POOL SIZE (DB2 install panel DSNTIPC). It can be 0, or between 128 KB and 10 GB. The general formula for calculating the RID pool size is:

(Number of concurrent RID processing activities) x (average number of RIDs) x 2 x (5 bytes per RID).

Field Name: QISTRMAX

This is an *exception* field.

OVERFLOWED-NO STORAGE

The number of times a RID list was overflowed to a work file because no RID pool storage was available to hold the list of RIDs.

Field Name: QXWFRIDS

OVERFLOWED-MAX LIMIT

The number of times a RID list was overflowed to a work file because the number of RIDs exceeded one or more internal limits.

Field Name: QXWFRIDT

INTERRUPTED (HJ)-NO STORAGE

The number of times a RID list append for a hybrid join was interrupted because no RID pool storage was available to hold the list of RIDs.

Field Name: QXHJINCS

INTERRUPTED (HJ)-MAX LIMIT

The number of times a RID list append for a hybrid join was interrupted because the number of RIDs exceeded one or more internal limits.

Field Name: QXHJINCT

SKIPPED-INDEX KNOWN

The number of times a RID list retrieval for multiple index access was skipped because it was not necessary due to DB2 being able to predetermine the outcome of index ANDing or ORing.

Field Name: QXRSMIAP

ROWID

This topic shows detailed information about "Statistics - ROWID".

Statistics - ROWID

The field labels shown in the following sample layout of "Statistics - ROWID" are described in the following section.

```
ROW ID                       QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
DIRECT ACCESS                    0.00     0.00      N/C     0.00
INDEX USED                       0.00     0.00      N/C     0.00
TABLE SPACE SCAN USED            0.00     0.00      N/C     0.00
```

DIRECT ACCESS

The number of times that direct row access was successful.

Field Name: QXROIMAT

INDEX USED

The number of times that direct row access failed and an index was used to find a record.

Background and Tuning Information

This can happen, for example, when a REORG is performed between the read of the ROWID column and the use of the host variable in the WHERE clause of the SQL statement. This causes the RID value in the host variable to be incorrect.

Field Name: QXROIIDX

TABLE SPACE SCAN USED

The number of times that an attempt to use direct row access reverted to using a table-space scan because DB2 was unable to use a matching index scan.

Background and Tuning Information

Ideally, this value should be 0.

Table-space scans can happen, for example, when a REORG is performed between the read of the ROWID column and the use of the host variable in the WHERE clause of the SQL statement. This causes the RID value in the host variable to be incorrect. DB2 first tries a matching-index scan before using a table-space scan.

To avoid table space scans, you can force the access path of an unsuccessful direct row access to use a matching index scan on the primary-index key by adding PKCOL to the WHERE clause in the SQL statement. `.... WHERE ROWIDCOL=:HVROWID AND PKCOL=:HVPK .....`

Field Name: QXROITS

Short-on-Storage Metrics

This topic shows detailed information about "Statistics - Short-on-Storage Metrics".

Statistics - Short-on-Storage Metrics

The field labels shown in the following sample layout of "Statistics - Short-on-Storage Metrics" are described in the following section.

```
SHORT-ON-STORAGE METRICS     QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
FULL SYSTEM CONTRACTIONS         0.00     0.00     0.00     0.00
CRITICAL SHORTAGES               0.00     0.00     0.00     0.00
ABENDS DUE TO SHORTAGES          0.00     0.00     0.00     0.00
```

FULL SYSTEM CONTRACTIONS

The number of full system contractions.

Field Name: QSSTCONT

CRITICAL SHORTAGES

The number of critical storage shortages after contraction.

Field Name: QSSTCRIT

ABENDS DUE TO SHORTAGES

The number of abends due to local storage shortage.

Field Name: QSSTABND

Simulated Buffer Pool Statistics

This topic shows detailed information about "Statistics - Simulated Buffer Pool Statistics".

Statistics - Simulated Buffer Pool Statistics

The field labels shown in the following sample layout of "Statistics - Simulated Buffer Pool Statistics" are described in the following section.

```
---- HIGHLIGHTS -------------------------------------------------------------------------------------
INTERVAL START  : 11/12/14 21:33:43.65    SAMPLING START: 11/12/14 21:33:43.65 TOTAL THREADS      :    41.00
INTERVAL END    : 11/12/14 21:45:00.00    SAMPLING END  : 11/12/14 21:45:00.00 TOTAL COMMITS      :  2593.0K
INTERVAL ELAPSED:         11:16.350028    OUTAGE ELAPSED:           0.000000 DATA SHARING MEMBER:      N/A

SIM BP       CUR PAGES IN USE     CUR SEQ PAGES IN USE      SYNC READ I/O (R)  SYNC  GBP READS (R)     PAGES MOVED INTO SIM BP
             MAX PAGES IN USE     MAX SEQ PAGES IN USE      SYNC READ I/O (S)  SYNC  GBP READS (S)        TOTAL SYNC I/O DELAY
                                                                 ASYNC READ I/O      ASYNC GBP READS
------     ------------------     --------------------     ------------------  ------------------     ----------------------
BP8                2077148.09               108280.75           25602267.00                0.00                 33399137.00
                   2077152.00               113140.00             303521.00                0.00               2:53:53.887488
                                                                 3471925.00                0.00
BP19                  9999.83                 2091.49             444527.00                0.00                  8181054.00
                     10000.00                 2304.00                  0.00                0.00                 2:48.717001
                                                                   31990.00                0.00
BP21               2087151.56                14232.85            3557658.00                0.00                  7269201.00
                   2087152.00                15309.00                 29.00                0.00               1:33:27.140580
                                                                     514.00                0.00
BP23               2087151.47               428373.09            3746564.00                0.00                  9301079.00
                   2087152.00               455354.00                839.00                0.00               1:04:06.941451
                                                                   71096.00                0.00
BP26                  2000.00                    0.00             182189.00                0.00                  3311185.00
                      2000.00                   35.00                  0.00                0.00                1:18.368918
                                                                      4.00                0.00
```

SIM BP

The buffer pool ID.

Field Name: QBSPBPID

CUR PAGES IN USE

The number of simulated buffers currently in use in the simulated buffer pool.

Field Name: QBSPIUS

MAX PAGES IN USE

The highest number of simulated buffers that were in use in the simulated buffer pool.

Field Name: QBSPHUS

CUR SEQ PAGES IN USE

The number of simulated buffers currently in use for sequential pages in the simulated buffer pool.

Field Name: QBSPSUS

MAX SEQ PAGES IN USE

The highest number of simulated buffers that were in use for sequential pages in the simulated buffer pool.

Field Name: QBSPHSU

SYNC READ I/O (R)

The number of pages found in the simulated buffer pool for a random request that could have avoided a synchronous read I/O from disk.

Field Name: QBSPDRR

SYNC READ I/O (S)

The number of pages found in the simulated buffer pool for a sequential request that could have avoided a synchronous read I/O from disk.

Field Name: QBSPDRS

ASYNC READ I/O

The number of pages found in the simulated buffer pool for a prefetch request that could have avoided an asynchronous read I/O from disk.

Field Name: QBSPDRA

SYNC GBP READS (R)

The number of pages found in the simulated buffer pool for a random request that could have avoided a synchronous read from GBP.

Field Name: QBSPGRR

SYNC GBP READS (S)

The number of pages found in the simulated buffer pool for a sequential request that could have avoided a synchronous read from GBP.

Field Name: QBSPGRS

ASYNC GBP READS

The number of pages found in the simulated buffer pool for a prefetch request that could have avoided an asynchronous read from GBP.

Field Name: QBSPGRA

PAGES MOVED INTO SIM BP

The number of pages logically moved into the simulated buffer pool from the virtual buffer pool.

Field Name: QBSPMVI

TOTAL SYNC I/O DELAY

The total time waiting for synchronous read I/O from disk for pages found in the simulated buffer pool.

Field Name: QBSPDTM

Stored Procedures

This topic shows detailed information about "Statistics - Stored Procedures".

Statistics - Stored Procedures

The field labels shown in the following sample layout of "Statistics - Stored Procedures" are described in the following section.

```
STORED PROCEDURES            QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
CALL STATEMENT EXECUTED          0.00     0.00      N/C     0.00
PROCEDURE ABENDED                0.00     0.00      N/C     0.00
CALL STATEMENT TIMED OUT         0.00     0.00      N/C     0.00
CALL STATEMENT REJECTED          0.00     0.00      N/C     0.00
```

CALL STATEMENTS EXECUTED

The number of SQL CALL statements executed.

Field Name: QXCALL

PROCEDURE ABENDED

The number of times a stored procedure terminated abnormally.

Field Name: QXCALLAB

CALL STATEMENT TIMED OUT

The number of times an SQL call timed out waiting to be scheduled.

Field Name: QXCALLTO

CALL STATEMENT REJECTED

The number of times an SQL CALL statement was rejected due to the procedure being in the STOP ACTION(REJECT) state.

Field Name: QXCALLRJ

Subsystem Services

This topic shows detailed information about "Statistics - Subsystem Services".

Statistics - Subsystem Services

The field labels shown in the following sample layout of "Statistics - Subsystem Services" are described in the following section.

```
SUBSYSTEM SERVICES           QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------   --------  -------  -------  -------
IDENTIFY                         0.00     0.00      N/C     0.00
CREATE THREAD                    0.00     0.00      N/C     0.00
SIGNON                           0.00     0.00      N/C     0.00
TERMINATE                        0.00     0.00      N/C     0.00
ROLLBACK                         0.00     0.00      N/C     0.00

COMMIT PHASE 1                   0.00     0.00      N/C     0.00
COMMIT PHASE 2                   0.00     0.00      N/C     0.00
READ ONLY COMMIT                 0.00     0.00      N/C     0.00
UNITS OF RECOVERY INDOUBT        0.00     0.00      N/C     0.00
UNITS OF REC.INDBT RESOLVED      0.00     0.00      N/C     0.00
SYNCHS(SINGLE PHASE COMMIT)      0.00     0.00      N/C     0.00
QUEUED AT CREATE THREAD          0.00     0.00      N/C     0.00
SUBSYSTEM ALLIED MEMORY EOT      0.00     0.00      N/C     0.00
SUBSYSTEM ALLIED MEMORY EOM      0.00     0.00      N/C     0.00
SYSTEM EVENT CHECKPOINT         17.00     0.09      N/C     0.52

HIGH WATER MARK IDBACK           0.00     0.00      N/C     0.00
HIGH WATER MARK IDFORE           0.00     0.00      N/C     0.00
HIGH WATER MARK CTHREAD          0.00     0.00      N/C     0.00
```

IDENTIFY

The number of successful connections to DB2 from an allied address space (TSO, BATCH, CICS, IMS, CAF, or UTILITY).

Field Name: Q3STIDEN

CREATE THREAD

The number of successful create thread requests. It does not include DBATs.

A thread is required before an application can use SQL. When established, a thread can have one or more secondary authorization IDs.

A thread is needed to perform any DB2 activity. For example, a thread is needed to run a DB2 utility to perform an IFI request such as READS, or to process a DB2 command such as -DISPLAY THREAD. However, a thread is not created if the command failed because of a syntax error.

Background and Tuning Information

Thread reuse can help improve performance.

The term *thread reuse* only applies to IMS and CICS attachments. In the case of the TSO attachment facility and the call attachment facility (CAF), threads cannot be reused, because the threads are allocated to the user address space.

Thread reuse should be considered in the following cases:

- If transaction volume is high:

  High volume transactions should achieve a high percentage of thread reuse. If threads are reused on low volume transactions, the number of threads needed increases because these threads are not automatically terminated by IMS when not being used. This may result in too many idle threads for the level of the DB2 workload. Under CICS, protected threads are terminated after about 45 seconds if no transaction eligible to reuse the thread has been received.
- If thread creation cost is significant:

As a rule of thumb, more than 5% of the total CPU cost of transaction processing is considered significant.

The ACQUIRE and RELEASE parameters of BIND should be specified to minimize the thread creation cost, while providing the needed concurrency:

- If most of the application plan's SQL statements are executed, then ACQUIRE(ALLOCATE) is cheaper than ACQUIRE(USE).
- If only a small number of the SQL statements are executed, ACQUIRE(USE) becomes cheaper and improves concurrency, because the required resources are only acquired (locked) when the plan actually references (uses) them. An example would be a generalized plan used by many different transactions. It would contain multiple logic paths referencing different tables.

  Note that, when packages are involved, ACQUIRE(USE) is always implicitly used.
- Concurrency in thread reuse is based on page locking provided by the IS and IX intent locks, whose duration is governed by ACQUIRE and RELEASE of BIND.

  RELEASE(DEALLOCATE) is strongly recommended for thread-reuse transactions to reduce transaction CPU time.

When thread reuse is implemented, monitor the EDM pool. It should be sufficient in size to accommodate expanding plans where the next transaction requires additional plan sections over those that are already part of the plan.

Field Name: Q3STCTHD

This is an *exception* field.

SIGNON

The number of signons that identified a new user of an existing thread for IMS and CICS.

This field is valid only for CICS and IMS (not valid for TSO, CAF, or UTILITY).

The initial signon does not perform an authorization check because the thread does not exist yet, but a resignon can.

Background and Tuning Information

If the number of signons is greater than the number of create thread occurrences, some threads have been reused. In the case of the TSO attachment facility and the call attachment facility (CAF), there is no sign-on, because the user is identified when the TSO address space is connected.

Field Name: Q3STSIGN

This is an *exception* field.

TERMINATE

The number of time threads that terminated successfully.

This number does not agree with the create thread count because each level of a thread's access (IDENTIFY, SIGNON, and CREATE THREAD) must be terminated.

Background and Tuning Information

The value of this field is usually greater than the number of create thread occurrences, because it also includes the termination of connections to DB2 (IDENTIFY) and other internal counts.

Field Name: Q3STTERM

ROLLBACK

The number of times a unit of recovery was successfully rolled back. Some reasons for a rollback include:

- Application program abend
- Application rollback request

- Application deadlock on database records
- Application canceled by operator
- Thread abend due to resource shortage

This number also includes successfully aborted agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF).

Field Name: Q3STABRT

This is an *exception* field.

COMMIT PHASE 1

The number of successful requests for commit phase 1 in a two-phase commit environment such as CICS or IMS. It includes successfully prepared agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF). It does not include successful single-phase commits or distributed two-phase commits.

Background and Tuning Information

IMS and CICS applications use the PREPARE and COMMIT sequence to commit work.

Field Name: Q3STPREP

This is an *exception* field.

COMMIT PHASE 2

The number of successful commit phase 2 in a two-phase environment such as CICS or IMS. It includes successfully committed agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF). It does not include successful single-phase commits or distributed two-phase commits.

Background and Tuning Information

IMS and CICS applications use the PREPARE and COMMIT sequence to commit work. A nonzero value for this field indicates that updates have occurred.

Field Name: Q3STCOMM

READ ONLY COMMIT

The number of read-only commits.

There are occasions when CICS or IMS invokes DB2 when no DB2 resource was altered since the completion of the last commit process. When this occurs, DB2 performs both phases of the two-phase commit during the first commit phase and records that the user or job is read-only in relation to its DB2 processing.

Field Name: Q3STRDON

UNITS OF RECOVERY INDOUBT

The number of indoubt units of recovery.

A unit of recovery is indoubt when a failure occurs after a successful prepare but before a successful commit. The failure can occur in the address space of the application, the transaction manager, DB2, or all of these. IMS and CICS applications use the prepare and commit sequence to commit work. Ideally, this value should be 0.

Field Name: Q3STINDT

UNITS OF REC.INDBT RESOLVED

The number of indoubt units of recovery successfully resolved, either automatically or manually. It includes successful indoubt resolutions for agents associated with threads that use the Recoverable Resource Manager Services Attach Facility (RRSAF).

A unit of recovery is indoubt when a failure occurs after a successful prepare but before a successful commit. This number should equal the number of units of recovery gone indoubt. If it is less, then some indoubt units of recovery might still exist.

Field Name: Q3STRIUR

SYNCHS(SINGLE PHASE COMMIT)

The total number of commits in a single-phase commit environment such as TSO, CAF, or UTILITY. IMS applications use the prepare-and-commit sequence; CICS applications use both the synchronized commit request and the prepare-and-commit sequence to commit work.

Note that DBATs executed on this location are not included. For DBAT statistics, see SINGLE PHASE COMMITS received on the DDF activity block.

Field Name: Q3STSYNC

QUEUED AT CREATE THREAD

The number of create thread requests queued (not including DBATs).

The total number of threads accessing data that can be allocated concurrently is the MAX USERS value on the installation panel DSNTIPE. Requests are queued when the MAX USERS value is exceeded. If no threads are queued during peak hours, the maximum number of threads might be set too high.

Background and Tuning Information

As a rule of thumb about 1% thread queuing is acceptable. When this is appreciably higher, increase the value of MAX USERS on the DB2 install panel DSNTIPE.

The combined maximum allowed for MAX USERS and MAX REMOTE ACTIVE cannot exceed 2000.

Field Name: Q3STCTHW

This is an *exception* field.

SUBSYSTEM ALLIED MEMORY EOT

The number of times non-DB2 tasks abended while connected to DB2.

Field Name: Q3STMEOT

This is an *exception* field.

SUBSYSTEM ALLIED MEMORY EOM

The number of times MVS deleted non-DB2 address space while connected to DB2.

Field Name: Q3STMEOM

This is an *exception* field.

SYSTEM EVENT CHECKPOINT

The number of checkpoints DB2 has taken.

A checkpoint is a point at which DB2 records internal status information to the DB2 log. This information is used in the recovery process if DB2 abends.

Background and Tuning Information

For Statistics reports only: A checkpoint is taken when the specified number of log records have been written. A checkpoint is also taken each time DB2 switches to a new active log data set. If the Statistics reporting period is 30 minutes and the value of this field is 15, then DB2 is taking checkpoints every 2 minutes.

If the data sets are too small or the value for LOGLOAD is too low, checkpoints occur too frequently. As a result, database writes do not perform efficiently. The frequency of DB2 checkpoints can be decreased by increasing the value of the DSNZPARM LOGLOAD (CHECKPOINT FREQ on the Tracing install panel).

Rule of thumb: In a production environment, DB2 should take checkpoints every 10 minutes or so.

The default value for LOGLOAD is 50000. The actual value that you choose is dependent on the volume and nature of the work performed by your DB2 subsystem. It is a trade-off between the performance efficiency of larger numbers and the longer time to restart DB2 when there is an abnormal termination.

Field Name: QWSDCKPT

This is an *exception* field.

HIGH WATER MARK IDBACK

The maximum number of connections to a single instance from batch or TSO background tasks.

This is a high-water mark.

Field Name: Q3STHWIB

HIGH WATER MARK IDFORE

The maximum number of connections to a single instance from TSO foreground tasks.

This is a high water-mark.

Field Name: Q3STHWIF

HIGH WATER MARK CTHREAD

The highest number of batch CICS, IMS, and TSO tasks (CTHREAD) to a single instance.

This is a high-water mark.

Field Name: Q3STHWCT

Subsystem Shared Storage Above 2 GB

This topic shows detailed information about "Statistics - Subsystem Shared Storage Above 2 GB".

Statistics - Subsystem Shared Storage Above 2 GB

The field labels shown in the following sample layout of "Statistics - Subsystem Shared Storage Above 2 GB" are described in the following section.

```
SUBSYSTEM SHARED STORAGE ABOVE 2 GB                    QUANTITY
-----------------------------------------  ------------------
REAL STORAGE IN USE                   (MB)             2254.52
  SHARED THREAD AND SYSTEM            (MB)             2016.57
  SHARED STACK STORAGE                (MB)              237.94
AVERAGE THREAD FOOTPRINT              (MB)                2.33

AUXILIARY STORAGE IN USE              (MB)                0.00
  SHARED THREAD AND SYSTEM            (MB)                0.00
  SHARED STACK STORAGE                (MB)                0.00

DISCARDED STORAGE ELIGIBLE FOR STEAL  (MB)               68.49
  SHARED THREAD AND SYSTEM            (MB)               18.39
  SHARED STACK STORAGE                (MB)               50.10
```

REAL STORAGE IN USE (MB)

The total amount of real storage in use for 64-bit shared storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225RLU

SHARED THREAD AND SYSTEM (MB)

The amount of real storage in use for 64-bit shared storage. This does not include shared stack storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225SSR

SHARED STACK STORAGE (MB)

The amount of real storage in use for 64-bit shared stack storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225KSR

AVERAGE THREAD FOOTPRINT (MB)

The current average real storage in use for subsystem shared storage of active user threads (allied threads + active and pooled DBATs).

Field Name: S225STFR

AUXILIARY STORAGE IN USE (MB)

The total amount of auxiliary storage in use for 64-bit shared storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225AXU

SHARED THREAD AND SYSTEM (MB)

The amount of auxiliary storage in use for 64-bit shared storage that does not include shared stack storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225SSA

SHARED STACK STORAGE (MB)

The amount of auxiliary storage in use for 64-bit shared stack storage. This is recorded at the subsystem level.

Note: This field is available in z/OS 1.10 (and maintenance) or later.

Field Name: S225KSA

DISCARDED STORAGE ELIGIBLE FOR STEAL (MB)

Number of shared discarded storage eligible for page steal plus number of shared stack discarded storage eligible for page steal.

Field Name: S225DSP

SHARED THREAD AND SYSTEM (MB)

Number of Shared discarded storage eligible for Page Steal. Currently backed storage which is still charged to DB2, minus this count, is the true REAL Storage usage at this time.

Field Name: S225SSD

SHARED STACK STORAGE (MB)

Number of Shared Stack discarded storage eligible for Page Steal. Currently backed storage which is still charged to DB2, minus this count, is the true REAL Storage usage at this time.

Field Name: S225KSD

SQL DCL

This topic shows detailed information about "Statistics - SQL DCL".

Statistics - SQL DCL

The field labels shown in the following sample layout of "Statistics - SQL DCL" are described in the following section.

```
SQL DCL                      QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------
LOCK TABLE                       0.00     0.00      N/C     0.00
GRANT                            1.00     0.01      N/C     0.03
REVOKE                           0.00     0.00      N/C     0.00
SET HOST VARIABLE                0.00     0.00      N/C     0.00
SET CURRENT SQLID                0.00     0.00      N/C     0.00
SET CURRENT DEGREE               0.00     0.00      N/C     0.00
SET CURRENT RULES                0.00     0.00      N/C     0.00
SET CURRENT PATH                 0.00     0.00      N/C     0.00
SET CURRENT PRECISION            0.00     0.00      N/C     0.00
SET CURRENT LOCK TIMEOUT         0.00     0.00     0.00     0.00
   FROM APPLICATION              0.00     0.00      N/C     0.00
   FROM PROFILE                  0.00     0.00      N/C     0.00

CONNECT TYPE 1                   0.00     0.00      N/C     0.00
CONNECT TYPE 2                   0.00     0.00      N/C     0.00
RELEASE                          0.00     0.00      N/C     0.00
SET CONNECTION                   0.00     0.00      N/C     0.00

ASSOCIATE LOCATORS               0.00     0.00      N/C     0.00
ALLOCATE CURSOR                  0.00     0.00      N/C     0.00

HOLD LOCATOR                     0.00     0.00      N/C     0.00
FREE LOCATOR                     0.00     0.00      N/C     0.00

TOTAL                            1.00     0.01      N/C     0.03
```

LOCK TABLE

The number of LOCK TABLE statements executed.

Field Name: QXLOCK

GRANT

The number of GRANT statements executed.

Field Name: QXGRANT

REVOKE

The number of REVOKE statements executed.

Field Name: QXREVOK

SET HOST VARIABLE

The number of SET HOST VARIABLE statements executed. The special register that was retrieved is not tracked.

Field Name: QXSETHV

SET CURRENT SQLID

The number of SET CURRENT SQLID statements executed.

Field Name: QXSETSQL

SET CURRENT DEGREE

The number of SET CURRENT DEGREE statements executed.

Field Name: QXSETCDG

SET CURRENT RULES

The number of SET CURRENT RULES statements executed.

Field Name: QXSETCRL

SET CURRENT PATH

The number of SET CURRENT PATH statements executed.

Field Name: QXSETPTH

SET CURRENT PRECISION

The number of SET CURRENT PRECISION statements executed.

Field Name: QXSETCPR

SET CURRENT LOCK TIMEOUT

Total number of times that the CURRENT LOCK TIMEOUT special register was set.

Field Name: TOTSCTO

FROM APPLICATION

Number of times the SET CURRENT LOCK TIMEOUT statement was executed from application.

Field Name: QXSTTIMEOUTFromAppl

FROM PROFILE

Number of times that the CURRENT LOCK TIMEOUT special register was set from a profile table.

Field Name: QXSTTIMEOUTFromProf

CONNECT TYPE 1

The number of CONNECT type 1 statements executed.

Field Name: QXCON1

CONNECT TYPE 2

The number of CONNECT type 2 statements executed.

Field Name: QXCON2

RELEASE

The number of RELEASE statements executed.

Field Name: QXREL

SET CONNECTION

The number of SET CONNECTION statements executed.

Field Name: QXSETCON

ASSOCIATE LOCATORS

The number of SQL ASSOCIATE LOCATORS statements executed.

Field Name: QXALOCL

ALLOCATE CURSOR

The number of SQL ALLOCATE CURSOR statements executed.

Field Name: QXALOCC

HOLD LOCATOR

The number of SQL HOLD LOCATOR statements executed.

Field Name: QXHOLDL

FREE LOCATOR

The number of SQL FREE LOCATOR statements executed.

Field Name: QXFREEL

TOTAL

The total number of DCL statements executed.

The exception field name is SSCDCL.

Field Name: SSCDCL

SQL DDL

This topic shows detailed information about "Statistics - SQL DDL".

Statistics - SQL DDL

The field labels shown in the following sample layout of "Statistics - SQL DDL" are described in the following section.

```
SQL DDL                      QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------
CREATE TABLE                     0.00     0.00      N/C     0.00
CREATE GLOBAL TEMP TABLE         0.00     0.00      N/C     0.00
DECLARE GLOBAL TEMP TABLE        0.00     0.00      N/C     0.00
CREATE AUXILIARY TABLE           0.00     0.00      N/C     0.00
CREATE INDEX                     0.00     0.00      N/C     0.00
CREATE VIEW                      0.00     0.00      N/C     0.00
CREATE SYNONYM                   0.00     0.00      N/C     0.00
CREATE TABLESPACE                0.00     0.00      N/C     0.00
CREATE DATABASE                  0.00     0.00      N/C     0.00
CREATE STOGROUP                  0.00     0.00      N/C     0.00
CREATE ALIAS                     0.00     0.00      N/C     0.00
CREATE DISTINCT TYPE             0.00     0.00      N/C     0.00
CREATE FUNCTION                  0.00     0.00      N/C     0.00
CREATE PROCEDURE                 0.00     0.00      N/C     0.00
CREATE TRIGGER                   0.00     0.00      N/C     0.00
CREATE SEQUENCE                  0.00     0.00      N/C     0.00
CREATE ROLE                      0.00     0.00      N/C     0.00
CREATE TRUSTED CONTEXT           0.00     0.00      N/C     0.00
CREATE MASK / PERMISSION         0.00     0.00      N/C     0.00
CREATE VARIABLE                  0.00     0.00      N/C     0.00

ALTER  TABLE                     0.00     0.00      N/C     0.00
ALTER  INDEX                     0.00     0.00      N/C     0.00
ALTER  VIEW                      0.00     0.00      N/C     0.00
ALTER  TABLESPACE                0.00     0.00      N/C     0.00
ALTER  DATABASE                  0.00     0.00      N/C     0.00
ALTER  STOGROUP                  0.00     0.00      N/C     0.00
ALTER  FUNCTION                  0.00     0.00      N/C     0.00
ALTER  PROCEDURE                 0.00     0.00      N/C     0.00
ALTER  SEQUENCE                  0.00     0.00      N/C     0.00
ALTER  JAR                       0.00     0.00      N/C     0.00
ALTER  TRUSTED CONTEXT           0.00     0.00      N/C     0.00
ALTER  MASK / PERMISSION         0.00     0.00      N/C     0.00


SQL DDL          CONTINUED   QUANTITY  /SECOND  /THREAD  /COMMIT
---------------------------  --------  -------  -------  -------
DROP   TABLE                     0.00     0.00      N/C     0.00
DROP   INDEX                     0.00     0.00      N/C     0.00
DROP   VIEW                      0.00     0.00      N/C     0.00
DROP   SYNONYM                   0.00     0.00      N/C     0.00
DROP   TABLESPACE                0.00     0.00      N/C     0.00
DROP   DATABASE                  0.00     0.00      N/C     0.00
DROP   STOGROUP                  0.00     0.00      N/C     0.00
DROP   ALIAS                     0.00     0.00      N/C     0.00
DROP   PACKAGE                   0.00     0.00      N/C     0.00
DROP   DISTINCT TYPE             0.00     0.00      N/C     0.00
DROP   FUNCTION                  0.00     0.00      N/C     0.00
DROP   PROCEDURE                 0.00     0.00      N/C     0.00
DROP   TRIGGER                   0.00     0.00      N/C     0.00
DROP   SEQUENCE                  0.00     0.00      N/C     0.00
DROP   ROLE                      0.00     0.00      N/C     0.00
DROP   TRUSTED CONTEXT           0.00     0.00      N/C     0.00
DROP   MASK / PERMISSION         0.00     0.00      N/C     0.00
DROP   VARIABLE                  0.00     0.00      N/C     0.00

RENAME TABLE                     0.00     0.00      N/C     0.00
RENAME INDEX                     0.00     0.00      N/C     0.00

TRUNCATE TABLE                   0.00     0.00      N/C     0.00

COMMENT ON                       0.00     0.00      N/C     0.00
LABEL ON                         0.00     0.00      N/C     0.00

TOTAL                            0.00     0.00      N/C     0.00
```

CREATE TABLE

The number of CREATE TABLE statements executed.

Field Name: QXCRTAB

CREATE GLOBAL TEMP TABLE

The number of CREATE GLOBAL TEMPORARY TABLE statements executed.

Field Name: QXCRGTT

DECLARE GLOBAL TEMP TABLE

The number of DECLARE GLOBAL TEMPORARY TABLE statements executed.

Field Name: QXDCLGTT

CREATE AUXILIARY TABLE

The number of CREATE AUXILIARY TABLE statements executed.

Field Name: QXCRATB

CREATE INDEX

The number of CREATE INDEX statements executed.

Field Name: QXCRINX

CREATE VIEW

The number of CREATE VIEW statements executed.

Field Name: QXDEFVU

CREATE SYNONYM

The number of CREATE SYNONYM statements executed.

Field Name: QXCRSYN

CREATE TABLESPACE

The number of CREATE TABLESPACE statements executed.

Field Name: QXCTABS

CREATE DATABASE

The number of CREATE DATABASE statements executed.

Field Name: QXCRDAB

CREATE STOGROUP

The number of CREATE STOGROUP statements executed.

Field Name: QXCRSTG

CREATE ALIAS

The number of CREATE ALIAS statements executed.

Field Name: QXCRALS

CREATE DISTINCT TYPE

The number of CREATE DISTINCT TYPE statements executed.

Field Name: QXCDIST

CREATE FUNCTION

The number of CREATE FUNCTION statements executed.

Field Name: QXCRUDF

CREATE PROCEDURE

The number of CREATE PROCEDURE statements issued.

Field Name: QXCRPRO

CREATE TRIGGER

The number of CREATE TRIGGER statements executed.

Field Name: QXCTRIG

CREATE SEQUENCE

The number of CREATE SEQUENCE statements.

Field Name: QXCRESEQ

CREATE ROLE

The number of CREATE ROLE statements executed.

Field Name: QXCRROL

CREATE TRUSTED CONTEXT

The number of CREATE TRUSTED CONTEXT statements issued.

Field Name: QXCRCTX

CREATE MASK / PERMISSION

The number of CREATE MASK and CREATE PERMISSION statements executed.

Field Name: QXCREMP

CREATE VARIABLE

The number of CREATE VARIABLE statements.

Field Name: QXCRTSV

ALTER TABLE

The number of ALTER TABLE statements executed.

Field Name: QXALTTA

ALTER INDEX

The number of ALTER INDEX statements executed.

Field Name: QXALTIX

ALTER VIEW

The number of ALTER VIEW statements issued.

Field Name: QXALTVW

ALTER TABLESPACE

The number of ALTER TABLESPACE statements executed.

Field Name: QXALTTS

ALTER DATABASE

The number of ALTER DATABASE statements executed.

Field Name: QXALDAB

ALTER STOGROUP

The number of ALTER STOGROUP statements executed.

Field Name: QXALTST

ALTER FUNCTION

The number of ALTER FUNCTION statements executed.

Field Name: QXALUDF

ALTER PROCEDURE

The number of ALTER PROCEDURE statements executed.

Field Name: QXALPRO

ALTER SEQUENCE

The number of ALTER SEQUENCE statements.

Field Name: QXALTSEQ

ALTER JAR

The number of ALTER JAR statements issued.

Field Name: QXALTJR

ALTER TRUSTED CONTEXT

The number of ALTER TRUSTED CONTEXT statements issued.

Field Name: QXALTCTX

ALTER MASK / PERMISSION

The number of ALTER MASK and ALTER PERMISSION statements executed.

Field Name: QXALTMP

DROP TABLE

The number of DROP TABLE statements executed.

Field Name: QXDRPTA

DROP INDEX

The number of DROP INDEX statements executed.

Field Name: QXDRPIX

DROP VIEW

The number of DROP VIEW statements executed.

Field Name: QXDRPVU

DROP SYNONYM

The number of DROP SYNONYM statements executed.

Field Name: QXDRPSY

DROP TABLESPACE

The number of DROP TABLESPACE statements executed.

Field Name: QXDRPTS

DROP DATABASE

The number of DROP DATABASE statements executed.

Field Name: QXDRPDB

DROP STOGROUP

The number of DROP STOGROUP statements executed.

Field Name: QXDRPST

DROP ALIAS

The number of SQL DROP ALIAS statements executed.

Field Name: QXDRPAL

DROP PACKAGE

The number of SQL DROP PACKAGE statements executed.

Field Name: QXDRPPKG

DROP DISTINCT TYPE

The number of DROP DISTINCT TYPE statements executed.

Field Name: QXDDIST

DROP FUNCTION

The number of DROP FUNCTION statements executed.

Field Name: QXDRPFN

DROP PROCEDURE

The number of DROP PROCEDURE statements executed.

Field Name: QXDRPPR

DROP TRIGGER

The number of DROP TRIGGER statements executed.

Field Name: QXDRPTR

DROP SEQUENCE

The number of DROP SEQUENCE statements.

Field Name: QXDROSEQ

DROP ROLE

The number of DROP ROLE statements issued.

Field Name: QXDRPROL

DROP TRUSTED CONTEXT

The number of DROP TRUSTED CONTEXT statements issued.

Field Name: QXDRPCTX

DROP MASK / PERMISSION

The number of DROP MASK and DROP PERMISSION statements executed.

Field Name: QXDRPMP

DROP VARIABLE

The number of DROP VARIABLE statements.

Field Name: QXDRPSV

RENAME TABLE

The number of RENAME TABLE statements executed.

Field Name: QXRNTAB

RENAME INDEX

The number of RENAME INDEX statements issued.

Field Name: QXRNIX

TRUNCATE TABLE

The number of TRUNCATE TABLE statements issued.

Field Name: QXTRTBL

COMMENT ON

The number of COMMENT ON statements executed.

Field Name: QXCMTON

LABEL ON

The number of LABEL ON statements executed.

Field Name: QXLABON

TOTAL

The total number of DDL statements executed.

Field Name: SSCDDL

This is an *exception* field.

SQL DML

This topic shows detailed information about "Statistics - SQL DML".

Statistics - SQL DML

The field labels shown in the following sample layout of "Statistics - SQL DML" are described in the following section.

```
SQL DML                      QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------   --------  -------  -------  -------
SELECT                          0.00     0.00      N/C     0.00
INSERT                          0.00     0.00      N/C     0.00
  NUMBER OF ROWS             1551.00     8.53      N/C    47.00
  TYPE 1 INSERT ALGORITHM    1551.00     8.53      N/C    47.00
  TYPE 2 INSERT ALGORITHM       0.00     0.00      N/C     0.00
   RE-ENABLE ATTEMPTED          0.00     0.00      N/C     0.00
   RE-ENABLE SUCCESSFUL         0.00     0.00      N/C     0.00
UPDATE                          0.00     0.00      N/C     0.00
  NUMBER OF ROWS               28.00     0.15      N/C     0.85
MERGE                           0.00     0.00      N/C     0.00
DELETE                          0.00     0.00      N/C     0.00
  NUMBER OF ROWS                0.00     0.00      N/C     0.00

PREPARE                        16.00     0.09      N/C     0.48
DESCRIBE                        0.00     0.00      N/C     0.00
DESCRIBE TABLE                  0.00     0.00      N/C     0.00
OPEN                           16.00     0.09      N/C     0.48
CLOSE                           0.00     0.00      N/C     0.00
FETCH                           0.00     0.00      N/C     0.00
  NUMBER OF ROWS               16.00     0.09      N/C     0.48

TOTAL DML                      32.00     0.18      N/C     0.97
```

SELECT

The number of SQL SELECT statements executed.

Field Name: QXSELECT

INSERT

The number of INSERT statements executed.

Field Name: QXINSRT

INSERT - NUMBER OF ROWS

The number of rows inserted (DB2 field: QXRWSINSRTD).

Field Name: SRWINSRT

INSERT - TYPE 1 INSERT ALGORITHM

The number of rows inserted (DB2 field: QXRWSINSRTD).

Field Name: QXRWSINSRTDAlg1

INSERT - TYPE 2 INSERT ALGORITHM

The number of rows inserted (DB2 field: QXRWSINSRTD).

Field Name: QXRWSINSRTDAlg2

INSERT - TYPE 2 INSERT ALGORITHM - RE-ENABLE ATTEMPTED

Number of times IAG2 pipe re-enable was attempted.

Field Name: QISTINPR

INSERT - TYPE 2 INSERT ALGORITHM - RE-ENABLE SUCCESSFUL

Number of times IAG2 pipe re-enable was successful.

Field Name: QISTINPE

UPDATE

The number of UPDATE statements executed.

Field Name: QXUPDTE

UPDATE - NUMBER OF ROWS

The number of rows updated (DB2 field: QXRWSUPDTD).

Field Name: SRWUPDAT

MERGE

The number of times a MERGE statement was executed.

Field Name: QXMERGE

DELETE

The number of DELETE statements executed.

Field Name: QXDELET

DELETE - NUMBER OF ROWS

The number of rows deleted (DB2 field: QXRWSDELETD).

Field Name: SRWDELET

PREPARE

The number of SQL PREPARE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXPREP

DESCRIBE

The number of DESCRIBE, DESCRIBE CURSOR, DESCRIBE INPUT, and DESCRIBE PROCEDURE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXDESC

DESCRIBE TABLE

The number of DESCRIBE TABLE statements executed.

Field Name: QXDSCRTB

OPEN

The number of OPEN statements executed.

Field Name: QXOPEN

CLOSE

The number of CLOSE statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXCLOSE

FETCH

The number of FETCH statements executed. This number at the server location might not match the number at the user application because of the internal processing of the Distributed Data Facility (DDF).

Field Name: QXFETCH

FETCH - NUMBER OF ROWS

The number of rows fetched (DB2 field: QXRWSFETCHD).

Field Name: SRWFETCH

TOTAL

The total number of SQL DML statements executed.

Field Name: SSCDML

This is an *exception* field.

Triggers

This topic shows detailed information about "Statistics - Triggers".

Statistics - Triggers

The field labels shown in the following sample layout of "Statistics - Triggers" are described in the following section.

```
TRIGGERS                     QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
STATEMENT TRIGGER ACTIVATED      0.00     0.00      N/C     0.00
ROW TRIGGER ACTIVATED            0.00     0.00      N/C     0.00
SQL ERROR OCCURRED               0.00     0.00      N/C     0.00
```

STATEMENT TRIGGER ACTIVATED

The number of times a statement trigger was activated.

Field Name: QXSTTRG

ROW TRIGGER ACTIVATED

The number of times a row trigger was activated.

Field Name: QXROWTRG

SQL ERROR OCCURRED

The number of times an SQL error occurred during the execution of a triggered action. This includes errors that occur in user-defined functions or stored procedures that are called from triggers and that pass back a negative SQLCODE.

Field Name: QXTRGERR

Use Currently Committed

This topic shows detailed information about "Statistics - Use Currently Committed".

Statistics - Use Currently Committed

The field labels shown in the following sample layout of "Statistics - Use Currently Committed" are described in the following section.

```
USE CURRENTLY COMMITTED      QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------   --------  -------  -------  -------
INSERT ROWS SKIPPED              0.00     0.00      N/C     0.00
DELETE ROWS ACCESSED             0.00     0.00      N/C     0.00
UPDATE ROWS ACCESSED             0.00     0.00      N/C     0.00
```

INSERT ROWS SKIPPED

The number of rows skipped by read transactions because of uncommitted INSERT operations (using currently committed semantic for FETCH).

Field Name: QISTRCCI

DELETE ROWS ACCESSED

The number of rows accessed by read transactions because of uncommitted DELETE operations (using currently committed semantic for FETCH).

Field Name: QISTRCCD

UPDATE ROWS ACCESSED

The number of rows accessed by read transactions because of uncommitted UPDATE operations (using currently committed semantic for FETCH).

Field Name: QISTRCCU

User-Defined Functions

This topic shows detailed information about "Statistics - User-Defined Functions".

Statistics - User-Defined Functions

The field labels shown in the following sample layout of "Statistics - User-Defined Functions" are described in the following section.

```
USER DEFINED FUNCTIONS       QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------   --------  -------  -------  -------
EXECUTED                         0.00     0.00      N/C     0.00
ABENDED                          0.00     0.00      N/C     0.00
TIMED OUT                        0.00     0.00      N/C     0.00
REJECTED                         0.00     0.00      N/C     0.00
```

EXECUTED

The number of user-defined functions executed.

Field Name: QXCAUD

ABENDED

The number of times a user-defined function abended.

Field Name: QXCAUDAB

TIMED OUT

The number of times a user-defined function timed out while waiting to be scheduled.

Field Name: QXCAUDTO

REJECTED

The number of times a user-defined function was rejected.

Field Name: QXCAUDRJ

Workfile Database

This topic shows detailed information about "Statistics - Workfile Database".

This block shows information about the Workfile Database used by DB2 as storage for work files for processing SQL statements, and as storage for created and declared global temporary tables.

The performance metrics in the report block distinguish between work files for declared global temporary tables (DGTTs) and work files for non-DGTT data such as created global temporary tables or sort results. In addition, DB2 supports in-memory work files which are sufficient for performing simple operations and do not require physical allocations. In-memory work files may overflow to physical records in the Workfile Database in case of memory constraints.

Statistics - Workfile Database

The field labels shown in the following sample layout of "Statistics - Workfile Database" are described in the following section.

```
WORKFILE DATABASE            QUANTITY  /SECOND  /THREAD  /COMMIT
--------------------------  --------  -------  -------  -------
TOTAL STORAGE CONFIG   (KB)    256.00      N/A      N/A      N/A
  TOT DGTT STOR CONFIG (KB)    128.00      N/A      N/A      N/A
  TOT WF STOR CONFIG   (KB)    128.00      N/A      N/A      N/A
TOTAL STORAGE THRESHOLD (%)     90.00      N/A      N/A      N/A

MAX TOTAL STORAGE USED (KB)    128.00      N/A      N/A
N/A
  MAX DGTT STOR USED   (KB)     64.00      N/A      N/A      N/A
  MAX WF STORAGE USED  (KB)     64.00      N/A      N/A      N/A

CUR TOTAL STORAGE USED (KB)      2.06      N/A      N/A      N/A
  CUR DGTT STOR USED   (KB)      1.00      N/A      N/A      N/A
  CUR WF STORAGE USED  (KB)      1.06      N/A      N/A      N/A
  STORAGE IN 4K TS     (KB)      2.06      N/A      N/A      N/A
  STORAGE IN 32K TS    (KB)      0.00      N/A      N/A
N/A
4K USED INSTEAD OF 32K TS        0.00     0.00      N/C     0.00
32K USED INSTEAD OF 4K TS        0.00     0.00      N/C     0.00

MAX ACTIVE (DM) IN-MEMORY        0.00      N/A      N/A      N/A
  MAX ACT (NONSORT) IN-MEM       0.00      N/A      N/A      N/A
CUR ACTIVE (DM) IN-MEMORY        0.00      N/A      N/A      N/A
  CUR ACT (NONSORT) IN-MEM       0.00      N/A      N/A      N/A
MAX STOR (DM) IN-MEM   (KB)      0.00      N/A      N/A      N/A
CUR STOR (DM) IN-MEM   (KB)      0.00      N/A      N/A      N/A
MAX ACTIVE (SORT) IN-MEMORY      0.00      N/A      N/A      N/A
CUR ACTIVE (SORT) IN-MEMORY      0.00      N/A      N/A      N/A
MAX STOR (SORT) IN-MEM (KB)      0.00      N/A      N/A      N/A
CUR STOR (SORT) IN-MEM (KB)      0.00      N/A      N/A      N/A
IN-MEM (NONSORT) OVERFLOWED      0.00     0.00      N/C     0.00
IN-MEM WORKF NOT CREATED         0.00     0.00      N/C     0.00

AGENT STORAGE CONFIG   (KB)      0.00      N/A      N/A      N/A
  NUMBER OF LIMIT EXCEEDED       0.00     0.00      N/C     0.00
AGENT STORAGE THRESHOLD (%)     90.00      N/A      N/A      N/A
MAX AGENT STORAGE USED (KB)      0.00      N/A      N/A      N/A

DM FAST INSERT PIPES             0.00      N/A      N/A      N/A
DM FAST INSERT PIPES DISAB       0.00      N/A      N/A      N/A
```

TOTAL STORAGE CONFIG (KB)

The total storage (KB) configured for all table spaces in the Workfile Database.

Field Name: QISTWSTG

TOT DGTT STOR CONFIG (KB)

The total preferred storage (KB) configured for DGTTs in the Workfile Database.

Field Name: QISTDGTTSTG

TOT WF STOR CONFIG (KB)

The total preferred storage (KB) configured for non-DGTT work files in the Workfile Database.

Field Name: QISTWFSTG

TOTAL STORAGE THRESHOLD (%)

The alert threshold of high space-usage for DGTTs or non-DGTT work files in the Workfile Database (derived from zparm WFSTGUSE_SYSTEM_THRESHOLD).

Field Name: QISTSSTH

MAX TOTAL STORAGE USED (KB)

The maximum total amount of storage (KB) ever used in the Workfile Database at system level since DB2 startup.

Field Name: QISTWMXU

MAX DGTT STOR USED (KB)

The maximum total amount of storage (KB) ever used for DGTTs in the Workfile Database by all agents on the system since DB2 startup.

Field Name: QISTDGTTMXU

MAX WF STORAGE USED (KB)

The maximum total amount of storage (KB) ever used for non-DGTT work files in the Workfile Database by all agents on the system since DB2 startup.

Field Name: QISTWFMXU

CUR TOTAL STORAGE USED (KB)

The total amount of storage (KB) currently used in the Workfile Database at system level.

Field Name: QISTWCTO

CUR DGTT STOR USED (KB)

The total amount of storage (KB) currently used for DGTTs in the Workfile Database by all agents on the system.

Field Name: QISTDGTTCTO

CUR WF STORAGE USED (KB)

The total amount of storage (KB) currently used for non-DGTT work files in the Workfile Database by all agents on the system.

Field Name: QISTWFCTO

STORAGE IN 4K TS (KB)

The total amount of storage (KB) currently used for 4 KB table spaces in the Workfile Database.

Field Name: QISTW4K

STORAGE IN 32K TS (KB)

The total amount of storage (KB) currently used for 32 KB table spaces in the Workfile Database.

Field Name: QISTW32K

4K USED INSTEAD OF 32K TS

The number of times that space in a 4 KB page table space was used because space in a 32 KB page table space was preferred but not available in the Workfile Database.

Field Name: QISTWFP2

32K USED INSTEAD OF 4K TS

The number of times that space in a 32 KB page table space was used because space in a 4 KB page table space was preferred but not available in the Workfile Database.

Field Name: QISTWFP1

MAX ACTIVE (DM) IN-MEMORY

The maximum number of in-memory work files (created by the Data Manager) that were active at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTIMAH

MAX ACT (NONSORT) IN-MEM

The maximum number of non-SORT related in-memory work files created by the Data Manager that were active at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTI2AH

CUR ACTIVE (DM) IN-MEMORY

The number of currently active in-memory work files created by the Data Manager.

Field Name: QISTIMAC

CUR ACT (NONSORT) IN-MEM

The number of currently active non-SORT related in-memory work files created by the Data Manager.

Field Name: QISTI2AC

MAX STOR (DM) IN-MEM (KB)

The maximum space used for active in-memory work files created by the Data Manager at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTIMSH

CUR STOR (DM) IN-MEM (KB)

The total space used for currently active in-memory work files created by the Data Manager.

Field Name: QISTIMSC

MAX ACTIVE (SORT) IN-MEMORY

The maximum number of in-memory work files created by the SORT component that were active at any point in time since DB2 start. This is a high-water mark count.

Field Name: QISTSIAH

CUR ACTIVE (SORT) IN-MEMORY

The number of currently active in-memory work files created by the SORT component.

Field Name: QISTSIAC

MAX STOR (SORT) IN-MEM (KB)

The maximum space used for active in-memory work files created by the SORT component at any point in time since DB2 startup. This is a high-water mark count.

Field Name: QISTSISH

CUR STOR (SORT) IN-MEM (KB)

The total space used for currently active in-memory work files created by the SORT component.

Field Name: QISTSISC

IN-MEM (NONSORT) OVERFLOWED

The number of times non-SORT related in-memory work files overflowed into a physical table space.

Field Name: QISTI2OF

IN-MEM WORKF NOT CREATED

The number of times an in-memory work file was not created due to critical storage conditions.

Field Name: QISTIMNC

AGENT STORAGE CONFIG (KB)

The maximum amount of storage (KB) in the Workfile Database that can be used by each agent (derived from ZPARM MAXTEMPS).

Field Name: QISTWMXA

NUMBER OF LIMIT EXCEEDED

The number of times the maximum amount of storage that an agent can use in the Workfile database was exceeded.

Field Name: QISTWFNE

AGENT STORAGE THRESHOLD (%)

The alert threshold of high space-usage for DGTTs or non-DGTT work files in the Workfile Database by an agent (derived from ZPARM WFSTGUSE_AGENT_THRESHOLD).

Field Name: QISTASTH

MAX AGENT STORAGE USED (KB)

The maximum amount of storage (KB) ever used in the Workfile Database by any thread since DB2 startup.

Field Name: QISTAMXU

DM FAST INSERT PIPES

The number of Data Manager (DM) fast insert pipes that were allocated since DB2 restart.

Field Name: QISTINPA

DM FAST INSERT PIPES DISAB

The number of DM fast insert pipes that have been disabled since DB2 restart.

Field Name: QISTINPD

The Statistics File Data Set and Output Records

Use the FILE subcommand to format DB2 Statistics records and write them to sequential data sets suitable for use by the DB2 load utility. You can store unreduced Statistics data into the performance database. Use the performance database to produce tailored reports using a reporting facility such as Query Management Facility (QMF).

The format of the output data from the Statistics File data set is identical with that of the CONVERT function of the Save-File utility.

You can also use the File data sets to generate CSV (comma-separated value) input-data. This CSV data can then be transferred to workstations and imported into spreadsheets to improve DB2 performance

analysis using graphical representations or pivot tables. For more information refer to *Reporting User's Guide*.

The Statistics File data set is produced when OMEGAMON for Db2 PE Statistics delta records are externalized using the FILE subcommand. Each such delta record represents the period of time between two pairs of DB2 Statistics delta records and can be represented in the File data set by up to 8 types of records. File data is written to a File data set. The following types of records are created. Descriptions of the layouts of these records can be found in the RKO2SAMP library under the following names:

Table 29. Record Type and Description for Statistics File Data Sets and Output Records

Record type	Description	Layout description in the RKO2SAMP library
General Statistics	Records contain data from IFCID 001 and 002. One general Statistics record is produced for each Statistics *delta record*.	DGOSDGEN
Buffer Pool Statistics	Records contain data derived from IFCID 002 records. One buffer pool record is produced for each buffer pool active at the start time of the corresponding *delta record*. Each OMEGAMON for Db2 PE Statistics delta record can produce up to 80 buffer pool Statistics records.	DGOSDBUF
DDF Statistics	Records contain DDF Statistics originating from IFCID 001. A DDF record is produced for all remote locations that used DRDA (where at least one location used this method at the start time of the delta record).	DGOSDDDF
Group Buffer Pool Statistics	Records contain data derived from IFCID 002 records. One group buffer pool record is produced for each group buffer pool active at the start time of the corresponding *delta record*. Each OMEGAMON for Db2 PE Statistics delta record can produce up to 80 group buffer pool Statistics records.	DGOSDGBP
Buffer Pool Data Set	Records contain data derived from IFCID 199. One row is written for each open data set that has an I/O event rate at least one event per second during the reporting interval.	DGOSDSET
Accelerator	Records contain data derived from IFCID 002. One row is written for each active accelerator attached to the DB2 subsystem that is currently reported.	DGOSDXCL
Aggregated Accounting	Records contain data derived from IFCID 369. One row is written for a connection type IMS, CICS, RRSAF, Utility, Batch, or DDF containing aggregated wait and CPU times of threads with IFCID 3 events for this connection type.	DGOSDACC
Storage Data	Records contain data derived from IFCID 225. One row is written for DB2 storage metrics valid for the reporting interval.	DGOSDSTG
Simulated Buffer Pool	Records contain data derived from IFCID 002 records (QBST section). One buffer pool record is produced for each simulated buffer pool.	DGOSDSIM

Chapter 11. System parameters report set

These topics provide information about the system parameters reports.

Note: For an introduction to the System Parameters report set and general system parameter information refer to the *Reporting User's Guide*.

System Parameters Report Header

This section introduces the System Parameters report header.

There are two different types of report headers for system parameters, for:

- MEMBER scope reports.
- GROUP scope reports.

System Parameters Report Header for MEMBER-Scope and GROUP-Scope Reports

Here is an example of a System Parameters report header for **MEMBER-scope** reports:

```
   LOCATION: STLEC1                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-1
      GROUP: GRPA                             SYSTEM PARAMETERS REPORT
     MEMBER: M2
  SUBSYSTEM: SSDQ                                                                  ACTUAL FROM: 01/30/15 22:50:03.98
DB2 VERSION: V10
```

Here is an example of a System Parameters report header for **GROUP-scope** reports:

```
   LOCATION: SYS1DSN2                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)              PAGE: 4-1
      GROUP: DSN2                             SYSTEM PARAMETERS REPORT
DB2 VERSION: V10                                                                 ACTUAL FROM: 01/30/15 06:10:23.14
```

Field description

The OMEGAMON for Db2 PE system parameters report header contains the following information, described line by line:

LOCATION
The DB2 reporting location. If the location name is not available, the DB2 data sharing group name is printed in this field. If the DB2 data sharing group name does not exist, the DB2 subsystem ID is printed.

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

GROUP
The name of the DB2 data sharing group. This field shows N/A if there is no group name.

SYSTEM PARAMETERS REPORT
The title of the report.

MEMBER
The name of the DB2 data sharing member or the member name of the DB2 subsystem. This field shows N/A if there is no member name.

This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data. This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

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ACTUAL FROM/TO
The date and time of the first and last record included in the log for a location, group, subsystem, or member.

DB2 VERSION
The DB2 version number of the subsystem that generated the data.

Example of the System Parameters Report

This section shows an example of the System Parameters report.

Example of the System Parameters report

```
1   LOCATION: RS22ODS5                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: ODS5                              SYSTEM PARAMETERS REPORT
     MEMBER: OCA5
  SUBSYSTEM: OCA5                                                                    ACTUAL FROM: 02/06/19 09:53:14.72
 DB2 VERSION: V12
-
  MVS PARMLIB UPDATE PARAMETERS (DSNTIPM)
  ---------------------------------------
  SUBSYSTEM DEFAULT (SSID).....................................ODS5
  SUPPRESS SOFT ERRORS (SUPERRS)...............................YES

  STORAGE SIZES INSTALLATION PARMS (DSNTIPC,DSNTIPE,DSNTIPE1)
  -----------------------------------------------------------
  MAX NO OF DATA SETS CONCURRENTLY IN USE (DSMAX)...........3,000
  EDM STATEMENT CACHE SIZE IN KB (EDMSTMTC).................56,693
  EDM DBD CACHE SIZE IN KB (EDMDBDC)........................11,700
  EDM SKELETON POOL SIZE IN KB (EDM_SKELETON_POOL).........102,400
  MAXIMUM SIZE OF EDM POOL IN BYTES (EDMPOOL)...............N/A
  MAXIMUM SIZE OF SORT POOL IN BYTES (SRTPOOL).........10,240,000
  MAX IN-MEMORY SORT SIZE (MAXSORT_IN_MEMORY)...............1,000
  MAXIMUM SIZE OF RID POOL IN KB (MAXRBLK)..................8,000
  MAX NO OF USERS CONCURRENTLY RUNNING IN DB2 (CTHREAD).......200
  MAX NO OF CONCURRENT REMOTE ACTIVE CONNECTIONS (MAXDBAT)....200
  MAX NO OF REMOTE CONNECTIONS (CONDBAT)....................10,000
  MAX NO OF TSO CONNECTIONS (IDFORE)............................50
  MAX NO OF BATCH CONNECTIONS (IDBACK)..........................50
  MAXIMUM KEPT DYNAMIC STATEMENTS (MAXKEEPD).................5,000
  MAX OPEN FILE REFS (MAXOFILR).................................100
  MANAGE REAL STORAGE (REALSTORAGE_MANAGEMENT).............AUTO
  MAXIMUM REAL STORAGE (REALSTORAGE_MAX)........................0
  CONTRACT THREAD STORAGE (CONTSTOR)........................N/A
  MANAGE THREAD STORAGE (MINSTOR)...........................N/A
  LONG-RUNNING READER IN MINUTES (LRDRTHLD).....................10
  DDL TIMEOUT FACTOR (DDLTOX)....................................1
  INDEX CLEANUP THREADS (INDEX_CLEANUP_THREADS)................10

  TRACING, CHECKPOINT & PSEUDO-CLOSE PARAMETERS (DSNTIPN)
  -------------------------------------------------------
  START AUDIT TRACE (AUDITST)...................................NO
  START GLOBAL TRACE (TRACSTR)..................................NO
  TRACE TABLE SIZE IN 4K BYTES (TRACTBL).....................16
  LOCAL TRACE TABLE SIZE IN 4K BYTES (TRACLOC)...............16
  START SMF ACCOUNTING (SMFACCT).....................1,2,3,7,8
  START SMF STATISTICS (SMFSTAT).....................1,3,4,5,6
  STATISTICS TIME INTERVAL IN MINUTES (STATIME)..............30
  SYNCHRONIZATION INTERVAL WITHIN THE HOUR (SYNCVAL).....NO
  ONLINE DATASET STATISTICS TIME INTERVAL IN MIN.(DSSTIME)......5
  START MONITOR TRACE (MON).....................................NO
  MONITOR BUFFER SIZE IN BYTES (MONSIZE)..............1,048,576
  UNICODE IFCIDS (UIFCIDS)......................................YES
  DDF/RRSAF ACCUM (ACCUMACC).....................................10
  AGGREGATION FIELDS (ACCUMUID)..................................0

  IRLM INSTALLATION PARAMETERS (DSNTIPI)
  --------------------------------------
  IRLM SUBSYSTEM NAME (IRLMSID).............................IRP7
  IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT)....................30
  IRLM AUTOMATIC START (IRLMAUT)............................YES
  IRLM START PROCEDURE NAME (IRLMPRC).....................OCA5IRLM
  SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT).............300
  U LOCK FOR REPEATABLE READ OR READ STABILITY (RRULOCK)......YES
  X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT).................NO
  IMS/BMP TIMEOUT FACTOR (BMPTOUT)...............................4
  IMS/DLI TIMEOUT FACTOR (DLITOUT)...............................6
  WAIT FOR RETAINED LOCKS (RETLWAIT).............................0
  ENABLE DB CHECKING...........................................NO
  IRLM INITIALIZATION TIME.......................................1

  IRLM PROCESSING PARAMETERS
  --------------------------
  WAIT TIME FOR LOCAL DEADLOCK..............................1,000
  NUMBER OF LOCAL CYCLES PER GLOBAL CYCLE.......................1
  TIMEOUT INTERVAL..............................................30
  IRLM MAXIMUM CSA USAGE ALLOWED................................0
  Z/OS LOCK TABLE HASH ENTRIES.....................16,777,216
  PENDING NUMBER OF HASH ENTRIES................................0
  Z/OS LOCK TABLE LIST ENTRIES.....................36,346
  MAX 31-BIT IRLM PRIVATE STORAGE...............................0
  MAX 64-BIT IRLM PRIVATE STORAGE...............................0

  ARCHIVE LOG INSTALLATION PARAMETERS (DSNTIPA)
  ---------------------------------------------
  CATALOG ARCHIVE DATASETS (CATALOG)............................NO
  COPY1 ARCHIVE LOG DEVICE TYPE (UNIT).....................3390
  COPY2 ARCHIVE LOG DEVICE TYPE (UNIT2)...................'BLANK'
  SPACE ALLOCATION METHOD (ALCUNIT).....................CYLINDER
  PRIMARY SPACE ALLOCATION (PRIQTY).............................25
  SECONDARY SPACE ALLOCATION (SECQTY)...........................25
  ARCHIVE LOG BLOCK SIZE IN BYTES (BLKSIZE).................24,576
  MAXIMUM READ TAPE UNITS (MAXRTU)...............................2
  TAPE UNIT DEALLOCATION PERIOD (DEALLCT).................0000:00
  MAX NUMBER OF DATASETS RECORDED IN BSDS (MAXARCH).....10,000
  FIRST ARCHIVE COPY MASS STG GROUP NAME...................'NONE'
  SECOND ARCHIVE COPY MASS STG GROUP NAME..................'NONE'
  DAYS TO RETAIN ARCHIVE LOG DATA SETS (ARCRETN).................0
  ISSUE WTOR BEFORE MOUNT FOR ARCHIVE VOLUME (ARCWTOR).....YES
  COMPACT DATA (COMPACT)........................................NO
  QUIESCE PERIOD (QUIESCE).......................................5
  SINGLE VOLUME (SVOLARC).......................................YES
```

```
  COMPRESS SMF RECS (SMFCOMP).............................OFF

1   LOCATION: RS22ODS5                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-2
      GROUP: ODS5                              SYSTEM PARAMETERS REPORT
     MEMBER: OCA5
  SUBSYSTEM: OCA5                                                                 ACTUAL FROM: 02/06/19 09:53:14.72
 DB2 VERSION: V12
-
  DISTRIBUTED DATA FACILITY PANEL 2 (DSNTIP5)                      DEFINE GROUP OR MEMBER (DSNTIPK)
  -------------------------------------------                      -------------------------------
  TCP/IP ALREADY VERIFIED (TCPALVER).........................YES    GROUP NAME (GRPNAME).....................................ODS5
  EXTRA BLOCKS REQ (EXTRAREQ)................................100    MEMBER NAME (MEMBNAME)...................................OCA5
  EXTRA BLOCKS SRV (EXTRASRV)................................100    MAX NUMBER OF MEMBERS....................................248
  TCP/IP KEEPALIVE (TCPKPALV)................................120    RANDOM ATTACH (RANDOMATT)................................YES
  CONNECTION QUEUE MAX DEPTH (MAXCONQN).......................0    DEL CF STRUCTS (DEL_CFSTRUCTS_ON_RESTART)................NO
  CONNECTION QUEUE MAX WAIT (MAXCONQW)........................0
  POOL THREAD TIMEOUT (POOLINAC).............................120    DISTRIBUTED DATA FACILITY PANEL 1 (DSNTIPR)
                                                                   ------------------------------------------
  PROTECTION INSTALLATION PARAMETERS (DSNTIPP)                     FACILITY NAME.....................................DDF
  --------------------------------------------                     DDF STARTUP OPTION (DDF).................................AUTO
  ARCHIVE LOG RACF PROTECTION (PROTECT).......................NO    RESYNCHRONIZATION INTERVAL IN MINUTES (RESYNC)..............2
  DB2 AUTHORIZATION ENABLED (AUTH)...........................YES    DBAT STATUS (CMTSTAT)....................................INACTIVE
  PLAN AUTHORIZATION CACHE SIZE (AUTHCACH).................3,072    MAX TYPE 1 INACTIVE THREADS (MAXTYPE1)......................0
  PACKAGE AUTHORIZATION CACHE SIZE (CACHEPAC)...........5,242,880    IDLE THREAD TIMEOUT INTERVAL (IDTHTOIN).....................180
  ROUTINE AUTHORIZATION CACHE SIZE (CACHERAC)...........5,242,880    EXTENDED SECURITY (EXTSEC)..................................YES
  AUTH EXIT CHECK (AUTHEXIT_CHECK)........................PRIMARY    USER ID AND PASSWORD REQUIRED...............................N/A
  AUTH EXIT CACHE REFRESH (AUTHEXIT_CACHEREFRESH).............NONE    SQL INTERRUPT PROCESSING DISABLED (SQLINTRP).................NO
  SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM).....DB2SYSP      PRIVATE PROTOCOL (PRIVATE_PROTOCOL).........................NO
  SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2).....CSMARK
  SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1).............PDKURT    LOCK ESCALATION PARAMETERS (DSNTIPJ)
  SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2)............TSSAL     ------------------------------------
  DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID).....IBMUSER     MAX PAGE OR ROW LOCKS PER TABLE SPACE (NUMLKTS)..........1,000
  RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH).........SYSIBM     MAX PAGE OR ROW LOCKS PER USER (NUMLKUS).............10,000
  BIND NEW PACKAGE (BINDNV)..............................BINDADD
  DBA CREATE VIEW (DBACRVW)...................................YES    LOG INSTALLATION PARAMETERS (DSNTIPL,DSNTIPH)
                                                                   ---------------------------------------------
  DATA DEFINITION CONTROL SUPPORT (DSNTIPZ)                        OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF).....................400
  -----------------------------------------                        CHECKPOINT TYPE (CHKTYPE)................................SINGLE
  INSTALL DD CONTROL (RGFINSTL)...............................NO    RECORDS/CHECKPOINT (CHKLOGR)................................N/P
  CONTROL ALL APPLICATIONS (RGFDEDPL).........................NO    MINUTES/CHECKPOINT (CHKMINS)................................N/P
  REQUIRE FULL NAMES (RGFFULLQ)...............................YES   CHECKPOINT FREQUENCY (CHKFREQ).....................1,000,000
  UNREGISTERED DDL DEFAULT (RGFDEFLT).....................ACCEPT    UR CHECK FREQUENCY (URCHKTH).................................5
  REGISTER TABLE OWNER (RGFCOLID)..........................DSNRGCOL   UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH)..............5
  DDL REGISTRATION DATABASE NAME (RGFDBNAM)..............DSNRGFDB    LIMIT BACKOUT (LBACKOUT).................................AUTO
  APPL REGISTRATION TABLE NAME (RGFNMPRT).......DSN_REGISTER_APPL    BACKOUT DURATION (BACKODUR)..................................5
  OBJECT REGISTRATION TABLE NAME (RGFNMORT).....DSN_REGISTER_OBJT    PSEUDO-CLOSE FREQUENCY (PCLOSEN).............................5
  ESCAPE CHARACTER (RGFESCP)...............................X'40'     PSEUDO-CLOSE TIMER (PCLOSET)................................60
                                                                   CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ)................5
  DB2 VERSION INSTALL (DSNTIPA1)                                   NUMBER OF ACTIVE LOG COPIES (TWOACTV).........................2
  ------------------------------                                   NUMBER OF ARCHIVE LOG COPIES (TWOARCH)........................1
```

```
  DATA SHARING ENABLED (DSHARE)...............................YES    COPY 1 PREFIX (ARCPFX1)..........................OCA5.ARCHLOG1
  CURRENT DB2 RELEASE (NEWFUN)................................N/A    COPY 2 PREFIX (ARCPFX2)................................DSNARC2
  CURRENT DB2 RELEASE - 1.....................................N/A    TIMESTAMP ARCHIVE LOG DATA SETS (TSTAMP).....................YES
  CURRENT DB2 RELEASE - 2.....................................N/A
  COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB).............NO
1   LOCATION: RS22ODS5                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-3
      GROUP: ODS5                              SYSTEM PARAMETERS REPORT
     MEMBER: OCA5
  SUBSYSTEM: OCA5                                                                 ACTUAL FROM: 02/06/19 09:53:14.72
 DB2 VERSION: V12

  APPLICATION PROGRAMMING DEFAULTS PANEL 1 (DSNTIPF)               APPLICATION PROGRAMMING DEFAULTS PANEL 2 (DSNTIP4,DSNTIP41)
  --------------------------------------------------               ----------------------------------------------------------
  DEFAULT HOST LANGUAGE (DEFLANG).........................IBMCOB    MINIMUM DIVIDE SCALE (DECDIV3)...............................NO
  DECIMAL POINT OPTION (DECIMAL)..........................PERIOD    DECIMAL ARITHMETIC (DECARTH)...............................DEC15
  DEFAULT DELIMITER (DELIM)...............................DEFAULT   USE FOR DYNAMIC RULES (DYNRULS)..............................YES
  DEFAULT SQL DELIMITER (SQLDELI).........................DEFAULT   STATIC DESCRIBE (DESCSTAT)...............................YES
  DIST SQL STRING DELIMITER (DSQLDELI)....................APOST     DATE FORMAT (DATE).....................................USA
  DEFAULT MIXED GRAPHIC (MIXED)...............................NO    TIME FORMAT (TIME).....................................ISO
  EBCDIC SBCS CCSID (SCCSID)..................................37    LOCAL DATE LENGTH (DATELEN)................................N/A
  EBCDIC MBCS CCSID (MCCSID)..................................N/P   LOCAL TIME LENGTH (TIMELEN)................................N/A
  EBCDIC GBCS CCSID (GCCSID)..................................N/P   IMPLICIT TIMEZONE.....................................CURRENT
  ASCII SBCS CCSID (ASCCSID)..................................437   STD SQL LANGUAGE (STDSQL)...................................NO
  ASCII MBCS CCSID (AMCCSID)..................................N/P   PAD NULL-TERMINATED (PADNTSTR)..............................YES
  ASCII GBCS CCSID (AGCCSID)..................................N/P   APPL COMPAT LEVEL (APPLCOMPAT)..........................V12R1M500
  UNICODE SBCS CCSID (USCCSID)................................367   LIKE BLANK INSIGNIFICANT (LIKE_BLANK_INSIGNIFICANT).........NO
  UNICODE MBCS CCSID (UMCCSID)...............................1,208   FULLY QUALIFIED NAME OF DSNHDECP LOAD MODULE.................
  UNICODE GBCS CCSID (UGCCSID)...............................1,200     ODS5.SDSNEXIT(DSNHDECP)
  DEFAULT ENCODING SCHEME (ENSCHEME).....................EBCDIC
  APPLICATION ENCODING (APPENSCH).........................EBCDIC    OPERATOR FUNCTIONS INSTALLATION PARAMETERS (DSNTIPO)
  LOCALE LC_CTYPE (LC_CTYPE)...............................'BLANK'  ---------------------------------------------------
  DECFLOAT ROUND MODE (DEF_DECFLOAT_ROUND_MODE)...ROUND_HALF_EVEN    WTO ROUTE CODES (ROUTCDE).....................................1
                                                                   AUTO BIND (ABIND)...........................................YES
  SQL OBJECT DEFAULTS PANEL (DSNTIP7,DSNTIP71,DSNTIP72)            ALLOW EXPLAIN AT AUTOBIND (ABEXP)...........................YES
  -----------------------------------------------------            DPROP SUPPORT (EDPROP).......................................NO
  REORDERED ROW FORMAT (RRF)..................................N/A   SITE TYPE (SITETYP).....................................LOCALSITE
  OBJECT CREATE FORMAT (OBJECT_CREATE_FORMAT).............BASIC     TRACKER SITE (TRKRSITE)......................................NO
  UTILITY OBJECT CONVERSION (UTILITY_OBJECT_CONVERSION)......NONE   READ COPY2 ARCHIVE (ARC2FRST)...............................NO
  VARY DS CONTROL INTERVAL (DSVCI)............................YES   REAL TIME STATS (STATSINT)...................................15
  TABLE SPACE ALLOCATION IN KB (TSQTY)........................0     STATISTICS FEEDBACK (STATFDBK_SCOPE).....................ALL
  INDEX SPACE ALLOCATION IN KB (IXQTY)........................0     PROFILE AUTOSTART (PROFILE_AUTOSTART).......................NO
  OPTIMIZE EXTENT SIZING (MGEXTSZ)............................YES
  PAD INDEX BY DEFAULT (PADIX)................................NO    ROUTINE PARAMETERS (DSNTIPX)
  DEFAULT PARTITION SEGSIZE (DPSEGSZ).........................32    ---------------------------
  PERCENT FREE FOR UPDATE (PCTFREE_UPD).......................0     MAX ABEND COUNT (STORMXAB)..................................255
  DEFINE DATA SETS (IMPDSDEF).................................YES   TIMEOUT VALUE (STORTIME)....................................5
  USE DATA COMPRESSION (IMPTSCMP).............................NO    WLM ENVIRONMENT (WLMENV).............................ODS5WLM1
  LIMIT KEY CONV PART TAB (IX_TB_PART_CONV_EXCLUDE)...........NO    MAX OPEN CURSORS (MAX_NUM_CUR)..............................500
  PAGE SET PAGE NUMBERING (PAGESET_PAGENUM)....................A    MAX STORED PROCS (MAX_ST_PROC)...........................2,000
  RETRY STOPPED OBJECTS (RETRY_STOPPED_OBJECTS)...............NO    MAXIMUM NUMBER OF LE TOKENS (LEMAX).........................N/A
```

```
  RENAME TABLE (RENAMETABLE).....................................NO    BIF COMPATIBILITY (BIF_COMPATIBILITY)..................CURRENT
  PREVENT ALTER LIMITKEY (PREVENT_ALTERTB_LIMITKEY)............NO
  PREVENT INDEX PART CREATE (PREVENT_NEW_IXCTRL_PART).........NO
  DDL MATERIALIZATION (DDL_MATERIALIZATION)......ALWAYS_IMMEDIATE
  DEFAULT INSERT ALGORITHM (DEFAULT_INSERT_ALGORITHM)..........2

1   LOCATION: RS22ODS5                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-4
      GROUP: ODS5                                SYSTEM PARAMETERS REPORT
     MEMBER: OCA5
  SUBSYSTEM: OCA5                                                                          ACTUAL FROM: 02/06/19 09:53:14.72
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  PERFORMANCE AND OPTIMIZATION (DSNTIP8,DSNTIP81)                  BUFFER POOL PARAMETERS (DSNTIP1)
  -----------------------------------------------                  --------------------------------
  CACHE DYNAMIC SQL (CACHEDYN)..................................YES   DEFAULT  4-KB BUFFER POOL FOR USER DATA (TBSBPOOL)..........BP0
  CACHE DYN STABILITY (CACHEDYN_STABILIZATION)..............BOTH    DEFAULT  8-KB BUFFER POOL FOR USER DATA (TBSBP8K).........BP8K0
  OPTIMIZATION HINTS ALLOWED (OPTHINTS).........................NO   DEFAULT 16-KB BUFFER POOL FOR USER DATA (TBSBP16K).......BP16K0
  EVALUATE UNCOMMITTED (EVALUNC)................................NO   DEFAULT 32-KB BUFFER POOL FOR USER DATA (TBSBP32K).........BP32K
  SKIP UNCOMM INSERTS (SKIPUNCI)................................NO   DEFAULT BUFFER POOL FOR USER LOB DATA (TBSBPLOB)............BP0
  IMMEDWRITE OVERRIDE FLAG (IMMEDWRI)...........................NO   DEFAULT BUFFER POOL FOR USER XML DATA (TBSBPXML).........BP16K0
  REBIND PLANMGMT DEFAULT (PLANMGMT)...........................OFF   DEFAULT BUFFER POOL FOR USER INDEXES (IDXBPOOL).............BP0
  PLANMGMTSCOPE DEFAULT (PLANMGMTSCOPE).....................STATIC
  PACKAGE RELEASE COMMIT (PKGREL_COMMIT)........................YES  QUERY ACCELERATOR PREFERENCES (DSNTIP82)
  RANDOMIZE XML DOCID (XML_RANDOMIZE_DOCID).....................NO   ---------------------------------------
  DISABLE EDM RTS (DISABLE_EDMRTS)..............................NO   ACCELERATOR STARTUP OPTION (ACCEL).....................COMMAND
  CURRENT DEGREE (CDSSRDEF).....................................ANY  GET ACCEL ARCHIVE (GET_ACCEL_ARCHIVE).....................NO
  MAX DEGREE OF PARALLELISM (PARAMDEG)...........................0   ACCELERATION OPTIONS (QUERY_ACCEL_OPTIONS)..........(1,2,3,5,6)
  MAX DEGREE FOR DPSI (PARAMDEG_DPSI)............................0   CURRENT QUERY ACCEL (QUERY_ACCELERATION).................ENABLE
  PARALLELISM EFFICIENCY (PARA_EFF).............................50   ACCELERATION MODELING (ACCELMODEL)............................NO
  STAR JOIN ENABLING (STARJOIN) ..........................DISABLE   REMOTE COPY SW ACCEL (REMOTE_COPY_SW_ACCEL)..................NO
  MAX DATA CACHING IN MB (MXDTCACH).............................20   HTAP WAIT INTERVAL (QUERY_ACCEL_WAITFORDATA)................0.0
  CURRENT REFRESH AGE (REFSHAGE)..................................0
  CURRENT MAINT TYPE (MAINTYPE)............................SYSTEM   WORKFILE DATABASE PANEL (DSNTIP91)
  STATS PROFILE FEEDBACK (STATFDBK_PROFILE).....................YES  ---------------------------------
                                                                    MAX TEMP STORAGE PER AGENT IN MB (MAXTEMPS)...................0
  OTHER SYSTEM PARAMETERS                                           SEPARATE WORK FILES (WFDBSEP).................................NO
  -----------------------                                           MAX TEMP RID (MAXTEMPS_RID)............................NOLIMIT
  DUAL BSDS MODE (TWOBSDS)......................................YES  AGENT LEVEL THRESHOLD (WFSTGUSE_AGENT_THRESHOLD)..............0
  ROLL UP PARALLEL TASK ACCOUNTING (PTASKROL)...................YES  SYSTEM LEVEL THRESHOLD (WFSTGUSE_SYSTEM_THRESHOLD)...........90
  NO. PAGES SMALL TABLE THRESHOLD (NPGTHRSH).....................0
  OFFLOAD OPTION (OFFLOAD)......................................YES  DB2 UTILITIES PARAMETERS (DSNTIP6,DSNTIP61,DSNTIP62)
  SU CONVERSION FACTOR.........................................200   ----------------------------------------------------
  MINIMUM DIVIDE SCALE (MINDVSCL).........................NONE      TEMPORARY UNIT NAME (VOLTDEVT)..........................SYSDA
  STAR JOIN THRESHOLD (SJTABLES)................................10  UTIL TEMP STORCLAS (UTIL_TEMP_STORCLAS).....................N/P
  ONLINE SYSTEM PARM USER ID MONITOR.........................N/P     STATISTICS HISTORY (STATHIST)................................ALL
  ONLINE SYSTEM PARM CORREL ID MONITOR.......................N/P     STATISTICS ROLLUP (STATROLL)................................YES
  ONLINE SYSTEM PARM TIME CHANGED............................N/P     UTILITY TIMEOUT FACTOR (UTIMOUT)..............................6
  ONLINE SYSTEM PARM TYPE....................................N/P     UT SORT DATA SET ALLOCATION (UTSORTAL).....................N/A
  DB2-SUPPLIED DECP INDICATOR.............................X'D5'      IGNORE SORTNUM STMT (IGNSORTN)................................NO
  MAX CONCURRENT PKG OPS (MAX_CONCURRENT_PKG_OPS)...............10   SET CHECK PENDING (CHECK_SETCHKP)...........................N/A
```

```
  ADMIN SCHEDULER JCL PROC NAME (ADMTPROC).....................N/P    UT DB2 SORT USE (DB2SORT).....................................N/A
  FREE LOCAL CACHED STATEMENTS (CACHEDYN_FREELOCAL)............N/A    TEMPLATE TIME (TEMPLATE_TIME)..................................UTC
  INDEX I/O PARALLELISM (INDEX_IO_PARALLELISM).................N/A    MAXIMUM DEGREE OF UTILITY PARALLELISM (PARAMDEG_UTIL).........99
  ZOSMETRICS.....................................................NO    FAST REPLICATION (CHECK_FASTREPLICATION)...............PREFERRED
  USE TRACKMOD FOR IMPLICIT TS (IMPTKMOD).....................YES    FAST RESTORE (REC_FASTREPLICATION).....................PREFERRED
  DSSIZE FOR IMPLICIT TS (IMPDSSIZE)..............................4   COPY FAST REPLICATION (COPY_FASTREPLICATION)...........PREFERRED
  ENABLE MULTIPLE INDEX ACCESS (SUBQ_MIDX).....................YES    FLASHCOPY PPRC (FLASHCOPY_PPRC).........................REQUIRED
  SP_PARMS_JV (DDF_COMPATIBILITY)................................NO   DEFAULT TEMPLATE (FCCOPYDDN).....................................
  SP_PARMS_NJV (DDF_COMPATIBILITY)...............................NO    ODS5.&DB..&SN..N&DS..D&JU..T&TI.
  DISABLE_IMPCAST_JV (DDF_COMPATIBILITY).........................NO   FLASHCOPY COPY (FLASHCOPY_COPY)...............................NO
  DISABLE_IMPCAST_NJV (DDF_COMPATIBILITY)........................NO   FLASHCOPY LOAD (FLASHCOPY_LOAD)...............................NO
  IGNORE_TZ (DDF_COMPATIBILITY)..................................NO   FLASHCOPY REORG TABLESPACE (FLASHCOPY_REORG_TS)...............NO
  DDF COMP PRIOR VERSION (DDF_COMPATIBILITY)...................N/P    FLASHCOPY REBUILD INDEX (FLASHCOPY_REBUILD_INDEX).............NO

1   LOCATION: RS22ODS5                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-5
      GROUP: ODS5                                SYSTEM PARAMETERS REPORT
     MEMBER: OCA5
  SUBSYSTEM: OCA5                                                                          ACTUAL FROM: 02/06/19 09:53:14.72
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  DYN STMT CACHE STOR (CACHE_DEP_TRACK_STOR_LIM)...............N/A    FLASHCOPY REORG INDEX (FLASHCOPY_REORG_INDEX).................NO
  ACTIVATE I/O SCHEDULING........................................YES   SYSTEM-LEVEL BACKUPS (SYSTEM_LEVEL_BACKUPS)...................NO
  VALUE FOR TRIGGER DRAIN........................................1    RESTORE/RECOVER (RESTORE_RECOVER_FROMDUMP).....................NO
  MAX NUMBER OF DDS WITH HOLD....................................3    DUMP CLASS NAME (UTILS_DUMP_CLASS_NAME)..................'BLANK'
  FIELD PROCS FOR DESCRIBE TABLE BLOCK...........................5    MAXIMUM TAPE UNITS (RESTORE_TAPEUNITS).........................0
  RESTRICT ALTER COLUMN FOR DCC (RESTRICT_ALT_COL_FOR_DCC).....NO     REORG PART SORT NPSI (REORG_PART_SORT_NPSI).................AUTO
  SPACE RESERVED FOR Z/OS FUNCTIONS.....................40,960      REORG LIST PROCESSING (REORG_LIST_PROCESSING)............PARALLEL
  SPACE RESERVED FOR CRITICAL WORK.....................26,279,936   REORG MAPPING DATABASE (REORG_MAPPING_DATABASE)..............N/P
  SPACE RESERVED ON TOP OF Z/OS AND CRITICAL SPACE....26,279,936   REORG DROP PBG PARTS (REORG_DROP_PBG_PARTS)...................NO
  DETAILED MEASURED UNIT PRICE TRACKING..........................NO   REORG IGNORE FREESPACE (REORG_IGNORE_FREESPACE).............N/A
  OTC LICENSE TERMS ACCEPTED.....................................NO   ALTERNATE COPYPOOL (ALTERNATE_CP)............................N/P
  SIMULATED CPUS.................................................0    DB BACKUP STG GROUP (UTIL_DBBSG).............................N/P
  CPU FOR EXPLAIN STATEMENTS (CPU_FOR_EXPLAIN)...................1    LOG BACKUP STG GROUP (UTIL_LGBSG)............................N/P
  MAX 'NOT FOUND' HASH RECORDS..................................100   HSM MESSAGE DS HLQ (UTILS_HSM_MSGDS_HLQ).....................N/P
  MAX EXTEND SERVICE TASKS......................................20
  PROJECT Z INSERTION THRESHOLD..................................2    DATABASES AND SPACES STARTED AUTOMATICALLY (DSNTIPS)
  MAX ZIVLEMPEL DICTIONARY ENTRIES.....................4,096        ----------------------------------------------------
  REORG KEEPDICTIONARY IN BRF TO RRF CONVERSION..............YES    ALL
  DRDA RESOLVE ALIAS (DRDA_RESOLVE_ALIAS).....................YES
  PC YES SPECIFIED...........................................YES    ICF CATALOG QUALIFIERS
  BLOCK OPT 1 ROW SORT (OPT1ROWBLOCKSORT).....................NO    ----------------------
  EMPTY XML ELEMENT (XML_RESTRICT_EMPTY_TAG)....................NO   ODS5
  SUPPRESS_HINT_SQLCODE_DYN (SUPPRESS_HINT_SQLCODE_DYN) .......NO
  INDEX MEMORY CONTROL (INDEX_MEMORY_CONTROL).................AUTO    SIZES PANEL 1 (DSNTIPD)
  SELECT FOR UNLOAD (AUTH_COMPATIBILITY).........................NO   ----------------------
  MATERIALIZE NODET SQLTUDF (MATERIALIZE_NODET_SQLTUDF).........NO    LOB INLINE LENGTH (LOB_INLINE_LENGTH).........................25
  ENCRYPTION_KEYLABEL (ENCRYPTION_KEYLBL).....................N/P    USER LOB VALUE STORAGE IN KB (LOBVALA).....................N/A
                                                                    SYSTEM LOB VALUE STORAGE IN MB (LOBVALS).................51,200
  DEFAULT STARTUP MODULES (DSNTIPO3)                                USER XML VALUE STG IN KB (XMLVALA).........................N/A
  ----------------------------------                                SYSTEM XML VAL STG IN MB (XMLVALS).......................51,200
```

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  PARAMETER MODULE.....................................OCA5PARM
  ACCESS CONTROL (ACCESS_CNTL_MODULE)..................DSNX@XAC
  IDENTIFY/AUTH (IDAUTH_MODULE)........................DSN3@ATH
  SIGNON (SIGNON_MODULE)...............................DSN3@SGN

  INSTALL DB2 - RESOURCE LIMIT FACILITY (DSNTIPO4)
  ------------------------------------------------
  RESOURCE LIMIT FACILITY AUTOMATIC START (RLF).................NO
  RESOURCE LIMIT SPECIFICATION TABLE SUFFIX (RLFTBL)............01
  RESOURCE LIMIT DYNAMIC ERROR ACTION (RLFERR)..............NOLIMIT
  RESOURCE LIMIT STATIC ERROR ACTION (RLFERRSTC)............NOLIMIT
  RLF REMOTE DYNAMIC ERROR ACTION (RLFERRD).................NOLIMIT
  RLF REMOTE STATIC ERROR ACTION (RLFERRDSTC)...............NOLIMIT
  RLF SCOPE (RLFENABLE)....................................DYNAMIC

  DATA PARAMETERS PANEL (DSNTIPA3)
  --------------------------------
  ZHYPERLINKS SCOPE (ZHYPERLINK).........................DATABASE

  PROTECTION PANEL (DSNTIPP1)
  ---------------------------
  SECURITY ADMINISTRATOR 1 AUTHORIZATION ID (SECADM1)......SECADM
  SECURITY ADMINISTRATOR 1 TYPE (SECADM1_TYPE).............AUTHID
  SECURITY ADMINISTRATOR 2 AUTHORIZATION ID (SECADM2)......SECADM
  SECURITY ADMINISTRATOR 2 TYPE (SECADM2_TYPE).............AUTHID
  SEPARATE SECURITY DUTIES (SEPARATE_SECURITY)...................NO
  INCLUDE DEPENDENT PRIVILEGES (REVOKE_DEP_PRIVILEGES).........NO

  DB2 CATALOG AND DIRECTORY PANEL (DSNTIPA2)
  ------------------------------------------
  SMS DATA CLASS FOR CATALOG DATA (CATDDACL)..................N/P
  SMS MANAGEMENT CLASS FOR CATALOG DATA (CATDMGCL)............N/P
  SMS STORAGE CLASS FOR CATALOG DATA (CATDSTCL)...............N/P
  SMS DATA CLASS FOR CATALOG INDEX DATA (CATXDACL)............N/P
  SMS MANAGEMENT CLASS FOR CATALOG INDEX DATA (CATXMGCL)......N/P
  SMS STORAGE CLASS FOR CATALOG INDEX DATA (CATXSTCL).........N/P
  COMPRESS SPT01 (COMPRESS_SPT01).................................NO
  SPT01 INLINE LENGTH (SPT01_INLINE_LENGTH).....................-1

1   LOCATION: RS25OC1A                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-1
      GROUP: N/P                               SYSTEM PARAMETERS REPORT
     MEMBER: N/P
   SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 13:50:03.58
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-
  MVS PARMLIB UPDATE PARAMETERS (DSNTIPM)
  ---------------------------------------
  SUBSYSTEM DEFAULT (SSID).....................................OC1A
  SUPPRESS SOFT ERRORS (SUPERRS)...............................YES

  STORAGE SIZES INSTALLATION PARMS (DSNTIPC,DSNTIPE,DSNTIPE1)
  -----------------------------------------------------------
  MAX NO OF DATA SETS CONCURRENTLY IN USE (DSMAX)...........3,000
  EDM STATEMENT CACHE SIZE IN KB (EDMSTMTC).............56,693
  EDM DBD CACHE SIZE IN KB (EDMDBDC)....................11,700
  EDM SKELETON POOL SIZE IN KB (EDM_SKELETON_POOL).....102,400
  MAXIMUM SIZE OF EDM POOL IN BYTES (EDMPOOL)...............N/A
  MAXIMUM SIZE OF SORT POOL IN BYTES (SRTPOOL).....10,240,000
  MAX IN-MEMORY SORT SIZE (MAXSORT_IN_MEMORY)...............1,000
  MAXIMUM SIZE OF RID POOL IN KB (MAXRBLK)..................8,000
  MAX NO OF USERS CONCURRENTLY RUNNING IN DB2 (CTHREAD).....200
  MAX NO OF CONCURRENT REMOTE ACTIVE CONNECTIONS (MAXDBAT)....200
  MAX NO OF REMOTE CONNECTIONS (CONDBAT)...................10,000
  MAX NO OF TSO CONNECTIONS (IDFORE).........................50
  MAX NO OF BATCH CONNECTIONS (IDBACK).......................50
  MAXIMUM KEPT DYNAMIC STATEMENTS (MAXKEEPD).............5,000
  MAX OPEN FILE REFS (MAXOFILR)..............................100
  MANAGE REAL STORAGE (REALSTORAGE_MANAGEMENT).............AUTO

  IRLM INSTALLATION PARAMETERS (DSNTIPI)
  --------------------------------------
  IRLM SUBSYSTEM NAME (IRLMSID)..............................IR1C
  IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT)...................30
  IRLM AUTOMATIC START (IRLMAUT).............................YES
  IRLM START PROCEDURE NAME (IRLMPRC).....................OC1AIRLM
  SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT).............300
  U LOCK FOR REPEATABLE READ OR READ STABILITY (RRULOCK)......YES
  X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT).................NO
  IMS/BMP TIMEOUT FACTOR (BMPTOUT)..............................4
  IMS/DLI TIMEOUT FACTOR (DLITOUT)..............................6
  WAIT FOR RETAINED LOCKS (RETLWAIT)............................0
  ENABLE DB CHECKING.........................................NO
  IRLM INITIALIZATION TIME.....................................1

  IRLM PROCESSING PARAMETERS
  --------------------------
  WAIT TIME FOR LOCAL DEADLOCK............................1,000
  NUMBER OF LOCAL CYCLES PER GLOBAL CYCLE.....................1
  TIMEOUT INTERVAL...........................................30
  IRLM MAXIMUM CSA USAGE ALLOWED..............................0
  Z/OS LOCK TABLE HASH ENTRIES................................0
  PENDING NUMBER OF HASH ENTRIES..............................0
```

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  MAXIMUM REAL STORAGE (REALSTORAGE_MAX).......................0
  CONTRACT THREAD STORAGE (CONTSTOR).........................N/A
  MANAGE THREAD STORAGE (MINSTOR)............................N/A
  LONG-RUNNING READER IN MINUTES (LRDRTHLD)...................10
  DDL TIMEOUT FACTOR (DDLTOX)...................................1
  INDEX CLEANUP THREADS (INDEX_CLEANUP_THREADS)...............10

  TRACING, CHECKPOINT & PSEUDO-CLOSE PARAMETERS (DSNTIPN)
  -------------------------------------------------------
  START AUDIT TRACE (AUDITST)...................................NO
  START GLOBAL TRACE (TRACSTR)..................................NO
  TRACE TABLE SIZE IN 4K BYTES (TRACTBL)........................16
  LOCAL TRACE TABLE SIZE IN 4K BYTES (TRACLOC)..................16
  START SMF ACCOUNTING (SMFACCT)............................1,2,3
  START SMF STATISTICS (SMFSTAT)............................1,3,4
  STATISTICS TIME INTERVAL IN MINUTES (STATIME)................30
  SYNCHRONIZATION INTERVAL WITHIN THE HOUR (SYNCVAL)............NO
  ONLINE DATASET STATISTICS TIME INTERVAL IN MIN.(DSSTIME).....5
  START MONITOR TRACE (MON).....................................NO
  MONITOR BUFFER SIZE IN BYTES (MONSIZE)................1,048,576
  UNICODE IFCIDS (UIFCIDS).....................................YES
  DDF/RRSAF ACCUM (ACCUMACC)....................................10
  AGGREGATION FIELDS (ACCUMUID).................................0
  COMPRESS SMF RECS (SMFCOMP)...............................OFF

  Z/OS LOCK TABLE LIST ENTRIES................................0
  MAX 31-BIT IRLM PRIVATE STORAGE.............................0
  MAX 64-BIT IRLM PRIVATE STORAGE.............................0

  ARCHIVE LOG INSTALLATION PARAMETERS (DSNTIPA)
  ---------------------------------------------
  CATALOG ARCHIVE DATASETS (CATALOG).....................NO
  COPY1 ARCHIVE LOG DEVICE TYPE (UNIT).....................3390
  COPY2 ARCHIVE LOG DEVICE TYPE (UNIT2)..................'BLANK'
  SPACE ALLOCATION METHOD (ALCUNIT).....................CYLINDER
  PRIMARY SPACE ALLOCATION (PRIQTY).....................25
  SECONDARY SPACE ALLOCATION (SECQTY)...................25
  ARCHIVE LOG BLOCK SIZE IN BYTES (BLKSIZE).............24,576
  MAXIMUM READ TAPE UNITS (MAXRTU).....................2
  TAPE UNIT DEALLOCATION PERIOD (DEALLCT).....0000:00
  MAX NUMBER OF DATASETS RECORDED IN BSDS (MAXARCH).....10,000
  FIRST ARCHIVE COPY MASS STG GROUP NAME..............'NONE'
  SECOND ARCHIVE COPY MASS STG GROUP NAME.............'NONE'
  DAYS TO RETAIN ARCHIVE LOG DATA SETS (ARCRETN).....0
  ISSUE WTOR BEFORE MOUNT FOR ARCHIVE VOLUME (ARCWTOR).....YES
  COMPACT DATA (COMPACT).....NO
  QUIESCE PERIOD (QUIESCE).....5
  SINGLE VOLUME (SVOLARC).....YES

1   LOCATION: RS25OC1A                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-2
      GROUP: N/P                               SYSTEM PARAMETERS REPORT
     MEMBER: N/P
   SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 13:50:03.58
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-
  DISTRIBUTED DATA FACILITY PANEL 2 (DSNTIP5)
  -------------------------------------------
  TCP/IP ALREADY VERIFIED (TCPALVER).....................YES
  EXTRA BLOCKS REQ (EXTRAREQ).....................100
  EXTRA BLOCKS SRV (EXTRASRV).....................100
  TCP/IP KEEPALIVE (TCPKPALV).....................120
  CONNECTION QUEUE MAX DEPTH (MAXCONQN).....0
  CONNECTION QUEUE MAX WAIT (MAXCONQW).....0
  POOL THREAD TIMEOUT (POOLINAC).....120

  PROTECTION INSTALLATION PARAMETERS (DSNTIPP)
  --------------------------------------------
  ARCHIVE LOG RACF PROTECTION (PROTECT).....NO
  DB2 AUTHORIZATION ENABLED (AUTH).....YES
  PLAN AUTHORIZATION CACHE SIZE (AUTHCACH).....3,072
  PACKAGE AUTHORIZATION CACHE SIZE (CACHEPAC).....5,242,880
  ROUTINE AUTHORIZATION CACHE SIZE (CACHERAC).....5,242,880
  AUTH EXIT CHECK (AUTHEXIT_CHECK).....PRIMARY
  AUTH EXIT CACHE REFRESH (AUTHEXIT_CACHEREFRESH).....NONE

  DEFINE GROUP OR MEMBER (DSNTIPK)
  --------------------------------
  GROUP NAME (GRPNAME).....N/P
  MEMBER NAME (MEMBNAME).....N/P
  MAX NUMBER OF MEMBERS.....248
  RANDOM ATTACH (RANDOMATT).....YES
  DEL CF STRUCTS (DEL_CFSTRUCTS_ON_RESTART).....NO

  DISTRIBUTED DATA FACILITY PANEL 1 (DSNTIPR)
  -------------------------------------------
  FACILITY NAME.....DDF
  DDF STARTUP OPTION (DDF).....AUTO
  RESYNCHRONIZATION INTERVAL IN MINUTES (RESYNC).....2
  DBAT STATUS (CMTSTAT).....INACTIVE
  MAX TYPE 1 INACTIVE THREADS (MAXTYPE1).....0
  IDLE THREAD TIMEOUT INTERVAL (IDTHTOIN).....180
  EXTENDED SECURITY (EXTSEC).....YES
  USER ID AND PASSWORD REQUIRED.....N/A
  SQL INTERRUPT PROCESSING DISABLED (SQLINTRP).....NO
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  SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM)........DB2SYSP    PRIVATE PROTOCOL (PRIVATE_PROTOCOL).........................NO
  SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2).......CSMARK
  SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1)............CSMARK    LOCK ESCALATION PARAMETERS (DSNTIPJ)
  SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2)............TSSAL     ----------------------------------
  DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID).......IBMUSER   MAX PAGE OR ROW LOCKS PER TABLE SPACE (NUMLKTS)...........1,000
  RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH)..........SYSIBM    MAX PAGE OR ROW LOCKS PER USER (NUMLKUS).................10,000
  BIND NEW PACKAGE (BINDNV)...............................BINDADD
  DBA CREATE VIEW (DBACRVW)...............................YES       LOG INSTALLATION PARAMETERS (DSNTIPL,DSNTIPH)
                                                                    ---------------------------------------------
  DATA DEFINITION CONTROL SUPPORT (DSNTIPZ)                         OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF).....................400
  ----------------------------------------                          CHECKPOINT TYPE (CHKTYPE)...............................SINGLE
  INSTALL DD CONTROL (RGFINSTL)...........................NO        RECORDS/CHECKPOINT (CHKLOGR)..................................N/P
  CONTROL ALL APPLICATIONS (RGFDEDPL).....................NO        MINUTES/CHECKPOINT (CHKMINS)..................................N/P
  REQUIRE FULL NAMES (RGFFULLQ)...........................YES       CHECKPOINT FREQUENCY (CHKFREQ).....................1,000,000
  UNREGISTERED DDL DEFAULT (RGFDEFLT).....................ACCEPT    UR CHECK FREQUENCY (URCHKTH)...................................5
  REGISTER TABLE OWNER (RGFCOLID).........................DSNRGCOL  UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH)...............5
  DDL REGISTRATION DATABASE NAME (RGFDBNAM)...............DSNRGFDB  LIMIT BACKOUT (LBACKOUT)...................................AUTO
  APPL REGISTRATION TABLE NAME (RGFNMPRT).....DSN_REGISTER_APPL     BACKOUT DURATION (BACKODUR)....................................5
  OBJECT REGISTRATION TABLE NAME (RGFNMORT)...DSN_REGISTER_OBJT     PSEUDO-CLOSE FREQUENCY (PCLOSEN)...............................5
  ESCAPE CHARACTER (RGFESCP)..............................X'40'     PSEUDO-CLOSE TIMER (PCLOSET)..................................60
                                                                    CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ)................5
  DB2 VERSION INSTALL (DSNTIPA1)                                    NUMBER OF ACTIVE LOG COPIES (TWOACTV).........................2
  ------------------------------                                    NUMBER OF ARCHIVE LOG COPIES (TWOARCH)........................1
  DATA SHARING ENABLED (DSHARE)...........................NO        COPY 1 PREFIX (ARCPFX1).........................OC1A.ARCHLOG1
  CURRENT DB2 RELEASE (NEWFUN)............................N/A       COPY 2 PREFIX (ARCPFX2).....................................DSNARC2
  CURRENT DB2 RELEASE - 1.................................N/A       TIMESTAMP ARCHIVE LOG DATA SETS (TSTAMP).....................YES
  CURRENT DB2 RELEASE - 2.................................N/A
  COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB).........NO
1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-3
      GROUP: N/P                             SYSTEM PARAMETERS REPORT
     MEMBER: N/P
   SUBSYSTEM: OC1A                                                                  ACTUAL FROM: 02/27/19 13:50:03.58
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  APPLICATION PROGRAMMING DEFAULTS PANEL 1 (DSNTIPF)                APPLICATION PROGRAMMING DEFAULTS PANEL 2 (DSNTIP4,DSNTIP41)
  --------------------------------------------------                ----------------------------------------------------------
  DEFAULT HOST LANGUAGE (DEFLANG).....................IBMCOB       MINIMUM DIVIDE SCALE (DECDIV3)..............................NO
  DECIMAL POINT OPTION (DECIMAL)......................PERIOD       DECIMAL ARITHMETIC (DECARTH)...............................DEC15
  DEFAULT DELIMITER (DELIM)...........................DEFAULT      USE FOR DYNAMIC RULES (DYNRULS).............................YES
  DEFAULT SQL DELIMITER (SQLDELI).....................DEFAULT      STATIC DESCRIBE (DESCSTAT)..................................YES
  DIST SQL STRING DELIMITER (DSQLDELI)................APOST        DATE FORMAT (DATE)..........................................USA
  DEFAULT MIXED GRAPHIC (MIXED).......................NO           TIME FORMAT (TIME)..........................................ISO
  EBCDIC SBCS CCSID (SCCSID)..........................37           LOCAL DATE LENGTH (DATELEN).................................N/A
  EBCDIC MBCS CCSID (MCCSID)..........................N/P          LOCAL TIME LENGTH (TIMELEN).................................N/A
  EBCDIC GBCS CCSID (GCCSID)..........................N/P          IMPLICIT TIMEZONE.....................................CURRENT
  ASCII SBCS CCSID (ASCCSID)..........................437          STD SQL LANGUAGE (STDSQL)...................................NO
  ASCII MBCS CCSID (AMCCSID)..........................N/P          PAD NULL-TERMINATED (PADNTSTR)..............................YES
  ASCII GBCS CCSID (AGCCSID)..........................N/P          APPL COMPAT LEVEL (APPLCOMPAT).........................V12R1M500
  UNICODE SBCS CCSID (USCCSID)........................367          LIKE BLANK INSIGNIFICANT (LIKE_BLANK_INSIGNIFICANT).........NO
  UNICODE MBCS CCSID (UMCCSID)........................1,208        FULLY QUALIFIED NAME OF DSNHDECP LOAD MODULE................
```

```
  UNICODE GBCS CCSID (UGCCSID)........................1,200        OC1A.SDSNEXIT(DSNHDECP)
  DEFAULT ENCODING SCHEME (ENSCHEME)..................EBCDIC
  APPLICATION ENCODING (APPENSCH).....................EBCDIC       OPERATOR FUNCTIONS INSTALLATION PARAMETERS (DSNTIPO)
  LOCALE LC_TYPE (LC_CTYPE)...........................'BLANK'      -----------------------------------------------------
  DECFLOAT ROUND MODE (DEF_DECFLOAT_ROUND_MODE)...ROUND_HALF_EVEN   WTO ROUTE CODES (ROUTCDE).....................................1
                                                                    AUTO BIND (ABIND)..........................................YES
  SQL OBJECT DEFAULTS PANEL (DSNTIP7,DSNTIP71,DSNTIP72)             ALLOW EXPLAIN AT AUTOBIND (ABEXP)..........................YES
  -----------------------------------------------------             DPROP SUPPORT (EDPROP).....................................NO
  REORDERED ROW FORMAT (RRF)..........................N/A          SITE TYPE (SITETYP).....................................LOCALSITE
  OBJECT CREATE FORMAT (OBJECT_CREATE_FORMAT).............BASIC    TRACKER SITE (TRKRSITE).....................................NO
  UTILITY OBJECT CONVERSION (UTILITY_OBJECT_CONVERSION).....NONE    READ COPY2 ARCHIVE (ARC2FRST)...............................NO
  VARY DS CONTROL INTERVAL (DSVCI)....................YES          REAL TIME STATS (STATSINT)..................................15
  TABLE SPACE ALLOCATION IN KB (TSQTY)..........................0  STATISTICS FEEDBACK (STATFDBK_SCOPE).....................ALL
  INDEX SPACE ALLOCATION IN KB (IXQTY)..........................0  PROFILE AUTOSTART (PROFILE_AUTOSTART).......................NO
  OPTIMIZE EXTENT SIZING (MGEXTSZ)....................YES
  PAD INDEX BY DEFAULT (PADIX)........................NO           ROUTINE PARAMETERS (DSNTIPX)
  DEFAULT PARTITION SEGSIZE (DPSEGSZ)...........................32 ---------------------------
  PERCENT FREE FOR UPDATE (PCTFREE_UPD)..........................0  MAX ABEND COUNT (STORMXAB).................................255
  DEFINE DATA SETS (IMPDSDEF).........................YES          TIMEOUT VALUE (STORTIME).....................................5
  USE DATA COMPRESSION (IMPTSCMP).....................NO           WLM ENVIRONMENT (WLMENV)...............................OC1AWLM1
  LIMIT KEY CONV PART TAB (IX_TB_PART_CONV_EXCLUDE)...NO           MAX OPEN CURSORS (MAX_NUM_CUR)..............................500
  PAGE SET PAGE NUMBERING (PAGESET_PAGENUM)...............A        MAX STORED PROCS (MAX_ST_PROC).............................2,000
  RETRY STOPPED OBJECTS (RETRY_STOPPED_OBJECTS).......NO           MAXIMUM NUMBER OF LE TOKENS (LEMAX).....................N/A
  RENAME TABLE (RENAMETABLE)..........................NO           BIF COMPATIBILITY (BIF_COMPATIBILITY).....................CURRENT
  PREVENT ALTER LIMITKEY (PREVENT_ALTERTB_LIMITKEY)...NO
  PREVENT INDEX PART CREATE (PREVENT_NEW_IXCTRL_PART).NO
  DDL MATERIALIZATION (DDL_MATERIALIZATION).....ALWAYS_IMMEDIATE
  DEFAULT INSERT ALGORITHM (DEFAULT_INSERT_ALGORITHM)...........2

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-4
      GROUP: N/P                             SYSTEM PARAMETERS REPORT
     MEMBER: N/P
   SUBSYSTEM: OC1A                                                                  ACTUAL FROM: 02/27/19 13:50:03.58
 DB2 VERSION: V12

  PERFORMANCE AND OPTIMIZATION (DSNTIP8,DSNTIP81)                   BUFFER POOL PARAMETERS (DSNTIP1)
  -----------------------------------------------                   --------------------------------
  CACHE DYNAMIC SQL (CACHEDYN)........................YES          DEFAULT  4-KB BUFFER POOL FOR USER DATA (TBSBPOOL)..........BP0
  CACHE DYN STABILITY (CACHEDYN_STABILIZATION).............BOTH   DEFAULT  8-KB BUFFER POOL FOR USER DATA (TBSBP8K).........BP8K0
  OPTIMIZATION HINTS ALLOWED (OPTHINTS).....................NO    DEFAULT 16-KB BUFFER POOL FOR USER DATA (TBSBP16K).......BP16K0
  EVALUATE UNCOMMITTED (EVALUNC)............................NO    DEFAULT 32-KB BUFFER POOL FOR USER DATA (TBSBP32K).........BP32K
  SKIP UNCOMM INSERTS (SKIPUNCI)............................NO    DEFAULT BUFFER POOL FOR USER LOB DATA (TBSBPLOB).............BP0
  IMMEDWRITE OVERRIDE FLAG (IMMEDWRI).......................NO    DEFAULT BUFFER POOL FOR USER XML DATA (TBSBPXML).........BP16K0
  REBIND PLANMGMT DEFAULT (PLANMGMT)........................OFF   DEFAULT BUFFER POOL FOR USER INDEXES (IDXBPOOL).............BP0
  PLANMGMTSCOPE DEFAULT (PLANMGMTSCOPE)...................STATIC
  PACKAGE RELEASE COMMIT (PKGREL_COMMIT)..............YES          QUERY ACCELERATOR PREFERENCES (DSNTIP82)
  RANDOMIZE XML DOCID (XML_RANDOMIZE_DOCID)...........NO           ----------------------------------------
  DISABLE EDM RTS (DISABLE_EDMRTS)....................NO           ACCELERATOR STARTUP OPTION (ACCEL).....................COMMAND
  CURRENT DEGREE (CDSSRDEF)...........................ANY          GET ACCEL ARCHIVE (GET_ACCEL_ARCHIVE).......................NO
  MAX DEGREE OF PARALLELISM (PARAMDEG)..........................0  ACCELERATION OPTIONS (QUERY_ACCEL_OPTIONS)..........(1,2,3,5,6)
```

```
  MAX DEGREE FOR DPSI (PARAMDEG_DPSI).....0
  PARALLELISM EFFICIENCY (PARA_EFF).....50
  STAR JOIN ENABLING (STARJOIN) .....DISABLE
  MAX DATA CACHING IN MB (MXDTCACH).....20
  CURRENT REFRESH AGE (REFSHAGE).....0
  CURRENT MAINT TYPE (MAINTYPE).....SYSTEM
  STATS PROFILE FEEDBACK (STATFDBK_PROFILE).....YES

  OTHER SYSTEM PARAMETERS
  -----------------------
  DUAL BSDS MODE (TWOBSDS).....YES
  ROLL UP PARALLEL TASK ACCOUNTING (PTASKROL).....YES
  NO. PAGES SMALL TABLE THRESHOLD (NPGTHRSH).....0
  OFFLOAD OPTION (OFFLOAD).....YES
  SU CONVERSION FACTOR.....200
  MINIMUM DIVIDE SCALE (MINDVSCL).....NONE
  STAR JOIN THRESHOLD (SJTABLES).....10
  ONLINE SYSTEM PARM USER ID MONITOR.....N/P
  ONLINE SYSTEM PARM CORREL ID MONITOR.....N/P
  ONLINE SYSTEM PARM TIME CHANGED.....N/P
  ONLINE SYSTEM PARM TYPE.....N/P
  DB2-SUPPLIED DECP INDICATOR.....X'D5'
  MAX CONCURRENT PKG OPS (MAX_CONCURRENT_PKG_OPS).....10
  ADMIN SCHEDULER JCL PROC NAME (ADMTPROC).....N/P
  FREE LOCAL CACHED STATEMENTS (CACHEDYN_FREELOCAL).....N/A
  INDEX I/O PARALLELISM (INDEX_IO_PARALLELISM).....N/A
  ZOSMETRICS.....NO
  USE TRACKMOD FOR IMPLICIT TS (IMPTKMOD).....YES
  DSSIZE FOR IMPLICIT TS (IMPDSSIZE).....4
  ENABLE MULTIPLE INDEX ACCESS (SUBQ_MIDX).....YES
  SP_PARMS_JV (DDF_COMPATIBILITY).....NO
  SP_PARMS_NJV (DDF_COMPATIBILITY).....NO
  DISABLE_IMPCAST_JV (DDF_COMPATIBILITY).....NO
  DISABLE_IMPCAST_NJV (DDF_COMPATIBILITY).....NO
  IGNORE_TZ (DDF_COMPATIBILITY).....NO
  DDF COMP PRIOR VERSION (DDF_COMPATIBILITY).....N/P

  CURRENT QUERY ACCEL (QUERY_ACCELERATION).....ENABLE
  ACCELERATION MODELING (ACCELMODEL).....NO
  REMOTE COPY SW ACCEL (REMOTE_COPY_SW_ACCEL).....NO
  HTAP WAIT INTERVAL (QUERY_ACCEL_WAITFORDATA).....0.0

  WORKFILE DATABASE PANEL (DSNTIP91)
  ----------------------------------
  MAX TEMP STORAGE PER AGENT IN MB (MAXTEMPS).....0
  SEPARATE WORK FILES (WFDBSEP).....NO
  MAX TEMP RID (MAXTEMPS_RID).....NOLIMIT
  AGENT LEVEL THRESHOLD (WFSTGUSE_AGENT_THRESHOLD).....0
  SYSTEM LEVEL THRESHOLD (WFSTGUSE_SYSTEM_THRESHOLD).....90

  DB2 UTILITIES PARAMETERS (DSNTIP6,DSNTIP61,DSNTIP62)
  ----------------------------------------------------
  TEMPORARY UNIT NAME (VOLTDEVT).....SYSDA
  UTIL TEMP STORCLAS (UTIL_TEMP_STORCLAS).....N/P
  STATISTICS HISTORY (STATHIST).....ALL
  STATISTICS ROLLUP (STATROLL).....YES
  UTILITY TIMEOUT FACTOR (UTIMOUT).....6
  UT SORT DATA SET ALLOCATION (UTSORTAL).....N/A
  IGNORE SORTNUM STMT (IGNSORTN).....NO
  SET CHECK PENDING (CHECK_SETCHKP).....N/A
  UT DB2 SORT USE (DB2SORT).....N/A
  TEMPLATE TIME (TEMPLATE_TIME).....UTC
  MAXIMUM DEGREE OF UTILITY PARALLELISM (PARAMDEG_UTIL).....99
  FAST REPLICATION (CHECK_FASTREPLICATION).....PREFERRED
  FAST RESTORE (REC_FASTREPLICATION).....PREFERRED
  COPY FAST REPLICATION (COPY_FASTREPLICATION).....PREFERRED
  FLASHCOPY PPRC (FLASHCOPY_PPRC).....REQUIRED
  DEFAULT TEMPLATE (FCCOPYDDN).....
  OC1A.&DB..&SN..N&DS..D&JU..T&TI.
  FLASHCOPY COPY (FLASHCOPY_COPY).....NO
  FLASHCOPY LOAD (FLASHCOPY_LOAD).....NO
  FLASHCOPY REORG TABLESPACE (FLASHCOPY_REORG_TS).....NO
  FLASHCOPY REBUILD INDEX (FLASHCOPY_REBUILD_INDEX).....NO

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-5
       GROUP: N/P                            SYSTEM PARAMETERS REPORT
      MEMBER: N/P
    SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 13:50:03.58
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  DYN STMT CACHE STOR (CACHE_DEP_TRACK_STOR_LIM).....N/A
  ACTIVATE I/O SCHEDULING.....YES
  VALUE FOR TRIGGER DRAIN.....1
  MAX NUMBER OF DDS WITH HOLD.....3
  FIELD PROCS FOR DESCRIBE TABLE BLOCK.....5
  RESTRICT ALTER COLUMN FOR DCC (RESTRICT_ALT_COL_FOR_DCC).....NO
  SPACE RESERVED FOR Z/OS FUNCTIONS.....40,960

  FLASHCOPY REORG INDEX (FLASHCOPY_REORG_INDEX).....NO
  SYSTEM-LEVEL BACKUPS (SYSTEM_LEVEL_BACKUPS).....NO
  RESTORE/RECOVER (RESTORE_RECOVER_FROMDUMP).....NO
  DUMP CLASS NAME (UTILS_DUMP_CLASS_NAME).....'BLANK'
  MAXIMUM TAPE UNITS (RESTORE_TAPEUNITS).....0
  REORG PART SORT NPSI (REORG_PART_SORT_NPSI).....AUTO
  REORG LIST PROCESSING (REORG_LIST_PROCESSING).....PARALLEL
```

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  SPACE RESERVED FOR CRITICAL WORK.....26,279,936
  SPACE RESERVED ON TOP OF Z/OS AND CRITICAL SPACE.....26,279,936
  DETAILED MEASURED UNIT PRICE TRACKING.....NO
  OTC LICENSE TERMS ACCEPTED.....NO
  SIMULATED CPUS.....0
  CPU FOR EXPLAIN STATEMENTS (CPU_FOR_EXPLAIN).....2
  MAX 'NOT FOUND' HASH RECORDS.....100
  MAX EXTEND SERVICE TASKS.....20
  PROJECT Z INSERTION THRESHOLD.....2
  MAX ZIVLEMPEL DICTIONARY ENTRIES.....4,096
  REORG KEEPDICTIONARY IN BRF TO RRF CONVERSION.....YES
  DRDA RESOLVE ALIAS (DRDA_RESOLVE_ALIAS).....YES
  PC YES SPECIFIED.....YES
  BLOCK OPT 1 ROW SORT (OPT1ROWBLOCKSORT).....NO
  EMPTY XML ELEMENT (XML_RESTRICT_EMPTY_TAG).....NO
  SUPPRESS_HINT_SQLCODE_DYN (SUPPRESS_HINT_SQLCODE_DYN) .....NO
  INDEX MEMORY CONTROL (INDEX_MEMORY_CONTROL).....AUTO
  SELECT FOR UNLOAD (AUTH_COMPATIBILITY).....NO
  MATERIALIZE NODET SQLTUDF (MATERIALIZE_NODET_SQLTUDF).....NO
  ENCRYPTION_KEYLABEL (ENCRYPTION_KEYLBL).....
  DB2SYS.KEY01

  DEFAULT STARTUP MODULES (DSNTIPO3)
  ----------------------------------
  PARAMETER MODULE.....OC1APARM
  ACCESS CONTROL (ACCESS_CNTL_MODULE).....DSNX@XAC
  IDENTIFY/AUTH (IDAUTH_MODULE).....DSN3@ATH
  SIGNON (SIGNON_MODULE).....DSN3@SGN

  INSTALL DB2 - RESOURCE LIMIT FACILITY (DSNTIPO4)
  ------------------------------------------------
  RESOURCE LIMIT FACILITY AUTOMATIC START (RLF).....NO
  RESOURCE LIMIT SPECIFICATION TABLE SUFFIX (RLFTBL).....01
  RESOURCE LIMIT DYNAMIC ERROR ACTION (RLFERR).....NOLIMIT
  RESOURCE LIMIT STATIC ERROR ACTION (RLFERRSTC).....NOLIMIT
  RLF REMOTE DYNAMIC ERROR ACTION (RLFERRD).....NOLIMIT
  RLF REMOTE STATIC ERROR ACTION (RLFERRDSTC).....NOLIMIT
  RLF SCOPE (RLFENABLE).....DYNAMIC

  DATA PARAMETERS PANEL (DSNTIPA3)
  --------------------------------
  ZHYPERLINKS SCOPE (ZHYPERLINK).....DISABLE

  REORG MAPPING DATABASE (REORG_MAPPING_DATABASE).....N/P
  REORG DROP PBG PARTS (REORG_DROP_PBG_PARTS).....NO
  REORG IGNORE FREESPACE (REORG_IGNORE_FREESPACE).....N/A
  ALTERNATE COPYPOOL (ALTERNATE_CP).....N/P
  DB BACKUP STG GROUP (UTIL_DBBSG).....N/P
  LOG BACKUP STG GROUP (UTIL_LGBSG).....N/P
  HSM MESSAGE DS HLQ (UTILS_HSM_MSGDS_HLQ).....N/P

  DATABASES AND SPACES STARTED AUTOMATICALLY (DSNTIPS)
  ----------------------------------------------------
  ALL

  ICF CATALOG QUALIFIERS
  ----------------------
  OC1A

  SIZES PANEL 1 (DSNTIPD)
  -----------------------
  LOB INLINE LENGTH (LOB_INLINE_LENGTH).....25
  USER LOB VALUE STORAGE IN KB (LOBVALA).....N/A
  SYSTEM LOB VALUE STORAGE IN MB (LOBVALS).....51,200
  USER XML VALUE STG IN KB (XMLVALA).....N/A
  SYSTEM XML VAL STG IN MB (XMLVALS).....51,200

  PROTECTION PANEL (DSNTIPP1)
  ---------------------------
  SECURITY ADMINISTRATOR 1 AUTHORIZATION ID (SECADM1).....SECADM
  SECURITY ADMINISTRATOR 1 TYPE (SECADM1_TYPE).....AUTHID
  SECURITY ADMINISTRATOR 2 AUTHORIZATION ID (SECADM2).....SECADM
  SECURITY ADMINISTRATOR 2 TYPE (SECADM2_TYPE).....AUTHID
  SEPARATE SECURITY DUTIES (SEPARATE_SECURITY).....NO
  INCLUDE DEPENDENT PRIVILEGES (REVOKE_DEP_PRIVILEGES).....NO

  DB2 CATALOG AND DIRECTORY PANEL (DSNTIPA2)
  ------------------------------------------
  SMS DATA CLASS FOR CATALOG DATA (CATDDACL).....N/P
  SMS MANAGEMENT CLASS FOR CATALOG DATA (CATDMGCL).....N/P
  SMS STORAGE CLASS FOR CATALOG DATA (CATDSTCL).....N/P
  SMS DATA CLASS FOR CATALOG INDEX DATA (CATXDACL).....N/P
  SMS MANAGEMENT CLASS FOR CATALOG INDEX DATA (CATXMGCL).....N/P
  SMS STORAGE CLASS FOR CATALOG INDEX DATA (CATXSTCL).....N/P
  COMPRESS SPT01 (COMPRESS_SPT01).....NO
  SPT01 INLINE LENGTH (SPT01_INLINE_LENGTH).....-1

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-6
       GROUP: N/P                            SYSTEM PARAMETERS REPORT
      MEMBER: N/P
    SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 13:50:03.58
 DB2 VERSION: V12
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  BUFFER POOL PARAMETERS
  ----------------------------------------------------------------------------------------------------
  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                          2000
  BUFFER POOL ID                      BP0        VPOOL SEQ THRESH                             80
                                                 HORIZ DEFER WRITE THRESH                     30
                                                 VERT DEFER WRITE THRESH (%)                   5
                                                 VERT DEFER WRITE THRESH (BUF)                 0
                                                 VPOOL PARALLEL SEQ THRESH                    50
                                                 ASSISTING PARALLEL SEQ THRESH                 0
                                                 PGFIX ATTRIBUTE                              NO
                                                 PAGE STEAL METHOD                           LRU
                                                 AUTOSIZE                                     NO
                                                 FRAMESIZE                                    4K
                                                 VPOOL SIZE MIN                                0
                                                 VPOOL SIZE MAX                                0
                                                 SIM POOL SIZE                                 0
                                                 SIM POOL SEQ THRESH                           0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                           200
  BUFFER POOL ID                      BP1        VPOOL SEQ THRESH                             80
                                                 HORIZ DEFER WRITE THRESH                     30
                                                 VERT DEFER WRITE THRESH (%)                   5
                                                 VERT DEFER WRITE THRESH (BUF)                 0
                                                 VPOOL PARALLEL SEQ THRESH                    50
                                                 ASSISTING PARALLEL SEQ THRESH                 0
                                                 PGFIX ATTRIBUTE                              NO
                                                 PAGE STEAL METHOD                           LRU
                                                 AUTOSIZE                                     NO
                                                 FRAMESIZE                                    4K
                                                 VPOOL SIZE MIN                                0
                                                 VPOOL SIZE MAX                                0
                                                 SIM POOL SIZE                                 0
                                                 SIM POOL SEQ THRESH                           0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                           100
  BUFFER POOL ID                      BP2        VPOOL SEQ THRESH                             80
                                                 HORIZ DEFER WRITE THRESH                     30
                                                 VERT DEFER WRITE THRESH (%)                   5
                                                 VERT DEFER WRITE THRESH (BUF)                 0
                                                 VPOOL PARALLEL SEQ THRESH                    50
                                                 ASSISTING PARALLEL SEQ THRESH                 0
                                                 PGFIX ATTRIBUTE                              NO
                                                 PAGE STEAL METHOD                           LRU
                                                 AUTOSIZE                                     NO
                                                 FRAMESIZE                                    4K
                                                 VPOOL SIZE MIN                                0
                                                 VPOOL SIZE MAX                                0
                                                 SIM POOL SIZE                                 0
                                                 SIM POOL SEQ THRESH                           0
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1   LOCATION: RS25OC1A                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-7
      GROUP: N/P                               SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                                                ACTUAL FROM: 02/27/19 13:50:03.58
DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ----------------------------------------------------------------------------------------------------
  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                          2000
  BUFFER POOL ID                      BP3        VPOOL SEQ THRESH                             80
                                                 HORIZ DEFER WRITE THRESH                     30
                                                 VERT DEFER WRITE THRESH (%)                   5
                                                 VERT DEFER WRITE THRESH (BUF)                 0
                                                 VPOOL PARALLEL SEQ THRESH                    50
                                                 ASSISTING PARALLEL SEQ THRESH                 0
                                                 PGFIX ATTRIBUTE                              NO
                                                 PAGE STEAL METHOD                           LRU
                                                 AUTOSIZE                                     NO
                                                 FRAMESIZE                                    4K
                                                 VPOOL SIZE MIN                                0
                                                 VPOOL SIZE MAX                                0
                                                 SIM POOL SIZE                                 0
                                                 SIM POOL SEQ THRESH                           0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                          2000
  BUFFER POOL ID                      BP4        VPOOL SEQ THRESH                             80
                                                 HORIZ DEFER WRITE THRESH                     30
                                                 VERT DEFER WRITE THRESH (%)                   5
                                                 VERT DEFER WRITE THRESH (BUF)                 0
                                                 VPOOL PARALLEL SEQ THRESH                    50
                                                 ASSISTING PARALLEL SEQ THRESH                 0
                                                 PGFIX ATTRIBUTE                              NO
                                                 PAGE STEAL METHOD                           LRU
                                                 AUTOSIZE                                     NO
                                                 FRAMESIZE                                    4K
                                                 VPOOL SIZE MIN                                0
                                                 VPOOL SIZE MAX                                0
                                                 SIM POOL SIZE                                 0
                                                 SIM POOL SEQ THRESH                           0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                           100
  BUFFER POOL ID                      BP5        VPOOL SEQ THRESH                             80
                                                 HORIZ DEFER WRITE THRESH                     30
                                                 VERT DEFER WRITE THRESH (%)                   5
                                                 VERT DEFER WRITE THRESH (BUF)                 0
                                                 VPOOL PARALLEL SEQ THRESH                    50
                                                 ASSISTING PARALLEL SEQ THRESH                 0
                                                 PGFIX ATTRIBUTE                              NO
                                                 PAGE STEAL METHOD                           LRU
                                                 AUTOSIZE                                     NO
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                                          FRAMESIZE                                 4K
                                          VPOOL SIZE MIN                             0
                                          VPOOL SIZE MAX                             0
                                          SIM POOL SIZE                              0
                                          SIM POOL SEQ THRESH                        0

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)        PAGE: 2-8
      GROUP: N/P                             SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 13:50:03.58
 DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ------------------------------------------------------------------------------------------------------------
  TIMESTAMP           02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                      100
  BUFFER POOL ID                    BP11    VPOOL SEQ THRESH                         80
                                            HORIZ DEFER WRITE THRESH                 30
                                            VERT DEFER WRITE THRESH (%)               5
                                            VERT DEFER WRITE THRESH (BUF)             0
                                            VPOOL PARALLEL SEQ THRESH                50
                                            ASSISTING PARALLEL SEQ THRESH             0
                                            PGFIX ATTRIBUTE                          NO
                                            PAGE STEAL METHOD                       LRU
                                            AUTOSIZE                                 NO
                                            FRAMESIZE                                4K
                                            VPOOL SIZE MIN                            0
                                            VPOOL SIZE MAX                            0
                                            SIM POOL SIZE                             0
                                            SIM POOL SEQ THRESH                       0

  TIMESTAMP           02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                      100
  BUFFER POOL ID                    BP12    VPOOL SEQ THRESH                         80
                                            HORIZ DEFER WRITE THRESH                 30
                                            VERT DEFER WRITE THRESH (%)               5
                                            VERT DEFER WRITE THRESH (BUF)             0
                                            VPOOL PARALLEL SEQ THRESH                50
                                            ASSISTING PARALLEL SEQ THRESH             0
                                            PGFIX ATTRIBUTE                          NO
                                            PAGE STEAL METHOD                       LRU
                                            AUTOSIZE                                 NO
                                            FRAMESIZE                                4K
                                            VPOOL SIZE MIN                            0
                                            VPOOL SIZE MAX                            0
                                            SIM POOL SIZE                             0
                                            SIM POOL SEQ THRESH                       0

  TIMESTAMP           02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                     2000
  BUFFER POOL ID                    BP13    VPOOL SEQ THRESH                         80
                                            HORIZ DEFER WRITE THRESH                 30
                                            VERT DEFER WRITE THRESH (%)               5
```

```
                                          VERT DEFER WRITE THRESH (BUF)             0
                                          VPOOL PARALLEL SEQ THRESH                50
                                          ASSISTING PARALLEL SEQ THRESH             0
                                          PGFIX ATTRIBUTE                          NO
                                          PAGE STEAL METHOD                       LRU
                                          AUTOSIZE                                 NO
                                          FRAMESIZE                                4K
                                          VPOOL SIZE MIN                            0
                                          VPOOL SIZE MAX                            0
                                          SIM POOL SIZE                             0
                                          SIM POOL SEQ THRESH                       0

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)        PAGE: 2-9
      GROUP: N/P                             SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 13:50:03.58
 DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ------------------------------------------------------------------------------------------------------------
  TIMESTAMP           02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                     2000
  BUFFER POOL ID                    BP14    VPOOL SEQ THRESH                         80
                                            HORIZ DEFER WRITE THRESH                 30
                                            VERT DEFER WRITE THRESH (%)               5
                                            VERT DEFER WRITE THRESH (BUF)             0
                                            VPOOL PARALLEL SEQ THRESH                50
                                            ASSISTING PARALLEL SEQ THRESH             0
                                            PGFIX ATTRIBUTE                          NO
                                            PAGE STEAL METHOD                       LRU
                                            AUTOSIZE                                 NO
                                            FRAMESIZE                                4K
                                            VPOOL SIZE MIN                            0
                                            VPOOL SIZE MAX                            0
                                            SIM POOL SIZE                             0
                                            SIM POOL SEQ THRESH                       0

  TIMESTAMP           02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                      200
  BUFFER POOL ID                    BP17    VPOOL SEQ THRESH                         80
                                            HORIZ DEFER WRITE THRESH                 30
                                            VERT DEFER WRITE THRESH (%)               5
                                            VERT DEFER WRITE THRESH (BUF)             0
                                            VPOOL PARALLEL SEQ THRESH                50
                                            ASSISTING PARALLEL SEQ THRESH             0
                                            PGFIX ATTRIBUTE                          NO
                                            PAGE STEAL METHOD                       LRU
                                            AUTOSIZE                                 NO
                                            FRAMESIZE                                4K
                                            VPOOL SIZE MIN                            0
                                            VPOOL SIZE MAX                            0
                                            SIM POOL SIZE                             0
```

```
                                        SIM POOL SEQ THRESH                          0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                1000
  BUFFER POOL ID                      BP31       VPOOL SEQ THRESH                    80
                                                 HORIZ DEFER WRITE THRESH            30
                                                 VERT DEFER WRITE THRESH (%)          5
                                                 VERT DEFER WRITE THRESH (BUF)        0
                                                 VPOOL PARALLEL SEQ THRESH           50
                                                 ASSISTING PARALLEL SEQ THRESH        0
                                                 PGFIX ATTRIBUTE                     NO
                                                 PAGE STEAL METHOD                  LRU
                                                 AUTOSIZE                            NO
                                                 FRAMESIZE                           4K
                                                 VPOOL SIZE MIN                       0
                                                 VPOOL SIZE MAX                       0
                                                 SIM POOL SIZE                        0
                                                 SIM POOL SEQ THRESH                  0

1   LOCATION: RS25OC1A                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-10
      GROUP: N/P                              SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                                 ACTUAL FROM: 02/27/19 13:50:03.58
DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ------------------------------------------------------------------------------------------------------------
  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                1000
  BUFFER POOL ID                      BP32       VPOOL SEQ THRESH                    80
                                                 HORIZ DEFER WRITE THRESH            30
                                                 VERT DEFER WRITE THRESH (%)          5
                                                 VERT DEFER WRITE THRESH (BUF)        0
                                                 VPOOL PARALLEL SEQ THRESH           50
                                                 ASSISTING PARALLEL SEQ THRESH        0
                                                 PGFIX ATTRIBUTE                     NO
                                                 PAGE STEAL METHOD                  LRU
                                                 AUTOSIZE                            NO
                                                 FRAMESIZE                           4K
                                                 VPOOL SIZE MIN                       0
                                                 VPOOL SIZE MAX                       0
                                                 SIM POOL SIZE                        0
                                                 SIM POOL SEQ THRESH                  0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                1000
  BUFFER POOL ID                      BP33       VPOOL SEQ THRESH                    80
                                                 HORIZ DEFER WRITE THRESH            30
                                                 VERT DEFER WRITE THRESH (%)          5
                                                 VERT DEFER WRITE THRESH (BUF)        0
                                                 VPOOL PARALLEL SEQ THRESH           50
                                                 ASSISTING PARALLEL SEQ THRESH        0
                                                 PGFIX ATTRIBUTE                     NO
```

```
                                                 PAGE STEAL METHOD                  LRU
                                                 AUTOSIZE                            NO
                                                 FRAMESIZE                           4K
                                                 VPOOL SIZE MIN                       0
                                                 VPOOL SIZE MAX                       0
                                                 SIM POOL SIZE                        0
                                                 SIM POOL SEQ THRESH                  0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                1000
  BUFFER POOL ID                      BP34       VPOOL SEQ THRESH                    80
                                                 HORIZ DEFER WRITE THRESH            30
                                                 VERT DEFER WRITE THRESH (%)          5
                                                 VERT DEFER WRITE THRESH (BUF)        0
                                                 VPOOL PARALLEL SEQ THRESH           50
                                                 ASSISTING PARALLEL SEQ THRESH        0
                                                 PGFIX ATTRIBUTE                     NO
                                                 PAGE STEAL METHOD                  LRU
                                                 AUTOSIZE                            NO
                                                 FRAMESIZE                           4K
                                                 VPOOL SIZE MIN                       0
                                                 VPOOL SIZE MAX                       0
                                                 SIM POOL SIZE                        0
                                                 SIM POOL SEQ THRESH                  0

1   LOCATION: RS25OC1A                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-11
      GROUP: N/P                              SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                                 ACTUAL FROM: 02/27/19 13:50:03.58
DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ------------------------------------------------------------------------------------------------------------
  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                1000
  BUFFER POOL ID                      BP35       VPOOL SEQ THRESH                    80
                                                 HORIZ DEFER WRITE THRESH            30
                                                 VERT DEFER WRITE THRESH (%)          5
                                                 VERT DEFER WRITE THRESH (BUF)        0
                                                 VPOOL PARALLEL SEQ THRESH           50
                                                 ASSISTING PARALLEL SEQ THRESH        0
                                                 PGFIX ATTRIBUTE                     NO
                                                 PAGE STEAL METHOD                  LRU
                                                 AUTOSIZE                            NO
                                                 FRAMESIZE                           4K
                                                 VPOOL SIZE MIN                       0
                                                 VPOOL SIZE MAX                       0
                                                 SIM POOL SIZE                        0
                                                 SIM POOL SEQ THRESH                  0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                1000
  BUFFER POOL ID                      BP36       VPOOL SEQ THRESH                    80
```

```
                                          HORIZ DEFER WRITE THRESH                      30
                                          VERT DEFER WRITE THRESH (%)                    5
                                          VERT DEFER WRITE THRESH (BUF)                  0
                                          VPOOL PARALLEL SEQ THRESH                     50
                                          ASSISTING PARALLEL SEQ THRESH                  0
                                          PGFIX ATTRIBUTE                               NO
                                          PAGE STEAL METHOD                            LRU
                                          AUTOSIZE                                      NO
                                          FRAMESIZE                                     4K
                                          VPOOL SIZE MIN                                 0
                                          VPOOL SIZE MAX                                 0
                                          SIM POOL SIZE                                  0
                                          SIM POOL SEQ THRESH                            0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                  1000
  BUFFER POOL ID                     BP37       VPOOL SEQ THRESH                      80
                                          HORIZ DEFER WRITE THRESH                      30
                                          VERT DEFER WRITE THRESH (%)                    5
                                          VERT DEFER WRITE THRESH (BUF)                  0
                                          VPOOL PARALLEL SEQ THRESH                     50
                                          ASSISTING PARALLEL SEQ THRESH                  0
                                          PGFIX ATTRIBUTE                               NO
                                          PAGE STEAL METHOD                            LRU
                                          AUTOSIZE                                      NO
                                          FRAMESIZE                                     4K
                                          VPOOL SIZE MIN                                 0
                                          VPOOL SIZE MAX                                 0
                                          SIM POOL SIZE                                  0
                                          SIM POOL SEQ THRESH                            0

1   LOCATION: RS25OC1A                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-12
      GROUP: N/P                              SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                                  ACTUAL FROM: 02/27/19 13:50:03.58
DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ------------------------------------------------------------------------------------------------------------
  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                  1000
  BUFFER POOL ID                     BP38       VPOOL SEQ THRESH                      80
                                          HORIZ DEFER WRITE THRESH                      30
                                          VERT DEFER WRITE THRESH (%)                    5
                                          VERT DEFER WRITE THRESH (BUF)                  0
                                          VPOOL PARALLEL SEQ THRESH                     50
                                          ASSISTING PARALLEL SEQ THRESH                  0
                                          PGFIX ATTRIBUTE                               NO
                                          PAGE STEAL METHOD                            LRU
                                          AUTOSIZE                                      NO
                                          FRAMESIZE                                     4K
                                          VPOOL SIZE MIN                                 0
```

```
                                          VPOOL SIZE MAX                                 0
                                          SIM POOL SIZE                                  0
                                          SIM POOL SEQ THRESH                            0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                  1000
  BUFFER POOL ID                     BP39       VPOOL SEQ THRESH                      80
                                          HORIZ DEFER WRITE THRESH                      30
                                          VERT DEFER WRITE THRESH (%)                    5
                                          VERT DEFER WRITE THRESH (BUF)                  0
                                          VPOOL PARALLEL SEQ THRESH                     50
                                          ASSISTING PARALLEL SEQ THRESH                  0
                                          PGFIX ATTRIBUTE                               NO
                                          PAGE STEAL METHOD                            LRU
                                          AUTOSIZE                                      NO
                                          FRAMESIZE                                     4K
                                          VPOOL SIZE MIN                                 0
                                          VPOOL SIZE MAX                                 0
                                          SIM POOL SIZE                                  0
                                          SIM POOL SEQ THRESH                            0

  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                   250
  BUFFER POOL ID                   BP32K       VPOOL SEQ THRESH                      80
                                          HORIZ DEFER WRITE THRESH                      30
                                          VERT DEFER WRITE THRESH (%)                    5
                                          VERT DEFER WRITE THRESH (BUF)                  0
                                          VPOOL PARALLEL SEQ THRESH                     50
                                          ASSISTING PARALLEL SEQ THRESH                  0
                                          PGFIX ATTRIBUTE                               NO
                                          PAGE STEAL METHOD                            LRU
                                          AUTOSIZE                                      NO
                                          FRAMESIZE                                     4K
                                          VPOOL SIZE MIN                                 0
                                          VPOOL SIZE MAX                                 0
                                          SIM POOL SIZE                                  0
                                          SIM POOL SEQ THRESH                            0

1   LOCATION: RS25OC1A                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-13
      GROUP: N/P                              SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                                  ACTUAL FROM: 02/27/19 13:50:03.58
DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ------------------------------------------------------------------------------------------------------------
  TIMESTAMP            02/27/19 13:50:03.58       VPOOL SIZE (PAGES)                 10000
  BUFFER POOL ID                   BP8K0       VPOOL SEQ THRESH                      80
                                          HORIZ DEFER WRITE THRESH                      30
                                          VERT DEFER WRITE THRESH (%)                    5
                                          VERT DEFER WRITE THRESH (BUF)                  0
                                          VPOOL PARALLEL SEQ THRESH                     50
```

```
                                          ASSISTING PARALLEL SEQ THRESH                  0
                                          PGFIX ATTRIBUTE                               NO
                                          PAGE STEAL METHOD                            LRU
                                          AUTOSIZE                                      NO
                                          FRAMESIZE                                     4K
                                          VPOOL SIZE MIN                                 0
                                          VPOOL SIZE MAX                                 0
                                          SIM POOL SIZE                                  0
                                          SIM POOL SEQ THRESH                            0

  TIMESTAMP            02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                         5000
  BUFFER POOL ID                    BP8K1   VPOOL SEQ THRESH                             80
                                            HORIZ DEFER WRITE THRESH                     30
                                            VERT DEFER WRITE THRESH (%)                   5
                                            VERT DEFER WRITE THRESH (BUF)                 0
                                            VPOOL PARALLEL SEQ THRESH                    50
                                            ASSISTING PARALLEL SEQ THRESH                 0
                                            PGFIX ATTRIBUTE                              NO
                                            PAGE STEAL METHOD                           LRU
                                            AUTOSIZE                                     NO
                                            FRAMESIZE                                    4K
                                            VPOOL SIZE MIN                                0
                                            VPOOL SIZE MAX                                0
                                            SIM POOL SIZE                                 0
                                            SIM POOL SEQ THRESH                           0

  TIMESTAMP            02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                         2000
  BUFFER POOL ID                    BP8K4   VPOOL SEQ THRESH                             80
                                            HORIZ DEFER WRITE THRESH                     30
                                            VERT DEFER WRITE THRESH (%)                   5
                                            VERT DEFER WRITE THRESH (BUF)                 0
                                            VPOOL PARALLEL SEQ THRESH                    50
                                            ASSISTING PARALLEL SEQ THRESH                 0
                                            PGFIX ATTRIBUTE                              NO
                                            PAGE STEAL METHOD                           LRU
                                            AUTOSIZE                                    YES
                                            FRAMESIZE                                    4K
                                            VPOOL SIZE MIN                                0
                                            VPOOL SIZE MAX                                0
                                            SIM POOL SIZE                                 0
                                            SIM POOL SEQ THRESH                           0

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)        PAGE: 2-14
       GROUP: N/P                            SYSTEM PARAMETERS REPORT
      MEMBER: N/P
   SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 13:50:03.58
 DB2 VERSION: V12

  BUFFER POOL PARAMETERS
  ------------------------------------------------------------------------------------------------------------
```

```
  TIMESTAMP            02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                         2000
  BUFFER POOL ID                    BP8K5   VPOOL SEQ THRESH                             80
                                            HORIZ DEFER WRITE THRESH                     30
                                            VERT DEFER WRITE THRESH (%)                   5
                                            VERT DEFER WRITE THRESH (BUF)                 0
                                            VPOOL PARALLEL SEQ THRESH                    50
                                            ASSISTING PARALLEL SEQ THRESH                 0
                                            PGFIX ATTRIBUTE                              NO
                                            PAGE STEAL METHOD                           LRU
                                            AUTOSIZE                                     NO
                                            FRAMESIZE                                    4K
                                            VPOOL SIZE MIN                                0
                                            VPOOL SIZE MAX                                0
                                            SIM POOL SIZE                                 0
                                            SIM POOL SEQ THRESH                           0

  TIMESTAMP            02/27/19 13:50:03.58  VPOOL SIZE (PAGES)                          500
  BUFFER POOL ID                   BP16K0   VPOOL SEQ THRESH                             80
                                            HORIZ DEFER WRITE THRESH                     30
                                            VERT DEFER WRITE THRESH (%)                   5
                                            VERT DEFER WRITE THRESH (BUF)                 0
                                            VPOOL PARALLEL SEQ THRESH                    50
                                            ASSISTING PARALLEL SEQ THRESH                 0
                                            PGFIX ATTRIBUTE                              NO
                                            PAGE STEAL METHOD                           LRU
                                            AUTOSIZE                                     NO
                                            FRAMESIZE                                    4K
                                            VPOOL SIZE MIN                                0
                                            VPOOL SIZE MAX                                0
                                            SIM POOL SIZE                                 0
                                            SIM POOL SEQ THRESH                           0

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)        PAGE: 2-15
       GROUP: N/P                            SYSTEM PARAMETERS REPORT
      MEMBER: N/P
   SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 14:00:00.36
 DB2 VERSION: V12
-
  MVS PARMLIB UPDATE PARAMETERS (DSNTIPM)                  IRLM INSTALLATION PARAMETERS (DSNTIPI)
  ---------------------------------------                  --------------------------------------
  SUBSYSTEM DEFAULT (SSID).....................OC1A        IRLM SUBSYSTEM NAME (IRLMSID).............................IR1C
  SUPPRESS SOFT ERRORS (SUPERRS)...............YES         IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT)...................30
                                                           IRLM AUTOMATIC START (IRLMAUT).............................YES
  STORAGE SIZES INSTALLATION PARMS (DSNTIPC,DSNTIPE,DSNTIPE1)  IRLM START PROCEDURE NAME (IRLMPRC)....................OC1AIRLM
  ------------------------------------------------------------  SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT).............300
  MAX NO OF DATA SETS CONCURRENTLY IN USE (DSMAX)...........3,000  U LOCK FOR REPEATABLE READ OR READ STABILITY (RRULOCK)......YES
  EDM STATEMENT CACHE SIZE IN KB (EDMSTMTC)................56,693  X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT).................NO
  EDM DBD CACHE SIZE IN KB (EDMDBDC).......................11,700  IMS/BMP TIMEOUT FACTOR (BMPTOUT).............................4
  EDM SKELETON POOL SIZE IN KB (EDM_SKELETON_POOL).....102,400  IMS/DLI TIMEOUT FACTOR (DLITOUT)..............................6
  MAXIMUM SIZE OF EDM POOL IN BYTES (EDMPOOL).................N/A  WAIT FOR RETAINED LOCKS (RETLWAIT)............................0
```

```
  MAXIMUM SIZE OF SORT POOL IN BYTES (SRTPOOL).........10,240,000    ENABLE DB CHECKING.....................................NO
  MAX IN-MEMORY SORT SIZE (MAXSORT_IN_MEMORY)..............1,000    IRLM INITIALIZATION TIME.....................................1
  MAXIMUM SIZE OF RID POOL IN KB (MAXRBLK).................8,000
  MAX NO OF USERS CONCURRENTLY RUNNING IN DB2 (CTHREAD).......200    IRLM PROCESSING PARAMETERS
  MAX NO OF CONCURRENT REMOTE ACTIVE CONNECTIONS (MAXDBAT)....200    --------------------------
  MAX NO OF REMOTE CONNECTIONS (CONDBAT)...................10,000    WAIT TIME FOR LOCAL DEADLOCK.............................1,000
  MAX NO OF TSO CONNECTIONS (IDFORE).......................50    NUMBER OF LOCAL CYCLES PER GLOBAL CYCLE.....................1
  MAX NO OF BATCH CONNECTIONS (IDBACK).....................50    TIMEOUT INTERVAL...........................................30
  MAXIMUM KEPT DYNAMIC STATEMENTS (MAXKEEPD)..............5,000    IRLM MAXIMUM CSA USAGE ALLOWED..............................0
  MAX OPEN FILE REFS (MAXOFILR)...........................100    Z/OS LOCK TABLE HASH ENTRIES................................0
  MANAGE REAL STORAGE (REALSTORAGE_MANAGEMENT).............AUTO    PENDING NUMBER OF HASH ENTRIES..............................0
  MAXIMUM REAL STORAGE (REALSTORAGE_MAX)....................0    Z/OS LOCK TABLE LIST ENTRIES................................0
  CONTRACT THREAD STORAGE (CONTSTOR).....................N/A    MAX 31-BIT IRLM PRIVATE STORAGE.............................0
  MANAGE THREAD STORAGE (MINSTOR)........................N/A    MAX 64-BIT IRLM PRIVATE STORAGE.............................0
  LONG-RUNNING READER IN MINUTES (LRDRTHLD)...............10
  DDL TIMEOUT FACTOR (DDLTOX).................................1    ARCHIVE LOG INSTALLATION PARAMETERS (DSNTIPA)
  INDEX CLEANUP THREADS (INDEX_CLEANUP_THREADS)...........10    ---------------------------------------------

  TRACING, CHECKPOINT & PSEUDO-CLOSE PARAMETERS (DSNTIPN)    CATALOG ARCHIVE DATASETS (CATALOG).....................NO
  ------------------------------------------------------    COPY1 ARCHIVE LOG DEVICE TYPE (UNIT).....................3390
  START AUDIT TRACE (AUDITST).............................NO    COPY2 ARCHIVE LOG DEVICE TYPE (UNIT2)..................'BLANK'
  START GLOBAL TRACE (TRACSTR)............................NO    SPACE ALLOCATION METHOD (ALCUNIT).....................CYLINDER
  TRACE TABLE SIZE IN 4K BYTES (TRACTBL)..................16    PRIMARY SPACE ALLOCATION (PRIQTY).........................25
  LOCAL TRACE TABLE SIZE IN 4K BYTES (TRACLOC)............16    SECONDARY SPACE ALLOCATION (SECQTY).......................25
  START SMF ACCOUNTING (SMFACCT).....................1,2,3    ARCHIVE LOG BLOCK SIZE IN BYTES (BLKSIZE)..............24,576
  START SMF STATISTICS (SMFSTAT).....................1,3,4    MAXIMUM READ TAPE UNITS (MAXRTU)............................2
  STATISTICS TIME INTERVAL IN MINUTES (STATIME)............30    TAPE UNIT DEALLOCATION PERIOD (DEALLCT).............0000:00
  SYNCHRONIZATION INTERVAL WITHIN THE HOUR (SYNCVAL).....NO    MAX NUMBER OF DATASETS RECORDED IN BSDS (MAXARCH).....10,000
  ONLINE DATASET STATISTICS TIME INTERVAL IN MIN.(DSSTIME).....5    FIRST ARCHIVE COPY MASS STG GROUP NAME..............'NONE'
  START MONITOR TRACE (MON)...............................NO    SECOND ARCHIVE COPY MASS STG GROUP NAME.............'NONE'
  MONITOR BUFFER SIZE IN BYTES (MONSIZE)..............1,048,576    DAYS TO RETAIN ARCHIVE LOG DATA SETS (ARCRETN)..............0
  UNICODE IFCIDS (UIFCIDS)................................YES    ISSUE WTOR BEFORE MOUNT FOR ARCHIVE VOLUME (ARCWTOR).....YES
  DDF/RRSAF ACCUM (ACCUMACC)..............................10    COMPACT DATA (COMPACT).....................................NO
  AGGREGATION FIELDS (ACCUMUID)...........................0    QUIESCE PERIOD (QUIESCE)....................................5
  COMPRESS SMF RECS (SMFCOMP).............................OFF    SINGLE VOLUME (SVOLARC).....................................YES

1   LOCATION: RS25OC1A                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-16
       GROUP: N/P                              SYSTEM PARAMETERS REPORT
      MEMBER: N/P
    SUBSYSTEM: OC1A                                                                 ACTUAL FROM: 02/27/19 14:00:00.36
 DB2 VERSION: V12
-
  DISTRIBUTED DATA FACILITY PANEL 2 (DSNTIP5)                    DEFINE GROUP OR MEMBER (DSNTIPK)
  -------------------------------------------                    --------------------------------
  TCP/IP ALREADY VERIFIED (TCPALVER).....................YES    GROUP NAME (GRPNAME).....................................N/P
  EXTRA BLOCKS REQ (EXTRAREQ)............................100    MEMBER NAME (MEMBNAME)...................................N/P
  EXTRA BLOCKS SRV (EXTRASRV)............................100    MAX NUMBER OF MEMBERS....................................248
  TCP/IP KEEPALIVE (TCPKPALV)............................120    RANDOM ATTACH (RANDOMATT)................................YES
  CONNECTION QUEUE MAX DEPTH (MAXCONQN)....................0    DEL CF STRUCTS (DEL_CFSTRUCTS_ON_RESTART).................NO
  CONNECTION QUEUE MAX WAIT (MAXCONQW)....................0
```

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  POOL THREAD TIMEOUT (POOLINAC).........................120    DISTRIBUTED DATA FACILITY PANEL 1 (DSNTIPR)
                                                               ------------------------------------------
  PROTECTION INSTALLATION PARAMETERS (DSNTIPP)                 FACILITY NAME.....................................DDF
  --------------------------------------------                 DDF STARTUP OPTION (DDF).................................AUTO
  ARCHIVE LOG RACF PROTECTION (PROTECT)....................NO    RESYNCHRONIZATION INTERVAL IN MINUTES (RESYNC)..............2
  DB2 AUTHORIZATION ENABLED (AUTH).......................YES    DBAT STATUS (CMTSTAT).............................INACTIVE
  PLAN AUTHORIZATION CACHE SIZE (AUTHCACH)..............3,072    MAX TYPE 1 INACTIVE THREADS (MAXTYPE1)......................0
  PACKAGE AUTHORIZATION CACHE SIZE (CACHEPAC)..........5,242,880    IDLE THREAD TIMEOUT INTERVAL (IDTHTOIN).....................180
  ROUTINE AUTHORIZATION CACHE SIZE (CACHERAC)..........5,242,880    EXTENDED SECURITY (EXTSEC).................................YES
  AUTH EXIT CHECK (AUTHEXIT_CHECK).....................PRIMARY    USER ID AND PASSWORD REQUIRED...........................N/A
  AUTH EXIT CACHE REFRESH (AUTHEXIT_CACHEREFRESH).........NONE    SQL INTERRUPT PROCESSING DISABLED (SQLINTRP).................NO
  SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM).....DB2SYSP    PRIVATE PROTOCOL (PRIVATE_PROTOCOL).........................NO
  SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2).....CSMARK
  SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1)..........CSMARK    LOCK ESCALATION PARAMETERS (DSNTIPJ)
  SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2)...........TSSAL    -----------------------------------
  DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID).....IBMUSER    MAX PAGE OR ROW LOCKS PER TABLE SPACE (NUMLKTS)...........1,000
  RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH).........SYSIBM    MAX PAGE OR ROW LOCKS PER USER (NUMLKUS).............10,000
  BIND NEW PACKAGE (BINDNV)...........................BINDADD
  DBA CREATE VIEW (DBACRVW)...............................YES    LOG INSTALLATION PARAMETERS (DSNTIPL,DSNTIPH)
                                                               ---------------------------------------------
  DATA DEFINITION CONTROL SUPPORT (DSNTIPZ)                    OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF).....................400
  -----------------------------------------                    CHECKPOINT TYPE (CHKTYPE)................................SINGLE
  INSTALL DD CONTROL (RGFINSTL)...........................NO    RECORDS/CHECKPOINT (CHKLOGR)................................N/P
  CONTROL ALL APPLICATIONS (RGFDEDPL).....................NO    MINUTES/CHECKPOINT (CHKMINS)................................N/P
  REQUIRE FULL NAMES (RGFFULLQ)...........................YES    CHECKPOINT FREQUENCY (CHKFREQ).....................1,000,000
  UNREGISTERED DDL DEFAULT (RGFDEFLT).....................ACCEPT    UR CHECK FREQUENCY (URCHKTH)..................................5
  REGISTER TABLE OWNER (RGFCOLID).....................DSNRGCOL    UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH)...............5
  DDL REGISTRATION DATABASE NAME (RGFDBNAM)...........DSNRGFDB    LIMIT BACKOUT (LBACKOUT)...................................AUTO
  APPL REGISTRATION TABLE NAME (RGFNMPRT).....DSN_REGISTER_APPL    BACKOUT DURATION (BACKODUR)...................................5
  OBJECT REGISTRATION TABLE NAME (RGFNMORT).....DSN_REGISTER_OBJT    PSEUDO-CLOSE FREQUENCY (PCLOSEN).............................5
  ESCAPE CHARACTER (RGFESCP)..............................X'40'    PSEUDO-CLOSE TIMER (PCLOSET)................................60
                                                               CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ)...............5
  DB2 VERSION INSTALL (DSNTIPA1)                               NUMBER OF ACTIVE LOG COPIES (TWOACTV).........................2
  ------------------------------                               NUMBER OF ARCHIVE LOG COPIES (TWOARCH)........................1
  DATA SHARING ENABLED (DSHARE)...........................NO    COPY 1 PREFIX (ARCPFX1).........................OC1A.ARCHLOG1
  CURRENT DB2 RELEASE (NEWFUN)............................N/A    COPY 2 PREFIX (ARCPFX2)..............................DSNARC2
  CURRENT DB2 RELEASE - 1.................................N/A    TIMESTAMP ARCHIVE LOG DATA SETS (TSTAMP).....................YES
  CURRENT DB2 RELEASE - 2.................................N/A
  COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB).........NO
1   LOCATION: RS25OC1A                      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-17
       GROUP: N/P                              SYSTEM PARAMETERS REPORT
      MEMBER: N/P
    SUBSYSTEM: OC1A                                                                 ACTUAL FROM: 02/27/19 14:00:00.36
 DB2 VERSION: V12

  APPLICATION PROGRAMMING DEFAULTS PANEL 1 (DSNTIPF)             APPLICATION PROGRAMMING DEFAULTS PANEL 2 (DSNTIP4,DSNTIP41)
  --------------------------------------------------             -----------------------------------------------------------
  DEFAULT HOST LANGUAGE (DEFLANG).....................IBMCOB    MINIMUM DIVIDE SCALE (DECDIV3).............................NO
  DECIMAL POINT OPTION (DECIMAL)......................PERIOD    DECIMAL ARITHMETIC (DECARTH)..............................DEC15
  DEFAULT DELIMITER (DELIM)...........................DEFAULT    USE FOR DYNAMIC RULES (DYNRULS)............................YES
```

```
  DEFAULT SQL DELIMITER (SQLDELI).....................DEFAULT
  DIST SQL STRING DELIMITER (DSQLDELI)................APOST
  DEFAULT MIXED GRAPHIC (MIXED).......................NO
  EBCDIC SBCS CCSID (SCCSID)..........................37
  EBCDIC MBCS CCSID (MCCSID)..........................N/P
  EBCDIC GBCS CCSID (GCCSID)..........................N/P
  ASCII SBCS CCSID (ASCCSID)..........................437
  ASCII MBCS CCSID (AMCCSID)..........................N/P
  ASCII GBCS CCSID (AGCCSID)..........................N/P
  UNICODE SBCS CCSID (USCCSID)........................367
  UNICODE MBCS CCSID (UMCCSID)........................1,208
  UNICODE GBCS CCSID (UGCCSID)........................1,200
  DEFAULT ENCODING SCHEME (ENSCHEME)..................EBCDIC
  APPLICATION ENCODING (APPENSCH).....................EBCDIC
  LOCALE LC_TYPE (LC_CTYPE)...........................'BLANK'
  DECFLOAT ROUND MODE (DEF_DECFLOAT_ROUND_MODE)...ROUND_HALF_EVEN

  SQL OBJECT DEFAULTS PANEL (DSNTIP7,DSNTIP71,DSNTIP72)
  -----------------------------------------------
  REORDERED ROW FORMAT (RRF)..........................N/A
  OBJECT CREATE FORMAT (OBJECT_CREATE_FORMAT).....BASIC
  UTILITY OBJECT CONVERSION (UTILITY_OBJECT_CONVERSION)......NONE
  VARY DS CONTROL INTERVAL (DSVCI)....................YES
  TABLE SPACE ALLOCATION IN KB (TSQTY)................0
  INDEX SPACE ALLOCATION IN KB (IXQTY)................0
  OPTIMIZE EXTENT SIZING (MGEXTSZ)....................YES
  PAD INDEX BY DEFAULT (PADIX)........................NO
  DEFAULT PARTITION SEGSIZE (DPSEGSZ).................32
  PERCENT FREE FOR UPDATE (PCTFREE_UPD)...............0
  DEFINE DATA SETS (IMPDSDEF).........................YES
  USE DATA COMPRESSION (IMPTSCMP).....................NO
  LIMIT KEY CONV PART TAB (IX_TB_PART_CONV_EXCLUDE)...NO
  PAGE SET PAGE NUMBERING (PAGESET_PAGENUM)...........A
  RETRY STOPPED OBJECTS (RETRY_STOPPED_OBJECTS).......NO
  RENAME TABLE (RENAMETABLE)..........................NO
  PREVENT ALTER LIMITKEY (PREVENT_ALTERTB_LIMITKEY)...NO
  PREVENT INDEX PART CREATE (PREVENT_NEW_IXCTRL_PART).NO
  DDL MATERIALIZATION (DDL_MATERIALIZATION)......ALWAYS_IMMEDIATE
  DEFAULT INSERT ALGORITHM (DEFAULT_INSERT_ALGORITHM)...........2

  STATIC DESCRIBE (DESCSTAT)..........................YES
  DATE FORMAT (DATE)..................................USA
  TIME FORMAT (TIME)..................................ISO
  LOCAL DATE LENGTH (DATELEN).........................N/A
  LOCAL TIME LENGTH (TIMELEN).........................N/A
  IMPLICIT TIMEZONE.....................................CURRENT
  STD SQL LANGUAGE (STDSQL)...........................NO
  PAD NULL-TERMINATED (PADNTSTR)......................YES
  APPL COMPAT LEVEL (APPLCOMPAT).....................V12R1M500
  LIKE BLANK INSIGNIFICANT (LIKE_BLANK_INSIGNIFICANT).....NO
  FULLY QUALIFIED NAME OF DSNHDECP LOAD MODULE.....................
    OC1A.SDSNEXIT(DSNHDECP)

  OPERATOR FUNCTIONS INSTALLATION PARAMETERS (DSNTIPO)
  -----------------------------------------------
  WTO ROUTE CODES (ROUTCDE)...........................1
  AUTO BIND (ABIND)...................................YES
  ALLOW EXPLAIN AT AUTOBIND (ABEXP)...................YES
  DPROP SUPPORT (EDPROP)..............................NO
  SITE TYPE (SITETYP).................................LOCALSITE
  TRACKER SITE (TRKRSITE).............................NO
  READ COPY2 ARCHIVE (ARC2FRST).......................NO
  REAL TIME STATS (STATSINT)..........................15
  STATISTICS FEEDBACK (STATFDBK_SCOPE)................ALL
  PROFILE AUTOSTART (PROFILE_AUTOSTART)...............NO

  ROUTINE PARAMETERS (DSNTIPX)
  ---------- ---------- ----------
  MAX ABEND COUNT (STORMXAB)..........................255
  TIMEOUT VALUE (STORTIME)............................5
  WLM ENVIRONMENT (WLMENV)............................OC1AWLM1
  MAX OPEN CURSORS (MAX_NUM_CUR)......................500
  MAX STORED PROCS (MAX_ST_PROC)......................2,000
  MAXIMUM NUMBER OF LE TOKENS (LEMAX).................N/A
  BIF COMPATIBILITY (BIF_COMPATIBILITY)...............CURRENT

1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-18
       GROUP: N/P                            SYSTEM PARAMETERS REPORT
      MEMBER: N/P
   SUBSYSTEM: OC1A                                                          ACTUAL FROM: 02/27/19 14:00:00.36
 DB2 VERSION: V12

  PERFORMANCE AND OPTIMIZATION (DSNTIP8,DSNTIP81)
  -----------------------------------------------
  CACHE DYNAMIC SQL (CACHEDYN)........................YES
  CACHE DYN STABILITY (CACHEDYN_STABILIZATION).....BOTH

  BUFFER POOL PARAMETERS (DSNTIP1)
  --------------------------------
  DEFAULT  4-KB BUFFER POOL FOR USER DATA (TBSBPOOL)..........BP0
  DEFAULT  8-KB BUFFER POOL FOR USER DATA (TBSBP8K).........BP8K0

  OPTIMIZATION HINTS ALLOWED (OPTHINTS).....................NO
  EVALUATE UNCOMMITTED (EVALUNC)............................NO
  SKIP UNCOMM INSERTS (SKIPUNCI)............................NO
  IMMEDWRITE OVERRIDE FLAG (IMMEDWRI).......................NO
  REBIND PLANMGMT DEFAULT (PLANMGMT)........................OFF
  PLANMGMTSCOPE DEFAULT (PLANMGMTSCOPE)...................STATIC
  PACKAGE RELEASE COMMIT (PKGREL_COMMIT).....................YES
  RANDOMIZE XML DOCID (XML_RANDOMIZE_DOCID)..................NO
  DISABLE EDM RTS (DISABLE_EDMRTS)...........................NO
  CURRENT DEGREE (CDSSRDEF).................................ANY
  MAX DEGREE OF PARALLELISM (PARAMDEG).......................0
  MAX DEGREE FOR DPSI (PARAMDEG_DPSI)........................0
  PARALLELISM EFFICIENCY (PARA_EFF)..........................50
  STAR JOIN ENABLING (STARJOIN) .........................DISABLE
  MAX DATA CACHING IN MB (MXDTCACH)..........................20
  CURRENT REFRESH AGE (REFSHAGE).............................0
  CURRENT MAINT TYPE (MAINTYPE).........................SYSTEM
  STATS PROFILE FEEDBACK (STATFDBK_PROFILE)..................YES

  OTHER SYSTEM PARAMETERS
  -----------------------
  DUAL BSDS MODE (TWOBSDS)...................................YES
  ROLL UP PARALLEL TASK ACCOUNTING (PTASKROL).................YES
  NO. PAGES SMALL TABLE THRESHOLD (NPGTHRSH)..................0
  OFFLOAD OPTION (OFFLOAD)....................................YES
  SU CONVERSION FACTOR.......................................200
  MINIMUM DIVIDE SCALE (MINDVSCL).........................NONE
  STAR JOIN THRESHOLD (SJTABLES).............................10
  ONLINE SYSTEM PARM USER ID MONITOR..........................N/P
  ONLINE SYSTEM PARM CORREL ID MONITOR........................N/P
  ONLINE SYSTEM PARM TIME CHANGED.............................N/P
  ONLINE SYSTEM PARM TYPE.....................................N/P
  DB2-SUPPLIED DECP INDICATOR.............................X'D5'
  MAX CONCURRENT PKG OPS (MAX_CONCURRENT_PKG_OPS).............10
  ADMIN SCHEDULER JCL PROC NAME (ADMTPROC)....................N/P
  FREE LOCAL CACHED STATEMENTS (CACHEDYN_FREELOCAL)...........N/A
  INDEX I/O PARALLELISM (INDEX_IO_PARALLELISM)................N/A
  ZOSMETRICS..................................................NO
  USE TRACKMOD FOR IMPLICIT TS (IMPTKMOD).....................YES
  DSSIZE FOR IMPLICIT TS (IMPDSSIZE)..........................4
  ENABLE MULTIPLE INDEX ACCESS (SUBQ_MIDX)....................YES
  SP_PARMS_JV (DDF_COMPATIBILITY).............................NO
  SP_PARMS_NJV (DDF_COMPATIBILITY)............................NO
  DISABLE_IMPCAST_JV (DDF_COMPATIBILITY)......................NO
  DISABLE_IMPCAST_NJV (DDF_COMPATIBILITY).....................NO
  IGNORE_TZ (DDF_COMPATIBILITY)...............................NO
  DDF COMP PRIOR VERSION (DDF_COMPATIBILITY)..................N/P

  DEFAULT 16-KB BUFFER POOL FOR USER DATA (TBSBP16K).......BP16K0
  DEFAULT 32-KB BUFFER POOL FOR USER DATA (TBSBP32K).........BP32K
  DEFAULT BUFFER POOL FOR USER LOB DATA (TBSBPLOB)............BP0
  DEFAULT BUFFER POOL FOR USER XML DATA (TBSBPXML).........BP16K0
  DEFAULT BUFFER POOL FOR USER INDEXES (IDXBPOOL).............BP0

  QUERY ACCELERATOR PREFERENCES (DSNTIP82)
  ----------------------------------------
  ACCELERATOR STARTUP OPTION (ACCEL).....................COMMAND
  GET ACCEL ARCHIVE (GET_ACCEL_ARCHIVE).......................NO
  ACCELERATION OPTIONS (QUERY_ACCEL_OPTIONS)..........(1,2,3,5,6)
  CURRENT QUERY ACCEL (QUERY_ACCELERATION)...................ENABLE
  ACCELERATION MODELING (ACCELMODEL)..........................NO
  REMOTE COPY SW ACCEL (REMOTE_COPY_SW_ACCEL).................NO
  HTAP WAIT INTERVAL (QUERY_ACCEL_WAITFORDATA)...............0.0

  WORKFILE DATABASE PANEL (DSNTIP91)
  ----------------------------------
  MAX TEMP STORAGE PER AGENT IN MB (MAXTEMPS).....................0
  SEPARATE WORK FILES (WFDBSEP)...................................NO
  MAX TEMP RID (MAXTEMPS_RID).................................NOLIMIT
  AGENT LEVEL THRESHOLD (WFSTGUSE_AGENT_THRESHOLD)................0
  SYSTEM LEVEL THRESHOLD (WFSTGUSE_SYSTEM_THRESHOLD)............90

  DB2 UTILITIES PARAMETERS (DSNTIP6,DSNTIP61,DSNTIP62)
  ----------------------------------------------------
  TEMPORARY UNIT NAME (VOLTDEVT)..........................SYSDA
  UTIL TEMP STORCLAS (UTIL_TEMP_STORCLAS).....................N/P
  STATISTICS HISTORY (STATHIST)...............................ALL
  STATISTICS ROLLUP (STATROLL)................................YES
  UTILITY TIMEOUT FACTOR (UTIMOUT)............................6
  UT SORT DATA SET ALLOCATION (UTSORTAL)......................N/A
  IGNORE SORTNUM STMT (IGNSORTN)..............................NO
  SET CHECK PENDING (CHECK_SETCHKP)...........................N/A
  UT DB2 SORT USE (DB2SORT)...................................N/A
  TEMPLATE TIME (TEMPLATE_TIME)...........................UTC
  MAXIMUM DEGREE OF UTILITY PARALLELISM (PARAMDEG_UTIL).....99
  FAST REPLICATION (CHECK_FASTREPLICATION).............PREFERRED
  FAST RESTORE (REC_FASTREPLICATION)...................PREFERRED
  COPY FAST REPLICATION (COPY_FASTREPLICATION).........PREFERRED
  FLASHCOPY PPRC (FLASHCOPY_PPRC).....................REQUIRED
  DEFAULT TEMPLATE (FCCOPYDDN)..................................
  OC1A.&DB..&SN..N&DS..D&JU..T&TI.
  FLASHCOPY COPY (FLASHCOPY_COPY).............................NO
  FLASHCOPY LOAD (FLASHCOPY_LOAD).............................NO
  FLASHCOPY REORG TABLESPACE (FLASHCOPY_REORG_TS).............NO
  FLASHCOPY REBUILD INDEX (FLASHCOPY_REBUILD_INDEX)...........NO
```

```
1   LOCATION: RS25OC1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-19
      GROUP: N/P                             SYSTEM PARAMETERS REPORT
     MEMBER: N/P
  SUBSYSTEM: OC1A                                                              ACTUAL FROM: 02/27/19 14:00:00.36
 DB2 VERSION: V12

  DYN STMT CACHE STOR (CACHE_DEP_TRACK_STOR_LIM).............N/A    FLASHCOPY REORG INDEX (FLASHCOPY_REORG_INDEX).................NO
  ACTIVATE I/O SCHEDULING....................................YES    SYSTEM-LEVEL BACKUPS (SYSTEM_LEVEL_BACKUPS)...................NO
  VALUE FOR TRIGGER DRAIN.....................................1    RESTORE/RECOVER (RESTORE_RECOVER_FROMDUMP).....................NO
  MAX NUMBER OF DDS WITH HOLD.................................3    DUMP CLASS NAME (UTILS_DUMP_CLASS_NAME).................'BLANK'
  FIELD PROCS FOR DESCRIBE TABLE BLOCK........................5    MAXIMUM TAPE UNITS (RESTORE_TAPEUNITS).........................0
  RESTRICT ALTER COLUMN FOR DCC (RESTRICT_ALT_COL_FOR_DCC).....NO    REORG PART SORT NPSI (REORG_PART_SORT_NPSI).................AUTO
  SPACE RESERVED FOR Z/OS FUNCTIONS.....................40,960    REORG LIST PROCESSING (REORG_LIST_PROCESSING)...........PARALLEL
  SPACE RESERVED FOR CRITICAL WORK.....................26,279,936    REORG MAPPING DATABASE (REORG_MAPPING_DATABASE).............N/P
  SPACE RESERVED ON TOP OF Z/OS AND CRITICAL SPACE....26,279,936    REORG DROP PBG PARTS (REORG_DROP_PBG_PARTS).....................NO
  DETAILED MEASURED UNIT PRICE TRACKING.......................NO    REORG IGNORE FREESPACE (REORG_IGNORE_FREESPACE).............N/A
  OTC LICENSE TERMS ACCEPTED..................................NO    ALTERNATE COPYPOOL (ALTERNATE_CP)...........................N/P
  SIMULATED CPUS..............................................0    DB BACKUP STG GROUP (UTIL_DBBSG)............................N/P
  CPU FOR EXPLAIN STATEMENTS (CPU_FOR_EXPLAIN).................3    LOG BACKUP STG GROUP (UTIL_LGBSG)...........................N/P
  MAX 'NOT FOUND' HASH RECORDS...............................100    HSM MESSAGE DS HLQ (UTILS_HSM_MSGDS_HLQ)....................N/P
  MAX EXTEND SERVICE TASKS....................................20
  PROJECT Z INSERTION THRESHOLD...............................2    DATABASES AND SPACES STARTED AUTOMATICALLY (DSNTIPS)
  MAX ZIVLEMPEL DICTIONARY ENTRIES.....................4,096    ---------------------------------------------------
  REORG KEEPDICTIONARY IN BRF TO RRF CONVERSION..............YES    ALL
  DRDA RESOLVE ALIAS (DRDA_RESOLVE_ALIAS).....................YES
  PC YES SPECIFIED...........................................YES    ICF CATALOG QUALIFIERS
  BLOCK OPT 1 ROW SORT (OPT1ROWBLOCKSORT).....................NO    ----------------------
  EMPTY XML ELEMENT (XML_RESTRICT_EMPTY_TAG)..................NO    OC1A
  SUPPRESS_HINT_SQLCODE_DYN (SUPPRESS_HINT_SQLCODE_DYN) .......NO
  INDEX MEMORY CONTROL (INDEX_MEMORY_CONTROL).............AUTO    SIZES PANEL 1 (DSNTIPD)
  SELECT FOR UNLOAD (AUTH_COMPATIBILITY)......................NO    ----------------------
  MATERIALIZE NODET SQLTUDF (MATERIALIZE_NODET_SQLTUDF).......NO    LOB INLINE LENGTH (LOB_INLINE_LENGTH).......................25
  ENCRYPTION_KEYLABEL (ENCRYPTION_KEYLBL).....................      USER LOB VALUE STORAGE IN KB (LOBVALA).....................N/A
  DB2SYS.KEY01                                                     SYSTEM LOB VALUE STORAGE IN MB (LOBVALS).............51,200
                                                                   USER XML VALUE STG IN KB (XMLVALA).........................N/A
  DEFAULT STARTUP MODULES (DSNTIPO3)                               SYSTEM XML VAL STG IN MB (XMLVALS)...................51,200
  ----------------------------------
  PARAMETER MODULE.....................................OC1APARM    PROTECTION PANEL (DSNTIPP1)
  ACCESS CONTROL (ACCESS_CNTL_MODULE).................DSNX@XAC    --------------------------
  IDENTIFY/AUTH (IDAUTH_MODULE).......................DSN3@ATH    SECURITY ADMINISTRATOR 1 AUTHORIZATION ID (SECADM1)......SECADM
  SIGNON (SIGNON_MODULE)..............................DSN3@SGN    SECURITY ADMINISTRATOR 1 TYPE (SECADM1_TYPE).............AUTHID
                                                                   SECURITY ADMINISTRATOR 2 AUTHORIZATION ID (SECADM2)......SECADM
  INSTALL DB2 - RESOURCE LIMIT FACILITY (DSNTIPO4)                 SECURITY ADMINISTRATOR 2 TYPE (SECADM2_TYPE).............AUTHID
  ------------------------------------------------                 SEPARATE SECURITY DUTIES (SEPARATE_SECURITY).................NO
  RESOURCE LIMIT FACILITY AUTOMATIC START (RLF).................NO    INCLUDE DEPENDENT PRIVILEGES (REVOKE_DEP_PRIVILEGES).........NO
  RESOURCE LIMIT SPECIFICATION TABLE SUFFIX (RLFTBL)...........01
  RESOURCE LIMIT DYNAMIC ERROR ACTION (RLFERR)............NOLIMIT    DB2 CATALOG AND DIRECTORY PANEL (DSNTIPA2)
  RESOURCE LIMIT STATIC ERROR ACTION (RLFERRSTC).........NOLIMIT    ----------------------------------------
  RLF REMOTE DYNAMIC ERROR ACTION (RLFERRD)..............NOLIMIT    SMS DATA CLASS FOR CATALOG DATA (CATDDACL)..................N/P
  RLF REMOTE STATIC ERROR ACTION (RLFERRDSTC)............NOLIMIT    SMS MANAGEMENT CLASS FOR CATALOG DATA (CATDMGCL)............N/P
  RLF SCOPE (RLFENABLE).....................................DYNAMIC    SMS STORAGE CLASS FOR CATALOG DATA (CATDSTCL)...............N/P
                                                                   SMS DATA CLASS FOR CATALOG INDEX DATA (CATXDACL).............N/P
  DATA PARAMETERS PANEL (DSNTIPA3)                                 SMS MANAGEMENT CLASS FOR CATALOG INDEX DATA (CATXMGCL)......N/P
  --------------------------------                                 SMS STORAGE CLASS FOR CATALOG INDEX DATA (CATXSTCL).........N/P
  ZHYPERLINKS SCOPE (ZHYPERLINK).........................DISABLE    COMPRESS SPT01 (COMPRESS_SPT01).............................NO
                                                                   SPT01 INLINE LENGTH (SPT01_INLINE_LENGTH)....................-1
```

System parameters report blocks

This section describes the blocks and fields shown in the system parameters report.

Blocks are listed in alphabetical order, fields are shown in the order they appear in the block.

Application Programming Defaults Panel 1 (DSNTIPF)

This topic shows detailed information about "System Parameters - Application Programming Defaults Panel 1 (DSNTIPF)".

This block shows application programming defaults.

The values shown are used as default values by the program preparation panels, program preparation CLIST (DSNH), and precompiler. They can also be used as defaults by other programs, such as Query Management Facility (QMF).

Changing some of these defaults is not recommended because changes can make the syntax of existing SQL statements invalid or affect the way application programs run.

Values set here are contained in load module DSNHDECP, in library prefix.SDSNEXIT, which can be loaded and accessed by application programs. When modifying DSNHDECP, do so only by changing and running the installation CLIST.

Do not modify the data in DSNHDECP. If you modify any installation parameters by changing job DSNTIJUZ directly, these values are not recorded for later updates, new installations, or migrations.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Application Programming Defaults Panel 1 (DSNTIPF)

The field labels shown in the following sample layout of "System Parameters - Application Programming Defaults Panel 1 (DSNTIPF)" are described in the following section.

```
APPLICATION PROGRAMMING DEFAULTS PANEL 1 (DSNTIPF)
-------------------------------------------------
DEFAULT HOST LANGUAGE (DEFLANG).....................IBMCOB
DECIMAL POINT OPTION (DECIMAL)......................PERIOD
DEFAULT DELIMITER (DELIM)...........................DEFAULT
DEFAULT SQL DELIMITER (SQLDELI).....................DEFAULT
DIST SQL STRING DELIMITER (DSQLDELI).................APOST
DEFAULT MIXED GRAPHIC (MIXED).........................NO
EBCDIC SBCS CCSID (SCCSID)............................1,140
EBCDIC MBCS CCSID (MCCSID)............................N/P
EBCDIC GBCS CCSID (GCCSID)............................N/P
ASCII SBCS CCSID (ASCCSID)............................437
ASCII MBCS CCSID (AMCCSID)............................N/P
ASCII GBCS CCSID (AGCCSID)............................N/P
UNICODE SBCS CCSID (USCCSID)..........................367
UNICODE MBCS CCSID (UMCCSID)..........................1,208
UNICODE GBCS CCSID (UGCCSID)..........................1,200
DEFAULT ENCODING SCHEME (ENSCHEME)...................EBCDIC
APPLICATION ENCODING (APPENSCH).....................EBCDIC
LOCALE LC_TYPE (LC_CTYPE)............................EN_US
DECFLOAT ROUND MODE (DEF_DECFLOAT_ROUND_MODE)...ROUND_HALF_EVEN
DEFAULT CHARSET (CHARSET).........................ALPHANUM
```

DEFAULT HOST LANGUAGE (DEFLANG)

The default programming language for your site. This can be:

- ASM
- C
- CPP
- COBOL
- COB2
- IBMCOB
- FORTRAN
- PLI

When this is C or C++, you can fold SQL identifiers to uppercase.

Install parameter LANGUAGE DEFAULT on panel DSNTIPF, or ZPARM DEFLANG in DSNHDECP.

Field Name: QWPBLANG

DECIMAL POINT OPTION (DECIMAL)

Indicates whether the decimal contains a comma (,) or a period (.). This parameter is used for dynamic SQL and COBOL programs. It is not used or supported by other languages.

Install parameter DECIMAL POINT IS on panel DSNTIPF, or ZPARM DECIMAL in DSNHDECP.

Derivation: DB2 field QWPBDE

Field Name: QWPBDE

DEFAULT DELIMITER (DELIM)

Shows the string delimiter for COBOL. Default string delimiter is the quotation mark. This option is applicable to all types of COBOL.

Install parameter STRING DELIMITER on panel DSNTIPF, or ZPARM DELIM in DSNHDECP.

Field Name: QWPBDL

DEFAULT SQL DELIMITER (SQLDELI)

The string delimiter for SQL.

Install parameter SQL STRING DELIMITER on panel DSNTIPF, or ZPARM SQLDELI in DSNHDECP.

Derivation: DB2 field QWPBSDL

Field Name: QWPBSDL

DIST SQL STRING DELIMITER (DSQLDELI)

Shows the SQL string delimiter used by this DB2 for bind operations when the requester does not give DB2 that information.

Install parameter DIST SQL STR DELIMTR on panel DSNTIPF, or ZPARM DSQLDELI in DSNHDECP.

Field Name: QWPBDSSD

DEFAULT MIXED GRAPHIC (MIXED)

Indicates whether the code points X'0E' and X'0F' are the shift-out and shift-in controls for character strings that include double-byte characters.

Install parameter MIXED DATA on panel DSNTIPF, or ZPARM MIXED in DSNHDECP.

Field Name: QWPBGRA

EBCDIC SBCS CCSID (SCCSID)

The EBCDIC single-byte coded character set ID.

A coded character set identifier (CCSID) must be specified when DDF STARTUP OPTION field on panel DSNTIPR is set to AUTO or COMMAND, or when the MIXED DATA field on panel DSNTIPF is set to YES. When mixed data is used, valid Mixed Data CCSID must also be specified.

A nonexistent CCSID causes an error.

An incorrect CCSID can corrupt data.

Install parameter EBCDIC CCSID on panel DSNTIPF, or ZPARM SCCSID in DSNHDECP.

Field Name: QWPBSID

EBCDIC MBCS CCSID (MCCSID)

The EBCDIC mixed coded character set ID.

A coded character set identifier (CCSID) must be specified when DDF STARTUP OPTION field on panel DSNTIPR is set to AUTO or COMMAND, or when the MIXED DATA field on panel DSNTIPF is set to YES. When mixed data is used, valid Mixed Data CCSID must also be specified.

A nonexistent CCSID causes an error.

An incorrect CCSID can corrupt data.

Install parameter EBCDIC CCSID on panel DSNTIPF, or ZPARM MCCSID in DSNHDECP.

Field Name: QWPBMID

EBCDIC GBCS CCSID (GCCSID)

The EBCDIC graphic coded character set ID.

A coded character set identifier (CCSID) must be specified when DDF STARTUP OPTION field on panel DSNTIPR is set to AUTO or COMMAND, or when the MIXED DATA field on panel DSNTIPF is set to YES. When mixed data is used, valid Mixed Data CCSID must also be specified.

A nonexistent CCSID causes an error.

An incorrect CCSID can corrupt data.

Install parameter EBCDIC CCSID on panel DSNTIPF, or ZPARM GCCSID in DSNHDECP.

Field Name: QWPBGID

ASCII SBCS CCSID (ASCCSID)

The ASCII single-byte coded character set ID.

The default (0) means the installation has no ASCII databases, table spaces, or tables.

Install parameter ASCII CCSID on panel DSNTIPF, or ZPARM ASCCSID in DSNHDECP.

Field Name: QWPBASID

ASCII MBCS CCSID (AMCCSID)

Indicates the ASCII mixed coded character set ID.

The default (0) means the installation has no ASCII databases, table spaces, or tables.

Install parameter ASCII CCSID on panel DSNTIPF, or ZPARM AMCCSID in DSNHDECP.

Field Name: QWPBAMID

ASCII GBCS CCSID (AGCCSID)

Indicates the ASCII graphic coded character set ID.

The default (0) means the installation has no ASCII databases, table spaces, or tables.

Install parameter ASCII CCSID on panel DSNTIPF, or ZPARM AGCCSID in DSNHDECP.

Field Name: QWPBAGID

UNICODE SBCS CCSID (USCCSID)

Unicode Single Byte Character Set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARM USCCSID in macro DSNHDECP.

Field Name: QWPBUSID

UNICODE MBCS CCSID (UMCCSID)

Unicode Mixed Character Set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARM UMCCSID in macro DSNHDECP.

Field Name: QWPBUMID

UNICODE GBCS CCSID (UGCCSID)

Unicode graphics character set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARM UGCCSID in macro DSNHDECP.

Field Name: QWPBUGID

DEFAULT ENCODING SCHEME (ENSCHEME)

The default encoding scheme, which can be ASCII or EBCDIC, or UNICODE.

Install parameter DEF ENCODING SCHEME on panel DSNTIPF, or ZPARM ENSCHEME in DSNHDECP.

Derivation: DB2 field QWPBENS

Field Name: QWPBENS

APPLICATION ENCODING (APPENSCH)

Application encoding scheme.

Install parameter APPLICATION ENCODING on installation panel DSNTIPF, or ZPARM APPENSCH in DSNHDECP.

Field Name: QWPBAPSC

LOCALE LC_CTYPE (LC_TYPE)

The system LOCALE LC_CTYPE.

A locale is the part of the system environment that depends on language and cultural conventions. An LC_TYPE is a subset of a locale that applies to character functions. The UPPER, LOWER, and TRANSLATE scalar functions use the CURRENT LOCALE LC_CTYPE system default or special register. The results of these functions can vary, depending on the setting of the locale.

The following values are possible:

BLANK
The source field is empty.

This is the default, unless it is necessary to run the UPPER, LOWER, or TRANSLATE functions for data that must be interpreted using the rules provided by specific locales, for example, En_US or Fr_CA.

1st word
The source field contains left-justified word(s), where each byte of a word is > X'40'. It can be a single word or several ones, delimited by bytes <= X'40'.

Note: These hexadecimal codes do not represent printable characters.

N/P
The source field contains regular words that are not left-justified. This means that the first bytes are <= X'40'. N/P is also shown if the whole source field only consists of bytes < X'40', such as zeros.

Install parameter LOCALE LC_CTYPE on panel DSNTIPF, or ZPARM LC_TYPE in DSNHDECP.

Field Name: QWPBLCTP

DECFLOAT ROUND MODE (DEF_DECFLOAT_ROUND_MODE)

The default rounding mode for the decimal floating point type. Possible values are:

X'80'
ROUND_CEILING

X'40'
ROUND_DOWN

X'20'
ROUND_FLOOR

X'10'
ROUND_HALF_DOWN

X'08'
ROUND_HALF_EVEN

X'04'
ROUND_HALF_UP

X'02'
ROUND_UP

Otherwise this field shows 'BLANK'.

ZPARM DEF_DECFLOAT_ROUND_MODE in DSNHDECP.

Field Name: QWPBDDRM

DEFAULT CHARSET (CHARSET)

Shows the default character set, ALPHANUM or KATAKANA.

ZPARM CHARSET in DSNHDECP.

Field Name: QWPBCHAR

Application Programming Defaults Panel 2 (DSNTIP4, DSNTIP41)

This topic shows detailed information about "System Parameters - Application Programming Defaults Panel 2 (DSNTIP4, DSNTIP41)".

This block is a continuation of DSNTIPF and shows application programming defaults.

The values shown are used as default values by the program preparation panels, the program preparation CLIST (DSNH), and the precompiler. They can also be used as defaults by other programs, such as Query Management Facility (QMF).

Changing some of these defaults is not recommended because changes can make the syntax of existing SQL statements invalid or affect the way application programs run.

System Parameters - Application Programming Defaults Panel 2 (DSNTIP4, DSNTIP41)

The field labels shown in the following sample layout of "System Parameters - Application Programming Defaults Panel 2 (DSNTIP4, DSNTIP41)" are described in the following section.

```
APPLICATION PROGRAMMING DEFAULTS PANEL 2 (DSNTIP4,DSNTIP41)
-------------------------------------------------------------
MINIMUM DIVIDE SCALE (DECDIV3).............................NO
DECIMAL ARITHMETIC (DECARTH)............................DEC15
USE FOR DYNAMIC RULES (DYNRULS)............................YES
STATIC DESCRIBE (DESCSTAT).................................YES
DATE FORMAT (DATE)..........................................ISO
TIME FORMAT (TIME)..........................................ISO
LOCAL DATE LENGTH (DATELEN)................................N/A
LOCAL TIME LENGTH (TIMELEN)................................N/A
IMPLICIT TIMEZONE.....................................CURRENT
STD SQL LANGUAGE (STDSQL)...................................NO
PAD NULL-TERMINATED (PADNTSTR).............................NO
APPL COMPAT LEVEL (APPLCOMPAT).............................N/A
LIKE BLANK INSIGNIFICANT (LIKE_BLANK_INSIGNIFICANT).........N/A
FULLY QUALIFIED NAME OF DSNHDECP LOAD MODULE...................
  SYS1.DSNEXIT(DSNHDECP)
```

MINIMUM DIVIDE SCALE (DECDIV3)

This field is for IBM service use.

Field Name: QWP4DIV3

DECIMAL ARITHMETIC (DECARTH)

Indicates the rules of precision for a decimal field.

Install parameter DECIMAL ARITHMETIC on panel DSNTIP4, or ZPARM DECARTH in DSNHDECP.

Derivation : DB2 field QWPBAR

Field Name: QWPBARTH

USE FOR DYNAMIC RULES (DYNRULS)

Shows whether DB2 uses the application programming defaults specified on this panel or those of the DB2 precompiler options for dynamic SQL statements bound using DYNAMICRULES bind, define, or invoke behavior.

When YES, the application programming (DSNHDECP) defaults are used for dynamic SQL statements in plans or packages bound using DYNAMICRULES bind, define, or invoke behavior.

The following defaults are affected:

- DECIMAL POINT IS
- STRING DELIMITER
- SQL STRING DELIMITER
- MIXED DATA
- DECIMAL ARITHMETIC

When NO, values of the precompiler options are used for dynamic SQL statements in plans or packages bound with DYNAMICRULES(BIND).

Install parameter USE FOR DYNAMICRULES on panel DSNTIP4, or ZPARM DYNRULS in DSNHDECP.

Field Name: QWPBDRLS

STATIC DESCRIBE (DESCSTAT)

Shows whether DB2 builds a DESCRIBE SQLDA when binding static SQL statements.

A DESCRIBE cannot be issued against a static SQL statement except:

- In a distributed environment, where DB2 for z/OS is the server and the requester supports extended dynamic SQL. In this instance, a DESCRIBE on an SQL statement in the extended dynamic package appears to DB2 as a DESCRIBE on a static SQL statement in the DB2 package.
- When an application uses a stored procedure result set, the application must allocate a cursor for that result set. The application can do this using a DESCRIBE CURSOR statement. The SQL statement actually described is the one with the cursor declared in the stored procedure. If that statement is static, a static SQL statement must be described.

When NO (default), DB2 does not generate a DESCRIBE SQLDA at BIND time for static SQL statements. If a DESCRIBE request is received at execution time, DB2 generates an error. However, if the describe request comes from a DESCRIBE CURSOR statement, DB2 satisfies the request but is only able to provide data type and length information. Column names are not provided.

When YES, DB2 generates a DESCRIBE SQLDA at BIND time so that DESCRIBE requests for static SQL can be satisfied during execution.

Note: You must rebind packages after this value has been set to YES.

This option increases the size of some packages because the DESCRIBE SQLDA is now stored with each statically-bound SQL SELECT statement.

Install parameter DESCRIBE FOR STATIC on panel DSNTIP4, or ZPARM DESCSTAT in DSN6SPRM.

Field Name: QWP4DSST

DATE FORMAT (DATE)

Default output format for dates.

Valid formats are ISO (yyyy-mm-dd), USA (mm/dd/yyyy), EUR (dd.mm.yyyy), JIS (yyyy- mm-dd), or LOCAL (your choice, defined by a date exit routine). DB2 interprets the input date from the punctuation and converts the output date to the required format.

Install parameter DATE FORMAT on panel DSNTIP4, or ZPARM DATE in DSNHDECP.

Field Name: QWPBDATE

TIME FORMAT (TIME)

Indicates the default output format for times.

Valid values are ISO (hh.mm.ss), USA (hh:mm AM), EUR (hh.mm.ss), JIS (hh:mm:ss), or LOCAL (your choice, defined by a time exit routine). DB2 interprets the input time from the punctuation and converts the output time to the required format.

Install parameter TIME FORMAT on panel DSNTIP4, or ZPARM TIME in DSNHDECP.

Field Name: QWPBTIME

LOCAL DATE LENGTH (DATELEN)

Shows the length of the longest field required to hold a locally defined date.

The default (0) indicates an IBM-supplied format (ISO, JIS, USA, or EUR).

Install parameter LOCAL DATE LENGTH on panel DSNTIP4, or ZPARM DATELEN in DSNHDECP.

Field Name: QWPBDLEN

LOCAL TIME LENGTH (TIMELEN)

Shows the length of the longest field required to hold a time when a locally defined time format is used.

The default (0) indicates an IBM-supplied format (ISO, JIS, USA, or EUR).

Install parameter LOCAL TIME LENGTH on panel DSNTIP4, or ZPARM TIMELEN in DSNHDECP.

Field Name: QWPBTLEN

IMPLICIT TIMEZONE

The implicit time zone that is associated with DB2 table columns and routine parameters that are declared as time stamp with time zone.

For IFCID 106 - Application Programming Defaults, this field is displayed twice, with its hex value and in a readable string.

This field corresponds to DSNHDECP field IMPLICIT_TIMEZONE.

Field Name: QWPBIMTZ

STD SQL LANGUAGE (STDSQL)

Shows whether SQL, the language standard used by applications, conforms to 1986 ANSI SQL standard.

YES
Conforms to the 1986 ANSI SQL standard

NO
Conforms to the SQL language defined by DB2

86
Conforms to the 1986 ANSI SQL standard

Install parameter STD SQL LANGUAGE on panel DSNTIP4, or ZPARM STDSQL in DSNHDECP.

Field Name: QWPBSQL

PAD NULL-TERMINATED (PADNTSTR)

Shows whether output host variables that are NULL-terminated strings are padded with blanks and a NULL terminator.

When NO, NULL-terminated output host variables have the NULL terminator placed at the end of actual data returned in the host variable. When YES, NULL-terminated output host variables have the NULL terminator placed at the end of the string, after the string has been padded with blanks from the end of the actual data to the declared length of the output host variable.

Install parameter PAD NUL-TERMINATED on installation panel DSNTIP4, or ZPARM PADNTSTR in DSNHDECP.

Field Name: QWPBPAD

APPL COMPAT LEVEL (APPLCOMPAT)

Specifies the DB2 level for downward compatibility with applications. The ZPARM name is APPLCOMPAT in DSN6SPRM.

Field Name: QWP4APCO_VAR

LIKE BLANK INSIGNIFICANT (LIKE_BLANK_INSIGNIFICANT)

YES indicates that blanks are not significant when DB2 applies the LIKE predicate to a string. Blanks are significant in DB2 10.

This setting corresponds to field LIKE BLANK INSIGNIFICANT on installation panel DSNTIP41. The ZPARM name is LIKE_BLANK_INSIGNIFICANT in DSN6SPRM.

Field Name: QWP4LBIN

FULLY QUALIFIED NAME OF DSNHDECP LOAD MODULE

Shows the fully qualified DECP name of the data set from which the DSNHDECP module was loaded.

Field Name: QWPBLNM

Archive Log Installation Parameters (DSNTIPA)

This topic shows detailed information about "System Parameters - Archive Log Installation Parameters (DSNTIPA)".

This block shows the characteristics of archive log data sets.

System Parameters - Archive Log Installation Parameters (DSNTIPA)

The field labels shown in the following sample layout of "System Parameters - Archive Log Installation Parameters (DSNTIPA)" are described in the following section.

```
ARCHIVE LOG INSTALLATION PARAMETERS (DSNTIPA)
-------------------------------------------
CATALOG ARCHIVE DATASETS (CATALOG).........................YES
COPY1 ARCHIVE LOG DEVICE TYPE (UNIT).......................DASD
COPY2 ARCHIVE LOG DEVICE TYPE (UNIT2)....................'BLANK'
SPACE ALLOCATION METHOD (ALCUNIT).......................CYLINDER
PRIMARY SPACE ALLOCATION (PRIQTY)............................100
SECONDARY SPACE ALLOCATION (SECQTY)..........................10
ARCHIVE LOG BLOCK SIZE IN BYTES (BLKSIZE).............24,576
MAXIMUM READ TAPE UNITS (MAXRTU)..............................2
TAPE UNIT DEALLOCATION PERIOD (DEALLCT)..................0000:00
MAX NUMBER OF DATASETS RECORDED IN BSDS (MAXARCH).........1,000
FIRST ARCHIVE COPY MASS STG GROUP NAME...................'NONE'
SECOND ARCHIVE COPY MASS STG GROUP NAME..................'NONE'
DAYS TO RETAIN ARCHIVE LOG DATA SETS (ARCRETN)...............30
ISSUE WTOR BEFORE MOUNT FOR ARCHIVE VOLUME (ARCWTOR)........YES
COMPACT DATA (COMPACT).......................................NO
QUIESCE PERIOD (QUIESCE).....................................5
SINGLE VOLUME (SVOLARC)......................................NO
```

CATALOG ARCHIVE DATASETS (CATALOG)

The alias of the VSAM integrated catalog facility user catalog or the name of the master catalog where the DB2 VSAM data sets created during installation are cataloged. The MVS catalog alias is also used as the high-level qualifier for DB2 VSAM data sets.

Install parameter CATALOG ALIAS on panel DSNTIPA, or ZPARM CATALOG in DSN6ARVP.

Field Name: QWP3CTLG

COPY1 ARCHIVE LOG DEVICE TYPE (UNIT)

The device type or unit name for storing archive log data sets.

The value can be any alphanumeric string. If you choose to archive to DASD, you can specify a generic device type with a limited volume range. DB2 requires that all archive log data sets allocated on DASD are cataloged.

If the device type is DASD, CATALOG DATA must be set to YES. If the unit name specifies DASD, the archive log data sets can extend to a maximum of 15 volumes. PRIQTY and SECQTY must be large enough to contain all active log data set data without extending beyond 15 volumes. If the unit name specifies a tape device, DB2 can extend to a maximum of 20 volumes. Default is TAPE.

Install parameter DEVICE TYPE 1 on panel DSNTIPA, or ZPARM UNIT in DSN6ARVP.

Field Name: QWP3UNT1

COPY2 ARCHIVE LOG DEVICE TYPE (UNIT2)

Indicates the device type or unit name for storing the second copy of archive log data sets.

The value can be any alphanumeric string. If you choose to archive to DASD, you can specify a generic device type with a limited volume range. DB2 requires that all archive log data sets allocated on DASD are cataloged.

If the device type is DASD, then CATALOG DATA must be set to YES. If the unit name specifies DASD, the archive log data sets can extend to a maximum of 15 volumes. PRIQTY and SECQTY must be large enough to contain all active log data set data without extending beyond 15 volumes. If the unit name specifies a tape device, DB2 can extend to a maximum of 20 volumes. Default is TAPE.

Install parameter DEVICE TYPE 2 on panel DSNTIPA, or ZPARM UNIT2 in DSN6ARVP.

Field Name: QWP3UNT2

SPACE ALLOCATION METHOD (ALCUNIT)

The unit used in allocating archive data sets. Possible values are:

CYLINDER
Space allocation by cylinders (QWP3CYL=1)

TRACKS
Space allocation by tracks (QWP3TRCK=1)

BLOCKS
Space allocation by blocks (QWP3CYL=0 and QWP3TRCK=0)

Install parameter ALLOCATION UNITS on panel DSNTIPA, or ZPARM ALCUNIT in DSN6ARVP.

Field Name: RT0106SA

PRIMARY SPACE ALLOCATION (PRIQTY)

The primary space allocation for archive data sets.

Install parameter PRIMARY QUANTITY on installation panel DSNTIPA, or ZPARM PRIQTY in DSN6ARVP.

Field Name: QWP3RISP

SECONDARY SPACE ALLOCATION (SECQTY)

The amount of DASD secondary space allocation for an archive log data set.

The units used are specified by the ALLOCATION UNITS field. When blank (default), the CLIST calculates this space using block size and size of the log.

Install parameter SECONDARY QTY on panel DSNTIPA, or ZPARM SECQTY in DSN6ARVP.

Field Name: QWP3SECS

ARCHIVE LOG BLOCK SIZE IN BYTES (BLKSIZE)

The block size of the archive log data set.

The block size must be compatible with the device type used for archive logs. The value is rounded up to the next multiple of 4096 bytes.

If the archive log is written to tape, use the largest possible block size to improve the reading speed.

Recommended block size values are 28672 for tape, 20480 for 3380, and 24576 for 3390 or RAMAC .

Install parameter BLOCK SIZE on panel DSNTIPA, or ZPARM BLKSIZE in DSN6ARVP.

Field Name: QWP3BKSZ

MAXIMUM READ TAPE UNITS (MAXRTU)

The maximum number of tape units that can be allocated for archive read purposes.

Install parameter READ TAPE UNITS on panel DSNTIPA, or ZPARM MAXRTU in DSN6LOGP.

Field Name: QWP2MRTU

TAPE UNIT DEALLOCATION PERIOD (DEALLCT)

The number of minutes an archive read tape unit can remain unused before it is deallocated.

When archive log data is read from tape, this value should be high enough to allow DB2 to optimize tape handling for multiple read applications.

Install parameter DEALLOC PERIOD on panel DSNTIPA, or ZPARM DEALLCT in DSN6LOGP.

Field Name: QWP2DMIN

MAX NUMBER OF DATASETS RECORDED IN BSDS (MAXARCH)

The maximum number of archive log volumes that can be recorded in the BSDS.

When this number is exceeded, recording resumes at the beginning of the BSDS.

For dual archive, this value applies to each log data set. As an example, a value of 500 allows 500 COPY-1 and 500 COPY-2 data sets in the BSDS.

You must create image copies of all DB2 objects, probably several times, before the archive log data sets are discarded. If you fail to retain an adequate number of archive log data sets for all the image copies, you might need to cold start or reinstall DB2. In either case, data is lost.

Install parameter RECORDING MAX on panel DSNTIPA, or ZPARM MAXARCH in DSN6LOGP.

Field Name: QWP2ARCL

FIRST ARCHIVE COPY MASS STG GROUP NAME

The mass storage system volume group name of the first storage group.

Field Name: QWP3MSV1

SECOND ARCHIVE COPY MASS STG GROUP NAME

The mass storage system volume group name of the second storage group.

Field Name: QWP3MSV2

DAYS TO RETAIN ARCHIVE LOG DATA SETS (ARCRETN)

The number of days DB2 keeps archive log data sets.

This value is added to the current date to calculate the expiration date.

The retention period is often used in tape management systems to control the reuse and scratching of data sets and tapes. DB2 uses this as the value for the dynamic allocation parameter DALRETPD when archive log data sets are created.

Install parameter RETENTION PERIOD on panel DSNTIPA, or ZPARM ARCRETN in DSN6ARVP.

Field Name: QWP3RETN

ISSUE WTOR BEFORE MOUNT FOR ARCHIVE VOLUME (ARCWTOR)

Indicates whether DB2 must send a message to the operator and wait for an answer before attempting to mount an archive log data set.

Other DB2 users can be forced to wait while the mount is pending. They are not affected while DB2 is waiting for a response to the message.

When YES, a device such as tape is used that requires long delays for mounts. DEVICE TYPE 1 shows the device type or unit name.

Install parameter WRITE TO OPER on panel DSNTIPA, or ZPARM ARCWTOR in DSN6ARVP.

Field Name: QWP3WTOR

COMPACT DATA (COMPACT)

Indicates whether data written to archive logs is compacted.

This option only applies to data written to a 3480 device that has the improved data recording capability (IDRC) feature.

Install parameter COMPACT DATA on panel DSNTIPA, or ZPARM COMPACT in DSN6ARVP.

Field Name: QWP3COMP

QUIESCE PERIOD (QUIESCE)

The maximum amount of time (in seconds) permitted for DB2 to attempt a full system quiesce.

Install parameter QUIESCE PERIOD on panel DSNTIPA, or ZPARM QUIESCE in DSN6ARVP.

Field Name: QWP3MQP

SINGLE VOLUME (SVOLARC)

Indicates whether single-volume DASD archives are used.

Install parameter SINGLE VOLUME on panel DSNTIPA, or ZPARM SVOLARC in DSN6ARVP.

Field Name: QWP3SVOL

Buffer Pool Parameters (DSNTIP1)

This topic shows detailed information about "System Parameters - Buffer Pool Parameters (DSNTIP1)".

This block shows the default buffer pools for user data and indexes.

System Parameters - Buffer Pool Parameters (DSNTIP1)

The field labels shown in the following sample layout of "System Parameters - Buffer Pool Parameters (DSNTIP1)" are described in the following section.

```
BUFFER POOL PARAMETERS (DSNTIP1)
--------------------------------
DEFAULT  4-KB BUFFER POOL FOR USER DATA (TBSBPOOL).........BP2
DEFAULT  8-KB BUFFER POOL FOR USER DATA (TBSBP8K).........BP8K0
DEFAULT 16-KB BUFFER POOL FOR USER DATA (TBSBP16K).......BP16K0
DEFAULT 32-KB BUFFER POOL FOR USER DATA (TBSBP32K).......BP32K
DEFAULT BUFFER POOL FOR USER LOB DATA (TBSBPLOB)...........BP0
DEFAULT BUFFER POOL FOR USER XML DATA (TBSBPXML).........BP16K0
DEFAULT BUFFER POOL FOR USER INDEXES (IDXBPOOL)............BP3
```

DEFAULT 4-KB BUFFER POOL FOR USER DATA (TBSBPOOL)

The name of the 4 KB buffer pool for user table spaces.

Install parameter DEFAULT BUFFER POOL FOR USER DATA on installation panel DSNTIP1, or ZPARM TBSBPOOL in DSN6SYSP.

Field Name: QWP1TBPL

DEFAULT 8-KB BUFFER POOL FOR USER DATA (TBSBP8K)

The default 8 KB buffer pool for:

- Table spaces with an 8 KB page size in implicitly created databases
- Explicitly created table spaces with an 8 KB page size, but without a buffer pool clause that is specified in the create table space statement.

Install parameter DEFAULT 8-KB BUFFER POOL FOR USER DATA on panel DSNTIP1 or ZPARM TBSBP8K in DSN6SYSP.

Field Name: QWP1TP8

DEFAULT 16-KB BUFFER POOL FOR USER DATA (TBSBP16K)

The default 16 KB buffer pool for:

- Table spaces with a 16 KB page size in implicitly created databases
- Explicitly created table spaces with a 16 KB page size, but without a buffer pool clause that is specified in the create table space statement.

Install parameter DEFAULT 16-KB BUFFER POOL FOR USER DATA on panel DSNTIP1 or ZPARM TBSBP16K in DSN6SYSP.

Field Name: QWP1TP16

DEFAULT 32-KB BUFFER POOL FOR USER DATA (TBSBP32K)

The default 32 KB buffer pool for:

- Table spaces with a 32 KB page size in implicitly created databases
- Explicitly created table spaces with a 32 KB page size, but without a buffer pool clause that is specified in the create table space statement.

Install parameter DEFAULT 32-KB BUFFER POOL FOR USER DATA on panel DSNTIP1 or ZPARM TBSBP32K in DSN6SYSP.

Field Name: QWP1TP32

DEFAULT BUFFER POOL FOR USER LOB DATA (TBSBPLOB)

The name of the buffer pool that is used for implicitly created LOB table spaces. This field corresponds to field default buffer pool for USER LOB DATA on installation panel DSNTIP1. The ZPARM name is TBSBPLOB in DSN6SYSP.

Field Name: QWP1TPLB

DEFAULT BUFFER POOL FOR USER XML DATA (TBSBPXML)

The name of the buffer pool that is used for XML table spaces. This field corresponds to field default buffer pool for USER XML DATA on installation panel DSNTIP1. The ZPARM name is TBSBPXML in DSN6SYSP.

Field Name: QWP1TPXM

DEFAULT BUFFER POOL FOR USER INDEXES (IDXBPOOL)

The name of the 4 KB buffer pool used for indexes on user data.

Install parameter DEFAULT BUFFER POOL FOR USER INDEXES on installation panel DSNTIP1, or ZPARM IDXBPOOL in DSN6SYSP.

Field Name: QWP1IXPL

Data Definition Control Support (DSNTIPZ)

This topic shows detailed information about "System Parameters - Data Definition Control Support (DSNTIPZ)".

This shows the installation and configuration for data definition control support.

Two SQL tables (application and object registration) are identified and created even if data definition control support is not installed. This simplifies future activation of the facility. Specified application identifiers (DB2 plans or collections of packages) can be registered in the application registration table and, optionally, their associated DB2 object names can be registered in the object registration table. DB2 consults these two tables prior to accepting a given DDL statement to make sure that a particular application identifier and object name are registered.

Fields in this block can contain long names. When a long name exceeds the available space, it is truncated, the parameter identifier and the full name are printed in a separate list at the end of the report.

System Parameters - Data Definition Control Support (DSNTIPZ)

The field labels shown in the following sample layout of "System Parameters - Data Definition Control Support (DSNTIPZ)" are described in the following section.

```
DATA DEFINITION CONTROL SUPPORT (DSNTIPZ)
-----------------------------------------
INSTALL DD CONTROL (RGFINSTL)..............................NO
CONTROL ALL APPLICATIONS (RGFDEDPL)........................NO
REQUIRE FULL NAMES (RGFFULLQ)..............................YES
UNREGISTERED DDL DEFAULT (RGFDEFLT).....................ACCEPT
REGISTER TABLE OWNER (RGFCOLID).......................DSNZPARM
DDL REGISTRATION DATABASE NAME (RGFDBNAM)..............DSNRGFDB
APPL REGISTRATION TABLE NAME (RGFNMPRT).......DSNZPARMRGFNMPRTD
OBJECT REGISTRATION TABLE NAME (RGFNMORT).....DSNZPARMRGFNMORTD
ESCAPE CHARACTER (RGFESCP)...............................X'40'
```

INSTALL DD CONTROL (RGFINSTL)

Indicates whether data definition support has been installed.

Install parameter INSTALL DD CONTROL SUPT on panel DSNTIPZ, or ZPARM RGFINSTL in DSN6SPRM.

Field Name: QWP4REGI

CONTROL ALL APPLICATIONS (RGFDEDPL)

Indicates that the DB2 system is completely controlled by a set of closed applications identified in the application registration table.

Closed applications require their DB2 objects to be managed solely through the plans or packages registered in the application registration table.

Install parameter CONTROL ALL APPLICATIONS on panel DSNTIPZ, or ZPARM RGFDEDPL in DSN6SPRM.

Field Name: QWP4REGD

REQUIRE FULL NAMES (RGFFULLQ)

Indicates whether registered objects require fully qualified names.

Install parameter REQUIRE FULL NAMES on panel DSNTIPZ, or ZPARM RGFFULLQ in DSN6SPRM.

Field Name: QWP4REGQ

UNREGISTERED DDL DEFAULT (RGFDEFLT)

The action taken for DDL that names an unregistered object.

Options are REJECT, ACCEPT, or APPL, which rejects the DDL when the current application is not registered.

Install parameter UNREGISTERED DDL DEFAULT on panel DSNTIPZ, or ZPARM RGFDEFLT in DSN6SPRM.

Field Name: QWP4REGU

REGISTER TABLE OWNER (RGFCOLID)

The owner of the application registration table and the object registration table.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter REGISTRATION OWNER on panel DSNTIPZ, or ZPARM RGFCOLID in DSN6SPRM.

Field Name: QWP4REGC

DDL REGISTRATION DATABASE NAME (RGFDBNAM)

The name of the database that contains the registration tables.

Install parameter REGISTRATION DATABASE on panel DSNTIPZ, or ZPARM RGFDBNAM in DSN6SPRM.

Field Name: QWP4REGN

APPL REGISTRATION TABLE NAME (RGFNMPRT)

The name of the application registration table.

Install parameter APPL REGISTRATION TABLE on panel DSNTIPZ or ZPARM RGFNMPRT in DSN6SPRM.

Field Name: QWP4REGA

OBJECT REGISTRATION TABLE NAME (RGFNMORT)

The name of the object registration table.

Install parameter OBJT REGISTRATION TABLE on panel DSNTIPZ, or ZPARM RGFNMORT in DSN6SPRM.

Field Name: QWP4REGO

ESCAPE CHARACTER (RGFESCP)

The escape character used in the application registration table (ART) or object registration table (ORT).

Sets of names in the ART and ORT can be represented by patterns that use the underscore (_) and percent sign (%) characters in the same way as in an SQL LIKE predicate.

Install parameter ART/ORT ESCAPE CHARACTER on panel DSNTIPZ, or ZPARM RGFESCP in DSN6SPRM.

Field Name: QWP4ESC

Data Parameters (DSNTIPA3)

This topic shows detailed information about "System Parameters - Data Parameters Panel (DSNTIPA3).

```
DATA PARAMETERS PANEL (DSNTIPA3)
--------------------------------
ZHYPERLINKS SCOPE (ZHYPERLINK).....................DATABASE
```

Figure 8. Data parameters panel (DSNTIPA3)

ZHYPERLINKS SCOPE (ZHYPERLINK)
The scope of zHyperLink I/O usage for this Db2 subsystem. Valid values are:

DISABLED
zHyperLink I/O not used by this Db2 subsystem.

ENABLED
All eligible I/Os will use zHyperLink if possible.

DATABSE
zHyperLink will only be used for eligible I/O on database objects.

ACTIVELOG
zHyperLink will only be used for eligible I/O on active log objects.

Field name: QWP4ZHYPL

Define Group or Member (DSNTIPK)

This topic shows detailed information about "System Parameters - Define Group or Member (DSNTIPK)".

This panel shows the members in a data sharing group.

DB2 subsystems that share data must belong to a DB2 data sharing group, which runs on a Parallel Sysplex. A data sharing group is a collection of one or more DB2 subsystems that access shared DB2 data. A Parallel Sysplex is a collection of MVS systems that communicate and cooperate with each other.

System Parameters - Define Group or Member (DSNTIPK)

The field labels shown in the following sample layout of "System Parameters - Define Group or Member (DSNTIPK)" are described in the following section.

```
DEFINE GROUP OR MEMBER (DSNTIPK)
--------------------------------
GROUP NAME (GRPNAME).....................................DSNDBPG
MEMBER NAME (MEMBNAME)...................................DBP0
MAX NUMBER OF MEMBERS....................................248
RANDOM ATTACH (RANDOMATT)................................YES
DEL CF STRUCTS (DEL_CFSTRUCTS_ON_RESTART).................NO
PARALLELISM ASSISTANT (ASSIST)...........................NO
PARALLELISM COORDINATOR (COORDNTR).......................NO
```

GROUP NAME (GRPNAME)

The name of the DB2 data sharing group.

The group name encompasses the entire data sharing group and is the basis for the coupling facility structure names.

N/A means this DB2 is not part of a data sharing group.

Install parameter GROUP NAME on panel DSNTIPK, or ZPARM GRPNAME in DSN6GRP.

Field Name: QWPAGRPN

MEMBER NAME (MEMBNAME)

The member name of this DB2.

N/A means this DB2 is not part of a data sharing group.

Install parameter MEMBER NAME on panel DSNTIPK, or ZPARM MEMBNAME in DSN6GRP.

Field Name: QWPAMBRN

MAX NUMBER OF MEMBERS

The maximum number of members possible in a data sharing group. This is a constant (248) and is not shown on any installation panel.

Field Name: QWPAMAXM

RANDOM ATTACH (RANDOMATT)

Specifies a random group attach flag:

N
Not eligible for random group attach.

NOT N
Eligible for random group attach.

This field corresponds to field RANDOM ATTACH on installation panel DSNTIPK. The ZPARM name is RANDOMATT in DSN6GRP.

Field Name: QWPARAND

DEL CF STRUCTS (DEL_CFSTRUCTS_ON_RESTART)

Shows whether to:

- Delete change-data (CD) structures during restart
- Attempt to delete coupling-facility (CF) structures, including shared communications area (SCA) structures, internal resource lock manager (IRLM lock) structures, and allocated group buffer pools.

This field corresponds to field DEL CF STRUCTS on installation panel DSNTIPK.

ZPARM name DEL_CFSTRUCTS_ON_RESTART in DSN6SYSP.

Field Name: QWP1DCFS

PARALLELISM ASSISTANT (ASSIST)

Shows whether this DB2 member can assist a parallelism coordinator with parallel processing.

When YES, this member is considered an assistant at both bind and run time. To be a viable assistant at run time, both the VPPSEQT and VPXPSEQT buffer pool thresholds of this member must be greater than 0.

N/A means this DB2 is not part of a data sharing group.

Install parameter ASSISTANT on panel DSNTIPK or ZPARM ASSIST in DSN6GRP.

Field Name: QWPAASST

PARALLELISM COORDINATOR (COORDNTR)

Shows whether this DB2 member can coordinate parallel processing on other members of the group.

When NO, a query can be processed by this DB2 member only.

When YES, a read-only query running on this DB2 member can be processed in part on other members of the group.

N/A means this DB2 is not part of a data sharing group.

Install parameter COORDINATOR on panel DSNTIPK or ZPARM COORDNTR in DSN6GRP.

Field Name: QWPACOOR

Databases and Spaces Started Automatically (DSNTIPS)

This topic shows detailed information about "System Parameters - Databases and Spaces Started Automatically (DSNTIPS)".

This block shows the databases, table spaces, and index spaces that are started or restarted automatically when DB2 is started. ZPARM ALL/*dbname* in DSN6SPRM.

System Parameters - Databases and Spaces Started Automatically (DSNTIPS)

The field labels shown in the following sample layout of "System Parameters - Databases and Spaces Started Automatically (DSNTIPS)" are described in the following section.

```
DATABASES AND SPACES STARTED AUTOMATICALLY (DSNTIPS)
---------------------------------------------------
ALL
```

DATABASE NAME

The name of a database that is to be started automatically.

Field Name: QWP8DBNM

SPACE NAME

Contains the name of a table space or index space that is to be started automatically.

Field Name: QWP8SPNM

Default Startup Modules (DSNTIPO3)

This topic shows detailed information about "System Parameters - Default Startup Modules (DSNTIPO3)".

System Parameters - Default Startup Modules (DSNTIPO3)

The field labels shown in the following sample layout of "System Parameters - Default Startup Modules (DSNTIPO3)" are described in the following section.

```
DEFAULT STARTUP MODULES (DSNTIPO3)
----------------------------------
PARAMETER MODULE.....................................DSNZPARM
ACCESS CONTROL (ACCESS_CNTL_MODULE)..................DSNX@XAC
IDENTIFY/AUTH (IDAUTH_MODULE)........................DSN3@ATH
SIGNON (SIGNON_MODULE)...............................DSN3@SGN
```

PARAMETER MODULE

Shows the name of the active subsystem parameter module.

This field corresponds to field PARAMETER MODULE on installation panel DSNTIPO3.

Field Name: QWP1ZPNM

ACCESS CONTROL (ACCESS_CNTL_MODULE)

Shows the name of the default access control exit module.

This field corresponds to field ACCESS CONTROL on installation panel DSNTIPO3. The ZPARM name is ACCESS_CNTL_MODULE in DSN6SYSP.

Field Name: QWP1DXAC

IDENTIFY/AUTH (IDAUTH_MODULE)

Shows the name of the default identify or authorization exit module.

This field corresponds to field IDENTIFY/AUTH on installation panel DSNTIPO3. The ZPARM name is IDAUTH_MODULE in DSN6SYSP.

Field Name: QWP1DATH

SIGNON (SIGNON_MODULE)

Shows the name of the default signon exit module.

This field corresponds to field SIGNON on installation panel DSNTIPO3. The ZPARM name is SIGNON_MODULE in DSN6SYSP.

Field Name: QWP1DSGN

Distributed Data Facility Panel 1 (DSNTIPR)

This topic shows detailed information about "System Parameters - Distributed Data Facility Panel 1 (DSNTIPR)".

This block shows how Distributed Data Facility (DDF) was started and the names used to connect another DB2 subsystem.

To use DDF, you must have VTAM installed, even if you use TCP/IP connections only.

System Parameters - Distributed Data Facility Panel 1 (DSNTIPR)

The field labels shown in the following sample layout of "System Parameters - Distributed Data Facility Panel 1 (DSNTIPR)" are described in the following section.

```
DISTRIBUTED DATA FACILITY PANEL 1 (DSNTIPR)
-------------------------------------------
FACILITY NAME.............................................DDF
DDF STARTUP OPTION (DDF)..................................AUTO
RLST ACCESS ERROR (RLFERRD)...............................NOLIMIT
RESYNCHRONIZATION INTERVAL IN MINUTES (RESYNC)................2
DBAT STATUS (CMTSTAT).....................................INACTIVE
MAX TYPE 1 INACTIVE THREADS (MAXTYPE1)........................0
IDLE THREAD TIMEOUT INTERVAL (IDTHTOIN)...................1,800
EXTENDED SECURITY (EXTSEC)................................YES
USER ID AND PASSWORD REQUIRED.............................NO
SQL INTERRUPT PROCESSING DISABLED (SQLINTRP)..............NO
PRIVATE PROTOCOL (PRIVATE_PROTOCOL).......................AUTH
```

FACILITY NAME

The name of the DDF facility.

Field Name: QWP9NAME

DDF STARTUP OPTION (DDF)

Indicates whether DDF is loaded, and if so, how it was started.

When NO, DDF was not loaded at DB2 startup and cannot be started.

AUTO means DDF was loaded and started automatically when DB2 was started. The DDF address space was started as part of DDF initialization.

COMMAND means DDF was initialized and the DDF address space was started at DB2 startup. IF DDF is running, it was started from the console with the -DSN1 START DDF command. If it is not running, it can be started with this command.

Install parameter DDF STARTUP OPTION on panel DSNTIPR, or ZPARM DDF in DSN6FAC.

Field Name: QWP9STRT

RLST ACCESS ERROR (RLFERRD)

Shows what DB2 does when the governor cannot access the resource limit specification table or when no row in the table matches the currently executing statement.

NOLIMIT (default) allows all dynamic SQL statements to run without limit.

NORUN terminates all dynamic SQL statements immediately with an SQL error code.

The number of CPU service units allowed for a query can be anywhere from 1 to 5000000.

Install parameter RLST ACCESS ERROR on panel DSNTIPR, or ZPARM RLFERRD in DSN6FAC (DB2 field QWP9RLER).

Field Name: QWP9RLER

RESYNCHRONIZATION INTERVAL IN MINUTES (RESYNC)

The number of minutes between resynchronization periods.

A resynchronization period is the time during which indoubt logical units of work involving this DB2 subsystem and partner logical units are processed.

Install parameter RESYNC INTERVAL on panel DSNTIPR, or ZPARM RESYNC in DSN6FAC.

Field Name: QWP9RYC

DBAT STATUS (CMTSTAT)

Shows whether DB2 inactivates threads that have successfully committed or rolled back, and hold no cursors.

ACTIVE provides the best performance but consumes system resources.

INACTIVE is recommended when the installation must support a large number of connections.

When a thread becomes eligible for inactivation, DB2 tries to make it a type 2 inactive thread, which uses less storage than a type 1 inactive thread. If this fails, DB2 tries to make it a type 1 inactive thread. If neither attempt is successful, the thread remains active.

Install parameter DDF THREADS on panel DSNTIPR, or ZPARM CMTSTAT in DSN6FAC.

Field Name: QWP9CMST

MAX TYPE 1 INACTIVE THREADS (MAXTYPE1)

Indicates the number of type 1 inactive threads that DB2 allows.

A large number of type 1 inactive threads can adversely affect system performance. Type 1 inactive threads are used for DB2 private protocol.

DRDA uses type 2 inactive threads.

Zero indicates that type 1 inactive connections are not allowed. Threads remain active when they become eligible to be made a type 1 inactive thread.

A value greater than zero indicates that type 1 inactive connections are allowed, but are limited to this number. When a thread becomes eligible to be made a type 1 inactive thread, and this threshold is reached, the remote connection is terminated.

When this is equal to MAX REMOTE CONNECTED on panel DSNTIPE, DB2 allows all remote threads to become type 1 inactive threads.

Install parameter MAX INACTIVE DBATS on panel DSNTIPR, or ZPARM MAXTYPE1 in DSN6FAC.

Field Name: QWP9MAX1

IDLE THREAD TIMEOUT INTERVAL (IDTHTOIN)

The approximate time, in seconds, that an active server thread can remain idle before it is canceled.

Inactive and indoubt threads are not subject to timeout.

Threads are checked for timeouts every 3 minutes. This means that timeouts might not be honored for up to 3 minutes when the timeout value is less than this.

0 (default) means timeout processing is disabled, idle server threads remain in the system and continue to hold their resources, if any.

Install parameter IDLE THREAD TIMEOUT on panel DSNTIPR, or ZPARM IDTHTOIN in DSN6FAC.

Field Name: QWP9TTO

EXTENDED SECURITY (EXTSEC)

Extended security options.

When YES (strongly recommended), detailed reason codes are returned to a DRDA level 3 client when a DDF connection request fails because of security errors. When using SNA protocols, the requester must have included a product that supports the extended security sense codes, such as DB2 Connect version 5 and subsequent releases.

RACF users can change their passwords using the DRDA change password function. This support is only for DRDA level 3 requesters that have implemented support for changing passwords.

YES allows properly enabled DRDA clients to determine the cause of security failures without requiring DB2 operator support.

When NO, generic error codes are returned to the clients and RACF users are prevented from changing their passwords.

Install parameter EXTENDED SECURITY on panel DSNTIPR, or ZPARM EXTSEC in DSN6SYSP.

Field Name: QWP1SCER

USER ID AND PASSWORD REQUIRED

Shows whether user ID and password are required. In addition, one of the following is required:

- The user ID and password and any RACF PassTickets (A PassTicket is a one-time-only password that is generated by a requesting product or function) are Advanced Encryption Standard (AES) encrypted.
- A Kerberos ticket is required.
- The connection is protected by a z/OS Communications Server IP Application Transparent Transport Layer Security (AT-TLS) policy, which is ensured through a DB2 SECPORT.
- The connection is protected by an IPSec tunnel.

Field Name: QWP9TCPVE

SQL INTERRUPT PROCESSING DISABLED (SQLINTRP)

Shows how SQL interrupts are processed. It can have the following values:

NO
SQL interrupt processing is enabled.

YES
DB2 SQL interrupt support is disabled.

Note: YES should only be used if remote client systems experience failures because of SQL interrupts. In this case, SQL interrupt support should be disabled only until the remote client systems can be modified to tolerate SQL interrupts.

ZPARM name SQLINTRP in DSN6FAC.

Field Name: QWP9SINTD

PRIVATE PROTOCOL (PRIVATE_PROTOCOL)

Shows if it is allowed to use the private protocol. It can have the following values:

YES
Allows private-protocol-related plan-owner-based package authorization behavior. Plan-owner-based package execution authorization semantics are honored for DB2 for z/OS DRDA requester systems that might rely on it. Secondary IDs are not used to determine package execution privileges for remote DB2 for z/OS applications.

NO
Does not allow any private-protocol-related behavior. Plan-owner-based package execution authorization semantics are not honored. This might affect DB2 for z/OS DRDA requester systems that rely on it. Secondary IDs are used to determine package execution privileges for remote DB2 for z/OS applications.

ZPARM name PRIVATE_PROTOCOL in DSN6FAC.

Field Name: QWP9PRVPA

Distributed Data Facility Panel 2 (DSNTIP5)

This topic shows detailed information about "System Parameters - Distributed Data Facility Panel 2 (DSNTIP5)".

This block shows how Distributed Data Facility (DDF) was started and the names used to connect to another DB2 subsystem.

To use DDF, you must have VTAM installed, even if you use TCP/IP connections only.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Distributed Data Facility Panel 2 (DSNTIP5)

The field labels shown in the following sample layout of "System Parameters - Distributed Data Facility Panel 2 (DSNTIP5)" are described in the following section.

```
DISTRIBUTED DATA FACILITY PANEL 2 (DSNTIP5)
-------------------------------------------
TCP/IP ALREADY VERIFIED (TCPALVER).........................YES
EXTRA BLOCKS REQ (EXTRAREQ)................................100
EXTRA BLOCKS SRV (EXTRASRV)................................100
TCP/IP KEEPALIVE (TCPKPALV)................................120
CONNECTION QUEUE MAX DEPTH (MAXCONQN)......................0
CONNECTION QUEUE MAX WAIT (MAXCONQW).......................0
POOL THREAD TIMEOUT (POOLINAC).............................120
```

TCP/IP ALREADY VERIFIED (TCPALVER)

Indicates whether DB2 accepts TCP/IP connection requests containing only a user ID.

When YES, a connection request is accepted with a user ID only. This value must be the same for all members of a data sharing group.

When NO (default), TCP/IP clients must provide authentication information (password, RACF PassTicket, or Kerberos ticket) to gain access to DB2.

Install parameter TCP/IP ALREADY VERIFIED on panel DSNTIP5, or ZPARM TCPALVER in DSN6FAC.

Field Name: QWP9TCPA

EXTRA BLOCKS REQ (EXTRAREQ)

The maximum number of extra DRDA query blocks DB2 requests from a remote DRDA server.

The default is 100.

This controls the total amount of data that can be transmitted on any given network exchange. It does not limit the size of the SQL query answer set.

Install parameter EXTRA BLOCKS REQ on panel DSNTIP5, ZPARM EXTRAREQ in DSN6SYSP.

Field Name: QWP1EXBR

EXTRA BLOCKS SRV (EXTRASRV)

The maximum number of extra DRDA query blocks DB2 returns to a DRDA client.

The default is 100.

This controls the total amount of data that can be transmitted on any given network exchange. It does not limit the size of the SQL query answer set.

Install parameter EXTRA BLOCKS SRV on panel DSNTIP5, ZPARM EXTRASRV in DSN6SYSP.

Field Name: QWP1EXBS

TCP/IP KEEPALIVE (TCPKPALV)

Indicates whether the TCP/IP configuration KeepAlive value has been overwritten.

When ENABLE (default), KeepAlive is enabled, the TCP/IP configuration stack value is used.

When DISABLE, TCP/IP KeepAlive has been disabled.

A value in the range 1 through 65534 means KeepAlive is active, and the TCP/IP stack value has been overridden. The number reported shows the time, in seconds, between TCP/IP probes.

When considering overwriting the keep-alive time, it is recommended to set a value close to the IDLE THREAD TIMEOUT value on installation panel DSNTIPR or the IRLM RESOURCE TIMEOUT value on installation panel DSNTIPI. It is good practice to set all these to about five minutes, or less.

Because KeepAlive detection is accomplished by probing the network at this interval, avoid small values, which can cause excessive network traffic and system resource consumption.

The trick is to find a proper balance that allows network failures to be detected on a timely basis without impacting system and network performance.

Install parameter TCP/IP KEEPALIVE on panel DSNTIP5, ZPARM TCPKPALV in DSN6FAC.

Field Name: QWP9TCKA

CONNECTION QUEUE MAX DEPTH (MAXCONQN)

The maximum depth of the connection-request queue of connections that are waiting for a DBAT to process a request. If this value is non-zero, and QWP9CMST is active, or the subsystem is not a member of a data sharing group, DB2 operates as if this value were 0.

A value of 0 is displayed for OFF; a value of 32767 is displayed for ON.

This field corresponds to field CONN QUEUE MAX DEPTH on installation panel DSNTIP5. The ZPARM name is MACONQN in DSN6FAC.

Field Name: QWP9MCONQN

CONNECTION QUEUE MAX WAIT (MAXCONQW)

The maximum time that a connection waits for a DBAT request. If this value is non-zero, and QWP9CMST is active, or the subsystem is not a member of a data sharing group, DB2 operates as if this value is 0.

A value of 0 is displayed for OFF; a value of 1 is displayed for ON.

This field corresponds to field CONN QUEUE MAX WAIT on installation panel DSNTIP5. The ZPARM name is MAXCONQW in DSN6FAC.

Field Name: QWP9MCONQW

POOL THREAD TIMEOUT (POOLINAC)

The approximate time, in seconds, that a DBAT can remain idle in the pool before it is terminated.

A DBAT thread in the pool counts as an active thread against MAX REMOTE ACTIVE and can hold locks, but does not have any cursors.

Threads are checked for timeouts every 3 minutes. This means that timeouts might not be honored for up to 3 minutes when the timeout value is less than this. The default is 120.

Install parameter POOL THREAD TIMEOUT on panel DSNTIP5, ZPARM POOLINAC in DSN6FAC.

Field Name: QWP9INAC

DB2 Catalog and Directory Panel (DSNTIPA2)

This topic shows detailed information about "System Parameters - DB2 Catalog and Directory Panel (DSNTIPA2)".

System Parameters - DB2 Catalog and Directory Panel (DSNTIPA2)

The field labels shown in the following sample layout of "System Parameters - DB2 Catalog and Directory Panel (DSNTIPA2)" are described in the following section.

```
DB2 CATALOG AND DIRECTORY PANEL (DSNTIPA2)
------------------------------------------
SMS DATA CLASS FOR CATALOG DATA (CATDDACL)..................N/P
SMS MANAGEMENT CLASS FOR CATALOG DATA (CATDMGCL)............N/P
SMS STORAGE CLASS FOR CATALOG DATA (CATDSTCL)............SCPROD
SMS DATA CLASS FOR CATALOG INDEX DATA (CATXDACL)............N/P
SMS MANAGEMENT CLASS FOR CATALOG INDEX DATA (CATXMGCL)......N/P
SMS STORAGE CLASS FOR CATALOG INDEX DATA (CATXSTCL)......SCPROD
COMPRESS SPT01 (COMPRESS_SPT01).............................YES
SPT01 INLINE LENGTH (SPT01_INLINE_LENGTH)................32,138
```

SMS DATA CLASS FOR CATALOG DATA (CATDDACL)

The SMS data class for DB2 catalog data sets. This field corresponds to column SMS data class in field "Directory and catalog data" on installation panel DSNTIPA3. The ZPARM name is CATDDACL in DSN6SPRM.

Field Name: QWP4CDDC

SMS MANAGEMENT CLASS FOR CATALOG DATA (CATDMGCL)

The SMS management class for DB2 catalog data sets. This field corresponds to column SMS MGMT class in field "Directory and catalog data" on installation panel DSNTIPA3. The ZPARM name is CATDMGCL in DSN6SPRM.

Field Name: QWP4CDMC

SMS STORAGE CLASS FOR CATALOG DATA (CATDSTCL)

The SMS storage class for DB2 catalog data sets. This field corresponds to column SMS STOR class in field "Directory and catalog data" on installation panel DSNTIPA3. The ZPARM name is CATDSTCL in DSN6SPRM.

Field Name: QWP4CDSC

SMS DATA CLASS FOR CATALOG INDEX DATA (CATXDACL)

The SMS data class for DB2 catalog index data sets. This field corresponds to column SMS data class in field "Directory and catalog indexes" on installation panel DSNTIPA3. The ZPARM name is CATXDACL in DSN6SPRM.

Field Name: QWP4CXDC

SMS MANAGEMENT CLASS FOR CATALOG INDEX DATA (CATXMGCL)

The SMS management class for DB2 catalog index data sets. this field corresponds to column SMS MGMT class in field "Directory and catalog indexes" on installation panel DSNTIPA3. The ZPARM name is CATXMGCL in DSN6SPRM.

Field Name: QWP4CXMC

SMS STORAGE CLASS FOR CATALOG INDEX DATA (CATXSTCL)

The SMS storage class for DB2 catalog index data sets. This field corresponds to column SMS STOR class in field "Directory and catalog indexes" on installation panel DSNTIPA3. The ZPARM name is CATXSTCL in DSN6SPRM.

Field Name: QWP4CXSC

COMPRESS SPT01 (COMPRESS_SPT01)

Enables the compression of SPT01.

Field Name: QWP4CS01

SPT01 INLINE LENGTH (SPT01_INLINE_LENGTH)

The maximum length in bytes of LOB columns in the SPT01 directory space that are maintained in the base table. This field corresponds to field SPT01 INLINE LENGTH on installation panel DSNTIPA2. The ZPARM name is SPT01_INLINE_LENGTH in DSN6SPRM.

Field Name: QWP4S1IL

DB2 Utilities Parameters (DSNTIP6, DSNTIP61, DSNTIP62)

This topic shows detailed information about "System Parameters - DB2 Utilities Parameters (DSNTIP6, DSNTIP61, DSNTIP62)".

This block shows the default behavior of enhancements to the BACKUP SYSTEM and other utilities.

System Parameters - DB2 Utilities Parameters (DSNTIP6, DSNTIP61, DSNTIP62)

The field labels shown in the following sample layout of "System Parameters - DB2 Utilities Parameters (DSNTIP6, DSNTIP61, DSNTIP62)" are described in the following section.

```
DB2 UTILITIES PARAMETERS (DSNTIP6,DSNTIP61,DSNTIP62)
----------------------------------------------------
TEMPORARY UNIT NAME (VOLTDEVT).............................SYSDA
UTIL TEMP STORCLAS (UTIL_TEMP_STORCLAS).....................N/P
STATISTICS HISTORY (STATHIST)..............................NONE
STATISTICS ROLLUP (STATROLL)................................YES
UTILITY TIMEOUT FACTOR (UTIMOUT)............................6
UT SORT DATA SET ALLOCATION (UTSORTAL)......................YES
IGNORE SORTNUM STMT (IGNSORTN)..............................NO
SET CHECK PENDING (CHECK_SETCHKP)...........................NO
UT DB2 SORT USE (DB2SORT)...................................YES
TEMPLATE TIME (TEMPLATE_TIME)...............................UTC
MAXIMUM DEGREE OF UTILITY PARALLELISM (PARAMDEG_UTIL).........99
FAST REPLICATION (CHECK_FASTREPLICATION).............PREFERRED
FAST RESTORE (REC_FASTREPLICATION)...................PREFERRED
COPY FAST REPLICATION (COPY_FASTREPLICATION).........PREFERRED
FLASHCOPY PPRC (FLASHCOPY_PPRC).........................REQUIRED
DEFAULT TEMPLATE (FCCOPYDDN)..................................
DSNC11.&DB..&SN..N&DSNUM..&UQ.
FLASHCOPY COPY (FLASHCOPY_COPY).............................NO
FLASHCOPY LOAD (FLASHCOPY_LOAD).............................NO
FLASHCOPY REORG TABLESPACE (FLASHCOPY_REORG_TS).............NO
FLASHCOPY REBUILD INDEX (FLASHCOPY_REBUILD_INDEX)............NO
FLASHCOPY REORG INDEX (FLASHCOPY_REORG_INDEX)...............NO
SYSTEM-LEVEL BACKUPS (SYSTEM_LEVEL_BACKUPS).................NO
RESTORE/RECOVER (RESTORE_RECOVER_FROMDUMP)...................NO
DUMP CLASS NAME (UTILS_DUMP_CLASS_NAME).................'BLANK'
MAXIMUM TAPE UNITS (RESTORE_TAPEUNITS).......................0
REORG PART SORT NPSI (REORG_PART_SORT_NPSI)................AUTO
REORG LIST PROCESSING (REORG_LIST_PROCESSING).........PARALLEL
REORG MAPPING DATABASE (REORG_MAPPING_DATABASE).............N/P
REORG DROP PBG PARTS (REORG_DROP_PBG_PARTS).................NO
UTILITY CACHE OPTION (SEQPRES)..............................YES (DB2 10 only)
STATISTICS CLUSTERING (STATCLUS).......................ENHANCED (DB2 10 only)
ALTERNATE COPYPOOL (ALTERNATE_CP)............................N/P
DB BACKUP STG GROUP (UTIL_DBBSG)............................N/P
LOG BACKUP STG GROUP (UTIL_LGBSG)...........................N/P
HSM MESSAGE DS HLQ (UTILS_HSM_MSGDS_HLQ).................HSMHLQ
```

TEMPORARY UNIT NAME (VOLTDEVT)

Shows the device type or unit name for allocating temporary data sets. It is the direct access or disk unit name used for the precompiler, compiler, assembler, sort, linkage editor, and utility work-files in the tailored jobs and CLISTs.

It can be any device type acceptable to the DYNALLOC parameter of the SORT or OPTION options for DFSORT.

The default is SYSDA.

Install parameter TEMPORARY UNIT NAME on DSNTIPA2, or ZPARM VOLTDEVT in DSN6SPRM.

Field Name: QWP4VDTY

UTIL TEMP STORCLAS (UTIL_TEMP_STORCLAS)

Specifies the name of the SMS storage class that DB2 uses for defining temporary shadow data sets. A blank value indicates that the temporary shadow data sets a defined in the same storage class as the production page set. This field corresponds to field "UTIL TEMP STORCLAS" on installation panel DSNTIP6. The ZPARM name is UTIL_TEMP_STORCLAS in DSN6SPRM.

Field Name: QWP4CHEC

STATISTICS HISTORY (STATHIST)

Shows which inserts and updates are recorded in catalog history tables.

The report can show the following values:

N / NONE
Changes in the catalog are not recorded. This is the default.

A / ALL
All inserts and updates in the catalog are recorded.

P / ACCESSPATH
All inserts and updates to access path related catalog statistics are recorded.

S / SPACE
All inserts and updates to space related catalog statistics are recorded.

Install parameter STATISTICS HISTORY on panel DSNTIPO, or ZPARM STATHIST in DSN6SPRM.

Field Name: QWP4STHT

STATISTICS ROLLUP (STATROLL)

Shows whether RUNSTATS utility aggregates the partition level statistics, even though some parts may not contain data.

This should be YES for DB2 systems that have large partitioned table spaces, index spaces, or both. This enables the aggregation of part level statistics and helps the optimizer to choose a better access path.

Install parameter STATISTICS ROLLUP on panel DSNTIPO, or ZPARM STATROLL in DSN6SPRM.

Field Name: QWP4STRL

UTILITY TIMEOUT FACTOR (UTIMOUT)

Shows how much longer utilities can wait for a resource than SQL applications can.

This is the number of RESOURCE TIMEOUT units that a utility or utility command can wait for a lock or for all claims on a resource of a particular claim class to be released. The default value is 6, meaning a utility can wait 6 times longer than an SQL application for a resource.

Install parameter UTILITY TIMEOUT on panel DSNTIPI, or ZPARM UTIMOUT in DSN6SPRM.

Field Name: QWP4UTO

UT SORT DATA SET ALLOCATION (UTSORTAL)

In DB2 12 this field is a serviceability field.

YES indicates that utilities invoke a SORT use and a space prediction algorithm for dynamically allocated SORT work data sets. The ZPARM name is UTSORTAL in DSN6SPRM.

Field Name: QWP4SRAL

IGNORE SORTNUM STMT (IGNSORTN)

Ignores SORTNUM clause in utility control statements. The ZPARM name is IGNSORTN in DSN6SPRM.

Field Name: QWP4IGSN

SET CHECK PENDING (CHECK_SETCHKP)

In DB2 12 this field is a serviceability field.

YES sets the object in check-pending status when the check utility detects an inconsistency. This field corresponds to field "Set check pending" on installation panel DSNTIP61. The ZPARM name is CHECK_SETCHKP in DSN6SPRM.

Field Name: QWP4CSCP

UT DB2 SORT USE (DB2SORT)

In DB2 12 this field is a serviceability field.

Enables the use of DB2 SORT.

Field Name: QWP4DB2SRT

TEMPLATE TIME (TEMPLATE_TIME)

Specifies the default setting for the TIME option of the template utility control statement. Possible values are:

- UTC (utility control)
- Local

This field corresponds to field TEMPLATE TIME on installation panel DSNTIP6. The ZPARM name is TEMPLATE_TIME in DSN6SPRM.

Field Name: QWP4TPTM

MAXIMUM DEGREE OF UTILITY PARALLELISM (PARAMDEG_UTIL)

The maximum degree of utility parallelism.

Field Name: QWP4UMD

FAST REPLICATION (CHECK_FASTREPLICATION)

The FASTREPLICATION type for check utilities:

- N=NONE
- P=PREFERRED
- R=REQUIRED

This field corresponds to field "Fast replication" in installation panel DSNTIP6. The ZPARM name is CHECK_FASTREPLICATION in DSN6SPRM.

Field Name: QWP4CFRP

FAST RESTORE (REC_FASTREPLICATION)

Specifies how the Recover utility directs DFSMSdss copy to restore an image copy that was created with FLASHCOPY. This field corresponds to field "Fast restore" on installation panel DSNTIP6. The ZPARM name is REC_FASTREPLICATION.

Field Name: QWP4RFRP

COPY FAST REPLICATION (COPY_FASTREPLICATION)

Specifies whether FlashCopy fast replication is preferred, required, or should not be used.

This field corresponds to field COPY FAST REPLICATION on INSTALLATION panel DSNTIP61. The ZPARM name is COPY_FASTREPLICATION in DSN6SPRM.

Field Name: QWP4CYFR

FLASHCOPY PPRC (FLASHCOPY_PPRC)

Specifies the behavior for DFSMSdss FLASHCOPY requests when the target disk storage volume is the primary device in a peer-to-peer remote copy (metro mirror) relationship (DB2 field: QWP4FCPPRC). This field corresponds to field "FLASHCOPY PPRC" on installation panel DSNTIP6. The ZPARM name is FLASHCOPY_PPRC.

Field Name: QWP4FCPPRC

DEFAULT TEMPLATE (FCCOPYDDN)

Specifies the default setting of the FCCOPYDDN subsystem parameter for the COPY, LOAD, REBUILD INDEX, REORG INDEX, and REORG TABLESPACE utility control statements when the FLASHCOPY parameter is YES or CONSISTENT. FCCOPYDDN specifies a DB2 utility template data-set name expression that is used to derive the copy data-set name that is allocated by the utility during operation.

This field corresponds to field DEFAULT TEMPLATE on installation panel DSNTIP6. The ZPARM name is FCOPYDDN in DSN6SPRM.

Field Name: QWP4FCCD

FLASHCOPY COPY (FLASHCOPY_COPY)

YES indicates that the Copy utility uses the subsystem parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement. The ZPARM name is FLASHCOPY_COPY in DSN6SPRM.

Field Name: QWP4FCCP

FLASHCOPY LOAD (FLASHCOPY_LOAD)

YES indicates that the load utility uses the subsystem parameter settings for FLASHCOPY, FCCOPYDD, and FCAUXOBJS when those keywords are not present in the utility control statement. ZPARM NAME: FLASHCOPY_LOAD IN DSN6SPRM.

Field Name: QWP4FCLD

FLASHCOPY REORG TABLESPACE (FLASHCOPY_REORG_TS)

YES indicates that the Reorg Tablespace utility uses the subsystem parameter settings for FLASHCOPY, FCCOPYDDN, and FCAUXOBJS when these keywords are not present in the utility control statement. The ZPARM name is FLASHCOPY_REORG_TS in DSN6SPRM.

Field Name: QWP4FCROT

FLASHCOPY REBUILD INDEX (FLASHCOPY_REBUILD_INDEX)

YES indicates that the Rebuild Index utility uses the subsystem parameter settings for FLASHCOPY and FCCOPYDDN when those keywords are not present in the utility control statement (DB2 field: QWP4FCRBI). The ZPARM name is FLASHCOPY_REBUILD_INDEX in DSN6SPRM.

Field Name: QWP4FCRBI

FLASHCOPY REORG INDEX (FLASHCOPY_REORG_INDEX)

YES indicates that the Reorg Index utility uses the subsystem parameter settings for FLASHCOPY and FCCOPYDDN when these keywords are not present in the utility control statement (DB2 field: QWP4FCROI). The ZPARM name is FLASHCOPY_REORG_INDEX in DSN6SPRM.

Field Name: QWP4FCROI

SYSTEM-LEVEL BACKUPS (SYSTEM_LEVEL_BACKUPS)

Shows if RECOVER uses system level backups as the recovery base.

Install parameter SYSTEM-LEVEL BACKUPS on installation panel DSNTIP6, or ZPARM SYSTEM_LEVEL_BACKUPS in DSN6SPRM.

Field Name: QWP4SLBU

RESTORE/RECOVER (RESTORE_RECOVER_FROMDUMP)

If YES, the system-level backup that is the recovery base, is from a dump on tape. Otherwise NO is shown.

Install parameter RESTORE/RECOVER on installation panel DSNTIP6, or ZPARM RESTORE_RECOVER_FROMDUMP in DSN6SPRM.

Field Name: QWP4RRFD

DUMP CLASS NAME (UTILS_DUMP_CLASS_NAME)

The name of the DFSMSHSM dump class used by the restore system utility to restore from a system-level backup that has been dumped to tape.

Install parameter DUMP CLASS NAME on installation panel DSNTIP6, or ZPARM UTILS_DUMP_CLASS_NAME in DSN6SPRM.

Field Name: QWP4RSDC

MAXIMUM TAPE UNITS (RESTORE_TAPEUNITS)

The maximum number of tape units or tape drives that the restore system utility can use to restore from a system-level backup that has been dumped to tape.

A value of 0 is displayed for NOLIMIT.

Install parameter MAXIMUM TAPE UNITS on installation panel DSNTIP6, or ZPARM RESTORE_TAPEUNITS in DSN6SPRM.

Field Name: QWP4RSMT

REORG PART SORT NPSI (REORG_PART_SORT_NPSI)

Specifies the default method of building a non-partitioned secondary index during the REORG tablespace part. This setting is used when the SORTNPSI keyword is not specified in a utility control statement.

Possible values are:

- Auto
- Disable
- Enable

This field corresponds to field REORG PART SORT NPSI in installation panel DSNTIP61. The ZPARM name is REORG_PART_SORT_NPSI in DSN6SPRM.

Field Name: QWP4RPSN

REORG LIST PROCESSING (REORG_LIST_PROCESSING)

Specifies the default value for the REORG TABLESPACE PARALLEL option.

- Parallel
- Serial

The ZPARM name is REORG_LIST_PROCESSING in DSN6SPRM.

Field Name: QWP4RLPR

REORG MAPPING DATABASE (REORG_MAPPING_DATABASE)

The default database in which REORG TABLESPACE SHRLEVEL change implicitly creates the mapping table. This field corresponds to field RECORD MAPPING DB on installation panel DSNTIP61. The ZPARM name RECORD_MAPPING_TABLE in DSN6SPRM.

Field Name: QWP4RMDB

REORG DROP PBG PARTS (REORG_DROP_PBG_PARTS)

If YES, REORG completes, REORG drops empty, and trailing partitions are set in a PARTITION-BY-GROWTH table space.

This field corresponds to field REORG DROP PBG PARTS on INSTALLATION panel DSNTIP61. The ZPARM name is REORG_DROP_PBG_PARTS in DSN6SPRM.

Field Name: QWP4RPBG

UTILITY CACHE OPTION (SEQPRES) (DB2 10 only)

Shows whether utilities that scan a nonpartitioned index followed by an update of a subset of the pages in the index allow data to remain in 3990 cache longer when reading data.

Install parameter UTILITY CACHE OPTION on panel DSNTIPE, or ZPARM SEQPRES in DSN6PRM.

Field Name: QWP4PST

STATISTICS CLUSTERING (STATCLUS) (DB2 10 only)

Shows if the RUNSTATS utility uses enhanced or standard clustering statistics: ENHANCED is used if it is on, otherwise STANDARD is shown.

Install parameter STATISTICS CLUSTERING on panel DSNTIP6, or ZPARM STATCLUS in DSN6SPRM.

Field Name: QWP4STCL

ALTERNATE COPYPOOL (ALTERNATE_CP)

Specifies an optional alternate SMS copy pool for the DB2 BACKUP SYSTEM utility.

This field corresponds to field ALTERNATE COPYPOOL on INSTALLATION panel DSNTIP62. The ZPARM name is ALTERNATE_CP in DSN6SPRM.

Field Name: QWP4BSACP

DB BACKUP STG GROUP (UTIL_DBBSG)

Specifies an optional backup SMS storage group to be used by the DB2 BACKUP SYSTEM utility for the DB copy pool.

This field corresponds to field DB BACKUP STG GROUP on INSTALLATION panel DSNTIP62. The ZPARM name is UTIL_DBBSG in DSN6SPRM.

Field Name: QWP4UDBSG

LOG BACKUP STG GROUP (UTIL_LGBSG)

Specifies an optional backup SMS storage group to be used by the DB2 BACKUP SYSTEM utility for the LOG copy pool.

This field corresponds to field LOG BACKUP STG GRP on INSTALLATION panel DSNTIP62. The ZPARM name is UTIL_LGBSG in DSN6SPRM.

Field Name: QWP4ULBSG

HSM MESSAGE DS HLQ (UTILS_HSM_MSGDS_HLQ)

Shows the high level qualifier (HLQ) for data sets (DS) to be allocated by the DB2 BACKUP SYSTEM and RESTORE SYSTEM utilities to receive messages from the Data Facility Hierarchical Storage Manager (DFHSM) and the IBM Data Facility Data Set Services (DFDSS) (DB2 field: QWP4UHMDH).

This value corresponds to field HSM MESSAGE DS HLQ on installation panel DSNTIP62. ZPARM name: UTILS_HSM_MSGDS_HLQ in DSN6SPRM.

Field Name: QWP4UHMDH

DB2 Version Install (DSNTIPA1)

This topic shows detailed information about "System Parameters - DB2 Version Install (DSNTIPA1)".

System Parameters - DB2 Version Install (DSNTIPA1)

The field labels shown in the following sample layout of "System Parameters - DB2 Version Install (DSNTIPA1)" are described in the following section.

```
DB2 VERSION INSTALL (DSNTIPA1)
------------------------------
DATA SHARING ENABLED (DSHARE).............................YES
CURRENT DB2 RELEASE (NEWFUN)..............................NO
CURRENT DB2 RELEASE - 1...................................YES
CURRENT DB2 RELEASE - 2...................................NO
COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB)..............NO
```

DATA SHARING ENABLED (DSHARE)

Indicates whether data sharing is enabled.

Install parameter DATA SHARING on panel DSNTIPA1, or ZPARM DSHARE in DSN6GRP.

Field Name: QWPAIOPT

CURRENT DB2 RELEASE (NEWFUN)

If YES, the DB2 subsystem/group is running in New Function Mode. At this mode/catalog level, the New Function Mode is enabled and available. The DB2 catalog is completely Unicode (UTF-8) and long names can be used.

Install parameter INSTALL TYPE on panel DSNTIPA1, or ZPARM NEWFUN in DSNHDECP.

Field Name: QWPBNEWF

CURRENT DB2 RELEASE - 1

Shows the current release minus one of the new-function mode (NEWFUN).

Field Name: QWPBNEWFN1

CURRENT DB2 RELEASE - 2

Shows the current release minus two of the new-function mode (NEWFUN).

Field Name: QWPBNEWFN2

COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB)

Specifies whether DB2 compresses large object (LOB) table spaces in the DB2 directory the next time that the table spaces are reorganized.

- 0 indicates NO
- 1 indicates YES

This value corresponds to field COMPRESS DB2 DIR LOBS on installation panel DSNTIPA2. ZPARM name: COMPRESS_DIRLOB in DSN6SPRM.

Field Name: QWP4CDRL

Install DB2 - Resource Limit Facility (DSNTIPO4) (DB2 12)

This topic shows detailed information about "System Parameters - Install DB2 - Resource Limit Facility (DSNTIPO4) (DB2 12)".

System Parameters - Install DB2 - Resource Limit Facility (DSNTIPO4) (DB2 12)

The field labels shown in the following sample layout of System Parameters - Install DB2 - Resource Limit Facility (DSNTIPO4) (DB2 12) are described in the following section.

```
INSTALL DB2 - RESOURCE LIMIT FACILITY (DSNTIPO4)
------------------------------------------------
RESOURCE LIMIT FACILITY AUTOMATIC START (RLF).............NO
RESOURCE LIMIT SPECIFICATION TABLE SUFFIX (RLFTBL)........01
RESOURCE LIMIT DYNAMIC ERROR ACTION (RLFERR).........NOLIMIT
RESOURCE LIMIT STATIC ERROR ACTION (RLFERRSTC).......NOLIMIT
RLF REMOTE DYNAMIC ERROR ACTION (RLFERRD)............NOLIMIT
RLF REMOTE STATIC ERROR ACTION (RLFERRDSTC)..........NOLIMIT
RLF SCOPE (RLFENABLE)................................DYNAMIC
```

RESOURCE LIMIT FACILITY AUTOMATIC START (RLF)

Shows whether the resource limit facility (governor) is automatically started when DB2 is started.

Install parameter RLF AUTO START on panel DSNTIPO4, or ZPARM RLF in DSN6SYSP.

Field Name: QWP1RLF

RESOURCE LIMIT SPECIFICATION TABLE SUFFIX (RLFTBL)

The default resource limit specification table (RLST) suffix.

This suffix is used when the resource limit facility (governor) is automatically started or when the governor is started without specifying a suffix.

Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARM RLFTBL in DSN6SYSP.

Prior to DB2 12: Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARM RLFTBL in DSN6SYSP.

Field Name: QWP1RLFT

RESOURCE LIMIT DYNAMIC ERROR ACTION (RLFERR)

The action taken by DB2 when the governor cannot use the resource limit:

NOLIMIT
The dynamic SQL statements run without limit.

NORUN
The dynamic SQL statements terminated with an SQL error code.

A number from 1 to 5000000 represents the number of CPU service units allowed for a query.

Install parameter DYNAMIC SQL on panel DSNTIPO4, or ZPARM RLFERR in DSN6SYSP.

Prior to DB2 12: Install parameter RLST ACCESS ERROR on panel DSNTIPO, or ZPARM RLFERR in DSN6SYSP.

Field Name: RLFERR

RESOURCE LIMIT STATIC ERROR ACTION (RLFERRSTC)

The action taken by DB2 when the governor cannot use the resource limit:

NOLIMIT
The static SQL statements run without limit.

NORUN
The static SQL statements terminated with an SQL error code. A number from 1 to 5000000 represents the number of CPU service units allowed for a query.

Install parameter STATIC SQL on panel DSNTIPO4, or ZPARM RLFERRSTC in DSN6SYSP (DB2 field QWP1RLFR).

Field Name: RLFERRSTC

RLF REMOTE DYNAMIC ERROR ACTION (RLFERRD)

Shows what DB2 does when the governor cannot access the resource limit specification table or when no row in the table matches the currently running statement. :

NOLIMIT
This is the default. It allows all dynamic SQL statements to run without limit.

NORUN
Terminates all dynamic SQL statements immediately with an SQL error code. A number from 1 to 5000000 represents the number of CPU service units allowed for a query.

Install parameter REMOTE DYNAMIC SQL on panel DSNTIPO4, or ZPARM RLFERRD in DSN6FAC (DB2 field QWP9RLER).

Field Name: RLFERRD

RLF REMOTE STATIC ERROR ACTION (RLFERRDSTC)

Shows what DB2 does when the governor cannot access the resource limit specification table or when no row in the table matches the currently running statement:

NOLIMIT
This is the default. It allows all static SQL statements to run without limit.

NORUN
Terminates all static SQL statements immediately with an SQL error code. A number from 1 to 5000000 represents the number of CPU service units allowed for a query.

Install parameter REMOTE STATIC SQL on panel DSNTIPO4, or ZPARM RLFERRDSTC in DSN6FAC (DB2 field QWP9RLER).

Field Name: RLFERRDSTC

RLF SCOPE (RLFENABLE)

The level of RLF governing:

DYNAMIC
Dynamic SQL only

STATIC
Static SQL only

ALL
Both, dynamic and static SQL

Install parameter RLF SCOPE on panel DSNTIPO4, or ZPARM RLFENABLE in DSN6SYSP (DB2 field QWP1RLFR).

Field Name: RLFENABLE

IRLM Installation Parameters (DSNTIPI)

This topic shows detailed information about "System Parameters - IRLM Installation Parameters (DSNTIPI)".

This block shows the installation parameters of the internal resource lock manager (IRLM). There is one IRLM for each DB2 subsystem.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - IRLM Installation Parameters (DSNTIPI)

The field labels shown in the following sample layout of "System Parameters - IRLM Installation Parameters (DSNTIPI)" are described in the following section.

```
IRLM INSTALLATION PARAMETERS (DSNTIPI)
--------------------------------------
IRLM SUBSYSTEM NAME (IRLMSID)..............................DJP0
IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT)..................120
IRLM AUTOMATIC START (IRLMAUT).............................YES
IRLM START PROCEDURE NAME (IRLMPRC)....................DBP0IRLM
SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT).............300
U LOCK FOR REPEATABLE READ OR READ STABILITY (RRULOCK).......NO
X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT)................YES
IMS/BMP TIMEOUT FACTOR (BMPTOUT)............................4
IMS/DLI TIMEOUT FACTOR (DLITOUT)............................6
WAIT FOR RETAINED LOCKS (RETLWAIT)..........................0
ENABLE DB CHECKING.........................................NO
IRLM INITIALIZATION TIME....................................1
```

IRLM SUBSYSTEM NAME (IRLMSID)

The IRLM subsystem name defined to MVS.

This is used for communication between DB2 and the IRLM. It is included in the MVS subsystem table IEFSSNxx, where xx is the value of SUBSYSTEM MEMBER on installation panel DSNTIPM.

If the IRLM for IMS is installed, the DB2 IRLM name is different because two IRLMs on the same MVS system must have unique names.

Install parameter SUBSYSTEM NAME on panel DSNTIPI, or ZPARM IRLMSID in DSN6SPRM.

Field Name: QWP4ISID

IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT)

The number of seconds before a timeout is detected.

This is an integer multiple of DEADLOCK TIME on panel DSNTIPJ.

Timeout means that a lock request has waited for a resource (or for claims on a resource for a particular claim class to be released) longer than this time.

For data sharing, the actual timeout period is longer than the timeout value.

Install parameter RESOURCE TIMEOUT on panel DSNTIPI, or ZPARM IRLMRWT in DSN6SPRM.

Field Name: QWP4TOUT

IRLM AUTOMATIC START (IRLMAUT)

Indicates whether IRLM is started automatically by DB2.

Install parameter AUTO START on panel DSNTIPI, or ZPARM IRLMAUT in DSN6SPRM.

Field Name: QWP4IAUT

IRLM START PROCEDURE NAME (IRLMPRC)

The name of the IRLM procedure invoked by MVS if AUTO START is YES.

The name cannot be the same as the subsystem name given for SUBSYSTEM NAME.

Install parameter PROC NAME on panel DSNTIPI, or ZPARM IRLMPRC in DSN6SPRM.

Field Name: QWP4IPRC

SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT)

The IRLM wait time in seconds.

DB2 autostart abends if IRLM does not start within this time.

Install parameter TIME TO AUTOSTART on panel DSNTIPI, or ZPARM IRLMSWT in DSN6SPRM.

Field Name: QWP4ISWT

U LOCK FOR REPEATABLE READ OR READ STABILITY (RRULOCK)

Indicates whether the U (UPDATE) lock is used when using repeatable read (RR) or read stability (RS) isolation to access a table.

When YES, the U lock is used for an updated cursor with repeatable read or read stability.

When NO, the S lock is used for an updated cursor with repeatable read or read stability. If the cursor in the running applications includes the clause FOR UPDATE OF, but updates are infrequent, S locks generally provide better performance.

Install parameter U LOCK FOR RR/RS on panel DSNTIPI, or ZPARM RRULOCK in DSN6SPRM.

Field Name: QWP4RRU

X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT)

The locking method used when performing a searched UPDATE or DELETE.

When NO, DB2 uses an S or U lock when scanning for qualifying rows. For any qualifying rows or pages the lock is upgraded to an X lock before performing the update or delete. For nonqualifying rows or pages the lock is released if using ISOLATION(CS). For ISOLATION(RS), or ISOLATION(RR), an S lock is retained on the rows or pages until the next commit point. This option is used to achieve higher rates of concurrency.

When YES, DB2 gets an X lock on qualifying rows or pages. For ISOLATION(CS), the lock is released if the rows or pages are not updated or deleted. For ISOLATION(RS) or ISOLATION(RR), an X lock is retained until the next commit point. This is beneficial in a data sharing environment when most or all searched updates and deletes use an index. The downside is that if searched updates or deletes result in a tablespace scan, the likelihood of timeouts and deadlocks greatly increases.

Install parameter X LOCK FOR SEARCHED U/D on panel DSNTIPI, or ZPARM XLKUPDLT in DSN6SPRM.

Field Name: QWP4XLUD

IMS/BMP TIMEOUT FACTOR (BMPTOUT)

The number of RESOURCE TIMEOUT units that an IMS BMP connection waits for a lock to be released.

The default value is 4, meaning that an IMS BMP connection can wait 4 times the resource timeout value for a resource.

Install parameter IMS BMP TIMEOUT on panel DSNTIPI, or ZPARM BMPTOUT in DSN6SPRM.

Field Name: QWP4WBMP

IMS/DLI TIMEOUT FACTOR (DLITOUT)

The number of RESOURCE TIMEOUT units that a DL/I batch connection waits for a lock to be released.

The default value is 6, meaning that an IMS BMP connection can wait 4 times the resource timeout value for a resource.

Install parameter DL/I BATCH TIMEOUT on panel DSNTIPI, or ZPARM DLITOUT in DSN6SPRM.

Field Name: QWP4WDLI

WAIT FOR RETAINED LOCKS (RETLWAIT)

Indicates whether a request is suspended until an incompatible retained lock becomes available.

This value is only significant in a data sharing environment. It indicates how long a transaction should wait for a lock on a resource if another DB2 in the data sharing group has failed and is holding an incompatible lock on that resource. Locks held by failed DB2 members are called retained locks.

This value is a multiplier that is applied to the connection's normal timeout value. For example, if the retained lock multiplier is 2, then the timeout period for a call attachment connection that is waiting for a retained lock is twice the normal CAF timeout period. The default is 0, meaning applications do not wait for incompatible retained locks, the lock request is immediately rejected and the application receives a "resource unavailable" SQLCODE.

Install parameter RETAINED LOCK TIMEOUT on panel DSNTIPI, or ZPARM RETLWAIT in DSN6SPRM.

Field Name: QWP4WAIT

ENABLE DB CHECKING

Enable database checking.

Field Name: QWP4DBCK

IRLM INITIALIZATION TIME

The time, in seconds, between Db2 periodic checks for IRLM initialization completion. There is currently no external parameter to control this time, but it is part of the IFCID 106 record, which is the basis for this section of the report. Db2 will keep checking until IRLM completes initialization or until the IRLM Wait Time (IRLMSWT) is reached. IRLM Wait Time is the total amount of time Db2 will wait for IRLM initialization.

Field Name: QWP4ISWI

IRLM Processing Parameters

This topic shows detailed information about "System Parameters - IRLM Processing Parameters".

This block shows the system parameters for internal resource lock manager (IRLM) processing.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - IRLM Processing Parameters

The field labels shown in the following sample layout of "System Parameters - IRLM Processing Parameters" are described in the following section.

```
IRLM PROCESSING PARAMETERS
--------------------------
WAIT TIME FOR LOCAL DEADLOCK.............................5,000
NUMBER OF LOCAL CYCLES PER GLOBAL CYCLE.....................1
TIMEOUT INTERVAL...........................................30
IRLM MAXIMUM CSA USAGE ALLOWED.............................0
Z/OS LOCK TABLE HASH ENTRIES.....................1,048,576
PENDING NUMBER OF HASH ENTRIES.............................0
Z/OS LOCK TABLE LIST ENTRIES.............................8,282
MAX 31-BIT IRLM PRIVATE STORAGE............................0
MAX 64-BIT IRLM PRIVATE STORAGE............................0
```

WAIT TIME FOR LOCAL DEADLOCK

Wait time for local deadlock.

Field Name: QWP5DLOK

NUMBER OF LOCAL CYCLES PER GLOBAL CYCLE

Number of local cycles per global cycle.

Field Name: QWP5DCYC

TIMEOUT INTERVAL

Timeout interval.

Field Name: QWP5TVAL

IRLM MAXIMUM CSA USAGE ALLOWED

The maximum amount of common service area that can be used by IRLM.

The amount of space needed for the common service area (CSA) below the 16 MB line is less than 40 KB for each DB2 subsystem and 24 KB for each IRLM. High concurrent activity, parallelism, or high contention can require more CSA.

Most of the DB2 common data resides in the extended common service area (ECSA). Most modules, control blocks, and buffers reside in the extended private area. A DB2 subsystem with 200 concurrent users and 2000 open data sets should need less than 2 MB of virtual storage below the 16 MB line.

Field Name: QWP5MCSA

Z/OS LOCK TABLE HASH ENTRIES

The number of z/OS lock table hash entries.

Field Name: QWP5HASH

PENDING NUMBER OF HASH ENTRIES

The number of z/OS lock table hash entries pending.

Field Name: QWP5PHSH

Z/OS LOCK TABLE LIST ENTRIES

The number of z/OS lock table list entries.

Field Name: QWP5RLE

MAX 31-BIT IRLM PRIVATE STORAGE

The maximum amount of 31-bit IRLM private storage that is available of the 2 GB virtual storage limit, for normal operations in IRLM. IRLM reserves an additional 10% of the 2 GB for use by requests in IRLM.

Field Name: QWP5BPM

MAX 64-BIT IRLM PRIVATE STORAGE

The maximum amount of 64-bit IRLM private storage that is available of the total amount of storage that is specified by MEMLIMIT, for normal operations in IRLM. IRLM reserves an additional 10% of the amount that is specified by MEMLIMIT for use by requests in IRLM.

Field Name: QWP5APM

Lock Escalation Parameters (DSNTIPJ)

This topic shows detailed information about "System Parameters - Lock Escalation Parameters (DSNTIPJ)".

This panel shows the characteristics of IRLM time-sharing fields and other locking options.

The default values are adequate for most sites in normal conditions.

System Parameters - Lock Escalation Parameters (DSNTIPJ)

The field labels shown in the following sample layout of "System Parameters - Lock Escalation Parameters (DSNTIPJ)" are described in the following section.

```
LOCK ESCALATION PARAMETERS (DSNTIPJ)
------------------------------------
MAX PAGE OR ROW LOCKS PER TABLE SPACE (NUMLKTS)..........1,000
MAX PAGE OR ROW LOCKS PER USER (NUMLKUS).................10,000
```

MAX PAGE OR ROW LOCKS PER TABLE SPACE (NUMLKTS)

The default (SYSTEM) for the LOCKMAX clause of the SQL statements CREATE TABLESPACE and ALTER TABLESPACE.

Install parameter LOCKS PER TABLE(SPACE) on panel DSNTIPJ, or ZPARM NUMLKTS in DSN6SPRM.

Field Name: QWP4LKTS

MAX PAGE OR ROW LOCKS PER USER (NUMLKUS)

The maximum number of page or row locks that a single application can hold concurrently on all table spaces.

This includes locks on data pages, index pages, and rows that the program acquires when it accesses table spaces.

The limit applies to all table spaces defined with the LOCKSIZE PAGE, LOCKSIZE ROW, or LOCKSIZE ANY options. 0 means that there is no limit to the number of page and row locks a program can acquire.

DB2 assumes that 250 bytes of storage are required for each lock. If NO is specified for CROSS MEMORY, the value of this field has to take into account the available lock space. If referential constraints between tables is defined, the value of this field might need to be increased.

Install parameter LOCKS PER USER on panel DSNTIPJ, or ZPARM NUMLKUS in DSN6SPRM.

Field Name: QWP4LKUS

Log Installation Parameters (DSNTIPL, DSNTIPH)

This topic shows detailed information about "System Parameters - Log Installation Parameters (DSNTIPL, DSNTIPH)".

This block shows the characteristics of active log data sets.

System Parameters - Log Installation Parameters (DSNTIPL, DSNTIPH)

The field labels shown in the following sample layout of "System Parameters - Log Installation Parameters (DSNTIPL, DSNTIPH)" are described in the following section.

```
LOG INSTALLATION PARAMETERS (DSNTIPL,DSNTIPH)
---------------------------------------------
OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF)..................4,000
CHECKPOINT FREQUENCY (CHKFREQ).........................500,000
UR CHECK FREQUENCY (URCHKTH)................................0
UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH).............0
LIMIT BACKOUT (LBACKOUT)...................................AUTO
BACKOUT DURATION (BACKODUR).................................5
PSEUDO-CLOSE FREQUENCY (PCLOSEN)............................5
PSEUDO-CLOSE TIMER (PCLOSET)..............................10
CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ)..............5
NUMBER OF ACTIVE LOG COPIES (TWOACTV).......................1
NUMBER OF ARCHIVE LOG COPIES (TWOARCH).....................1
COPY 1 PREFIX (ARCPFX1).....................DSN911.ARCHLOG1
COPY 2 PREFIX (ARCPFX2).....................DSN911.ARCHLOG2
TIMESTAMP ARCHIVE LOG DATA SETS (TSTAMP)...................YES
CHECKPOINT TYPE (CHKTYPE)..................................SINGLE
RECORDS/CHECKPOINT (CHKLOGR)...............................N/P
MINUTES/CHECKPOINT (CHKMINS)...............................N/P
```

OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF)

The output log buffer size in kilobytes.

There is only one output log buffer per DB2 subsystem.

Increasing this parameter reduces BSDS I/O updates when there is a buffer wraparound. Frequent wraparounds are likely in LOAD or REORG with logging, and mass insert operations.

Increasing this parameter also helps avoid log write waits for an available buffer during heavy update workload.

When the specified size is not a 4 KB multiple, it is rounded up to the next 4 KB multiple.

Install parameter OUTPUT BUFFER on DSNTIPL, or ZPARM OUTBUFF in DSN6LOGP.

Field Name: QWP2OBPS

CHECKPOINT FREQUENCY (CHKFREQ)

Checkpoint frequency. This shows either the number of minutes (1 through 60) or the number of DB2 log records between the start of successive checkpoints. DB2 starts a new checkpoint when this value is reached.

You can use the SET LOG command to change the number of log records between checkpoints dynamically. Valid values are 1-60 when specifying a time value and 200-16000000 when specifying a number of records.

Install parameter CHECKPOINT FREQ on panel DSNTIPL, ZPARM CHKFREQ in DSN6SYSP.

Field Name: QWP1LOGL

UR CHECK FREQUENCY (URCHKTH)

Shows the number of checkpoint cycles to complete before DB2 issues a warning message to the console and writes an IFCID 313 record for an uncommitted, indoubt, or inflight unit of recovery (UR). The default is 0, which disables this option.

Install parameter UR CHECK FREQ on panel DSNTIPL, or ZPARM URCHKTH in DSN6SYSP.

Field Name: QWP1URCK

UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH)

Shows the number of log records that are to be written by an uncommitted unit of recovery (UR) before DB2 issues a warning message to the console. This provides notification of a long-running UR. Long-running URs might result in a lengthy DB2 restart or a lengthy recovery situation for critical

tables. Log records are specified in 1-K (1000 log records) increments. A value of 0 indicates that no write check is to be performed.

Install parameter UR LOG WRITE CHECK on panel DSNTIPL, ZPARM URLGWTH in DSN6SYSP.

Field Name: QWP1LWCK

LIMIT BACKOUT (LBACKOUT)

Shows whether some backward log processing should be postponed.

When NO, DB2 backward log processing processes all inflight units of recovery (URs) and URs for abending transactions.

When YES, DB2 postpones backout processing for some units of work until the command RECOVER POSTPONED is issued.

AUTO (default) postpones some backout processing but automatically starts the backout processing when DB2 restarts and begins accepting new work.

When YES or AUTO, backout processing runs concurrently with new work. Page sets or partitions with backout work pending are unavailable until their backout work is complete.

Install parameter LIMIT BACKOUT on panel DSNTIPL, or ZPARM LBACKOUT in DSN6SYSP.

Field Name: QWP1LMBO

BACKOUT DURATION (BACKODUR)

Indicates how much of the log to process for backout when LIMIT BACKOUT = YES or AUTO.

During restart, backward log processing continues until both of the following events occur:

- All inflight and inabort URs with update activity against the catalog or directory are backed out.
- The number of log records processed is equal to the number specified in BACKOUT DURATION times the value of CHECKPOINT FREQ. If the checkpoint frequency is specified in minutes, the number of records processed is the default of 50000 records multiplied by the value of CHECKPOINT FREQ.

In-flight and in-abort URs that are not completely backed out during restart are converted to postponed-abort status. Page sets or partitions with postponed-backout work are put into restart pending (RESTP). This state blocks all access to the object other than access by the command RECOVER POSTPONED or by automatic backout processing performed by DB2 when LIMITED BACKOUT = AUTO.

A table space might be in restart pending mode, without the associated index spaces also in restart pending mode. This happens if a postponed abort UR makes updates only to non-indexed fields of a table in a table space. In this case, the indexes are accessible to SQL (for index-only queries), even though the table space is inaccessible.

Install parameter BACKOUT DURATION on panel DSNTIPL, or ZPARM BACKODUR in DSN6SYSP.

Field Name: QWP1BDUR

PSEUDO-CLOSE FREQUENCY (PCLOSEN)

The number of consecutive DB2 checkpoints that a page set or partition can remain in read/write mode since it was last updated. When this limit or the RO SWITCH TIME is reached, DB2 changes the page set or partition to read only.

This can improve performance for recovery, logging, and data-sharing processing.

Install parameter RO SWITCH CHKPTS on panel DSNTIPL, or ZPARM PCLOSEN in DSN6SYSP.

Field Name: QWP1FREQ

PSEUDO-CLOSE TIMER (PCLOSET)

The number of minutes that a page set or partition can remain in read-write mode since it was last updated. When this limit or the RO SWITCH CHKPTS is reached, DB2 changes the page set or partition to read-only.

This can improve performance for recovery, logging, and data-sharing processing.

Install parameter RO SWITCH TIME on panel DSNTIPL, or ZPARM PCLOSET in DSN6SYSP.

Field Name: QWP1TMR

CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ)

Shows how often, in checkpoints, the level ID of a page set or partition is updated. When zero (0), down-level detection is disabled. When five (5), down-level is enabled.

Use the following criteria to decide on a suitable value for this parameter:

- **How often are backup and restore methods used outside of the DB2 control (such as DSN1COPY or DFDSS dump and restore)?** If rarely used, there is no need to update the level ID frequently.
- **How many page sets are open for update at the same time?** If DB2 updates level IDs frequently, there is extra protection against down-level page sets. However, a performance degradation can occur if the level IDs for many page sets must be set at every checkpoint.
- **How often does the subsystem take checkpoints?** If the DB2 subsystem takes frequent system checkpoints, set the level ID frequency to a higher value.

Install parameter LEVELID UPDATE FREQ on panel DSNTIPL, or ZPARM DLDFREQ in DSN6SYSP.

Field Name: QWP1DFRQ

NUMBER OF ACTIVE LOG COPIES (TWOACTV)

The number of copies of the active log being maintained: 2 indicates dual logging.

Field Name: QWP2DUAL

NUMBER OF ARCHIVE LOG COPIES (TWOARCH)

The number of copies of the archive log being produced during offloading: 2 indicates dual logging.

Install parameter NUMBER OF COPIES on PANEL DSNTIPH, or ZPARM TWOARCH in DSN6LOGP.

Field Name: QWP2ADL

COPY 1 PREFIX (ARCPFX1)

The prefix of the first archive log data set.

Install parameter Archive Logs: COPY1 PREFIX on panel DSNTIPH, or ZPARM ARCPFX1 in DSN6ARVP.

Field Name: QWP3RE1N

COPY 2 PREFIX (ARCPFX2)

The prefix of the second archive log data set. If single logging is used, this value is a default.

Install parameter Archive Logs: COPY2 PREFIX on panel DSNTIPH, or ZPARM ARCPFX2 in DSN6ARVP.

Field Name: QWP3RE2N

TIMESTAMP ARCHIVE LOG DATA SETS (TSTAMP)

Indicates whether the date and time of creation of the DB2 archive log data set is included in the archive log data set name.

Possible values are:

YES (QWP3DTIM=1)
The maximum allowable length of the user-controlled portion of the archive log prefix is reduced from 35 characters to 19 characters. This allows the 16-character timestamp to be added to the archive log data set prefix. The timestamp format is as follows: D*yyddd*T*hhmmsst*, where:

D
Starts the date.

yy
Is the last two digits of the year.

ddd
Is the day of the year.

T
Starts the time.

hh
Is the hour.

mm
Are the minutes.

ss
Are the seconds.

t
Is the tenths of a second.

The maximum allowable length of the user-controlled portion of the archive log prefix is reduced from 35 characters to 19 characters. This reduction in size permits the 16-character date and time qualifiers (timestamp) to be added to the archive log data set prefix.

NO (QWP3DTIM=0 and QWP3DTFM=0)
The archive data set name does not contain a timestamp.

EXT (QWP3DTFM=1)
The archive data set name contains a timestamp with an extended date component in the format: **.**D*yyyyddd*. A value of EXT in this field causes the lengths of the values that are entered for field COPY 1 PREFIX and field COPY 2 PREFIX to be audited to ensure that neither exceeds 17 bytes (19 bytes for other settings of TIMESTAMP ARCHIVES).

Install parameter TIMESTAMP ARCHIVES on panel DSNTIPH, or ZPARM TSTAMP in DSN6ARVP.

Field Name: RT0106AL

CHECKPOINT TYPE (CHKTYPE)

Shows the LOG checkpoint type. It can have the following values:

SINGLE
Either records or minutes.

BOTH
Both records and minutes, as specified by **Records Between Checkpoint** (QWP1LOGR) and **Mins Between Checkpoint** (QWP1LOGM).

ZPARM CHKTYPE in DSN6SYSP.

Field Name: QWP1LOGT

RECORDS/CHECKPOINT (CHKLOGR)

Shows the number of records between log checkpoints if the LOG checkpoint type is **BOTH** (records and minutes).

This field corresponds to field RECORDS/CHECKPOINT on installation panel DSNTIPL1, or ZPARM name CHKLOGR in DSN6SYSP.

Field Name: QWP1LOGR

MINUTES/CHECKPOINT (CHKMINS)

Shows the number of minutes between log checkpoints if the LOG checkpoint type is **BOTH** (records and minutes).

This field corresponds to field MINUTES/CHECKPOINT on installation panel DSNTIPL1, or ZPARM name CHKMINS in DSN6SYSP.

Field Name: QWP1LOGM

List of Long Names

This topic shows detailed information about "System Parameters - List of Long Names".

This block is printed at the end of the system parameters report when the report contains long names that have been truncated. The block shows the parameter identifier, in alphabetic order, and the complete name. If the name is too long to show on one line, it continues on the next.

System Parameters - List of Long Names

The field labels shown in the following sample layout of "System Parameters - List of Long Names" are described in the following section.

```
LIST OF LONG NAMES
------------------------------------------------------------------------
DEFLTID  DSNZPARMDEFLTIDDSNZPARMDEFLTIDDSNZPARMDEFLTID
RGFCOLID DSNZPARMRGFCOLIDDSNZPARMRGFCOLIDDSNZPARMRGFCO
RGFNMORT DSNZPARMRGFNMORTDSNZPARMRGFNMORTDSNZPARMRGFNM
RGFNMPRT DSNZPARMRGFNMPRTDSNZPARMRGFNMPRTDSNZPARMRGFNM
RLFAUTH  DSNZPARMRLFAUTHDSNZPARMRLFAUTHDSNZPARMRLFAUTH
SYSADM2  DSNZPARMSYSADM2DSNZPARMSYSADM2DSNZPARMSYSADM2
SYSOPR1  DSNZPARMSYSOPR1DSNZPARMSYSOPR1DSNZPARMSYSOPR1DSNZPARMSYSOPR1D
NZENDE
SYSOPR2  ABCDEFGHIJKLMNOPQRSTUVWXYZ
```

MVS Parmlib Update Parameters (DSNTIPM)

This topic shows detailed information about "System Parameters - MVS Parmlib Update Parameters (DSNTIPM)".

This block shows the parameters used to produce the DSNTIJMV job that defined DB2 to MVS and updated the following PARMLIB members:

IEFSSN xx
to define DB2 and IRLM as formal MVS subsystems

IEAAPF xx
to authorize the prefix.SDSNLOAD, prefix.SDSNLINK, and prefix.SDSNEXIT libraries

LNKLST xx
to include the prefix.SDSNLINK library.

System Parameters - MVS Parmlib Update Parameters (DSNTIPM)

The field labels shown in the following sample layout of "System Parameters - MVS Parmlib Update Parameters (DSNTIPM)" are described in the following section.

```
MVS PARMLIB UPDATE PARAMETERS (DSNTIPM)
---------------------------------------
SUBSYSTEM DEFAULT (SSID)  ..............................D851
SUPPRESS SOFT ERRORS (SUPERRS)..........................NO
```

SUBSYSTEM DEFAULT (SSID)

The MVS subsystem name for DB2. The name is used in member IEFSSN xx of SYS1.PARMLIB.

A valid name has 1-4 characters, the first must be A-Z, #, $, or @. Others must be A-Z, 1-9, #, $, or @. Default is DSN1.

Install parameter SUBSYSTEM NAME on panel DSNTIPM, or ZPARM SSID in DSNHDECP.

Field Name: QWPBSSID

SUPPRESS SOFT ERRORS (SUPERRS)

Shows whether the recording of errors, such as invalid decimal data and arithmetic exceptions, in the operating system data set SYS1.LOGREC is suppressed.

When YES, these exceptions are not recorded in the LOGREC data set.

Install parameter SUPPRESS SOFT ERRORS on panel DSNTIPM or ZPARM SUPERRS in DSN6SPRM.

Field Name: QWP4SAE

Operator Functions Installation Parameters (DSNTIPO)

This topic shows detailed information about "System Parameters - Operator Functions Installation Parameters (DSNTIPO)".

This block shows various operator functions, such as write-to-operator route codes, automatic recall, and the maximum amount of CPU time allocated for a dynamic SQL statement.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Operator Functions Installation Parameters (DSNTIPO)

The field labels shown in the following sample layout of "System Parameters - Operator Functions Installation Parameters (DSNTIPO)" are described in the following section.

```
OPERATOR FUNCTIONS INSTALLATION PARAMETERS (DSNTIPO)
---------------------------------------------------
WTO ROUTE CODES (ROUTCDE).....................................1
RESOURCE LIMIT FACILITY AUTOMATIC START (RLF).............NO (prior to DB2 12)
RESOURCE LIMIT SPECIFICATION TABLE SUFFIX (RLFTBL)..........01 (prior to DB2 12)
RESOURCE LIMIT SPEC TABLE ERROR ACTION (RLFERR).........NOLIMIT (prior to DB2 12)
AUTO BIND (ABIND)..........................................YES
ALLOW EXPLAIN AT AUTOBIND (ABEXP).........................YES
DPROP SUPPORT (EDPROP).....................................NO
SITE TYPE (SITETYP).....................................LOCALSITE
TRACKER SITE (TRKRSITE)....................................NO
READ COPY2 ARCHIVE (ARC2FRST).............................NO
REAL TIME STATS (STATSINT)...............................30
STATISTICS FEEDBACK (STATFDBK_SCOPE).....................ALL
PROFILE AUTOSTART (PROFILE_AUTOSTART).....................NO
```

WTO ROUTE CODES (ROUTCDE)

The MVS console routing codes.

These codes are assigned to messages that are not solicited from a specific console. Up to 16 comma-separated codes can be shown.

Install parameter WTO ROUTE CODES on panel DSNTIPO, or ZPARM ROUTCDE in DSN6SYSP.

Field Name: QWP1SMRC

RESOURCE LIMIT FACILITY AUTOMATIC START (RLF) (prior to DB2 12)

Shows whether the resource limit facility (governor) is automatically started when DB2 is started.

Install parameter RLF AUTO START on panel DSNTIPO4, or ZPARM RLF in DSN6SYSP.

Field Name: QWP1RLF

RESOURCE LIMIT SPECIFICATION TABLE SUFFIX (RLFTBL) (prior to DB2 12)

The default resource limit specification table (RLST) suffix.

This suffix is used when the resource limit facility (governor) is automatically started or when the governor is started without specifying a suffix.

Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARM RLFTBL in DSN6SYSP.

Prior to DB2 12: Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARM RLFTBL in DSN6SYSP.

Field Name: QWP1RLFT

RESOURCE LIMIT SPEC TABLE ERROR ACTION (RLFERR) (prior to DB2 12)

The action taken by DB2 when the governor cannot use the resource limit:

NOLIMIT
The dynamic SQL statements run without limit.

NORUN
The dynamic SQL statements terminated with an SQL error code.

A number from 1 to 5000000 represents the number of CPU service units allowed for a query.

Install parameter DYNAMIC SQL on panel DSNTIPO4, or ZPARM RLFERR in DSN6SYSP.

Prior to DB2 12: Install parameter RLST ACCESS ERROR on panel DSNTIPO, or ZPARM RLFERR in DSN6SYSP.

Field Name: RLFERR

AUTO BIND (ABIND)

Indicates whether autobind is enabled. Values are:

YES
Allows automatic rebind operations to be performed when a plan/package:

- Was marked "invalid".
- Was bound on DB2 Vn, but is now running on DB2 Vn-1
- After use on DB2 Vn-1 (as previously described), is later used again on DB2 Vn

NO
Prevent DB2 from performing any automatic rebind operations under any circumstances.

COEXIST
Allows automatic rebind operation to be performed in a DB2 Data Sharing coexistence environment when the plan/package:

- Is marked "invalid" or
- Was last bound in DB2 Vn and is running on DB2 Vn-1

Install parameter AUTO BIND on panel DSNTIPO, or ZPARM ABIND in DSN6SPRM.

Field Name: QWP4ABN

ALLOW EXPLAIN AT AUTOBIND (ABEXP)

Indicates whether EXPLAIN processing occurs during automatic rebind.

YES means EXPLAIN processing happens during automatic rebind of a plan or package that has EXPLAIN(YES) as a bind option. If the PLAN_TABLE does not exist, automatic rebind continues, but there is no EXPLAIN output. Explain processing does not happen for a plan or package with EXPLAIN(NO).

Install parameter EXPLAIN PROCESSING on panel DSNTIPO, or ZPARM ABEXP in DSN6SPRM.

Field Name: QWP4ABX

DPROP SUPPORT (EDPROP)

Shows whether DataPropagator NonRelational (DPROP) is used to propagate SQL changes made to tables defined with DATA CAPTURE CHANGES.

1
No changes are propagated.

2
DPROP propagates SQL changes, and those changes made to tables defined with DATA CAPTURE CHANGES are only allowed when monitor trace class 6 is active, DPROP is installed, and the DB2 application is running in an IMS environment. If any of these conditions are not met, no changes to the DB2 table are permitted.

3
Data propagation occurs when monitor trace class 6 is active, DPROP is installed, and the DB2 application is running in an IMS environment. In this instance, an application that is not running in an IMS environment can update DB2 tables defined with DATA CAPTURE CHANGES. However, these changes are not propagated to IMS.

ANY
Allows subsystems to propagate some data with DPROP and other data with a different propagation program.

Tables that should only be updated by DB2 applications running in an IMS environment can be protected using the following methods:

- Use the ENABLE parameter on BIND to specify a specific attachment facility through which updates to data propagation tables can be made.
- Define a validation procedure for data propagation tables to define which plans can update those tables.
- Allow update authority for data propagation tables to a group of authorization IDs that can only run in IMS.

Install parameter DPROP SUPPORT on panel DSNTIPO, or ZPARM EDPROP and CHGDC in DSN6SPRM.

Field Name: QWP4ENF

SITE TYPE (SITETYP)

Shows whether this system is at a local site or a recovery site.

LOCALSITE
This is the site of the current system. Multiple image copies are made and are operational here. This is the default.

RECOVERYSITE
This an alternative site for recovery purposes.

The RECOVER utility uses this parameter to determine what site the current system is on and recovers everything from the copies of data registered at that site.

The RECOVER and MERGECOPY utilities use this to determine whether COPYDDN or RECOVERDDN is allowed with NEWCOPY NO.

Install parameter SITE TYPE on panel DSNTIPO, or ZPARM SITETYP in DSN6SPRM.

Field Name: QWP4MSTY

TRACKER SITE (TRKRSITE)

Indicates whether this subsystem is a remote tracker site for another DB2 subsystem.

When YES, this is a tracker site.

A DB2 tracker site is a separate DB2 subsystem or data sharing group that exists solely for the purpose of keeping shadow copies of your primary site's data. No independent work can be run on the tracker site.

Install parameter TRACKER TYPE on panel DSNTIPO, or ZPARM TRKRSITE in DSN6SPRM.

Field Name: QWP4TRKR

READ COPY2 ARCHIVE (ARC2FRST)

This field indicates whether the COPY2 archives should be read first when the DB2 subsystem is started.

Install parameter READ COPY2 ARCHIVE on DSNTIPO, or ZPARM ARC2FRST in DSN6LOGP.

Field Name: QWP2OPT2

REAL TIME STATS (STATSINT)

The time interval that DB2 waits before it attempts to write out page set statistics to the real-time statistics tables. This value is between 1 and 65535 minutes.

Install parameter REAL TIME STATS on panel DSNTIPO, or ZPARM STATSINT in DSN6SPRM.

Field Name: QWP4INTE

STATISTICS FEEDBACK (STATFDBK_SCOPE)

Specifies the scope of SQL statements for which DB2 is to recommend statistics. Possible values are:

- All
- Dynamic
- None
- Static

This value corresponds to field STATISTICS FEEDBACK on installation panel DSNTIPO. The ZPARM name is STATFDBK_SCOPE in DSN6SPRM.

Field Name: QWP4SFBS

PROFILE AUTOSTART (PROFILE_AUTOSTART)

Specifies whether START PROFILE command processing is automatically initiated as part of DB2 startup (DB2 field: QWP1PFASY):

- 0 indicates NO
- 1 indicates YES

This field corresponds to field PROFILE AUTOSTART on installation panel DSNTIPO. ZPARM name: PROFILE_AUTOSTART in DSN6SYSP.

Field Name: QWP1PFASY

Other system parameters report

This topic shows detailed information about "System Parameters - Other System Parameters".

This block shows values not shown on other DB2 installation panels. These values are either set internally by DB2, or calculated from other install parameter values.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Other System Parameters

```
OTHER SYSTEM PARAMETERS
-----------------------
DUAL BSDS MODE (TWOBSDS).....................................YES
ROLL UP PARALLEL TASK ACCOUNTING (PTASKROL)..................YES
NO. PAGES SMALL TABLE THRESHOLD (NPGTHRSH)....................0
OFFLOAD OPTION (OFFLOAD).....................................YES
SU CONVERSION FACTOR.......................................200
MINIMUM DIVIDE SCALE (MINDVSCL)...........................NONE
STAR JOIN THRESHOLD (SJTABLES)...............................10
ONLINE SYSTEM PARM USER ID MONITOR.........................N/P
ONLINE SYSTEM PARM CORREL ID MONITOR.......................N/P
ONLINE SYSTEM PARM TIME CHANGED............................N/P
ONLINE SYSTEM PARM TYPE....................................N/P
DB2-SUPPLIED DECP INDICATOR..............................X'D5'
MAX CONCURRENT PKG OPS (MAX_CONCURRENT_PKG_OPS)..............10
ADMIN SCHEDULER JCL PROC NAME (ADMTPROC)....................N/P
FREE LOCAL CACHED STATEMENTS (CACHEDYN_FREELOCAL)...........N/A
INDEX I/O PARALLELISM (INDEX_IO_PARALLELISM)................N/A
ZOSMETRICS...................................................NO
USE TRACKMOD FOR IMPLICIT TS (IMPTKMOD).....................YES
DSSIZE FOR IMPLICIT TS (IMPDSSIZE)............................4
ENABLE MULTIPLE INDEX ACCESS (SUBQ_MIDX)....................YES
SP_PARMS_JV (DDF_COMPATIBILITY)..............................NO
SP_PARMS_NJV (DDF_COMPATIBILITY).............................NO
DISABLE_IMPCAST_JV (DDF_COMPATIBILITY).......................NO
DISABLE_IMPCAST_NJV (DDF_COMPATIBILITY)......................NO
IGNORE_TZ (DDF_COMPATIBILITY)................................NO
DDF COMP PRIOR VERSION (DDF_COMPATIBILITY)..................N/P
DYN STMT CACHE STOR (CACHE_DEP_TRACK_STOR_LIM)..............N/A
ACTIVATE I/O SCHEDULING......................................YES
VALUE FOR TRIGGER DRAIN.......................................1
MAX NUMBER OF DDS WITH HOLD...................................3
FIELD PROCS FOR DESCRIBE TABLE BLOCK..........................5
RESTRICT ALTER COLUMN FOR DCC (RESTRICT_ALT_COL_FOR_DCC).....NO
SPACE RESERVED FOR Z/OS FUNCTIONS.....................40,960
SPACE RESERVED FOR CRITICAL WORK.....................26,279,936
SPACE RESERVED ON TOP OF Z/OS AND CRITICAL SPACE.....26,279,936
DETAILED MEASURED UNIT PRICE TRACKING.......................NO
OTC LICENSE TERMS ACCEPTED...................................NO
SIMULATED CPUS................................................0
CPU FOR EXPLAIN STATEMENTS (CPU_FOR_EXPLAIN)..................0
MAX 'NOT FOUND' HASH RECORDS.............................100
MAX EXTEND SERVICE TASKS.....................................20
PROJECT Z INSERTION THRESHOLD.................................2
MAX ZIVLEMPEL DICTIONARY ENTRIES.........................4,096
REORG KEEPDICTIONARY IN BRF TO RRF CONVERSION..............YES
DRDA RESOLVE ALIAS (DRDA_RESOLVE_ALIAS).....................YES
PC YES SPECIFIED............................................YES
BLOCK OPT 1 ROW SORT (OPT1ROWBLOCKSORT)......................NO
EMPTY XML ELEMENT (XML_RESTRICT_EMPTY_TAG)...................NO
SUPPRESS_HINT_SQLCODE_DYN (SUPPRESS_HINT_SQLCODE_DYN) .......NO
INDEX MEMORY CONTROL (INDEX_MEMORY_CONTROL)..............AUTO
SELECT FOR UNLOAD (AUTH_COMPATIBILITY).......................NO
MATERIALIZE NODET SQLTUDF (MATERIALIZE_NODET_SQLTUDF)........NO
ENCRYPTION_KEYLABEL (ENCRYPTION_KEYLBL).....DB2SYS.KEY01
```

DUAL BSDS MODE (TWOBSDS)

Shows whether two BSDS data sets are used.

A second BSDS (strongly recommended) makes recovery much easier in most situations. In cases that normally require recovery and restart, a second BSDS allows you to continue working. The storage overhead required is small and the data set is relatively inactive.

DB2 parameter TWOBSDS in DSN6LOGP.

Field Name: QWP2DBSD

ROLL UP PARALLEL TASK ACCOUNTING (PTASKROL)

Indicates whether DB2 generates a trace record at the originating task level that summarizes accounting information for all parallel tasks.

DB2 parameter PTASKROL in DSN6SYSP.

Field Name: QWP1PROL

NO. PAGES SMALL TABLE THRESHOLD (NPGTHRSH)

This parameter allows you to specify the optimizer threshold for qualifying a table as small.

-1
Every table qualifies as small.

0
No table qualifies as small (this is the default).

1
Only tables with zero pages qualify as small.

2
Tables with less than two pages qualify as small.

10
Tables with less than ten pages qualify as small.

502
Tables with less than 502 pages, and tables that have not had statistics collected qualify as small. For example, when NPAGES = -1.

DB2 parameter NPGTHRSH in DSN6SPRM.

Background and Tuning Information

Tables can be populated using insert just prior to their use by queries and then cleared immediately on completion of the queries. These tables are permanent even though the data they contain is transient.

This can cause problems when RUNSTATS is run overnight, or at other times when these tables are empty. This gives the optimizer the false indication that these tables contain no data when in fact, the tables will contain data when the query executes. This causes the optimizer to pick an inefficient access path. Usually the optimizer chooses to do a table scan, which would be the most efficient access path if the table were truly empty. Because the table is not empty when the query executes, it would be more efficient to use matching index access.

With this parameter, you can force the optimizer to treat tables containing no data as small tables. For these tables, the optimizer will:

- Select a matching index access rather than a table space scan and non-matching index access.
- Select the index with the most matching columns when more than one index qualifies for matching index access.
- Select indexes with the same number of matching columns on cost.

Field Name: QWP4NPAG

OFFLOAD OPTION (OFFLOAD)

Shows whether the offload process is initiated online.

ZPARM OFFLOAD in macro DSN6LOGP.

Field Name: QWP2OFFL

SU CONVERSION FACTOR

The CPU service unit conversion factor for this CPU.

This factor allows conversion CPU time in seconds to a common unit, called service unit (SU). The conversion factor used depends on the machine. Service units allow you to calculate CPU execution times across a data sharing group.

The conversion factor is used as follows:

```
CP secs * 16,000,000 / Conversion Factor = SUs

SUs * Conversion Factor / 16,000,000 = CP secs
```

This field does not map to an installation panel.

Field Name: QWPASUCV

MINIMUM DIVIDE SCALE (MINDVSCL)

The minimum scale for the result of a decimal division. The values for this parameter are none (the default), 3, or 6. If 3 or 6 is specified, this parameter overrides the DECDIV3 parameter.

Field Name: QWP4MDSC

STAR JOIN THRESHOLD (SJTABLES)

The minimum number of tables in the star schema query block, including the fact table, dimensions tables, and snowflake tables. This value is considered only if the subsystem parameter STARJOIN qualifies the query for star join.

Possible values are:

0
Star join is disabled. This is the default.

1, 2, or 3
Star join is always considered.

4 through 255
Star join is considered if the query block has at least the specified number of tables.

256 and greater
Star join is never considered.

DB2 parameter SJTABLES in DSN6SPRM.

Background and Tuning Information

Although star join can reduce bind time significantly it does not provide optimal performance in all cases. Performance of star join depends on a number of factors such as the available indexes on the fact table, the cluster ratio of the indexes, and the selectivity of rows through local and join predicates. Follow these general guidelines for setting the value of SJTABLES:

- If you have star schema queries with less than 10 tables and you want to make the star join method applicable to all qualified queries, set the value of SJTABLES to a low number, such as 5.
- If you have some star schema queries that are not necessarily suitable for star join but want to use star join for relatively large queries, use the default. The star join method will be considered for all qualified queries that have 10 or more tables.
- If you have star schema queries but normally do not want to use star join, you could increase SJTABLES, say to 15. This will greatly cut the bind time for large queries and avoid a potential bind time SQL return code -101 for large qualified queries.

Field Name: QWP4SJTB

ONLINE SYSTEM PARM USER ID MONITOR

The user ID that made the last online change to DB2 system settings.

Field Name: QWP4OZUS

ONLINE SYSTEM PARM CORREL ID MONITOR

The correlation ID of the online application that made the last change to DB2 system settings.

Field Name: QWP4OZCI

ONLINE SYSTEM PARM TIME CHANGED

Time of the last online change made to DB2 system settings.

Field Name: QWP4OZTM

ONLINE SYSTEM PARM TYPE

The type of DB2 system parameter changed by the last SET SYSPARM statement.

Field Name: QWP4OZTP

DB2-SUPPLIED DECP INDICATOR

Indicates that DECP is supplied by DB2.

Using a DB2 supplied DECP could cause data corruption due to applications using wrong CCSIDs.

Field Name: QWPBDB2S

MAX CONCURRENT PKG OPS (MAX_CONCURRENT_PKG_OPS)

The maximum number of package requests that can be processed simultaneously.

DB2 parameter MAX_CONCURRENT_PKG_OPS in DSN6SPRM.

Field Name: QWP4MXAB

ADMIN SCHEDULER JCL PROC NAME (ADMTPROC)

The name of the JCL procedure for starting the DB2 administrative scheduler task address space.

DB2 parameter ADMTPROC in DSN6SPRM.

Field Name: QWP4ADMT

FREE LOCAL CACHED STATEMENTS (CACHEDYN_FREELOCAL)

Indicates whether DB2 can free statements from the local dynamic statement cache to relieve storage constraints below the 2 GB bar. This parameter applies only for packages or plans that are bound with KEEPDYNAMIC(YES). Possible values are:

0
DB2 cannot free statements from the local cache

1
DB2 can free statements from the local cache

DB2 parameter CACHEDYN_FREELOCAL in DSN6SPRM.

Field Name: QWP4FRLC

INDEX I/O PARALLELISM (INDEX_IO_PARALLELISM)

In DB2 12 this field is a serviceability field.

The enablement of the index I/O parallelism ZPARM.

Field Name: QWP4IIOP

ZOSMETRICS

YES indicates that gathering of z/OS metrics using the RMF interface is enabled. ZPARM ZOSMETRICS in DSN6SPRM.

Field Name: QWP4METE

USE TRACKMOD FOR IMPLICIT TS (IMPTKMOD)

Shows whether you have specified the TRACKMOD option on ALTER TABLESPACE for an implicitly created table space.

This field corresponds to field TRACK MODIFIED PAGES on installation panel DSNTIP7. The ZPARM name is IMPTKMOD in DSN6SPRM.

Field Name: QWP1TKMD

DSSIZE FOR IMPLICIT TS (IMPDSSIZE)

Shows the maximum DSSIZE in gigabytes that DB2 uses for creating each partition of an implicitly created base table space.

This field corresponds to field DEFAULT DSSIZE on installation panel DSNTIP7. The ZPARM name is IMPDSSIZE in DSN6SPRM.

Field Name: QWP1DSSZ

ENABLE MULTIPLE INDEX ACCESS (SUBQ_MIDX)

Specifies whether to enable or disable multiple index access for queries that have subquery predicates:

NO
Disables multiple index access for queries.

YES
Enables multiple index access for queries.

The ZPARM name is SUBQ_MIDX IN DSN6SPRM.

Field Name: QWP4SQMX

SP_PARMS_JV (DDF_COMPATIBILITY)

Specifies that when a Java client application calls a DB2 for z/OS stored procedure, DB2 returns output argument values with data types that match the data types that were specified in the CallableStatement.registerOutParameter method calls.

If SP_PARMS_JV is not specified, DB2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition.

ZPARM name DDF_COMPATIBILITY and ZPARM value SP_PARMS_JV in DSN6FAC.

Field Name: QWP9SPPMJ

SP_PARMS_NJV (DDF_COMPATIBILITY)

Specifies that when a non-Java client application calls a DB2 for z/OS stored procedure, DB2 returns output argument values with data types that match the data types of the corresponding CALL statement arguments, unless one of the following conditions are true:

- The non-Java client is Version 10 or later.
- The stored procedure uses a parameter data type that was introduced in DB2 for z/OS Version 10 (XML, TIMESTAMP WITH TIMEZONE, or TIMESTAMP with precision greater than 6).

If one condition is true, DB2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition. If SP_PARMS_NJV is not specified, DB2 returns output parameter values with data types that match the data types of the parameters in the stored procedure definition.

ZPARM name DDF_COMPATIBILITY and ZPARM value SP_PARMS_NJV in DSN6FAC.

Field Name: QWP9SPPM

DISABLE_IMPCAST_JV (DDF_COMPATIBILITY) (DB2 11 or later)

Specifies whether the DB2 for z/OS server disables implicit casting of input host variables from numeric data types to string data types, or from string data types to numeric data types, when the application is a Java client application that uses the IBM Data Server Driver for JDBC and SQLJ. If application compatibility is set to:

- V10R1: DB2 uses DISABLE_IMPCAST_JV.
- V11R1 or later: DB2 always does implicit casting.

ZPARM name DDF_COMPATIBILITY ZPARM value DISABLE_IMPCAST_JV in DSN6FAC.

Field Name: QWP9ICIJ

DISABLE_IMPCAST_NJV (DDF_COMPATIBILITY)

Specifies that DB2 for z/OS disables implicit casting of input host variables from numeric data types to string data types, or from string data types to numeric data types, when the application is a non-Java client application that uses an IBM Data Server client or driver that is at Version 10.5 or earlier.

ZPARM name DDF_COMPATIBILITY and ZPARM value DISABLE_IMPCAST_NJV in DSN6FAC.

Field Name: QWP9ICIN

IGNORE_TZ (DDF_COMPATIBILITY)

Shows whether to ignore the time zone (TMZ) in TMZ input for Java.

Field Name: QWP9ITZJ

DDF COMP PRIOR VERSION (DDF_COMPATIBILITY)

The DDF compatibility parameter. The DB2 server with new-function mode has not yet been activated. The DDF compatibility parameter causes this server to identify itself to all remote clients as being in

new-function mode for the previous version. The format of this field in the trace record is *nnr*, where *nn* is the version of the DB2 server and *r* is the release.

Field Name: QWP9DDFCIP

DYN STMT CACHE STOR (CACHE_DEP_TRACK_STOR_LIM)

Specifies the number of gigabytes of storage that DB2 allocates for hashing entries in the dynamic statement cache. This parameter can avoid storage shortages for long-running threads. The storage is allocated above the bar.

The ZPARM name is CACHE_DEP_TRACK_STOR_LIM in DSN6SPRM.

Field Name: QWP4CDTSL

ACTIVATE I/O SCHEDULING

Determines whether the I/O scheduling feature is activated. DB2 parameter SPRMIOP in DSN6SPRM.

Field Name: QWP4IOP

VALUE FOR TRIGGER DRAIN

The percentage below 100% DSMAX that open data sets can reach before an asynchronous drain is started. The default is 1, meaning that asynchronous drain starts when the number of open data sets reaches 99% of DSMAX.

DB2 defers closing and deallocating the table spaces or indexes until the number of open data sets reaches one of the following limits:

- The MVS limit for the number of concurrently open data sets.
- 99% (default) of the value that you specified for DSMAX.

When one of these limits is reached, DB2 closes a number of data sets not in use equal to 3% (default) of the value DSMAX. Thus, DSMAX controls not only the limit of open data sets, but also the number of data sets that are closed when that limit is reached.

DB2 parameter SPRMTDD in DSN6SPRM.

Field Name: QWP4TDDN

MAX NUMBER OF DDS WITH HOLD

The percentage of maximum open data sets until the asynchronous drain operations are stopped.

DB2 parameter SPRMMDD in DSNDSPRM.

Field Name: QWP4MDDN

FIELD PROCS FOR DESCRIBE TABLE BLOCK

The number of field procedures for the DESCRIBE TABLE block.

ZPARM SPRMFDP.

Field Name: QWP4FDP

RESTRICT ALTER COLUMN FOR DCC (RESTRICT_ALT_COL_FOR_DCC)

A value of YES prevents the use of ALTER table ALTER column with SET DATA TYPE, SET DEFAULT, and DROP DEFAULT when data capture changes is enabled on the target table. The ZPARM name is RESTRICT_ALT_COL_FOR_DCC in DSN6SPRM.

Field Name: QWP4RACD

SPACE RESERVED FOR Z/OS FUNCTIONS

The amount of space reserved for MVS functions.

Field Name: QWP1DB1M

SPACE RESERVED FOR CRITICAL WORK

The amount of space reserved for critical work that must be completed.

Field Name: QWP1CRIT

SPACE RESERVED ON TOP OF Z/OS AND CRITICAL SPACE

The amount of space above z/OS and critical (QWP1DB1M + QWP1CRIT) that DB2 tries to leave available.

Field Name: QWP1SOS

DETAILED MEASURED UNIT PRICE TRACKING

Specifies whether DB2 performs detailed tracking for measured usage pricing. You can select the following values:

YES
DB2 does detailed measured usage tracking if SMF type 89 records are activated. When SMF89 is set to YES, DB2 invokes a z/OS service on every entry into or exit out of DB2 to ensure accurate tracking.

NO (the default value)
DB2 does not do detailed measured usage tracking. If the SMF type 89 record is activated, only high-level tracking is recorded in the SMF type 89 record. Selecting NO reduces CPU usage, but also increases the amount of time spent in DB2 as measured by SMF 89.

Note: Select SMF89 YES only if you use measured usage pricing.

DB2 parameter SMF89.

Field Name: QWP1SM89

OTC LICENSE TERMS ACCEPTED

Indicates that the one-time charge (OTC) license terms are accepted for this DB2 installation.

DB2 parameter OTC_LICENSE.

Field Name: QWP1OLAC

SIMULATED CPUS

The number of CPUs that are online.

Field Name: QWP4NCPU

EXECUTION TIME OF TASK/SRB IN MICROSECONDS

The accumulated SRB time for the address space. This value includes both, the preemptable and nonpreemptable SRB time. It does not include CPU time that is consumed on an IBM zIIP.

Field Name: QWSASRBT

MAX 'NOT FOUND' HASH RECORDS

The maximum number of NOT FOUND hash records.

Field Name: QWP4KNFC

MAX EXTEND SERVICE TASKS

Maximum number of extended service tasks.

Field Name: QWP4EST

PROJECT Z INSERTION THRESHOLD

Project z insertion threshold.

Field Name: QWP4ZTN

MAX ZIVLEMPEL DICTIONARY ENTRIES

The maximum number of ZIVLEMPEL dictionary entries.

Field Name: QWP4MDE

REORG KEEPDICTIONARY IN BRF TO RRF CONVERSION

Indicates that KEEPDICTIONARY is used when a REORG converts a table space from basic row format (BRF) to reordered row format (RRF).

Field Name: QWP4HKEEPD

DRDA RESOLVE ALIAS (DRDA_RESOLVE_ALIAS)

YES means that in SQL statements, DB2 replaces aliases that refer to three-part names with qualified object names before it sends the statements to the remote location. This substitution is done in the following cases:

- When PREPARE or EXECUTE IMMEDIATE is performed
- When REMOTE BIND of a package is performed.

ZPARM name DRDA_RESOLVE_ALIAS in DSN6SPRM.

Field Name: QWP4RSLV

PC YES SPECIFIED

Shows whether the IRLM uses the cross-address-space program call. This parameter determines where the IRLM lock control block structure is stored.

If you run a tightly-controlled environment and virtual storage is not constrained, use PC=NO. PC=YES is the conservative choice where insufficient information about the environment is available to make a well-informed decision.

With PC=NO, locks are managed in extended common service area (ECSA) and it is possible to achieve better CPU performance, because DB2 does not use cross-memory services for IRLM requests. However, ECSA is a limited resource and constrains the size of the private address space area available above the 16-MB line. The demand for ECSA storage to support locks may be excessive when one or more of the following conditions are true:

- Extensive use of row-level locking
- Ineffective lock avoidance
- Infrequent application commits
- Lock escalation via NUMLKTS and LOCKMAX is disabled because the applications cannot tolerate the impact
- Effectively no limit on the number of locks taken by an application (NUMLKUS is set very high)
- Multiple DB2 subsystems with IRLM PC=NO reside on the same z/OS image

Assuming the average lock consumes 536 bytes of storage, a single application which takes 100000 locks before a commit would consume almost 52 MB of ECSA when IRLM is configured with PC=NO. MAXCSA would have to be set to at least 52 MB. If a very large number of locks are held by concurrent application processes, the demand for ECSA may not be able to be supported.

Recommendation: If you run applications that have many of the above characteristics, it is strongly recommended to use PC=YES. Certain ERP vendor applications that run concurrent processes can acquire a very large number of held locks that would require a very large setting for MAXCSA, or cause an ECSA overflow which would adversely impact the availability of the z/OS image.

If PC=NO is selected, MAXCSA should be sized to support the concurrent number of held locks required and to avoid an ECSA overflow condition. When setting MAXCSA, check to ensure that the ECSA setting in PARMLIB is sufficient to support the aggregate demand from IRLM and other subsystems. The ECSA size for z/OS is specified by the CSA keyword in the IEASSYSnn member in SYS1.PARMLIB.

With PC=YES, locks are managed in the extended private area of the IRLM address space. This can increase the CPU cost of lock and unlock requests relative to PC=NO. However, with reasonable lock avoidance, the total CPU overhead is likely to be limited to 1 to 2%, which is well within measurement noise and therefore not significant.

With PC=YES, the MAXIMUM ECSA option is ignored but must not be zero. The amount of storage allowed for LOCK usage is determined from the extended storage provided to the IRLM address space at startup time. This amount is reduced by 200 MB to allow a buffer for IRLM and z/OS required storage and for DMBS MUST COMPLETE processes. The amount being monitored can be seen in the display message from the irlmproc,STATUS,STOR command. IRLM still uses CSA and ECSA for other purposes. If you need to create a dump for DB2 diagnostic purposes, you need to ensure that IRLM is included in the dump, and that the dump data sets are large enough to hold IRLM.

PC=NO is a good solution when one or more of the following conditions are true, particularly when running a data sharing configuration:

- Optimal CPU performance is required
- No constraint is necessary on available ECSA
- Significant IRLM lock contention and a very large number of lock requests with ineffective lock avoidance
- Relatively high IRLM SRB time

YES puts the lock control block structure in the IRLM private address space, and the program call instruction is used to address it. IRLM still uses CSA and ECSA for other purposes. With PC=YES, the MAXIMUM ECSA option is ignored.

Field Name: QWP5PCY

BLOCK OPT 1 ROW SORT (OPT1ROWBLOCKSORT)

Specifies whether DB2 explicitly blocks sort operations when the OPTIMIZE FOR 1 ROW clause is specified on a query:

NO = DISABLE
Means that when OPTIMIZE FOR 1 ROW is specified, DB2 avoids access paths that involve sorts. If an access path that avoids a sort exists, it is possible, although unlikely, that an access path that involves a sort is chosen instead. This behavior is used in DB2 9 and earlier releases.

YES = ENABLE
Means that when OPTIMIZE FOR 1 ROW is specified, DB2 chooses access paths that avoid sorts whenever such a path is available.

ZPARM name is OPT1ROWBLOCKSORT in DSN6SPRM.

Field Name: QWP4O1RBS

SMS DATACLASS NAME FOR TS (SMSDCFL) (Prior to DB2 11)

SMS data class for data table spaces. The data class name is a string of one to eight characters. The default is an empty string, which means that the SMS cluster is defined without the DATACLASS parameter.

When a valid data class name is specified, the SMS cluster is specified with the DATACLASS parameter using the name specified. If the name is not valid, SMS returns an error.

DB2 parameter SMSDCFL in DSN6SPRM.

Field Name: QWP4DCFS

SMS DATACLASS NAME FOR IS (SMSDCIX) (Prior to DB2 11)

SMS data class for index table spaces. The data class name is a string of one to eight characters. The default is an empty string, which means that the SMS cluster is defined without the DATACLASS parameter.

When a valid data class name is specified, the SMS cluster is specified with the DATACLASS parameter using the name specified. If the name is not valid, SMS returns an error.

DB2 parameter SMSDCIX in DSN6SPRM.

Field Name: QWP4DCIX

OUTER JOIN PERFORMANCE ENHANCEMENTS (OJPERFEH) (Prior to DB2 11)

Indicates whether outer join performance enhancements are enabled.

DB2 parameter OJPERFEH in DSN6SPRM.

Field Name: QWP4OJEH

EMPTY XML ELEMENT (XML_RESTRICT_EMPTY_TAG)

Indicates whether empty XML elements are serialized:

NO
Serialization of empty XML elements is not defined.

YES
Empty XML elements are serialized using a start-element tag followed by an end-element tag.

ZPARM name is XML_RESTRICT_EMPTY_TAG in DSN6SPRM.

Field Name: QWP4NOET

SUPPRESS_HINT_SQLCODE_DYN (SUPPRESS_HINT_SQLCODE_DYN)

Specifies whether DB2 suppresses SQLCODE +394 and SQLCODE +395 when specified access paths are applied for dynamic SQL statements.

NO
DB2 issues SQLCODEs +394 and +395 for statement-level access paths and PLAN_TABLE access paths. NO is the default value.

STMT
DB2 suppresses SQLCODEs +394 and +395 for statement-level access paths for dynamic SQL statements.

ALL
DB2 suppresses SQLCODEs +394 and +395 for statement-level access paths and PLAN_TABLE access paths for dynamic SQL statements.

The ZPARM name is SUPPRESS_HINT_SQLCODE_DYN in DSN6SPRM.

Field Name: QWP4SHDE

INDEX MEMORY CONTROL (INDEX_MEMORY_CONTROL)

Shows the amount of memory that DB2 should allocate for fast traversing of DB2 indexes:

-1 = AUTO
Specifies that DB2 sets the upper limit of the storage to 20% of the currently allocated buffer pools.

0 = DISABLE
Specifies that DB2 returns any existing storage allocated for fast index traversal and does not allocate any further storage for this purpose.

500 - 200000
Indicates the storage limit for fast index traversal.

The ZPARM name is INDEX_MEMORY_CONTROL in DSN6SPRM.

Field Name: QWP4IXMC

SELECT FOR UNLOAD (AUTH_COMPATIBILITY)

Shows the AUTH_COMPATIBILITY ZPARM values (DB2 field: QWP4AUTCSU):

1
The unload utility checks whether the user has the SELECT privilege on the target table.

0
The unload utility checks whether the user has the UNLOAD privilege on the target table.

Field Name: QWP4AUTCSU

MATERIALIZE NODET SQLTUDF (MATERIALIZE_NODET_SQLTUDF)

DB2 materializes the result of a user-defined SQL table function that is defined as not deterministic.

- 0=NO
- 1=YES

ZPARM name is MATERIALIZE_NODET_SQLTUDF in DSN6SPRM.

Field Name: QWP4MNSU

ENCRYPTION_KEYLABEL (ENCRYPTION_KEYLABEL)
If non-blank, this field shows the name of an ICSF key to be used for encrypting archive log data sets, directory data sets, catalog data sets and user-defined indexes on the Db2 catalog. A blank value shows as N/P in the report. If the value cannot be converted from UNICODE to EBCDIC, the reported value is N/P.

Field Name: QWP4ENKL

Performance and Optimization (DSNTIP8, DSNTIP81)

This topic shows detailed information about "System Parameters - Performance and Optimization (DSNTIP8, DSNTIP81)".

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Performance and Optimization (DSNTIP8, DSNTIP81)

The field labels shown in the following sample layout of "System Parameters - Performance and Optimization (DSNTIP8, DSNTIP81)" are described in the following section.

```
PERFORMANCE AND OPTIMIZATION (DSNTIP8,DSNTIP81)
-----------------------------------------------
CACHE DYNAMIC SQL (CACHEDYN)..............................YES
CACHE DYN STABILITY (CACHEDYN_STABILIZATION)..............BOTH
OPTIMIZATION HINTS ALLOWED (OPTHINTS).....................YES
EVALUATE UNCOMMITTED (EVALUNC)............................NO
SKIP UNCOMM INSERTS (SKIPUNCI)............................NO
IMMEDWRITE OVERRIDE FLAG (IMMEDWRI).......................NO
REBIND PLANMGMT DEFAULT (PLANMGMT)........................OFF
PLANMGMTSCOPE DEFAULT (PLANMGMTSCOPE).....................STATIC
PACKAGE RELEASE COMMIT (PKGREL_COMMIT).....................N/A
RANDOMIZE XML DOCID (XML_RANDOMIZE_DOCID)..................NO
DISABLE EDM RTS (DISABLE_EDMRTS)..........................YES
CURRENT DEGREE (CDSSRDEF).................................ANY
MAX DEGREE OF PARALLELISM (PARAMDEG).........................4
MAX DEGREE FOR DPSI (PARAMDEG_DPSI).......................N/A
PARALLELISM EFFICIENCY (PARA_EFF)...........................50
STAR JOIN ENABLING (STARJOIN) .........................DISABLE
MAX DATA CACHING IN MB (MXDTCACH)...........................20
CURRENT REFRESH AGE (REFSHAGE).............................0
CURRENT MAINT TYPE (MAINTYPE)............................SYSTEM
VARCHAR FROM INDEX (RETVLCFK).............................NO
STATS PROFILE FEEDBACK (STATFDBK_PROFILE)..................YES
```

CACHE DYNAMIC SQL (CACHEDYN)

Indicates whether prepared dynamic SQL statements are saved for later use by eligible application processes in the EDM pool.

Install parameter CACHE DYNAMIC SQL on panel DSNTIP8, or ZPARM CACHEDYN in DSN6SPRM.

Field Name: QWP4CDYN

CACHE DYN STABILITY (CACHEDYN_STABILIZATION)

Specifies when dynamic SQL statements can be captured for stabilization. When a statement is stabilized, the current SQLID, statement text, and runtime structures are written to catalog tables. If a dynamic SQL statement is not present in the dynamic SQL statement cache, DB2 will load the runtime structures from catalog table rather than performing a full prepare. This extends the stability and reliability of performance of a dynamic SQL. It can have the following values:

CAPTURE
Statements may be stabilized through the -START DYNQUERY command using both MONITOR(NO) and MONITOR(YES). DB2 will not load stabilized statements from SYSDYNQRY.

LOAD
Statements may not be stabilized via any means. The -START DYNQUERY command will fail, and any MONITOR(YES) commands in progress will not stabilize statements, even if stabilization criteria are matched. During long prepare, DB2 will attempt to load stabilized statements from SYSDYNQRY with which to run.

BOTH
Statements may be stabilized through the -START DYNQUERY command via both MONITOR(NO) and MONITOR(YES). During long prepare, DB2 will attempt to load stabilized statements from SYSDYNQRY with which to run. BOTH is the default setting.

NONE
Statements may not be stabilized via any means. The -START DYNQUERY command will fail, and any MONITOR(YES) commands in progress will not stabilize statements, even if stabilization criteria are matched. DB2 will not load stabilized statements from SYSDYNQRY.

This field corresponds to field CACHE DYN STABILITY on installation panel DSNTIP8. The ZPARM name is CACHEDYN_STABILIZATION in DSNTIP8.

Field Name: QWP4CDST

OPTIMIZATION HINTS ALLOWED (OPTHINTS)

Shows whether DB2 can use optimization hints from the PLAN_TABLE to influence the access paths used for certain queries.

Install parameter OPTIMIZATION HINTS on panel DSNTIP8, or ZPARM OPTHINTS in DSN6SPRM.

Field Name: QWP4HINT

EVALUATE UNCOMMITTED (EVALUNC)

Shows whether stage 1 predicate evaluation during table access can proceed upon uncommitted data or not.

This applies to isolation levels of Read Stability and Cursor Stability only.

When NO (default), predicate evaluation occurs only on committed data (or on the application's own uncommitted changes). NO ensures that all qualifying data is always included in the answer set.

When YES, predicate evaluation can occur upon uncommitted data. Only committed data is returned to the query. However, a decision can be made to omit a row from the answer set based on uncommitted data. Later, undo processing (statement rollback or statement failure) could cause the data to revert to a state that satisfies the predicate.

When YES, DB2 can request fewer locks than in previous versions when processing isolation level Read Stability and Cursor Stability queries. The number of locks avoided is related to the access path of the query, the number of rows evaluated when processing the stage 1 predicate of the query, and the number of those rows that are overflow rows. Specifically, for isolation level Read Stability and Cursor Stability queries, locks are avoided for rows that do not satisfy the stage 1 predicate, provided they are not overflow rows. Table access includes table space scans and index-to-data access, including ridlist-to-data access. For isolation Cursor Stability ridlist production, all row/page locking is avoided.

Install parameter EVALUATE UNCOMMITTED on panel DSNTIP8, or ZPARM EVALUNC in DSN6SPRM.

Field Name: QWP4EVUN

SKIP UNCOMM INSERTS (SKIPUNCI)

YES indicates that uncommitted inserts are treated as if they have not yet been executed. The ZPARM name is SKIPUNCI.

Field Name: QWP4SKUI

IMMEDWRITE OVERRIDE FLAG (IMMEDWRI)

Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data-sharing environment.

Group buffer pool dependent pages can be written to DASD or SYSTEM pagesets.

Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abend for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback and are written out at the end of the abend.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect performance due to coupling facility overhead.

Install parameter IMMEDIATE WRITE on panel DSNTIP8, or ZPARM IMMEDWRI in DSN6GRP.

Field Name: QWPAIMMW

REBIND PLANMGMT DEFAULT (PLANMGMT)

Shows if and how access path information is stored in the repository. Possible values are:

O
On

F
Off

B
Basic

E
Extended

Field Name: QWP4PMGT

PLANMGMTSCOPE DEFAULT (PLANMGMTSCOPE)

Controls which queries are populated in the access path repository (ZPARM parameter PLANMGMTSCOPE). Possible values are:

A
ALL: Includes static and dynamic SQL queries.

S
STATIC: Includes static SQL queries only. This is the default.

D
DYNAMIC: Includes dynamic SQL queries only.

Field Name: QWP4PMSC

PACKAGE RELEASE COMMIT (PKGREL_COMMIT)

YES indicates that the following operations on a package that are bound with RELEASE(DEALLOCATE) are permitted while the package is active and allocated by DB2:

- BIND and REBIND requests, including AUTOMATIC REBIND
- Data definition language changes to objects that are statically referenced by the package

The ZPARM name is PKGREL_COMMIT in DSN6SPRM.

Field Name: QWP4PKRC

RANDOMIZE XML DOCID (XML_RANDOMIZE_DOCID)

Specifies whether DB2 generates document ID elements sequentially or randomly. Possible values are:

YES
Sequentially

NO
Randomly

ZPARM name XML_RANDOMIZE_DOCID in DSN6SYSP.

Field Name: QWP1XRDI

DISABLE EDM RTS (DISABLE_EDMRTS)

Hexadecimal (X'01'). YES disables the use of EDM real-time Statistics. The ZPARM name is DISABLE_EDMRTS in DSN6SPRM.

Field Name: QWP4DEDR

CURRENT DEGREE (CDSSRDEF)

Shows the default for the CURRENT DEGREE special register when no degree is explicitly set with SET CURRENT DEGREE.

The default disables query parallelism.

Install parameter CURRENT DEGREE on panel DSNTIP8, or ZPARM CDSSRDEF in DSN6SPRM.

Field Name: QWP4CDEG

MAX DEGREE OF PARALLELISM (PARAMDEG)

Indicates the upper limit on the degree of parallelism for a parallel group.

This field has a value of 0. This means PARAMDEG is not set and DB2 can set a default maximum degree of parallelism based on the system configuration.

Install parameter MAX DEGREE on panel DSNTIP8, or ZPARM PARAMDEG in DSN6SPRM.

Field Name: QWP4MDEG

MAX DEGREE FOR DPSI (PARAMDEG_DPSI)

The maximum degree of parallelism for a parallel group in which a data-partitioned secondary index is used to control parallelism. This field corresponds to field MAX DEGREE FOR DPSI on installation panel DSNTIP81. The ZPARM name is PARAMDEG_DPSI in DSN6SPRM.

Field Name: QWP4DEGD

PARALLELISM EFFICIENCY (PARA_EFF)

The parallelism efficiency factor.

Note: This field has value of 0 if the System Management Facilities (SMF) trace contains the hexadecimal value X'8000'.

This field corresponds to field PARALLELISM EFFICIENCY on installation panel DSNTIP8. The ZPARM name is PARA_EFF in DSN6SPRM.

Field Name: QWP4PAEF

STAR JOIN ENABLING (STARJOIN)

Star join enable indicator. Possible values are:

-1 (DISABLE)
Star join is disabled. This is the default.

0 (ENABLE)
Star join is enabled when the join meets the conditions described in the DB2 administration information for performance.

1
Star join is enabled without comparing the ratio of the fact-table cardinality to the cardinality of the largest dimension table. The table with the largest cardinality is the fact table.

n
This is the star join fact table and the largest dimension table ratio. The lowest ratio of the cardinality of the fact table compared to the cardinality of the largest dimension table for which star join is used. 2 < N <= 32768.

Install parameter STAR JOIN QUERIES on panel DSNTIP8, or ZPARM STARJOIN in DSN6SPRM.

Background and Tuning Information

This parameter allows you to set the star join ratio to increase or decrease the dimension table and fact table ratio rule according to application needs.

This parameter also allows you to disable star join if needed for performance reasons. The default is to allow star join if star join detection is successful.

Star join technique is only used when these conditions exist:

- At least two dimensions exist.
- The join predicates are between the fact table and the dimension tables only. (No join predicates lie between the dimension tables.)
- The join predicates are equijoin predicates.
- No correlated subqueries cross dimensions.
- No cycles within the dimensions exist. This means that no predicate can reference more than one candidate dimension table with respect to the same column of the fact table.
- No outer join exists.
- The data type and length of the join predicates are the same.
- The fact table is larger than the dimension table.

Field Name: QWP4SJRT

MAX DATA CACHING IN MB (MXDTCACH)

The maximum amount of virtual memory in megabytes (MB) that is allocated for data caching.

Install parameter MAX DATA CACHING on panel DSNTIP8, or ZPARM MXDTCACH in DSN6SPRM.

Field Name: QWP4MXDC

CURRENT REFRESH AGE (REFSHAGE)

Shows the default for the CURRENT REFRESH AGE special register deferred materialized query tables.

Install parameter CURRENT REFRESH AGE on panel DSNTIP8, or ZPARM REFSHAGE in DSN6SPRM.

Field Name: QWP4RFSH

CURRENT MAINT TYPE (MAINTYPE)

Shows the default special register for the CURRENT MAINTAINED TABLE TYPES FOR OPTIMIZATION statement when no value is explicitly set. Possible values are:

- ALL
- NONE
- SYSTEM (default)
- USER

The default allows query rewrite using system-maintained materialized query tables (SYSTEM) when CURRENT REFRESH AGE is set to ANY. When USER, query rewrite is done using user-maintained materialized query tables when CURRENT REFRESH AGE is set to ANY. ALL means that query rewrite uses both system-maintained and user- maintained materialized query tables.

Install parameter CURRENT MAINT TYPES on panel DSNTIP8, or ZPARM MAINTYPE in DSN6SPRM.

Field Name: QWP4MNTY

VARCHAR FROM INDEX (RETVLCFK)

Indicates whether the VARCHAR column is retrieved from the index.

The data sharing scope of this parameter is GROUP.

When NO, index-only access of variable length column data is disabled. DB2 must retrieve data from the data page. Data is retrieved with no padding.

When YES, index-only access of variable length column data is enabled. This can improve performance. Data retrieved from the index is padded with blanks to the maximum length of the column.

Install parameter VARCHAR FROM INDEX on panel DSNTIP8, or ZPARM RETVLCFK in DSN6SPRM.

Field Name: QWP4VCFK

STATS PROFILE FEEDBACK (STATFDBK_PROFILE)

Specifies whether Statistics recommendations that are identified during query optimization cause DB2 to modify to Statistics profiles.

- 0 indicates NO
- 1 indicates YES

This value corresponds to field STATS PROFILE FEEDBACK on installation panel DSNTIP8. ZPARM name: STATFDBK_PROFILE in DSN6SPRM.

Field Name: QWP4SFPR

Protection Installation Parameters (DSNTIPP)

This topic shows detailed information about "System Parameters - Protection Installation Parameters (DSNTIPP)".

This block shows security settings.

Data sets, including data sets defined to DFSMS, should be protected by a security manager, such as RACF.

Fields in this block can contain long names. When a long name exceeds the available space, it is truncated, the parameter identifier and the full name are printed in a separate list at the end of the report.

System Parameters - Protection Installation Parameters (DSNTIPP)

The field labels shown in the following sample layout of "System Parameters - Protection Installation Parameters (DSNTIPP)" are described in the following section.

```
PROTECTION INSTALLATION PARAMETERS (DSNTIPP)
-------------------------------------------
ARCHIVE LOG RACF PROTECTION (PROTECT).....................NO
DB2 AUTHORIZATION ENABLED (AUTH)..........................YES
PLAN AUTHORIZATION CACHE SIZE (AUTHCACH).................3,072
PACKAGE AUTHORIZATION CACHE SIZE (CACHEPAC)...........5,242,880
ROUTINE AUTHORIZATION CACHE SIZE (CACHERAC)...........5,242,880
AUTH EXIT CHECK (AUTHEXIT_CHECK).....................PRIMARY
AUTH EXIT CACHE REFRESH (AUTHEXIT_CACHEREFRESH)............NONE
SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM)...........HELM
SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2)........SYSADM
SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1)..............HELM
SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2)..............EMIL
DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID).......IBMUSER
RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH)...........SYSIBM
BIND NEW PACKAGE (BINDNV).............................BINDADD
DBA CREATE VIEW (DBACRVW)...............................NO
```

ARCHIVE LOG RACF PROTECTION (PROTECT)

Indicates whether archive log data sets are protected with individual RACF profiles when they are created.

When YES, RACF protection must be active for DB2. YES also means that you cannot use RACF generic profiles for archive log data sets. If your archive log is on tape, RACF class TAPEVOL must be active, otherwise, the off-load will fail.

Install parameter ARCHIVE LOG RACF on panel DSNTIPP, or ZPARM PROTECT in DSN6ARVP.

Field Name: QWP3RTCT

DB2 AUTHORIZATION ENABLED (AUTH)

Shows whether DB2 performs authorization checking.

When all authorization checking by DB2 is disabled, the GRANT statement is also disabled (granting every privilege to PUBLIC); this is not recommended.

Install parameter USE PROTECTION on panel DSNTIPP, or ZPARM AUTH in DSN6SPRM.

Field Name: QWP4AUTH

PLAN AUTHORIZATION CACHE SIZE (AUTHCACH)

The size of the authorization cache to be used if no CACHESIZE is specified on the BIND PLAN subcommand.

The size of the cache is 32 bytes of overhead + (8 bytes of storage X number of concurrent users).

0 means authorization caching is not used.

Install parameter PLAN AUTH CACHE on panel DSNTIPP, or ZPARM AUTHCACH in DSN6SPRM.

Field Name: QWP4AUCA

PACKAGE AUTHORIZATION CACHE SIZE (CACHEPAC)

The amount of storage allocated for caching authorization information for all packages on this DB2 member.

32 KB hold about 375 collection-ID.package-IDs. The cache is stored in the DSN1DBM1 address space.

Install parameter PACKAGE AUTH CACHE on panel DSNTIPP, or ZPARM CACHEPAC in DSN6SPRM.

Field Name: QWP4PAC

ROUTINE AUTHORIZATION CACHE SIZE (CACHERAC)

The amount of storage allocated for caching authorization information for all routines on this DB2 member.

Routines include stored procedures and user-defined functions.

32 KB hold about 380 schema.routine.type entries.

Install parameter ROUTINE AUTH CACHE on panel DSNTIPP, or ZPARM CACHERAC in DSN6SPRM.

Field Name: QWP4RAC

AUTH EXIT CHECK (AUTHEXIT_CHECK)

Specifies whether the DB2 authorization ID or the RACF primary authorization ID is to be used for authorization checks, when the access control authorization exit is active:

Primary
DB2 provides:

- The ACEE of the package owner to perform statement authorization checks during AUTOMATIC REBIND, BIND, and REBIND processing
- The ACEE of the package owner, routine definer, or routine invoker, as determined by the dynamic rules behavior for dynamic SQL authorization checking, when a DYNAMICRULES BIND option value other than run is in effect.

The access control authorization exit uses the ACEE for the XAPLUCHK authorization ID field to perform the authorization. The authorization ID in XAPLUCHK must be defined as a RACF user and must have the privileges required to execute the SQL statements in the package.

DB2
DB2 provides the ACEE of the primary authorization ID for performing all authorization checks. The primary authorization ID must have the privileges required to execute the SQL statements in the package. This field corresponds to field "RACF AUTH CHECK" on installation panel DSNTIPP. ZPARM name is RACF_AUTHCHECK in DSN6SPRM.

Field Name: QWP4RACK

AUTH EXIT CACHE REFRESH (AUTHEXIT_CACHEREFRESH)

Specifies whether the package authorization cache, routine authorization cache, and dynamic statement cache entries are refreshed when an access control authorization exit is active, and the user profile is changed in RACF. Possible values are:

- All
- None

This field corresponds to field AUTH EXIT CACHE REFR in installation panel DSNTIPP. ZPARM name is AUTHEXIT_CACHEREFRESH in DSN6SPRM.

Field Name: QWP4AECR

SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM)

One of two authorization IDs with SYSADM authority. SYSADM users can access to DB2 in all cases.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM ADMIN 1 on panel DSNTIPP, or ZPARM SYSADM in DSN6SPRM.

Field Name: QWP4SADM

SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2)

One of two authorization IDs with SYSADM authority. SYSADM users can access to DB2 in all cases.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM ADMIN 2 on panel DSNTIPP, or ZPARM SYSADM2 in DSN6SPRM.

Field Name: QWP4ADM2

SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1)

One of two authorization IDs with SYSOPR authority. SYSOPR users can access DB2 even if the DB2 catalog is unavailable.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM OPERATOR 1 on panel DSNTIPP, or ZPARM SYSOPR1 in DSN6SPRM.

Field Name: QWP4OPR1

SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2)

One of two authorization IDs with SYSOPR authority. SYSOPR users can access DB2 even if the DB2 catalog is unavailable.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter SYSTEM OPERATOR 2 on panel DSNTIPP, or ZPARM SYSOPR2 in DSN6SPRM.

Field Name: QWP4OPR2

DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID)

The authorization ID used if RACF is not available for batch access and USER= is not specified in the job statement.

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter UNKNOWN AUTHID on panel DSNTIPP, or ZPARM DEFLTID in DSN6SPRM.

Field Name: QWP4DFID

RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH)

The authorization ID used for the resource limit facility (governor).

This identifier can be a long string. If there is insufficient space to show the complete string, the string is truncated in the report block. The complete string is shown in a separate list of long names at the end of the report.

Install parameter RESOURCE AUTHID on panel DSNTIPP, or ZPARM RLFAUTH in DSN6SYSP.

Field Name: QWP1RLFA

BIND NEW PACKAGE (BINDNV)

Shows whether BIND or BINDADD authority is required to BIND a new version of an existing package.

When BINDADD (default), only users with BINDADD system privilege can create a new package.

BIND users with BIND privilege for a package or collection can create a new version of an existing package when they bind it. This also allows users with PACKADM authority to add a new package or a new version of a package to a collection.

Install parameter BIND NEW PACKAGE on panel DSNTIPP, or ZPARM BINDNV in DSN6SPRM.

Field Name: QWP4BNVA

DBA CREATE VIEW (DBACRVW)

Shows whether a DB2 administrator can create a view or alias for another user. Possible values are YES or NO. The default is NO.

Install parameter DBADM CREATE AUTH on panel DSNTIPP. ZPARM DBACRVW in macro DSN6SPRM.

Field Name: QWP4CRVW

Protection Panel (DSNTIPP1)

This topic shows detailed information about "System Parameters - Protection Panel (DSNTIPP1)".

System Parameters - Protection Panel (DSNTIPP1)

The field labels shown in the following sample layout of "System Parameters - Protection Panel (DSNTIPP1)" are described in the following section.

```
PROTECTION PANEL (DSNTIPP1)
---------------------------
SECURITY ADMINISTRATOR 1 AUTHORIZATION ID (SECADM1)......SECADM
SECURITY ADMINISTRATOR 1 TYPE (SECADM1_TYPE).............AUTHID
SECURITY ADMINISTRATOR 2 AUTHORIZATION ID (SECADM2)......SECADM
SECURITY ADMINISTRATOR 2 TYPE (SECADM2_TYPE).............AUTHID
SEPARATE SECURITY DUTIES (SEPARATE_SECURITY)..................NO
INCLUDE DEPENDENT PRIVILEGES (REVOKE_DEP_PRIVILEGES)..........N
```

SECURITY ADMINISTRATOR 1 AUTHORIZATION ID (SECADM1)

Security administrator 1 authorization ID (blank if ROLE).

This field corresponds to field SECURITY ADMIN 1 on installation panel DSNTIPP1, or ZPARM SECADM1 in DSN6SPRM.

Field Name: QWP4SECA1_E

SECURITY ADMINISTRATOR 1 TYPE (SECADM1_TYPE)

Security administrator 1 type. Possible values are:

' '
Blank indicates that the authorization ID (AUTH ID) is used.

'L'
Indicates that ROLE is used.

This field corresponds to field SEC ADMIN 1 TYPE on installation panel DSNTIPP1, or ZPARM SECADM1_TYPE in DSN6SPRM.

Field Name: QWP4SECA1_TYPE

SECURITY ADMINISTRATOR 2 AUTHORIZATION ID (SECADM2)

Security administrator 2 authorization ID (blank if ROLE).

This field corresponds to field SECURITY ADMIN 2 on installation panel DSNTIPP1, or ZPARM SECADM2 in DSN6SPRM.

Field Name: QWP4SECA2_E

SECURITY ADMINISTRATOR 2 TYPE (SECADM2_TYPE)

Security administrator 2 type. Possible values are:

'*blank*'
Indicates that the authorization ID (AUTH ID) is used.

'L'
Indicates that ROLE is used.

This field corresponds to field SEC ADMIN 2 TYPE on installation panel DSNTIPP1, or ZPARM SECADM2_TYPE in DSN6SPRM.

Field Name: QWP4SECA2_TYPE

SEPARATE SECURITY DUTIES (SEPARATE_SECURITY)

Separate security tasks. Possible values are:

Y
SYSADM/SYSCTRL cannot GRANT/REVOKE

N
SYSADM/SYSCTRL can GRANT/REVOKE

Field Name: QWP4SEPSD

INCLUDE DEPENDENT PRIVILEGES (REVOKE_DEP_PRIVILEGES)

Include dependent privileges on REVOKE. Possible values are:

Y
If INCLUDING DEPENDENT PRIVILEGES is enforced.

N
If NOT INCLUDING DEPENDENT PRIVILEGES is enforced.

S
If specified in a REVOKE statement.

Field Name: QWP4RVDPR

Query Accelerator Preferences (DSNTIP82)

This topic shows detailed information about "System Parameters - Query Accelerator Preferences (DSNTIP82)".

System Parameters - Query Accelerator Preferences (DSNTIP82)

The field labels shown in the following sample layout of "System Parameters - Query Accelerator Preferences (DSNTIP82)" are described in the following section.

```
QUERY ACCELERATOR PREFERENCES (DSNTIP82)
----------------------------------------
ACCELERATOR STARTUP OPTION (ACCEL).........................NO
GET ACCEL ARCHIVE (GET_ACCEL_ARCHIVE)......................NO
ACCELERATION OPTIONS (QUERY_ACCEL_OPTIONS).................NONE
CURRENT QUERY ACCEL (QUERY_ACCELERATION)...................NONE
ACCELERATION MODELING (ACCELMODEL).........................YES
REMOTE COPY SW ACCEL (REMOTE_COPY_SW_ACCEL).................YES
```

ACCELERATOR STARTUP OPTION (ACCEL)

Specifies whether to enable accelerator servers. Possible values are:

AUTO
Enable and start accelerator servers.

COMMAND
Enable but do not start accelerator servers.

NO
Do not enable accelerator servers.

This field corresponds to field ACCEL STARTUP on installation panel DSNTIP81. ZPARM name is ACCEL in DSN6SPRM.

Field Name: QWP4ACCS

GET ACCEL ARCHIVE (GET_ACCEL_ARCHIVE)

Determines the default value that is to be used for the CURRENT GET_ACCEL_ARCHIVE special register:

NO
Indicates that if a table is archived in an accelerator server, and a query references that table, the query does not use the data that is archived.

YES
Indicates that if a table is archived in an accelerator server, and a query references that table, the query uses the data that is archived.

ZPARM name GET_ACCEL_ARCHIVE in macro DSN6SPRM.

Field Name: QWP4CGAA

ACCELERATION OPTIONS (QUERY_ACCEL_OPTIONS)

Specifies additional types of SQL queries that are eligible for acceleration.

NONE
Indicates that no additional types of SQL queries are eligible. Therefore, the types of queries that are described in the other available values for this parameter are not eligible for acceleration. This is the default value.

1
Indicates that queries that include data that is encoded with the EBCDIC mixed or graphic encoding schemes are eligible for acceleration.

2
Indicates that an INSERT with SELECT statement is eligible for acceleration. However, only the SELECT operation of the query is processed by the accelerator server.

3
Indicates that queries that contain built-in functions for which DB2 processes each byte of the input string, rather than each character of the input string, can run on an accelerator server.

4
The queries that reference an expression with a DATE data type that uses a LOCAL format are not blocked from executing on IBM DB2 Analytics Accelerator for z/OS. IBM DB2 Analytics Accelerator for z/OS will use the *dd/mm/yyyy* format to interpret the input and output date value. Specify option 4 only when you also specify LOCAL as the setting for the DSNHDECP.DATE parameter and your LOCAL date exit defines the specific *dd/mm/yyyy* date format. Otherwise, queries may return unpredictable results.

5
Allow OFFLOAD of SYSTEM_TIME temporal queries.

6
Allow OFFLOAD of queries that reference timestamp columns with a precision of up to 12.

7
OFFLOAD uses *YYYYMMDD* date format.

ZPARM name QUERY_ACCEL_OPTIONS in macro DSN6SPRM.

Field Name: QWP4QACO

CURRENT QUERY ACCEL (QUERY_ACCELERATION)

Determines the default value that is to be used for the CURRENT QUERY ACCELERATION special register. Possible values are:

NONE
Indicates that no query acceleration is done. This is the default value.

ENABLE
Indicates that queries are accelerated only if DB2 determines that it is advantageous to do so. If there is an accelerator failure while a query is running, or the accelerator returns an error, DB2 returns a negative SQLCODE to the application.

ENABLE_WITH_FAILBACK
Indicates that queries are accelerated only if DB2 determines that it is advantageous to do so. If the accelerator returns an error during the PREPARE or first OPEN for the query, DB2 executes the query without the accelerator. If the accelerator returns an error during a FETCH or a subsequent OPEN, DB2 returns the error to the user, and does not execute the query.

ELIGIBLE
Indicates that queries are accelerated if they are eligible for acceleration. DB2 does not use cost information to determine whether to accelerate the queries. Queries that are not eligible for acceleration are executed by DB2. If there is an accelerator failure while a query is running, or the accelerator returns an error, DB2 returns a negative SQLCODE to the application.

ALL
Indicates that queries are accelerated if they are eligible for acceleration. DB2 does not use cost information to determine whether to accelerate the queries. Queries that are not eligible for acceleration are not executed by DB2, and an SQL error is returned. If there is an accelerator failure while a query is running, or the accelerator returns an error, DB2 returns a negative SQLCODE to the application.

ZPARM name QUERY_ACCELERATION in DSN6SPRM.

Field Name: QWP4CQAC

ACCELERATION MODELING (ACCELMODEL)

The ACCELMODEL subsystem parameter determines whether to enable modeling of query workload for evaluating potential savings for both the accumulated elapsed time and CPU time if the plan is executed on an accelerator.

Only queries that are deemed eligible for execution on an accelerator by DB2 will be included in accelerator-related fields of Accounting trace IFCID 3:

No
Specifies that no modeling is to be performed. This is the default setting.

Yes
Specifies that modeling is to be performed. Consider acceleration eligibility for an SQL statement and update the new Accounting fields accordingly.

To enable modeling, the IBM DB2 Analytics Accelerator for z/OS special register CURRENT QUERY ACCELERATION and ZPARM QUERY_ACCELERATION (set by the CURRENT QUERY ACCEL) must be set to NONE for accelerator modeling. All other values for the special register and ZPARM will take the existing logic of IBM DB2 Analytics Accelerator for z/OS. This means that existing queries that already execute on the accelerator with CURRENT QUERY ACCELERATION = ENABLE, ENABLE WITH FAILBACK, ELIGIBLE, or ALL will not be part of the accelerator-related Accounting fields.

Field Name: QWP4ACMO

REMOTE COPY SW ACCEL (REMOTE_COPY_SW_ACCEL)

Specifies whether DB2 uses software (SW) to control the remote copy process for active log output in peer-to-peer remote copy (PPRC) environments. It can have the following values:

- DISABLE (This is the default value)
- ENABLE

ZPARM REMOTE_COPY_SW_ACCEL in DSN6LOGP.

Field Name: QWP2RCSA

Routine Parameters (DSNTIPX)

This topic shows detailed information about "System Parameters - Routine Parameters (DSNTIPX)".

This block shows information about the stored procedures address space used to run stored procedures or user-defined functions.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Routine Parameters (DSNTIPX)

The field labels shown in the following sample layout of "System Parameters - Routine Parameters (DSNTIPX)" are described in the following section.

```
ROUTINE PARAMETERS (DSNTIPX)
----------------------------
MAX ABEND COUNT (STORMXAB).....................................0
TIMEOUT VALUE (STORTIME).....................................180
WLM ENVIRONMENT (WLMENV)..............................DBPGD800
MAX OPEN CURSORS (MAX_NUM_CUR)..........................500
MAX STORED PROCS (MAX_ST_PROC).........................2,000
MAXIMUM NUMBER OF LE TOKENS (LEMAX).....................20
BIF COMPATIBILITY (BIF_COMPATIBILITY)........V9_DECIMAL_VARCHAR
```

MAX ABEND COUNT (STORMXAB)

The number of times a stored procedure is allowed to terminate abnormally, after which SQL CALL statements for the stored procedure are rejected.

Install parameter MAX ABEND COUNT on panel DSNTIPX, or ZPARM STORMXAB in DSN6SYSP.

Field Name: QWP1SPAB

TIMEOUT VALUE (STORTIME)

The number of seconds before DB2 stops waiting for an SQL CALL statement to be assigned to one of the TCBs in the DB2 stored procedures address space.

Install parameter TIMEOUT VALUE on panel DSNTIPX, or ZPARM STORTIME in DSN6SYSP.

Field Name: QWP1SPTO

WLM ENVIRONMENT (WLMENV)

Workload manager environment.

Install parameter WLM ENVIRONMENT on panel DSNTIPX, or ZPARM WLMENV in DSN6SYSP.

Field Name: QWP1WLME

MAX OPEN CURSORS (MAX_NUM_CUR)

Shows the maximum number of cursors, including allocated cursors, that are open at a given DB2 site per thread. RDS keeps a total of currently open cursors. If an application attempts to open a thread after the maximum is reached, the statement will fail.

In a data sharing group, this parameter is shown at member scope.

Install parameter MAX OPEN CURSORS on panel DSNTIPX, or ZPARM MAX_NUM_CUR in DSN6SPRM.

Field Name: QWP4MXNC

MAX STORED PROCS (MAX_ST_PROC)

Shows the maximum number of stored procedures per thread. If an application attempts to call a stored procedure after this is reached, the statement will fail. In a data sharing group, this parameter is shown as member scope.

Install parameter MAX STORED PROCS on panel DSNTIPX, or ZPARM MAX_ST_PROC in DSN6SPRM.

Field Name: QWP4MXSP

MAXIMUM NUMBER OF LE TOKENS (LEMAX)

The maximum number of LE tokens active at any time. When zero, no tokens are available.

A token is used each time one of the following is used: trigonometry functions, degrees, radians, rand, exp, power, log functions, upper, lower, translate.

Install parameter MAXIMUM LE TOKENS on panel DSNTIP7, or ZPARM LEMAX in DSN6SPRM.

Field Name: QWP4LEM

BIF COMPATIBILITY (BIF_COMPATIBILITY)

The BIF_COMPATIBILITY subsystem parameter specifies whether the built-in functions and specifications are to return results in the DB2 10 format or revert to the pre-Version 10 format. It can have the following values:

- CURRENT
- V9
- V9_TRIM
- V9_DECIMAL_VARCHAR (default for migration)
- N/P (default for new installation

This field corresponds to field BIF COMPATIBILITY on installation panel DSNTIPX.

ZPARM name BIF_COMPATIBILITY in DSN6SPRM.

Field Name: QWP4_BIF_COMPAT

Sizes Panel 1 (DSNTIPD)

This topic shows detailed information about "System Parameters - Sizes Panel 1 (DSNTIPD)".

System Parameters - Sizes Panel 1 (DSNTIPD)

The field labels shown in the following sample layout of "System Parameters - Sizes Panel 1 (DSNTIPD)" are described in the following section.

```
SIZES PANEL 1 (DSNTIPD)
-----------------------
LOB INLINE LENGTH (LOB_INLINE_LENGTH).......................0
USER LOB VALUE STORAGE IN KB (LOBVALA).................200,000
SYSTEM LOB VALUE STORAGE IN MB (LOBVALS)................16,384
USER XML VALUE STG IN KB (XMLVALA).....................204,800
SYSTEM XML VAL STG IN MB (XMLVALS).....................10,240
```

LOB INLINE LENGTH (LOB_INLINE_LENGTH)

Default inline length for any new storing large object (LOB) column in a Universal Table Space on the DB2 subsystem. The valid values are from 0 to 32680 inclusive (in bytes). The default value for this ZPARM is 0, which indicates that no inline attribute is required for any LOB column (BLOB, CLOB or DBCLOB) created on this subsystem.

Field Name: QWP1LBIL

USER LOB VALUE STORAGE IN KB (LOBVALA)

The maximum amount of storage (KB) each user can use for LOB values.

Install parameter USER LOB VALUE STORAGE on panel DSNTIP7, or ZPARM LOBVALA in DSN6SYSP.

Field Name: QWP1LVA

SYSTEM LOB VALUE STORAGE IN MB (LOBVALS)

The maximum amount of storage (MB) each system can use for LOB values.

Install parameter SYSTEM LOB VALUE STORAGE on panel DSNTIP7, or ZPARM LOBVALS in DSN6SYSP.

Field Name: QWP1LVS

MAXIMUM NUMBER OF LE TOKENS (LEMAX)

The maximum number of LE tokens active at any time. When zero, no tokens are available.

A token is used each time one of the following is used: trigonometry functions, degrees, radians, rand, exp, power, log functions, upper, lower, translate.

Install parameter MAXIMUM LE TOKENS on panel DSNTIP7, or ZPARM LEMAX in DSN6SPRM.

Field Name: QWP4LEM

USER XML VALUE STG IN KB (XMLVALA)

The maximum amount of memory in kilobytes (KB) for each user for storing XML values.

ZPARM XMLVALA in DSN6SYSP.

Field Name: QWP1XVA

SYSTEM XML VAL STG IN MB (XMLVALS)

The maximum amount of memory in megabytes (MB) for each system for storing XML values.

ZPARM XMLVALS in DSN6SYSP.

Field Name: QWP1XVS

SQL Object Defaults Panel (DSNTIP7, DSNTIP71, DSNTIP72)

This topic shows detailed information about "System Parameters - SQL Object Defaults Panel (DSNTIP7, DSNTIP71, DSNTIP72)".

This block shows the limits for the amount of storage that can be used for storing large object (LOB) values.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - SQL Object Defaults Panel (DSNTIP7, DSNTIP71, DSNTIP72)

The field labels shown in the following sample layout of "System Parameters - SQL Object Defaults Panel (DSNTIP7, DSNTIP71, DSNTIP72)" are described in the following section.

```
SQL OBJECT DEFAULTS PANEL (DSNTIP7,DSNTIP71,DSNTIP72)
-----------------------------------------------------
REORDERED ROW FORMAT (RRF)..................................YES
OBJECT CREATE FORMAT (OBJECT_CREATE_FORMAT).............EXTENDED
UTILITY OBJECT CONVERSION (UTILITY_OBJECT_CONVERSION)......NONE
VARY DS CONTROL INTERVAL (DSVCI)............................YES
TABLE SPACE ALLOCATION IN KB (TSQTY).........................0
INDEX SPACE ALLOCATION IN KB (IXQTY).........................0
OPTIMIZE EXTENT SIZING (MGEXTSZ)............................NO
PAD INDEX BY DEFAULT (PADIX)................................NO
DEFAULT PARTITION SEGSIZE (DPSEGSZ).........................32
PERCENT FREE FOR UPDATE (PCTFREE_UPD).......................0
DEFINE DATA SETS (IMPDSDEF).................................YES
USE DATA COMPRESSION (IMPTSCMP).............................NO
LIMIT KEY CONV PART TAB (IX_TB_PART_CONV_EXCLUDE)...........NO
PAGE SET PAGE NUMBERING (PAGESET_PAGENUM)....................A
RETRY STOPPED OBJECTS (RETRY_STOPPED_OBJECTS)...............NO
RENAME TABLE (RENAMETABLE)..................................NO
PREVENT ALTER LIMITKEY (PREVENT_ALTERTB_LIMITKEY)...........NO
PREVENT INDEX PART CREATE (PREVENT_NEW_IXCTRL_PART).........NO (DB2 11 or later)
DDL MATERIALIZATION (DDL_MATERIALIZATION).....ALWAYS_IMMEDIATE
DEFAULT_INSERT_ALGORITHM (DEFAULT_INSERT_ALGORITHM)..........2
```

REORDERED ROW FORMAT (RRF)

In DB2 12 this field is a serviceability field.

A value of YES shows that reordered row format is enabled.

This field corresponds to field REORDERED ROW FORMAT on installation panel DSNTIP7. The ZPARM name is RRF in DSN6SPRM.

Field Name: QWP4RRF

OBJECT CREATE FORMAT (OBJECT_CREATE_FORMAT)

Creates new table spaces and indexes in the following log record format:

EXTENDED
Creates new table spaces and indexes in extended log record format.

BASIC
Creates new table spaces and indexes in basic log record format.

Field Name: QWP4OBCF

UTILITY OBJECT CONVERSION (UTILITY_OBJECT_CONVERSION)

This field can have the following values:

NONE (QWP4UTOC1=0 and QWP4UTOC2=0)
No conversion is performed. This option is the default setting of this parameter. NONE is allowed regardless of the OBJECT CREATE FORMAT setting.

BASIC (QWP4UTOC1=1 and QWP4UTOC2=0)
Existing table spaces and indexes that use extended 10-byte page format are converted to basic 6-byte page format. BASIC is allowed only if the OBJECT CREATE FORMAT field is also set to BASIC.

EXTENDED (QWP4UTOC1=0 and QWP4UTOC2=1)
Existing table spaces and indexes that use 6-byte page format are converted to extended 10-byte page format. EXTENDED is allowed only if the OBJECT CREATE FORMAT field is also set to EXTENDED.

NO BASIC (QWP4UTOC1=1 and QWP4UTOC2=1)
Prevents the conversion of table spaces and indexes in extended page format to basic page format and disallows a utility that accepts the RBALRSN_CONVERSION utility keyword from running on an object in basic page format unless it converts it to extended page format. This setting is permitted only when OBJECT_CREATE_FORMAT=EXTENDED is set.

The ZPARM name is UTILITY_OBJECT_CONVERSION in DSN6SPRM.

Field Name: RT0106OC

VARY DS CONTROL INTERVAL (DSVCI)

Indicates whether DB2 optimizes VSAM CONTROL INTERVAL to page size for data set allocation.

Install parameter VARY DS CONTROL INTERVAL on panel DSNTIP7, or ZPARM DSVCI in DSN6SYSP.

Field Name: QWP1VVCI

TABLE SPACE ALLOCATION IN KB (TSQTY)

Shows the amount of space in KB for primary and secondary space allocation for DB2-defined data sets for table spaces created without the USING clause. 0 indicates that DB2 uses standard defaults.

Install parameter TABLE SPACE ALLOCATION on panel DSNTIP7, or ZPARM TSQTY in DSN6SYSP.

Field Name: QWP1TSQT

INDEX SPACE ALLOCATION IN KB (IXQTY)

Shows the amount of space in KB for primary and secondary space allocation for DB2-defined data sets for index spaces created without the USING clause. 0 indicates that DB2 uses standard defaults.

Install parameter INDEX SPACE ALLOCATION on panel DSNTIP7, or ZPARM IXQTY in DSN6SYSP.

Field Name: QWP1IXQT

OPTIMIZE EXTENT SIZING (MGEXTSZ)

Indicates whether DB2 uses sliding secondary quantity for DB2 managed data sets to optimize extent sizing.

Install parameter OPTIMIZE EXTENT SIZING on panel DSNTIP7, or ZPARM MGEXTSZ in DSN6SYSP.

Field Name: QWP1MESZ

PAD INDEX BY DEFAULT (PADIX)

Shows whether new indexes are be padded by default.

- YES indicates that a new index is padded unless the NOT PADDED option is specified on the CREATE INDEX statement.
- The default value, NO, indicates that a new index is not padded unless the PADDED option is specified on the CREATE INDEX statement.

Install parameter PAD INDEXES BY DEFAULT on installation panel DSNTIPE, or ZPARM PADIX in DSN6SPRM.

Field Name: QWP4PDIX

DEFAULT PARTITION SEGSIZE (DPSEGSZ)

The default segment size to be used for a partitioned table space when the CREATE TABLESPACE statement does not include the SEGSIZE parameter. This field corresponds to field DEFAULT PARTITION SEGSIZE on installation panel DSNTIP7. The ZPARM name is DPSEGSZ IN DSN6SYSP.

Field Name: QWP1DPSS

PERCENT FREE FOR UPDATE (PCTFREE_UPD)

Specifies the default percentage of each page that DB2 leaves as free space in a table space when a table in this table space is populated. This value applies only to table spaces whose definitions do not include PCTFREE and for UPDATE.

This value corresponds to field PERCENT FREE FOR UPDATE on installation panel DSNTIP71. The ZPARM name is PCTFREE_UPD in DSN6SPRM.

Field Name: QWP4PFUP

DEFINE DATA SETS (IMPDSDEF)

Defines the underlying data sets when a table space (TS) that is contained in an implicitly created database is created.

Install parameter DEFINE DATA SETS on panel DSNTIP7 or ZPARM IMPDSDEF in DSN6SYSP.

Field Name: QWP1DIDS

USE DATA COMPRESSION (IMPTSCMP)

Shows whether data compression in table spaces in implicitly defined databases is used.

Install parameter USE DATA COMPRESSION on panel DSNTIP7 or ZPARM IMPTSCMP in DSN6SYSP.

Field Name: QWP1CITS

LIMIT KEY CONV PART TAB (IX_TB_PART_CONV_EXCLUDE)

Shows whether to include all columns in the partitioning key during conversion from index-controlled partitioning to table-controlled partitioning:

NO
Includes all columns

YES
Includes trailing columns only if they affect partitioning

This field corresponds to field EXCLUDE PART KEY ELEMENTS on installation panel DSNTIP71. The ZPARM name is IX_TB_PART_CONV_EXCLUDE in DSN6SPRM.

Field Name: QWP4XPKE

PAGE SET PAGE NUMBERING (PAGESET_PAGENUM)

Specifies whether range-partitioned table spaces and associated indexes will be created to use absolute page numbers across partitions or relative page numbers.

A
Absolute page numbers

R
Relative page numbers

Install parameter PAGE SET PAGE NUMBERING on panel DSNTIP71, or ZPARM PAGESET_PAGENUM in DSN6SPRM.

Field Name: QWP4PSPN

RETRY STOPPED OBJECTS (RETRY_STOPPED_OBJECTS)

Specifies whether DB2 should immediately reject requests for a stopped object or retry them, up to the IRLM timeout limit, if the object is restarted.

NO
This is the default. It indicates that DB2 immediately rejects requests for a stopped object.

YES
DB2 retries such requests, up to the IRLM timeout setting, if the stopped object is restarted.

Install parameter RETRY STOPPED OBJECTS on panel DSNTIP72, or ZPARM RETRY_STOPPED_OBJECTS in DSN6SPRM.

Field Name: QWP4RSO

RENAME TABLE (RENAMETABLE)

Specifies whether the RENAME TABLE statement should extend to tables that are referenced in a view definition or the definition of an SQL table function:

YES
ALLOW_DEP_VIEW_SQLTUDF

NO
DISALLOW_DEP_VIEW_SQLTUDF

Install parameter RENAME TABLE on panel DSNTIP72, or ZPARM RENAMETABLE in DSN6SPRM.

Field Name: QWP4ERTS

PREVENT ALTER LIMITKEY (PREVENT_ALTERTB_LIMITKEY)

Determines whether DB2 disallows altering the limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. This alter operation places the table space in REORG-pending (REORP) restrictive status, and the data is not available until the affected partitions are reorganized. Use PREVENT_ALTERTB_LIMITKEY to avoid this data unavailability.

NO
Specifies that you can alter a limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. NO is the default.

YES
Specifies that it is not permitted to alter a limit key by using an ALTER TABLE statement for index-controlled partitioned table spaces. An ALTER TABLE statement must not attempt to alter the limit key for an index-controlled partitioned table.

Install parameter PREVENT ALTER LIMITKEY on panel DSNTIP71, or ZPARM: PREVENT_ALTERTB_LIMITKEY in DSN6SPRM.

Field Name: QWP4PALK

PREVENT INDEX PART CREATE (PREVENT_NEW_IXCTRL_PART) (DB2 11 or later)

Determines whether DB2 does not allow the creation of new index-controlled partitioned tables. This subsystem parameter ensures that new partitioned tables use table-controlled partitioning, which is the preferred partitioning method for non-universal table spaces.

NO
Specifies that new index-controlled partitioned tables can be created. NO is the default value.

YES
Specifies that new partitioned table spaces must use table-controlled partitioning. A CREATE INDEX statement must not attempt to create an index-controlled partitioned table.

Install parameter PREVENT INDEX PART CREATE on panel DSNTIP71, or ZPARM: PREVENT_NEW_IXCTRL_PART in DSN6SPRM.

Field Name: QWP4PCIP

DDL MATERIALIZATION (DDL_MATERIALIZATION)

Specifies when DB2 materializes changes to the definition of an object. This value corresponds to field DDL MATERIALIZATION on installation panel DSNTIP71. ZPARM name is DDL_MATERIALIZATION in DSN6SPRM.

Field Name: QWP4DDLM

DEFAULT_INSERT_ALGORITHM (DEFAULT_INSERT_ALGORITHM)

Specifies the default algorithm for inserting data into table spaces. This value corresponds to the field DEFAULT INSERT ALGORITHM on installation panel DSNTIP71. The ZPARM name DEFAULT_INSERT_ALGORITHM is in DSN6SPRM.

Field Name: QWP4DINA

Storage Sizes Installation Parms (DSNTIPC, DSNTIPE, DSNTIPE1)

This topic shows detailed information about "System Parameters - Storage Sizes Installation Parms (DSNTIPC, DSNTIPE, DSNTIPE1)".

This block shows the storage sizes calculated by the installation CLIST.

These space estimates do not account for cylinder rounding. Base requirements can be 10 to 20% higher depending on the DASD type. Most of the needed virtual storage is in extended private storage (including the buffer pool, the EDM pool, most of the code, and a significant amount of working storage).

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Storage Sizes Installation Parms (DSNTIPC, DSNTIPE, DSNTIPE1)

The field labels shown in the following sample layout of "System Parameters - Storage Sizes Installation Parms (DSNTIPC, DSNTIPE, DSNTIPE1)" are described in the following section.

```
STORAGE SIZES INSTALLATION PARMS (DSNTIPC,DSNTIPE,DSNTIPE1)
-----------------------------------------------------------
MAX NO OF DATA SETS CONCURRENTLY IN USE (DSMAX).........100,000
EDM STATEMENT CACHE SIZE IN KB (EDMSTMTC)...............960,000
EDM DBD CACHE SIZE IN KB (EDMDBDC)......................136,771
EDM SKELETON POOL SIZE IN KB (EDM_SKELETON_POOL).........24,000
MAXIMUM SIZE OF EDM POOL IN BYTES (EDMPOOL)..........52,428,800
MAXIMUM SIZE OF SORT POOL IN BYTES (SRTPOOL).........40,960,000
MAX IN-MEMORY SORT SIZE (MAXSORT_IN_MEMORY).................N/A
MAXIMUM SIZE OF RID POOL IN KB (MAXRBLK)................200,000
MAX NO OF USERS CONCURRENTLY RUNNING IN DB2 (CTHREAD).......800
MAX NO OF CONCURRENT REMOTE ACTIVE CONNECTIONS (MAXDBAT)....600
MAX NO OF REMOTE CONNECTIONS (CONDBAT)....................1,800
MAX NO OF TSO CONNECTIONS (IDFORE)..........................300
MAX NO OF BATCH CONNECTIONS (IDBACK)........................400
MAXIMUM KEPT DYNAMIC STATEMENTS (MAXKEEPD)................5,000
MAX OPEN FILE REFS (MAXOFILR)..............................100
MANAGE REAL STORAGE (REALSTORAGE_MANAGEMENT)...............AUTO
MAXIMUM REAL STORAGE (REALSTORAGE_MAX)......................0
CONTRACT THREAD STORAGE (CONTSTOR)..........................YES
MANAGE THREAD STORAGE (MINSTOR).............................YES
LONG-RUNNING READER IN MINUTES (LRDRTHLD)...................0
DDL TIMEOUT FACTOR (DDLTOX).................................1
INDEX CLEANUP THREADS (INDEX_CLEANUP_THREADS)..............N/A
3990 CACHE (SEQCACH)........................................SEQ
```

MAX NO OF DATA SETS CONCURRENTLY IN USE (DSMAX)

The maximum number of data sets that can be open at one time.

The practical limit can be less than the MVS limit of 32727, depending on available storage below the line.

Install parameter DSMAX on panel DSNTIPC, or ZPARM DSMAX in DSN6SPRM.

Field Name: QWP4DSMX

EDM STATEMENT CACHE SIZE IN KB (EDMSTMTC)

The size of the statement cache that can be used by the Environmental Descriptor Manager (EDM). This value is used at DB2 startup time as the minimum value. You can increase and subsequently decrease this value with the SET SYSPARM command. This value cannot be decreased below the value that is specified at DB2 startup. The CLIST calculates a statement cache size. This storage pool is located above the 2 GB bar.

The value used at DB2 startup time is either calculated by the CLIST based on input from other installation information or an override value.

For record trace, this value is shown in bytes. For other reports, the value is shown in kilobytes.

Install parameter EDM STATEMENT CACHE on panel DSNTIPC, or ZPARM EDMSTMTC in DSN6SPRM.

Field Name: QWP4ESTC

EDM DBD CACHE SIZE IN KB (EDMDBDC)

The minimum size of the DBD cache that can be used by the Environmental Descriptor Manager (EDM). This value is used at DB2 startup time as the minimum value. You can increase and subsequently decrease the value with the SET SYSPARM command. This value cannot be decreased below the value that is specified at DB2 startup. This storage pool is located above the 2 GB bar. The CLIST calculates the DBD cache size.

The value used at DB2 startup time is either calculated by the CLIST based on input from other installation information or an override value.

Install parameter EDM DBD CACHE on panel DSNTIPC, or ZPARM EDMDBDC in DSN6SPRM.

Field Name: QWP4EDBC

EDM SKELETON POOL SIZE IN KB (EDM_SKELETON_POOL)

The minimum size of the EDM pool for skeleton package and skeleton cursor tables. For record trace, this value is shown in bytes. For other reports, the value is shown in kilobytes.

Install parameter EDM SKELETON POOL SIZE on panel DSNTIPC or ZPARM EDM_SKELETON_POOL in DSN6SPRM.

Field Name: QWP4SKLC

MAXIMUM SIZE OF EDM POOL IN BYTES (EDMPOOL)

The size (in kilobytes) of the environmental descriptor manager (EDM) pool.

This can be the value calculated by the CLIST, based on input from previous panels, or the value entered in the Override column at installation time.

Install parameter EDMPOOL STORAGE SIZE on panel DSNTIPC, or ZPARM EDMPOOL in DSN6SPRM.

Field Name: QWP4EDPL

MAXIMUM SIZE OF SORT POOL IN BYTES (SRTPOOL)

Indicates the amount of storage needed for the sort pool.

This can be the value calculated by the CLIST, based on input from previous panels, or the value entered in the Override column at installation time.

Install parameter SORT POOL SIZE on panel DSNTIPC, or ZPARM SRTPOOL in DSN6SPRM.

Field Name: QWP4SPOL

MAX IN-MEMORY SORT SIZE (MAXSORT_IN_MEMORY)

The maximum amount of storage in kilobytes to allocate for sorting the results of each query that contains the order by clause, the group by clause, or both. This field corresponds to field MAX IN-MEMORY SORT SIZE in installation panel DSNTIPC. The ZPARM name is MAXSORT_IN_MEMORY in DSN6SPRM.

Field Name: QWP4MIMTS

MAXIMUM SIZE OF RID POOL IN KB (MAXRBLK)

The amount of storage needed for the RID pool.

This can be the value calculated by the CLIST, based on input from previous panels, or the value entered in the Override column at installation time.

When 0, DB2 does not use access paths or join methods that depend on RID pool storage.

Install parameter RID POOL SIZE on panel DSNTIPC, or ZPARM MAXRBLK in DSN6SPRM.

Field Name: QWP4RMAX

MAX NO OF USERS CONCURRENTLY RUNNING IN DB2 (CTHREAD)

The maximum number of allied threads (threads started at the local subsystem) that can be allocated concurrently.

Separate threads are created for each occurrence of the following:

- TSO user (whether running a DSN command or a DB2 request from QMF)
- Batch job (whether running a DSN command or a DB2 utility)
- IMS region that can access DB2
- Active CICS transaction that can access DB2
- Task connected to DB2 through the call attachment facility.

Install parameter MAX USERS on panel DSNTIPE, or ZPARM CTHREAD in DSN6SYSP.

Field Name: QWP1CT

MAX NO OF CONCURRENT REMOTE ACTIVE CONNECTIONS (MAXDBAT)

The maximum number of database access threads (DBATs) that can be active concurrently.

When this limit has been reached, DB2 uses the value of DDF THREADS on panel DSNTIPR to decide how to handle a new allocation request.

When DDF THREADS is ACTIVE and MAX REMOTE CONNECTED has not been reached, the allocation request is allowed but any further processing for the connection is queued waiting for an active database access thread to terminate.

When DDF THREADS is INACTIVE and MAX REMOTE CONNECTED has not been reached, the allocation request is allowed and is processed when DB2 can assign an unused database access thread slot to the connection.

The total number of threads accessing data concurrently is the sum of MAX USERS and MAX REMOTE ACTIVE. The maximum allowable value for this sum is 2000.

Install parameter MAX REMOTE ACTIVE on panel DSNTIPE, or ZPARM MAXDBAT in DSN6SYSP.

Field Name: QWP1RMT

MAX NO OF REMOTE CONNECTIONS (CONDBAT)

The maximum allowed number of concurrent remote connections.

When this limit is reached, any new connection request is rejected.

Install parameter MAX REMOTE CONNECTED on panel DSNTIPE, or ZPARM CONDBAT in DSN6SYSP.

Field Name: QWP1CDB

MAX NO OF TSO CONNECTIONS (IDFORE)

The maximum number of concurrent TSO foreground connections (QMF, DSN, DB2I, and SPUFI).

Each of the following is a separate user:

- Each TSO foreground user executing a DSN command.
- Each TSO foreground user connected to DB2 through the call attachment facility (CAF). This can include QMF users running in TSO foreground or user-written CAF applications running in TSO foreground.

When the number of TSO users attempting to access DB2 exceeds this limit, connection requests are rejected.

There is no subsystem parameter to control the maximum concurrent connections for IMS and CICS. These are controlled by using IMS and CICS facilities. For CICS attachment, the maximum number of connections to DB2 can be controlled using the resource control table (RCT) TYPE=INIT THRDMAX value.

Install parameter MAX TSO CONNECT on panel DSNTIPE, or ZPARM IDFORE in DSN6SYSP.

Field Name: QWP1IDF

MAX NO OF BATCH CONNECTIONS (IDBACK)

The maximum allowed number of concurrent connections for batch jobs and utilities. This includes:

- All batch jobs using QMF.
- All batch jobs using the DSN command processor.
- All tasks connected to DB2 through call attach facility (CAF) running in batch. This can include:
  - Batch jobs using QMF
  - APPC applications
  - TCP/IP FTP connections

When the number of batch jobs reaches this limit, further requests are rejected.

Install parameter MAX BATCH CONNECT on panel DSNTIPE, or ZPARM IDBACK in DSN6SYSP.

Field Name: QWP1IDB

MAXIMUM KEPT DYNAMIC STATEMENTS (MAXKEEPD)

Shows the total number of prepared dynamic SQL statements that are saved past a commit point.

0 means that prepared dynamic SQL statements are not saved past commit points.

Install parameter MAX KEPT DYN STMTS on panel DSNTIPE, or ZPARM MAXKEEPD in DSN6SPRM.

Field Name: QWP4MXKD

MAX OPEN FILE REFS (MAXOFILR)

The maximum number of concurrently open data sets for processing LOB file references.

Install parameter MAX OPEN FILE REFS on panel DSNTIPE or ZPARM MAXOFILR in DSN6SYSP.

Field Name: QWP1MOFR

MANAGE REAL STORAGE (REALSTORAGE_MANAGEMENT)

Specifies whether DB2 manages real storage consumption. This field corresponds to field MANAGE REAL STORAGE on installation panel DSNTIPE. The ZPARM name is REALSTORAGE_MANAGEMENT in DSN6SPRM.

Field Name: QWP4STMN

MAXIMUM REAL STORAGE (REALSTORAGE_MAX)

The maximum amount of real plus auxiliary storage that can be used.

A value of 0 is displayed for NOLIMIT.

The ZPARM name is REALSTORAGE_MAX in DSN6SPRM.

Field Name: QWP4RSMX

CONTRACT THREAD STORAGE (CONTSTOR)

In DB2 12 this field is a serviceability field.

Indicates whether DB2 returns unused thread storage at commit. Possible values are:

YES
DB2 checks threads at commit points and periodically returns unused storage to the system.

NO
DB2 does not check threads at commit points and returns acquired storage on deallocation.

Install parameter CONTRACT THREAD STG on panel DSNTIPE, or ZPARM CONTSTOR in DSN6SPRM.

Field Name: QWP4CONT

MANAGE THREAD STORAGE (MINSTOR)

In DB2 12 this field is a serviceability field.

Shows whether DB2 uses storage management to optimize the amount of working storage consumed by individual threads.

Install parameter MANAGE THREAD STORAGE on panel DSNTIPE, or ZPARM MINSTOR in DSN6SPRM.

For best performance, this parameter should be NO, meaning DB2 does not manage thread storage.

When YES, DB2 uses best fit algorithm to manage and assign thread storage. This can help on systems that have many long-running threads and that are constrained on DBM1 address space.

Field Name: QWP4MSTG

LONG-RUNNING READER IN MINUTES (LRDRTHLD)

Shows the number of minutes that a read claim can be held by an agent before DB2 reports it as a long-running reader. Valid values are 0 (default) through 1439.

Install parameter LONG-RUNNING READER on installation panel DSNTIPE, or ZPARM LRDRTHLD in DSN6SYSP.

Field Name: QWP4LRTH

DDL TIMEOUT FACTOR (DDLTOX)

Shows the time out factor of the SQL data definition. The time out value is the product of this value and the IRLMRWT value.

ZPARM name DDLTOX in DSN6SPRM.

Field Name: QWP4DDLTO

INDEX CLEANUP THREADS (INDEX_CLEANUP_THREADS)

The maximum number of threads that can be created to clean up pseudo-deleted index entries on a data sharing member of a subsystem. This field corresponds to field INDEX CLEANUP THREADS on installation panel DSNTIPE1. The ZPARM name is INDEX_CLEANUP_THREADS in DSN6SPRM.

Field Name: QWP4IXCU

3990 CACHE (SEQCACH)

Indicates whether DB2 prefetch uses sequential mode to read cached data from a 3990 controller. When BYPASS (default), DB2 prefetch bypasses the cache.

When SEQ, DB2 prefetch uses sequential access for read activity. There is a performance benefit using SEQ with DFSMS or DFP controls with newer 3990 caches.

Install parameter SEQUENTIAL CACHE on panel DSNTIPE, or ZPARM SEQCACH in DSN6SPRM.

Field Name: QWP4SCAC

Tracing, Checkpoint & Pseudo-Close Parameters (DSNTIPN)

This topic shows detailed information about "System Parameters - Tracing, Checkpoint & Pseudo-Close Parameters (DSNTIPN)".

This block shows audit, global, accounting, and monitor trace and checkpoint frequency parameters.

System Parameters - Tracing, Checkpoint & Pseudo-Close Parameters (DSNTIPN)

The field labels shown in the following sample layout of "System Parameters - Tracing, Checkpoint & Pseudo-Close Parameters (DSNTIPN)" are described in the following section.

```
TRACING, CHECKPOINT & PSEUDO-CLOSE PARAMETERS (DSNTIPN)
-------------------------------------------------
START AUDIT TRACE (AUDITST).................................1
START GLOBAL TRACE (TRACSTR)................................NO
TRACE TABLE SIZE IN 4K BYTES (TRACTBL)......................16
LOCAL TRACE TABLE SIZE IN 4K BYTES (TRACLOC)................16
START SMF ACCOUNTING (SMFACCT).......................1,2,3,7,8
START SMF STATISTICS (SMFSTAT).....................1,3,4,5,6,10
STATISTICS TIME INTERVAL IN MINUTES (STATIME)................1
SYNCHRONIZATION INTERVAL WITHIN THE HOUR (SYNCVAL)...........NO
ONLINE DATASET STATISTICS TIME INTERVAL IN MIN.(DSSTIME)......5
START MONITOR TRACE (MON)...................................NO
MONITOR BUFFER SIZE IN BYTES (MONSIZE)..............1,048,576
UNICODE IFCIDS (UIFCIDS)....................................NO
DDF/RRSAF ACCUM (ACCUMACC)..................................20
AGGREGATION FIELDS (ACCUMUID)...............................0
COMPRESS SMF RECS (SMFCOMP).............................OFF
```

START AUDIT TRACE (AUDITST)

Shows whether the audit trace is started automatically when DB2 is started.

When YES, the audit trace is started for the default class (class 1) whenever DB2 is started. When ALL, an audit trace is automatically started for all classes.

Install parameter AUDIT TRACE on panel DSNTIPN, or ZPARM AUDITST in DSN6SYSP.

Field Name: QWP1AUDT

START GLOBAL TRACE (TRACSTR)

Shows whether the global trace is started automatically when DB2 is started.

When YES, the global trace starts for the default classes (classes 1, 2, and 3) whenever DB2 is started, and additional data consistency checks are made whenever a data page or index page is modified. When ALL, the global trace is automatically started for all classes.

The global trace is used to diagnose problems in DB2 but it also impacts DB2 performance. If you have production systems requiring high performance, you might consider turning off global trace. If you do this, be aware that this presents a serviceability exposure. In the event of a system failure, IBM service personnel will ask you to turn on global trace and attempt to recreate the problem.

Install parameter TRACE AUTO START on panel DSNTIPN, or ZPARM TRACSTR in DSN6SYSP.

Field Name: QWP1TRST

TRACE TABLE SIZE IN 4K BYTES (TRACTBL)

Shows the size of the RES trace table in 4 KB blocks. A value of 16 means 64 KB have been allocated for this table.

This is the default destination for the global trace records in DB2. Most trace records require 32-byte entries; events with more than three data items require 64-byte entries.

Install parameter TRACE SIZE on panel DSNTIPN, or ZPARM TRACTBL in DSN6SYSP.

Field Name: QWP1TRSZ

LOCAL TRACE TABLE SIZE IN 4K BYTES (TRACLOC)

The size of the local trace tables in multiples of 4 KB. ZPARM name TRACLOC in DSN6SYSP.

Field Name: QWP1TLSZ

START SMF ACCOUNTING (SMFACCT)

Shows whether DB2 sends accounting data to SMF automatically when DB2 is started. Numeric values show what classes are sent. When YES, the default class (class 1) is sent. When ALL, accounting classes one through five are started.

The SMFPRM xx member of SYS1.PARMLIB must also be set to allow SMF to write the records.

Install parameter SMF ACCOUNTING on panel DSNTIPN, or ZPARM SMFACCT in DSN6SYSP.

Field Name: QWP1SMFA

START SMF STATISTICS (SMFSTAT)

Shows whether a Statistics trace was started automatically at DB2 startup time.

The classes started are shown separated by commas.

DB2 sends collected trace data to SMF. The SMFPRM xx member of SYS1.PARMLIB must be set to allow SMF to write the records.

Install parameter SMF STATISTICS on panel DSNTIPN, or ZPARM SMFSTAT in DSN6SYSP.

Field Name: QWP1SMFS

STATISTICS TIME INTERVAL IN MINUTES (STATIME)

The time interval, in minutes, between statistics collections. Statistics records are written approximately at the end of this interval.

Install parameter STATISTICS TIME on panel DSNTIPN, or ZPARM STATIME in DSN6SYSP.

Field Name: QWP1STIM

SYNCHRONIZATION INTERVAL WITHIN THE HOUR (SYNCVAL)

Shows whether DB2 statistics recording is synchronized with some part of the hour. The installation can specify that the DB2 statistics recording interval be synchronized with the beginning of the hour (00 minutes past the hour) or any number of minutes past the hour up to 59. Possible values are: 0-59, which indicate the synchronization point. When NO or N/A is shown, synchronization is disabled, this is the default.

If STATISTICS TIME INTERVAL IN MINUTES (STATIME) is greater than 60, NO or N/A is shown.

Install parameter STATISTICS SYNC on panel DSNTIPN, or ZPARM SYNCVAL in DSN6SYSP.

Field Name: QWP1SYNV

ONLINE DATASET STATISTICS TIME INTERVAL IN MIN.(DSSTIME)

The time interval, in minutes, before DB2 resets data set statistics collected for the online performance monitors. Online performance monitors can request DB2 data set statistics for the current interval with an IFI READS request for IFCID 199.

Install parameter DATASET STATS TIME on panel DSNTIPN, or ZPARM DSSTIME in DSN6SYSP.

Field Name: QWP1DTIM

START MONITOR TRACE (MON)

Shows whether the monitor trace is started automatically when DB2 is started. When YES, the default (trace class 1) is started. Numeric values show which classes are started. When ALL, monitor trace classes 1 through 8 are started.

Install parameter MONITOR TRACE on panel DSNTIPN, or ZPARM MON in DSN6SYSP.

Field Name: QWP1MON

MONITOR BUFFER SIZE IN BYTES (MONSIZE)

The default number of bytes allocated for the monitor trace buffer.

Install parameter MONITOR SIZE on panel DSNTIPN, or ZPARM MONSIZE in DSN6SYSP.

Field Name: QWP1MONS

UNICODE IFCIDS (UIFCIDS)

Shows whether output from IFC records should include Unicode information. Only a subset of the character fields (identified in the IFCID record definition by a %U in the comment area to the right of the field declaration in the DSNDQWxx copy files) are encoded in Unicode. The remaining fields maintain the same encoding of previous releases.

Install parameter UNICODE IFCIDS on panel DSNTIPN, or ZPARM UIFCIDS in DSN6SYSP.

Field Name: QWP1_UNICODE

DDF/RRSAF ACCUM (ACCUMACC)

Shows whether DB2 accounting data for DDF and RRSAF threads is accumulated by end user.

When NO, DB2 writes an accounting record when a DDF thread is made inactive, or when signon occurs for an RRSAF thread. A value in the range 2 through 65535 shows the number of times an end-user identifier should occur before DB2 writes an accounting record. An end-user identifier is the concatenation of the end-user user ID, end-user transaction name, and the end-user workstation name.

These values can be set by DDF threads using SERVER CONNECT and SET CLIENT calls, and by RRSAF threads using the RRSAF SIGN, AUTH SIGNON, and CONTEXT SIGNON functions.

An accounting record might be written prior to the number of end user occurrences in the following instances:

- When an internal storage threshold is reached for the accounting RRSAF signon call.
- When the thread deallocates, the accumulated accounting data for all end users on this thread is written (one record per end user).
- When this parameter is dynamically changed to deactivate accounting accumulation. In this instance, the next end-UR (for DDF thread) or signon (for a RRSAF thread) causes DB2 to write the accumulated accounting data for all end users on this thread (one record per end user).

Install parameter DDF/RRSAF ACCUM on installation panel DSNTIPN, or ZPARM ACCUMACC in DSN6SYSP.

Field Name: QWP1ACCU

AGGREGATION FIELDS (ACCUMUID)

Shows the aggregation fields used for DDF and RRSAF accounting rollup. Values are defined as follows:

0
End user ID, transaction name, and workstation name

1
End user ID

2
End user transaction name

3
End user workstation name

4
End user ID and transaction name

5
End user ID and workstation name

6
End user transaction name and workstation name

This value is ignored if DDF or RRSAF accounting are not used. DB2 writes individual accounting threads for threads that do not have all aggregation fields populated that are specified by this parameter.

Install parameter AGGREGATION FIELDS on installation panel DSNTIPN, or ZPARM ACCUMUID in DSN6SYSP.

Field Name: QWP1ACID

COMPRESS SMF RECS (SMFCOMP)

Shows the COMPRESS DEST(SMF) TRACE records. This field corresponds to field COMPRESS SMF RECS on installation panel DSNTIPN. ZPARM name: SMFCOMP in DSN6SYSP.

Field Name: QWP1CSMF

Workfile Database Panel (DSNTIP91)

This topic shows detailed information about "System Parameters - Workfile Database Panel (DSNTIP91)".

System Parameters - Workfile Database Panel (DSNTIP91)

The field labels shown in the following sample layout of "System Parameters - Workfile Database Panel (DSNTIP91)" are described in the following section.

```
WORKFILE DATABASE PANEL (DSNTIP91)
---------------------------------
MAX TEMP STORAGE PER AGENT IN MB (MAXTEMPS).............25,000
SEPARATE WORK FILES (WFDBSEP)...............................NO
MAX TEMP RID (MAXTEMPS_RID).................................NONE
AGENT LEVEL THRESHOLD (WFSTGUSE_AGENT_THRESHOLD)............N/A
SYSTEM LEVEL THRESHOLD (WFSTGUSE_SYSTEM_THRESHOLD).........N/A
```

MAX TEMP STORAGE PER AGENT IN MB (MAXTEMPS)

The maximum amount of temporary storage in megabytes (MB) for each agent.

Install parameter MAX TEMP STORAGE on panel DSNTIP6 or ZPARM MAXTEMPS in DSNTIP9.

Field Name: QWP4WFAL

SEPARATE WORK FILES (WFDBSEP)

YES directs processing of declared temporary tables only to DB2-managed table spaces that are defined with SECQTY>0 (DB2 field: QWP4WFDBSEP). It directs all other processing to DB2-managed table spaces that are defined with SECQTY=0 or to user-managed table spaces. This field corresponds to field "Separate Work Files" in installation panel DSNTIP9. The ZPARM name is WFDBSEP in DSN6SPRM.

Field Name: QWP4WFDBSEP

MAX TEMP RID (MAXTEMPS_RID)

The maximum number of RID blocks of temporary storage in the Workfile database that a single RID list can use at any point in time. This field corresponds to field MAX TEMP RID on installation panel DSNTIP9. The ZPARM name is MAXTEMPS_RID.

It can have the following values:

- -1 if MAXTEMPS_RID=NONE
- 0 if MAXTEMPS_RID=NOLIMIT
- 1 to 329166 otherwise

Field Name: QWP4WFRD

AGENT LEVEL THRESHOLD (WFSTGUSE_AGENT_THRESHOLD)

Specifies the percentage of space that is used in the Workfile Database by a single agent when DB2 issues a warning message.

This value corresponds to field AGENT LEVEL THRESHOLD on installation panel DSNTIP91. The ZPARM name is WFSTGUSE_AGENT_THRESHOLD in DSN6SPRM.

Field Name: QWP4WFSAT

SYSTEM LEVEL THRESHOLD (WFSTGUSE_SYSTEM_THRESHOLD)

Specifies the percentage of space that is used in the Workfile Database by all agents in a DB2 subsystem or data sharing member when DB2 issues a warning message.

This value corresponds to field SYSTEM LEVEL THRESHOLD on installation panel DSNTIP91. The ZPARM name is WFSTGUSE_SYSTEM_THRESHOLD in DSN6SPRM.

Field Name: QWP4WFSST

Alter Buffer Pool Command Issued

This topic shows detailed information about "System Parameters - Alter Buffer Pool Command Issued".

System Parameters - Alter Buffer Pool Command Issued

The field labels shown in the following sample layout of "System Parameters - Alter Buffer Pool Command Issued" are described in the following section.

```
ALTER BUFFER POOL COMMAND ISSUED                                    OLD          NEW
------------------------------------------------------------------------------------
TIMESTAMP  11/12/14 15:03:23.56  VPOOL SIZE (PAGES)                   0           10
BUFFER POOL ID             BP25  VPOOL SEQ THRESH                    80           80
                                 HORIZ DEFER WRITE THRESH            30           30
                                 VERT DEFER WRITE THRESH (%)          5            5
                                 VERT DEFER WRITE THRESH (BUF)        0            0
                                 VPOOL PARALLEL SEQ THRESH           50           50
                                 ASSISTING PARALLEL SEQ THRESH        0            0
                                 PGFIX ATTRIBUTE                     NO           NO
                                 PAGE STEAL METHOD                  LRU          LRU
                                 AUTOSIZE                            NO           NO
                                 FRAMESIZE                           4K           4K
                                 VPOOL SIZE MIN                       0            0
                                 VPOOL SIZE MAX                       0            0
                                 SIM POOL SIZE                      200          300
                                 SIM POOL SEQ THRESH                 50           75
```

BUFFER POOL ID

The buffer pool internal identifier. The values 0 through 49 are the identifiers for BP0 through BP49. The values 80 through 89 are the identifiers for BP32K through BP32K9.

Field Name: QW0201BP

VPOOL SIZE (PAGES) (OLD)

The size of the old virtual pool.

Field Name: QW0201OP

VPOOL SIZE (PAGES) (NEW)

The size of the new virtual buffer pool.

Field Name: QW0201NP

VPOOL SEQ THRESH

The old and new virtual pool sequential steal threshold.

Old status taken from the DB2 field QW0201OT.

New status taken from the DB2 field QW0201NT.

Field Name: RT0201VS

HORIZ DEFER WRITE THRESH

This threshold is a percentage of the virtual buffer pool that might be occupied by unavailable pages, including updated pages and pages in use.

The default value for QWQT is 30%. You can change this value to any value from 0% to 90% using the DWQT option of the ALTER BUFFERPOOL command.

DB2 checks QWQT when an update to a page is complete. If the percentage of unavailable pages in the virtual buffer pool exceeds QWQT, write operations are scheduled for up to 128 pages per data set to decrease the number of unavailable buffers to 10% below QWQT. For example, if QWQT is 50%, the number of unavailable buffers is reduced to 40%.

When the limit of QWQT is reached, data sets containing the oldest updated pages are written asynchronously. DB2 continues to write pages until the ratio goes below the QWQT.

Field Name: QDBPDWQT

VERT DEFER WRITE THRESH (%)

The vertical deferred write threshold for the virtual buffer pool expressed as percentage.

Old status taken from the DB2 field QW0201OV.

New status taken from the DB2 field QW0201NV.

Field Name: RT0201PC

VERT DEFER WRITE THRESH (BUF)

The vertical deferred write threshold for the virtual buffer pool expressed as an absolute number of buffers. It is only used if VERTICAL DEFERRED WRITE THRESHOLD (PERCENTAGE) is 0.

Old status taken from the DB2 field QW0201OJ.

New status taken from the DB2 field QW0201NJ.

Field Name: RT0201BU

VPOOL PARALLEL SEQ THRESH

The old and new virtual pool parallel sequential threshold.

Old status taken from the DB2 field QW0201OQ.

New status taken from the DB2 field QW0201NQ.

Field Name: RT0201VP

ASSISTING PARALLEL SEQ THRESH

The assisting parallel sequential threshold before and after the ALTER BUFFERPOOL command was issued.

Old status taken from the DB2 field QW0201OX.

New status taken from the DB2 field QW0201NX.

Field Name: RT0201AS

PGFIX ATTRIBUTE

Indicates whether a page is fixed in real storage when it is first used. It can have one of the following values: YES or NO.

Field Name: QDBPPFIX

PAGE STEAL METHOD

Identifies the page stealing algorithm (PGSTEAL) that is used for the virtual buffer pool. It controls when and whether performance-critical objects in buffer pools are removed from buffer pools when the space is needed by other objects. Possible values are:

LRU
Least recently used (LRU) objects are removed first. This means it takes away pages that are not used so that more recently used pages can remain in the virtual buffer pool. This is used by default.

FIFO
First-In-First-Out (FIFO) means that the oldest objects are removed first. This results in a small decrease in the cost of a Getpage operation. It can reduce internal DB2 latch contention in environments that require very high concurrency.

NONE
Objects are not removed from buffer pool (no page stealing). This setting provides the highest availability for business-critical objects.

Old status taken from the DB2 field QW0201OK.

New status taken from the DB2 field QW0201NK.

Field Name: RT0201PS

AUTOSIZE

The old and new status of the AUTOSIZE attribute.

Old status taken from the DB2 field QW0201OZ.

New status taken from the DB2 field QW0201NZ.

Field Name: RT0201AT

FRAMESIZE (OLD)

The size of the old frame (4 KB,1 MB, or 2 GB).

Field Name: QW0201OC

FRAMESIZE (NEW)

The new frame size (4 KB, 1MB, or 2GB).

Field Name: QW0201NC

VPOOL SIZE MIN (OLD)

The minimum size of the old virtual pool.

Field Name: QW0201OA

VPOOL SIZE MIN (NEW)

The minimum size of the new virtual pool.

Field Name: QW0201NA

VPOOL SIZE MAX (OLD)

The maximum size of the old virtual pool.

Field Name: QW0201OB

VPOOL SIZE MAX (NEW)

The maximum size of the new virtual pool.

Field Name: QW0201NB

SIM POOL SIZE

The number of simulated buffers specified for the simulated buffer pool. Old value is taken from the DB2 field QW0201OS. New value is taken from the DB2 field QW0201NS.

Field Name: RT0201SZ

SIM POOL SEQ THRESH

The sequential steal threshold for the simulated buffer pool, expressed as a percentage of the total simulated buffer pool size. Old value is taken from the DB2 field QW0201OH. New value is taken from the DB2 field QW0201NH.

Field Name: RT0201ST

Alter Group Buffer Pool Command Issued

This topic shows detailed information about "System Parameters - Alter Group Buffer Pool Command Issued".

System Parameters - Alter Group Buffer Pool Command Issued

The field labels shown in the following sample layout of "System Parameters - Alter Group Buffer Pool Command Issued" are described in the following section.

```
ALTER GROUP BUFFER POOL COMMAND ISSUED                                                                  OLD          NEW
-------------------------------------------------------------------------------------------------------------------------
TIMESTAMP             02/15/13 13:52:59.07          CURRENT DIRECTORY TO DATA RATIO                    5            1
MEMBER                                SE11          CLASS CASTOUT THRESHOLD (%)                       10           10
GBP ID                                GBP0          CLASS CASTOUT THRESHOLD (PAGES)                    0            0
                                                    GBP CASTOUT THRESHOLD (%)                         50           50
                                                    GBP CHECKPOINT INTERVAL (MIN)                      5            5
                                                    GBP CACHE SETTING                                 YES          YES
                                                    AUTO REC                                          YES          YES
```

GBP ID

The DB2 group buffer pool ID.

Field Name: QW0256GB

CURRENT DIRECTORY TO DATA RATIO

The directory entry to data entry ratio. This is the value specified in the RATIO keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NR.

Old status deduced from the DB2 field QW0256OR.

Field Name: RT0256DR

CLASS CASTOUT THRESHOLD (%)

The threshold at which the class castout is to be initiated. It is expressed as a percentage of the group buffer pool size. This is the value specified in the CLASST keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NC.

Old status deduced from the DB2 field QW0256OC.

Field Name: RT0256CT

CLASS CASTOUT THRESHOLD (PAGES) (OLD)

The old class castout threshold based on the number of pages.

Field Name: QW0256ON

CLASS CASTOUT THRESHOLD (PAGES) (NEW)

The new class castout threshold based on the number of pages.

Field Name: QW0256NN

GBP CASTOUT THRESHOLD (%)

The threshold at which the castout is to be initiated for the group buffer pool. This is the value specified in the GBPOOLT keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NG.

Old status deduced from the DB2 field QW0256OG.

Field Name: RT0256GT

GBP CHECKPOINT INTERVAL (MIN)

The time interval (in minutes) between successive group buffer pool checkpoints. This is the value specified in the GBPCHKPT keyword of the ALTER GROUPBUFFERPOOL command.

New status deduced from the DB2 field QW0256NK.

Old status deduced from the DB2 field QW0256OK.

Field Name: RT0256CI

GBP CACHE SETTING

GBPCACHE value before and after the ALTER GROUPBUFFERPOOL command was issued. This field specifies whether DB2 should write changed pages for the group buffer pool dependant pageset or partitions directly to DASD and use the group buffer pool only for sending XI signals.

New status deduced from the DB2 field QW0256NB.

Old status deduced from the DB2 field QW0256OB.

Field Name: RT0256CS

AUTO REC

A flag indicating how the AUTOREC option of the ALTER GROUPBUFFERPOOL command has been set. It specifies whether DB2 should automatically recover if GBP fails. The old value specifies the AUTOREC value before the ALTER GBP command was issued. The new value specifies the AUTOREC value after the ALTER GBP command was issued.

New status deduced from the DB2 field QW0256NA.

Old status deduced from the DB2 field QW0256OA.

Field Name: RT0256AR

Buffer Pool Parameters

This topic shows detailed information about "System Parameters - Buffer Pool Parameters".

Normally, buffer pool information is reported once for each buffer pool if the attributes remain the same over the reporting period.

Buffer pool attributes can be changed while DB2 is active using the DB2 ALTER BUFFERPOOL command. If the performance trace class 10 is active, the event is recorded in the system parameters report.

When an ALTER BUFFERPOOL command is recorded, the status of the buffer pool before and after the command is shown.

Note: The fields shown on this panel depend on the installed DB2 version.

System Parameters - Buffer Pool Parameters

The field labels shown in the following sample layout of "System Parameters - Buffer Pool Parameters" are described in the following section.

```
BUFFER POOL PARAMETERS
------------------------------------------------------------------------
TIMESTAMP  11/12/14 12:17:49.66  VPOOL SIZE (PAGES)                   5000
BUFFER POOL ID              BP0  VPOOL SEQ THRESH                      80
                                 HORIZ DEFER WRITE THRESH              30
                                 VERT DEFER WRITE THRESH (%)            5
                                 VERT DEFER WRITE THRESH (BUF)          0
                                 VPOOL PARALLEL SEQ THRESH             50
                                 ASSISTING PARALLEL SEQ THRESH          0
                                 PGFIX ATTRIBUTE                       NO
                                 PAGE STEAL METHOD                    LRU
                                 AUTOSIZE                              NO
                                 FRAMESIZE                             4K
                                 VPOOL SIZE MIN                         0
                                 VPOOL SIZE MAX                         0
                                 SIM POOL SIZE                        300
                                 SIM POOL SEQ THRESH                   75
```

BUFFER POOL ID

Buffer pool name.

Field Name: QDBPNM

VPOOL SIZE (PAGES)

The size of the virtual buffer pool.

Old status taken from the DB2 field QW0201OP.

New status taken from the DB2 field QW0201NP.

Field Name: QDBPVPSZ

VPOOL SEQ THRESH

Virtual pool sequential threshold (VPSEQT). This threshold is a percentage of the virtual buffer pool that might be occupied by sequentially accessed pages. The pages can be in the state updated, in use, or available. Therefore, each page might count regarding exceeding any other buffer pool threshold.

The default value for VPSEQT is 80%. You can change this value to a value from 0% to 100% by using the VPSEQT option of the ALTER BUFFERPOOL command.

VPSEQT is checked before stealing a buffer for a sequentially accessed page instead of accessing the page in the virtual buffer pool. If the threshold is exceeded, DB2 tries to steal a buffer that holds a sequentially accessed page rather than one that holds a randomly accessed page.

If you set VPSEQT to 0%, sequential pages cannot occupy space in the virtual buffer pool. In this case, prefetch is disabled, and sequentially accessed pages are discarded when they are released. You can, however, set the value for HPSEQT to a value above zero and the value for VPSEQT to zero. If you set VPSEQT to 100%, sequential pages can monopolize the entire virtual buffer pool.

Field Name: QDBPVPSH

HORIZ DEFER WRITE THRESH

This threshold is a percentage of the virtual buffer pool that might be occupied by unavailable pages, including updated pages and pages in use.

The default value for QWQT is 30%. You can change this value to any value from 0% to 90% using the DWQT option of the ALTER BUFFERPOOL command.

DB2 checks QWQT when an update to a page is complete. If the percentage of unavailable pages in the virtual buffer pool exceeds QWQT, write operations are scheduled for up to 128 pages per data set to decrease the number of unavailable buffers to 10% below QWQT. For example, if QWQT is 50%, the number of unavailable buffers is reduced to 40%.

When the limit of QWQT is reached, data sets containing the oldest updated pages are written asynchronously. DB2 continues to write pages until the ratio goes below the QWQT.

Field Name: QDBPDWQT

VERT DEFER WRITE THRESH (%)

Vertical deferred write threshold (VDWQT). This threshold is similar to the deferred write threshold but it applies to the number of updated pages for one single page set in the buffer pool. If the percentage or number of updated pages for the data set exceeds the threshold, writes up to 128 pages are scheduled for that data set.

VDWQT can be specified in one of the following ways:

- As a percentage of the virtual buffer pool that might be occupied by updated pages from one single page set. The default value for this threshold is 5%. You can change the percentage to any value from 0% to 90%.
- As the total number of buffers in the virtual buffer pool that might be occupied by updated pages from one single page set. You can specify the number of buffers from 0 to 9999. If you want to use the number of buffers as your threshold, you must set the percentage threshold to 0.

Field Name: QDBPVDQT

VERT DEFER WRITE THRESH (BUF)

The vertical deferred write threshold (VDWQT), shown as the number of buffers in the virtual buffer pool that might be occupied by updated pages from a single page set.

Field Name: QDBPVDQB

VPOOL PARALLEL SEQ THRESH

Virtual buffer pool parallel sequential threshold (VPPSEQT). This threshold is a part of the virtual buffer pool that might support parallel operations. It is measured as a percentage of the sequential steal threshold (VPSEQT). Setting VPPSEQT to zero disables parallel operation.

The default value for this threshold is 50% of the sequential steal threshold (VPSEQT). You can change the default value to any value from 0% to 100% by using the VPPSEQT option on the ALTER BUFFERPOOL command.

Field Name: QDBPPSQT

ASSISTING PARALLEL SEQ THRESH

Virtual buffer pool assisting parallel sequential threshold (VPXPSEQT). This threshold is a part of the virtual buffer pool that might support parallel operations initiated from another DB2 in the data sharing group. It is measured as a percentage of VPPSEQT.

Setting VPXPSEQT to zero (default) prevents DB2 from supporting sysplex query parallelism at run time for queries that use this buffer pool.

You can change the default value to any value from 0% to 100% using the VPXPSEQT option of the ALTER BUFFERPOOL command.

Field Name: QDBPXSQT

PGFIX ATTRIBUTE

Indicates whether a page is fixed in real storage when it is first used. It can have one of the following values: YES or NO.

Field Name: QDBPPFIX

PAGE STEAL METHOD

Identifies the page stealing algorithm (PGSTEAL) that is used for the virtual buffer pool. It controls when and whether performance-critical objects in buffer pools are removed from buffer pools when the space is needed by other objects. Possible values are:

LRU
Least recently used (LRU) objects are removed first. This means it takes away pages that are not used so that more recently used pages can remain in the virtual buffer pool. This is used by default.

FIFO
First-In-First-Out (FIFO) means that the oldest objects are removed first. This results in a small decrease in the cost of a Getpage operation. It can reduce internal DB2 latch contention in environments that require very high concurrency.

NONE
Objects are not removed from buffer pool (no page stealing). This setting provides the highest availability for business-critical objects.

Old status taken from the DB2 field QW0201OK.

New status taken from the DB2 field QW0201NK.

Field Name: RT0201PS

AUTOSIZE

Indicates if the AUTOSIZE option is activated on the ALTER BUFFERPOOL command.

Field Name: QDBPASIZ

FRAMESIZE

The frame size.

Field Name: QDBPFRAM

VPOOL SIZE MIN

The minimum size of the virtual pool.

Field Name: QDBPVPMI

VPOOL SIZE MAX

The maximum size of the virtual pool.

Field Name: QDBPVPMA

SIM POOL SIZE

The number of simulated buffers allocated in the simulated buffer pool.

Field Name: QDBPSPSZ

SIM POOL SEQ THRESH

The sequential steal threshold for the simulated buffer pool, expressed as a percentage of the total simulated buffer pool size.

Field Name: QDBPSPST

Group Buffer Pool Parameters

This topic shows detailed information about "System Parameters - Group Buffer Pool Parameters".

This block shows the merged group buffer pool data from all the members of a DB2 data sharing group. To produce this report, statistics class 5 must be active.

Each time an ALTER GROUPBUFFERPOOL command is issued for a member, an IFCID 230 record is produced showing information about the group buffer pools connected to that particular member of a data sharing group. If the IFCID 230 record indicates that the status of the group buffer pools has changed since the last IFCID 230 record was produced (regardless of which member produced it), or if this is the first IFCID 230 encountered, the new status of the group buffer pools is printed.

The status of the group buffer pools changes if the IFCID 230 record indicates one of the following:

- A member uses a new group buffer pool.
- A member does not use a group buffer pool that it used previously.
- At least one of the group buffer pool attributes has changed.

All the group buffer pools connected to the member, whether or not they have changed, are printed.

System Parameters - Group Buffer Pool Parameters

The field labels shown in the following sample layout of "System Parameters - Group Buffer Pool Parameters" are described in the following section.

```
DB2 11:

GROUP BUFFER POOL PARAMETERS
-------------------------------------------------------------------------------------------
TIMESTAMP             02/18/13 15:30:00.32          CURRENT DIRECTORY TO DATA RATIO             5
MEMBER                                 SE12         CLASS CASTOUT THRESHOLD (%)                10
GBP ID                                 GBP0         CLASS CASTOUT THRESHOLD (PAGES)             0
ALLOCATED GBP SIZE (4K)                 768         GBP CASTOUT THRESHOLD (%)                  50
ACTUAL DIRECTORY                       1414         GBP CHECKPOINT INTERVAL (MIN)               5
ACTUAL DATA ENTRY                       282         GBP CACHE SETTING                         YES
PENDING DIRECTORY TO DATA RATIO           5         AUTO REC                                   NO
MODE                                SIMPLEX


Prior to DB2 11:

GROUP BUFFER POOL PARAMETERS
-------------------------------------------------------------------------------------------
TIMESTAMP             08/12/05 12:05:49.85          CURRENT DIRECTORY TO DATA RATIO             5
MEMBER                                  SDA1         CLASS CASTOUT THRESHOLD (%)                10
GBP ID                                 GBP0         GBP CASTOUT THRESHOLD (%)                  50
ALLOCATED GBP SIZE (4K)                2560         GBP CHECKPOINT INTERVAL (MIN)               8
ACTUAL DIRECTORY                       8501         GBP CACHE SETTING                         YES
ACTUAL DATA ENTRY                      1699         AUTO REC                                  YES
PENDING DIRECTORY TO DATA RATIO           5
MODE                                 DUPLEX
SEC-GBP ALLOC                         38462
SEC-GBP ALLOC DIRECTORY ENTRY         25468
SEC-GBP DATA ENTRY                    15378
```

CURRENT DIRECTORY TO DATA RATIO

The current directory entry to data entry ratio.

For ALTER GROUPBUFFERPOOL commands, this field reports the value specified in the RATIO keyword.

Field Name: QBGBGR1

CLASS CASTOUT THRESHOLD (%)

The threshold at which the class castout is to be initiated. It is expressed as a percentage of the size of the group buffer pool.

For ALTER GROUPBUFFERPOOL commands, it reports the value specified in the CLASST keyword.

Field Name: QBGBGCT

GBP ID

Group buffer pool name.

Field Name: QBGBGN

DB2 11: CLASS CASTOUT THRESHOLD (PAGES)

The class castout threshold based on the number of pages.

Field Name: QBGBGCTN

ALLOCATED GBP SIZE (4K)

The allocated size of the group buffer pool in 4 KB blocks.

Field Name: QBGBGSZ

GBP CASTOUT THRESHOLD (%)

The threshold at which the castout is to be initiated for the group buffer pool. It is expressed as a percentage of the size of the group buffer pool.

For ALTER GROUPBUFFERPOOL commands, it reports the value specified in the GBPOOLT keyword.

Field Name: QBGBGGT

ACTUAL DIRECTORY

The actual number of allocated directory entries.

Field Name: QBGBGDR

GBP CHECKPOINT INTERVAL (MIN)

The time interval, in minutes, between successive group buffer pool checkpoints.

For ALTER GROUPBUFFERPOOL commands, it reports the value specified in the GBPCHKPT keyword.

Field Name: QBGBGCK

ACTUAL DATA ENTRY

The actual number of allocated data entries.

Field Name: QBGBGDT

GBP CACHE SETTING

GBP cache attribute. Possible values are:

YES
GBP is used for both data caching and cross-invalidation.

NO
GBP is used for cross-invalidation only.

Field Name: QBGBGCS

PENDING DIRECTORY TO DATA RATIO

The pending directory entry to data entry ratio.

Field Name: QBGBGR2

AUTO REC

Indicates whether automatic recovery takes place in the event of a structure failure or a loss of connectivity. When automatic recovery is active, all members of the group are recovered to the group buffer pool.

Field Name: QBGBGAS

MODE

Simplex or duplex mode indicator.

Field Name: QBGBDUP

Prior to DB2 11: SEC-GBP ALLOC

The allocated size of the secondary GBP when the GBP is DUPLEX.

This field is not shown when MODE is SIMPLEX.

Field Name: QBGBGSZ2

Prior to DB2 11: SEC-GBP ALLOC DIRECTORY ENTRY

Number of allocated directory entries in the secondary GBP when MODE is DUPLEX.

Field Name: QBGBGDR2

Prior to DB2 11: SEC-GBP ALLOC DATA ENTRY

The allocated data entries in the secondary GBP when MODE is DUPLEX.

Field Name: QBGBGDT2

Chapter 12. Utility Activity Report Set

These topics provide information about the Utility Activity reports.

Note: For an introduction to the Utility Activity report set and general Utility Activity information refer to the *Reporting User's Guide*. It also provides information on input to Utility Activity reports.

Headers Used in Utility Activity

OMEGAMON for Db2 PE header information is printed at the top of each Utility Activity report or trace page.

There are two types of headers:

- The Utility Activity report header
- The Utility Activity trace header.

The report and trace header shows the following information:

LOCATION
The DB2 reporting location. If the location name is not available, the DB2 data sharing group name is printed in this field. If the DB2 data sharing group name does not exist, the DB2 subsystem ID is printed.

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (VnRnMn)
The product name and the version, release, and modification level.

PAGE
The page number in the format *lll-nnnnnn*, where *lll* denotes the location number within the report and *nnnnnn* the page number within the location.

GROUP
The name of the DB2 data sharing group. This field shows N/A if there is no group name.

REQUESTED FROM and TO
The FROM and TO dates and times specified in the REPORT or TRACE subcommand.

If both FROM and TO dates and times are omitted from the REPORT subcommand, the FROM and TO dates and times specified in GLOBAL are printed. If only the FROM date and time or only the TO date and time has been specified, NOT SPECIFIED is printed for the unspecified value.

If FROM and TO are not specified in REPORT or GLOBAL, NOT SPECIFIED appears for both the FROM and TO values.

If you have specified FROM and TO times without dates in REPORT or GLOBAL, ALL DATES is printed along with the specified times.

MEMBER
The name of the DB2 data sharing member or the member name of the DB2 subsystem. This field shows N/A if there is no member name.

This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

SUBSYSTEM
The ID of the DB2 subsystem that generated the data. This field is not printed on the report page showing the GROUP BUFFERPOOLS PARAMETERS.

ORDER
If the ORDER option of the REPORT or TRACE subcommand was used to arrange the report entries, the selected keywords are shown in this field. Depending on the context, the OMEGAMON for Db2 PE identifiers by which lock events are grouped are shown here.

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ACTUAL FROM/TO
The date and time of the first and last record included in the log for a location, group, subsystem, or member.

DB2 VERSION
The DB2 version number of the subsystem that generated the data.

PAGE DATE
The date of the timestamps printed on this page. A page break occurs at the change of the date. This is useful if a trace page contains more than one entry and the date is not shown for each entry.

IDENTIFIED BY
Shows the identifiers specified with the ORDER option.

WITH *detail* WORKLOAD
The workload details as specified on the WORKLOAD option of the TRACE subcommand.

Utility Activity Report Header Example

The Utility Activity reports contain information in the header at the top of each page as shown in the following example.

```
   LOCATION: USIBMSYSTDB2             OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-1
      GROUP: DSNCAT                                UTILITY ACTIVITY REPORT                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: SSDQ                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SSDQ                                 ORDER: PRIMAUTH-PLANNAME                       ACTUAL FROM: 01/30/15 23:50:43.70
DB2 VERSION: V10                                                                                        TO: 01/30/15 02:35:57.68
```

Utility Activity Trace Header

This section introduces the header of the Utility Activity trace.

Utility Activity Trace Header Example

The Utility Activity trace header contains the following information.

```
   LOCATION: USIBMSYSTDB2              OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                 PAGE: 1-1
      GROUP: DSNCAT                                UTILITY ACTIVITY TRACE                     REQUESTED FROM: NOT SPECIFIED
     MEMBER: SSDQ                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: SSDQ                                                                               ACTUAL FROM: 01/30/15 23:50:43.70
DB2 VERSION: V10                                                                                  PAGE DATE: 01/30/15

                                        IDENTIFIED BY PRIMAUTH/PLANNAME/INSTANCE
                                                    WITH ALL WORKLOAD
```

The Utility Activity Reports

This topic describes the Utility Activity report.

The following command generates the Utility Activity report shown in “Utility Activity Report Example” on page 1366:

```
UTILITY
     REPORT
```

This command produces a report including both BIND and UTILITY activity types by default.

Utility Activity Report Example

```
   LOCATION: PMODA22                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)           PAGE: 1-1
      GROUP: N/P                               UTILITY ACTIVITY REPORT                    REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                       TO: NOT SPECIFIED
  SUBSYSTEM: DA22                             ORDER: PRIMAUTH-PLANNAME                       ACTUAL FROM: 05/31/15 09:01:18.84
DB2 VERSION: V10                                                                                        TO: 05/31/15 00:00:00.00

 PRIMAUTH                          TOT. ELAPSED  TOT. CP  CPU                        TOT. ELAPSED  TOT. CP  CPU  TOT. ZIIP
  PLANNAME             OCCURRENCES  AVG. ELAPSED  AVG. CP  CPU  ACTIVITY TYPE  COUNT  AVG. ELAPSED  AVG. CP  CPU  AVG. ZIIP
                                                                                                    TOT. SORTCPU  SORT ZIIP
----------------------  -----------  ------------  -------  ---  -------------  -----  ------------  ------------  ------------
 BBE
  DSNUTIL                         5      1.605797     0.194854  UTILITY
                                         0.321159     0.038971    LOAD             2      0.906060      0.080978      0.001934
                                                                                        0.453030      0.040489      0.000967
                                                                                                      0.011058      0.000000
                                                                  REORG            3      0.699737      0.113876      0.000331
                                                                                        0.233246      0.037959      0.000110
                                                                                                      0.085822      0.000000
UTILITY ACTIVITY REPORT COMPLETE
```

Field description

The report contains the following fields:

OMEGAMON for Db2 PE identifiers
Up to three OMEGAMON for Db2 PE identifiers can be printed in this column. They are printed whenever they change. The second and third identifiers are indented. If the ORDER option is not used, the default of PLANNAME within PRIMAUTH is shown. Refer to *Report Command Reference* for more information about the ORDER option.

OCCURRENCES
The total number of bind or utility threads for the current combination of OMEGAMON for Db2 PE identifiers. A bind thread is identified by the presence of appropriate pairs of IFCIDs 108, 109, 110, 111, 177, and 183. A utility thread is identified by the presence of IFCIDs 023, 024, and 025.

TOT. ELAPSED
The time difference between the first bind or utility record and the last bind or utility record.

AVG. ELAPSED
The TOT. ELAPSED time divided by OCCURRENCES.

TOT. CP CPU
The difference between the CPU time of the first bind or utility record and the CPU time of the last bind or utility record.

AVG. CP CPU
The TOT. CPUTIME divided by OCCURRENCES.

ACTIVITY TYPE
The name of the activity type and event. The activity type can only be BIND for bind events including remote bind activity, or UTILITY for utility events. All events are indented.

The bind events are as follows:

BIND PLAN
BIND PLAN subcommand issued

BIND PACK
BIND PACKAGE subcommand issued

BIND R-PACK
BIND PACKAGE subcommand issued for a remote location

RBND PLAN
REBIND PLAN subcommand issued

RBND PACK
REBIND PACKAGE subcommand issued

RBND R-PACK
REBIND PACKAGE subcommand issued for a remote location

FREE PLAN
FREE PLAN subcommand issued

FREE PACK
FREE PACKAGE subcommand issued

FREE R-PACK
FREE PACKAGE subcommand issued for a remote location

CONNECT
BIND CONNECT or CONNECT RESET subcommand issued for a remote location.

The utility events are as follows:

CHECKDAT
Identifies the utility as CHECK DATA.

CHECKIDX
Identifies the utility as CHECK INDEX.

COPY
Identifies the utility as COPY.

DIAGNOSE
Identifies the utility as DIAGNOSE.

LOAD
Identifies the utility as LOAD.

MERGECOP
Identifies the utility as MERGECOPY.

MODIFY
Identifies the utility as MODIFY.

QUIESCE
Identifies the utility as QUIESCE.

RECOVER
Identifies the utility as RECOVER TABLESPACE.

RECOVERI
Identifies the utility as RECOVER INDEX.

REBUILDI
Identifies the utility as REBUILD INDEX.

REORG
Identifies the utility as REORG.

REPAIR
Identifies the utility as REPAIR.

REPORT
Identifies the utility as REPORT.

RUNSTATS
Identifies the utility as RUNSTATS.

STOSPACE
Identifies the utility as STOSPACE.

UNLOAD
Identifies the utility as UNLOAD.

COUNT
The number of occurrences of a single bind or utility event.

TOT. ELAPSED
The time difference between the first and last occurrence of a specific bind or utility event.

AVG. ELAPSED
The TOT. ELAPSED time divided by COUNT.

TOT. CP CPU
The difference between the CPU time of the first occurrence of a specific bind or utility event and the CPU time of the UTILEND of the last occurrence of this bind or utility event.

AVG. CP CPU
The TOT. CPUTIME divided by COUNT.

TOT. SORTCPU
The sum of the Sort CPU time for all occurrences of a specific utility event.

TOT. ZIIP
The sum of the total utility ZIIP time for all occurrences of a specific utility event.

AVG. ZIIP
The TOT. ZIIP time divided by COUNT.

SORT ZIIP
The sum of the Sort ZIIP time for all occurrences of a specific utility event.

The Utility Activity Trace

This topic introduces the Utility Activity trace.

Traces are presented in the order in which the threads complete. Start times might not be shown in ascending order if other threads finished prior to completion of a thread which started earlier.

The Utility Activity trace is generated with the following command:

```
UTILITY
     TRACE
        ORDER (PRIMAUTH-PLANNAME-INSTANCE)
```

This command produces a trace including both BIND and UTILITY activity types but excluding any workload detail by default.

Utility Activity Short Trace Example

Here is an example of a Utility Activity Short trace.

```
   LOCATION: OMPDB51                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                UTILITY ACTIVITY TRACE                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                         TO: NOT SPECIFIED
  SUBSYSTEM: DB51                                                                                    ACTUAL FROM: 06/07/15 09:14:49.15
DB2 VERSION: V11                                                                                       PAGE DATE: 06/07/15
                                                    WORKLOAD(NONE)
                                                IDENTIFIED BY PRIMAUTH/PLANNAME/INSTANCE
PRIMAUTH
 PLANNAME                          ELAPSED TIME
  INSTANCE             START TIME      CPU TIME ACTIVITY TYPE           OBJECT(S)
-------------------- ---------- ------------ ---------------------- ------------------------------------------------------------
KOZS
 DSNBIND
  X'CB79D266C962'      09:15:02.92     0.000280 BIND
                                       0.000000   BIND PLAN            PLANNAME: DSNREXX
KOZS
 DSNBIND
  X'CB79D3411068'      09:18:51.94     0.027328 BIND
                                       0.000000   RBND PACK            LOCN: OMPDB51
                                                                       COLL: UTRUN
                                                                       PKID: UTILV110
                                                                       VRID: N/P
                                                                       CONS: X'195D036002523DD6'

   LOCATION: OMPDB61                        OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 2-1
      GROUP: N/P                                UTILITY ACTIVITY TRACE                          REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                         TO: NOT SPECIFIED
  SUBSYSTEM: DB61                                                                                    ACTUAL FROM: 07/29/15 12:33:31.62
DB2 VERSION: V11                                                                                       PAGE DATE: 07/29/15
                                                    WORKLOAD(NONE)
                                                IDENTIFIED BY PRIMAUTH/PLANNAME/INSTANCE
PRIMAUTH
 PLANNAME              START TIME  ELAPSED TIME                      UTILITY-ID         JOB NAME       SHRLEVEL
  INSTANCE               SUBTASKS      CPU TIME ACTIVITY TYPE        DATABASE.PAGESET   STEP           TOT. ZIIP
                SORT:  DF DB2      DATA   INDEX   OTHER                                 SORT CPU       SORT ZIIP
---------------------- ---------- ------------ ---------------------- ------------------------------------------------------------
KOZS
 DSNUTIL
  X'CBBB5FBF101E'      12:33:31.62     0.732401 UTILITY                KOZS.KOZUNLUT      KOZUNLUT       CHANGE
                         0   1   0     0.008799   REORG                DB2PE   .TSPAFDF   UNLD1             0.001200
                         Y   N         0       1      0                                   0.002311          0.000900
UTILITY TRACE COMPLETE
```

Field description

The trace contains the following fields:

OMEGAMON for Db2 PE identifiers
The OMEGAMON for Db2 PE identifiers specified in the ORDER option. They are printed whenever they change. The second and third identifiers are indented.

PLANNAME
The DB2 application plan name of the thread.

ELAPSED TIME
The time difference between START TIME and the timestamp of the ENDUTIL of the last bind or utility record of the originating task.

JOB NAME
User-defined job name.

SHRLEVEL
The SHRLEVEL value of the utility. Possible values are: NONE, REFERENCE, or CHANGE.

START TIME
The timestamp of the first bind or utility record encountered for that thread.

CPU TIME
The CPU time of the bind or utility event, including the CPU time of any parallel tasks.

ACTIVITY TYPE
The name of the activity type and event. The activity type can only be BIND for bind events including remote bind activity, or UTILITY for utility events. All events are indented.

For a detailed description, of Activity Type, see page "Field description" on page 1367.

OBJECT(S)
The description depends on whether it is a utility event, a bind event referring to a plan, a bind event referring to a package, or a BIND CONNECT:

- In the case of a utility, it is the *database name.object name* for each object worked on by the utility. Each *database name.object name* is shown only once.
- In the case of a BIND PLAN, RBND PLAN, or FREE PLAN event, it is the plan name.
- In the case of a BIND PACK, RBND PACK, FREE PACK, BIND R-PACK, RBND R-PACK, or FREE R-PACK event, the following information is shown:

  LOCN
  The location of the package.

  COLL
  The collection to which the package belongs.

  PKID
  The package ID.

  VRID
  The first 53 characters of the version name.

  CONS
  The consistency token for the package.
- In the case of a CONNECT, it is LOCN, the location of the package.

TOT. ZIIP
The total utility ZIIP time (if Accounting class 1 trace is activated).

SORT
The following fields provide information about sorting. They are only written for utility events:

DF
Shows if DFSORT was invoked at least once (Y/N).

DB2
Shows if DB2SORT was invoked at least once (Y/N).

DATA
Shows the number of parallel data sorts.

INDEX
Shows the number of parallel index sorts.

OTHER
Shows the number of other sorts.

SORT CPU
Shows the SORT CPU time.

SORT ZIIP
Shows the SORT ZIIP time (if provided by the SORT program).

Workload Detail

Workload detail blocks are only printed in Utility Activity traces.

The workload detail blocks are displayed beneath the thread events.

Bind Activity

This topic describes the layout of the Bind Activity block.

This block shows the bind activity for:

- BIND PACK
- BIND R-PACK
- RBND PACK
- RBND R-PACK
- BIND PLAN
- RBND PLAN

The layout depends on whether it is a package or a plan for which bind activity is shown.

Bind Activity Workload Block Example for Packages or Plans

Here is an example of the **Bind Activity Workload Block for Packages.**

```
--- BIND ACTIVITY ------------------------------------------------------------------------------------------------------
     ISOLATION   : CS          TYPE        : AUTOMATIC      ACQUIRE : ALLOCATION       DEGREE     : ANY          VALIDATE  : BIND
     OWNER       : MANFREDW    CURRENTDATA : YES            RELEASE : DEALLOCATION     KEEPDYNAMIC: YES          EXPLAIN   : YES
     DYNAMICRULES: BIND        DISCONNECT  : CONDITIONAL    PREPARE : NODEFER          QUALIFIER  : HUGOPAUL     REOPTIMIZE: YES
     ACTION      : REPLACE     SQLERROR    : NOPACKAGE      SQLRULES: DB2              PROTOCOL   : NOT_SPEC     OPTHINT   : YES
     IMMEDWRITE  : YES
     SENT        :   123456    ELAPSED_TIME: 1234.123456    CPU_TIME: 1234.12345656
     STMT.  BOUND:   123456    ELAPSED_TIME: 1234.123456    CPU_TIME: 1234.12345656
     STMT. ^BOUND:   123456    ELAPSED_TIME: 1234.123456    CPU_TIME: 1234.12345656
```

Here is an example of the **Bind Activity Workload Block for Plans**.

```
     --- BIND ACTIVITY ------------------------------------------------------------------------------------------------------
     ISOLATION   : CS          TYPE        : AUTOMATIC      ACQUIRE : ALLOCATION      DEGREE     : ANY        VALIDATE  : BIND
     OWNER       : MANFREDW    CURRENTDATA : YES            RELEASE : DEALLOCATION    KEEPDYNAMIC: YES        EXPLAIN   : YES
     DYNAMICRULES: BIND        DISCONNECT  : CONDITIONAL    PREPARE : NODEFER         QUALIFIER  : HUGOPAU    REOPTIMIZE: YES
     ACTION      : REPLACE     CACHESIZE   : 4096           SQLRULES: DB2             PROTOCOL   : NOT_SPEC   OPTHINT   : YES
     IMMEDWRITE  : PH1
```

Field description

Here is a description of the field labels shown in the bind activity workload block for both packages and plans.

ISOLATION
Indicates the isolation level of the plan or package.

TYPE
The type of bind.

ACQUIRE
Indicates when to acquire the locks:

ALLOCATION
Acquire the locks when the plan or package is allocated.

USE
Acquire the locks when the application first accesses them.

DEGREE
Indicates whether DB2 is to attempt to run a query using parallel processing.

1
Parallelism is prohibited

ANY
Parallelism is allowed

VALIDATE
The time of validation:

RUN
Validate at run time.

BIND
Validate at bind time.

OWNER
The plan or package owner.

CURRENTDATA
Controls the data currency for ambiguous cursors:

NO
Data currency is not required for ambiguous cursors. Blocking for ambiguous cursors is allowed.

YES
Data currency is required for ambiguous cursors. Blocking for ambiguous cursors is inhibited.

ALL
Data currency is required for all cursors. Applicable to packages only.

RELEASE
Indicates when to release the locks:

COMMIT
Release locks at commit time.

DEALLOCATION
Release locks at deallocation time.

For packages only:

DEFAULT
Release locks at run time, which is the default.

KEEPDYNAMIC
Indicates whether the prepared dynamic SQL statements are preserved past a commit:

NO
The prepared dynamic SQL statements are destroyed at each commit.

YES
The prepared dynamic SQL statements are preserved past a commit. Any subsequent OPEN, EXECUTE, or DESCRIBE assumes that the previous SQL statement is to be executed.

EXPLAIN
Indicates whether EXPLAIN was specified for the bind request.

DYNAMICRULES
The value of the DYNAMICRULES option on the BIND/REBIND command:

RUN
run time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

BIND
Bind-time rules apply to a dynamic SQL statement for authorization checking and object qualification at run time.

N/P
DYNAMICRULES was not specified.

DISCONNECT
Indicates which remote connections are terminated during commit operations:

EXPLICIT
Only connections in the release state are terminated.

AUTOMATIC
All remote connections are terminated.

CONDITIONAL
All remote connections are terminated provided that an open WITH HOLD cursor is not associated with the connection.

PREPARE
Indicates whether the preparation of dynamic SQL statements was deferred:

DEFER
The preparation of the dynamic SQL statements that refer to remote objects was deferred until run time.

NODEFER
The dynamic SQL statements were prepared at bind time.

QUALIFIER
The qualifier used for unqualified object names.

REOPTIMIZE
Indicates whether reoptimization was requested:

YES
REOPT(VARS) was specified to reoptimize the access path of the SQL statement at run time.

NO
NOREOPT(VARS) was specified to optimize the access path of the SQL statement only at bind time.

ACTION
Specifies whether the plan or package replaces an existing plan or package with the same name or is new:

REPLACE
The existing plan or package is replaced.

ADD
A new plan or package is added.

This field only applies to BIND activities. For all other activities, N/P is printed.

IMMEDWRITE
Indicates how DB2 updates group buffer pool dependent pages. This is only valid in a data sharing environment.

Group buffer pool dependent pages can be written to DASD or SYSTEM pagesets.

Values shown are:

NO
DB2 uses normal write activity for updates, this is the default. Pages are written out at, or before phase 2 commit, or at the end of an abort for transactions that have rolled back.

PH1
Pages are written out at, or before phase 1 commit.

If a transaction subsequently rolls back, the pages are updated in the group buffer pool at the end of the rollback and are written out at the end of the abort.

YES
Pages are written out to the coupling facility as soon as the buffer update commits. Pages are written out regardless of whether the update occurs during forward progress or rollback of the transaction.

This option can affect performance due to coupling facility overhead.

SQLERROR
Indicates whether a package is created if SQL errors are encountered:

CONTINUE
A package is created even when SQL errors are encountered.

NOPACKAGE
No package is created if SQL errors are encountered.

CACHE SIZE
The size (in bytes) of the authorization cache specified for the CACHESIZE keyword. A value of 0 indicates that DB2 determines the size of the authorization cache.

SQLRULES
Indicates whether a type-2 CONNECT statement was executed according to the rules of DB2 or the ISO/ANS SQL2 standard:

DB2
An error does not occur if CONNECT identifies an existing SQL statement.

STD
An error occurs if CONNECT identifies an existing SQL statement.

PROTOCOL
Valid values are:

DRDA
Protocol is DRDA.

PRIVATE
Protocol is a private protocol

NOT_SPEC
Protocol was not specified. This is only valid for packages.

OPTHINT
Indicates whether optimizations hints are to be used. This can be:

- YES
- NO

SENT
The number of SQL statements sent to be bound at the server, and the elapsed and CPU times spent for that event at the requester site.

This field is only shown for remote events.

STMT. BOUND
The number of SQL PARSER events and one or more minibind events that occur between matched BIND or REBIND begin/end record pairs, and the elapsed and CPU times spent for those events.

When a statement is bound, DB2 chooses an access path for the DB2 statement. The only bound DB2 statements are SELECT, UPDATE, INSERT, and DELETE. The other DB2 statements do not require an access path to be generated.

This field shows N/P if the CPU header is not present in the trace data. It is not shown if the IFCIDs 022 and 063 are not available.

STMT. BOUND
The number of SQL PARSER events without corresponding minibind events that occur between matched record pairs (BIND or REBIND begin/end), and the elapsed and CPU times spent for those events.

A statement is not bound if DB2 does not calculate an access path. DECLARE CURSOR and CLOSE CURSOR are examples of statements that are not bound.

This field shows N/P if the CPU header is not present in the trace data. It is not shown if the IFCIDs 022 and 063 are not available.

Data Set Information

This block shows the data set information available for the activity.

Utility Data Set Information Workload Block

Here is an example of the Utility Data Set Information Workload Block.

```
--- DATA SET INFO ----------------------------------------------------------------------------------------------------
DD NAME     : CCCCCCC8       DS NAME : CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC44   TEMPLATE NAME : CCCCCCC8
NO.READS    : 12345        NO.WRITES : 12345    NO.CHECKS : 12345   NO.EOVS :12345    I/O WAIT TIME : 12345
DURATION : 02:03:05.10   DEVICE TYPE : C        OPEN TIMESTAMP: 01/30/15 18:15:44.38
```

Field description

Here is a description of the field labels shown in the Utility Data Set Information Workload Block:

DD NAME
Data definition.

DS NAME
Data set name.

TEMPLATE NAME
Template name.

NO.READS
Number of READ operations.

NO.WRITES
Number of WRITE operations.

NO.CHECKS
Number of checks.

NO.EOVS
Number of End of Volumes.

I/O WAIT TIME
I/O wait time.

DURATION
The number of seconds the data set was open.

DEVICE TYPE
Device type:

D
DASD.

T
Tape.

OPEN TIMESTAMP
Time the data set was opened.

Exit Activity

This block shows the exits performed by the event.

Exits Workload Block Example

Here is an example of the Exits Workload Block.

```
--- EXITS ------------------------------------------------------------------
MEMBER     VALIDATION  TOTAL   AET/EXIT   EDIT TOTAL  AET/EXIT
SE11                      1    N/C                 0  0.000060
```

Field description

Here is a description of the field labels shown in the Exits Workload Block.

MEMBER
The name of the DB2 member within the DB2 data sharing group.

VALIDATION TOTAL
The number of results of a validation exit call written for every validation row.

VALIDATION AET/EXIT
The summarized elapsed validation time divided by the value in VALIDATION TOTAL.

EDIT TOTAL
The summary of results of an edit exit call to encode a record written for every row edited and the results of an edit exit call to decode a record written for every row decoded.

EDIT AET/EXIT
The summarized elapsed edit time divided by the value in EDIT TOTAL.

I/O Activity

This block shows the I/O activity for each object performed by the event.

I/O Activity Workload Block Example

This is an example of the I/O Activity Workload Block.

```
--- I/O ACTIVITY ------------------------------------------------------------------------------------------------------------------------
      DATABASE  PAGESET  - I/O REQUEST -  ------- READ REQUEST  (WITH OR WITHOUT I/O) -------  ------------ WRITE REQUEST ----------
      MEMBER    BP       TOTAL     AET    TOTAL  TYPE   AET/WITH    %WITH PAGE/WITH  %WITHOUT  TOTAL  TYPE  CAST      AET  PAGE/WRIT
      DBPARALL  TSPARALL
      SE12      BP4          3  0.1296        3  SYNCH  0.129597   100.00      1.00      0.00
      WRKSE12   DSN4K01
      SE12      BP0        102  0.0164      102  SYNCH  0.016358   100.00      1.00      0.00
```

Field description

Here is a description of the field labels shown in the I/O Activity Workload Block.

DATABASE
The database name. If the name is not available, the decimal DBID/OBID is printed.

PAGESET
The page set name. If the name is not available, the decimal DBID/OBID is printed.

MEMBER
The name of the DB2 member within the DB2 data sharing group.

BP
The buffer pool name.

I/O REQUEST TOTAL
The total number of I/O requests.

I/O REQUEST AET
The average elapsed time for each I/O request.

READ REQUEST TOTAL
The number of read I/O requests of a specific type.

READ REQUEST TYPE
The type of read request:

SYNCH
Synchronous read request

SEQPF
Sequential prefetch request

DYNPF
Dynamic prefetch request

LSTPF
List prefetch request

READ REQUEST AET/WITH
The average elapsed time for a read with I/O of a specific type.

READ REQUEST %WITH
The percentage of total read requests with I/O for a particular type.

READ REQUEST PAGE/WITH
The pages read for each read request with I/O of a particular type.

READ REQUEST %WITHOUT
The percentage of total read requests without I/O for a particular type. This can occur because all the pages requested by a prefetch read were already in the buffer pool.

WRITE REQUEST TOTAL
The number of write I/O requests.

WRITE REQUEST TYPE
The type of write request.

WRITE REQUEST CAST
Indicates whether the write operations were initiated due to a coupling facility castout.

WRITE REQUEST AET
The average elapsed time for each write.

WRITE REQUEST PAGE/WRITE
The number of pages written.

LISTDEF Information

This topic describes the workload block of the list definition (LISTDEF) information.

LISTDEF Information Workload Block

This is an example of the workload block of the list definition (LISTDEF) information.

```
--- LISTDEF LIST INFO ------------------------------------------------------------ ---
LIST NAME : CCCCCCCCCCCCCCC18   LIST TYPE : M   LIST SIZE : 12345
```

Field description

The workload block of the list definition (LISTDEF) information contains the following fields:

LIST NAME
Name of list definition information.

LIST TYPE
Type of LISTDEF information:

T
Table space list.

I
Index space list.

M
Mixed list.

Lock Suspension Activity

This topic shows detailed information about "Workload Detail - Lock Suspension Activity".

This block shows the lock suspension activity for each object performed by the event.

Lock Suspension Activity Workload Block Example

The field labels shown in the following sample layout of "Lock Suspension Activity Workload Block" are described in the following section.

```
--- LOCK SUSPENSION ACTIVITY ----------------------------------------------------------------------------------------------
                                                  ---------- SUSPEND REASON ---------- NORML  RESUME TIMEO  RESUME DEADL  RESUME
RESOURCE NAME                 TYPE       REQUEST  LOCAL LATCH IRLMQ GROUP NOTIF OTHER COUNT     AET COUNT     AET COUNT     AET
MEMBER
DBPARALL            TSPARALL DATAPAGE   NOTIFY       0     0     0    24    24     0    24 0.74382     0     N/C     0     N/C
SE11
DBPARALL            TSPARALL DATAPAGE   LOCK         0     3     0     0     0     0     3 0.04096     0     N/C     0     N/C
SE11
DBPARALL            TSPARALL DATAPAGE   LOCK         0     5     0     0     0     0     5 0.06957     0     N/C     0     N/C
SE12
DBPARALL            TSPARALL DATAPAGE   UNLOCK       0     1     0     2     2     0     3 0.59058     0     N/C     0     N/C
SE21
```

The following list describes the fields in the lock suspension activity workload block:

RESOURCE NAME
The name of the resource on which the suspended request is made. The content of the field depends on the resource type:

- The plan name for SKCT
- The collection and package IDs for SKPT
- The collection ID for COLLECT
- The database name for DATABASE, CDB PLK, DBD PLCK
- The buffer pool ID for ALTERBUF, GBP S/S, P/P PLCK, PAGEPLCK, GBP CAST, P/P CAST
- The anchor point ID for HASH-ANC
- The row ID for ROW
- N/A for MASS, UTILITY, BINDLOCK, ALTERBUF, CATM MIG, CATM CAT, CATM DIR
- The database and page set names for all others

The database and page set names are translations obtained from the IFCIDs 105 and 107. If these records are unavailable, the decimal DBIDs and OBIDs are printed.

MEMBER
The name of the DB2 member within the DB2 data sharing group.

TYPE
The type of the locked resource. Possible values are shown in Table 3 on page 327.

REQUEST
The type of request that has been suspended:

LOCK
IRLM lock request

UNLOCK
IRLM unlock request

CHANGE
IRLM change request

QUERY
IRLM query request

NOTIFY
IRLM notify request

DRAIN
Drain request

LATCH
Latch request

SUSPEND REASON LOCAL
The number of suspensions due to local resource contentions.

SUSPEND REASON LATCH
The number of suspensions due to IRLM latch contentions.

SUSPEND REASON IRLMQ
The number of suspensions due to IRLM queued requests.

SUSPEND REASON GROUP
The number of suspensions due to global contention.

SUSPEND REASON NOTIFY
The number of suspensions due to intersystem message sending.

SUSPEND REASON OTHER
The number of suspensions due to reasons other than those listed previously.

Note: For drain suspensions, the suspension reason is always “waiting for the claim count to reach zero” and is categorized as OTHER.

NORML RESUME COUNT
The number of suspensions that ended in the task, resuming normal processing after the lock request has completed.

NORML RESUME AET
The normal resume average elapsed time. This is the normal resume elapsed time divided by the NORML RESUME COUNT.

TIMEO RESUME COUNT
The number of suspensions that ended in a timeout.

TIMEO RESUME AET
The average elapsed timeout time. This is the elapsed timeout time divided by the TIMEO RESUME COUNT.

DEADL RESUME COUNT
The number of suspensions that ended in a deadlock.

Note: Drain suspensions do not end in a deadlock.

DEADL RESUME AET
The average elapsed deadlock time. This is the elapsed deadlock time divided by the DEADL RESUME COUNT.

Page and Row Locking Activity

This block shows the page locking, row locking, and lock avoidance activity for each object, performed by the event.

The page and row locking activity block is only printed if a commit occurred or a thread terminated.

In summary by occurrence, page and row locking activity information generated for explicit commits is shown on the relevant commit events.

In summaries by cursor or program, any explicit commits occurring during the life of that cursor or program are counted. Page and row locking activity caused by those commits is shown on the relevant cursor or program.

In summaries by statement number or statement type, commits are not counted. Because page and row locking activity is not relevant for these summary levels, it is not printed.

Any page or row locking activity occurring when a thread terminated is shown in the summary by thread. This activity is added to any page or row locking which took place in the body of the thread. Therefore, page and row locking figures in summary by thread can be greater than the sum of page locking figures shown in the body of the thread. The difference is the page and row locking activity occurring at thread termination.

An example of the page and row locking workload block is shown in the following example.

Page and Row Locking Workload Block Example

```
--- PAGE & ROW LOCKING ------------------------------------------------------------------------
                                LOCK   MAXIMUM PAGE   # LOCK   HIGHEST   TS      LOCK AVOID
MEMBER     DATABASE   PAGESET    COUNT    SIZE   OR ROW LOCKS    ESCAL      LOCK   TYPE    SUCCESSFUL
SE11       DBPARALL   TSPARALL       1   PAGE              1        0              SPL           YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD        1  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE         0

SE12       DBPARALL   TSPARALL       2   PAGE              5        0              SPL           YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD        5  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE         0

SE21       DBPARALL   TSPARALL       1   PAGE              2        0              SPL           YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD        2  LOCK ESCALATIONS : SHARED      0  EXCLUSIVE         0

TOTAL                              4                             0
```

Note:

1. The DBID and OBID are obtained from IFCID 020.
2. The values in MAX PAGE OR ROW LOCKS HELD, LOCK ESCALATIONS SHARED, and LOCK ESCALATIONS EXCLUSIVE are accumulated within a subsystem. They are reset only at thread deallocation or when a new user signon occurs.
3. The values in MAXIMUM PAGE OR ROW LOCKS, HIGHEST LOCK, and # LOCK ESCAL are reset at commit time for dynamic BINDs and for static BINDs for which release (commit) is specified. Otherwise, these values accumulate until thread deallocation or until a new user signon occurs.
4. IFCID 218 is an additional lock summary record, written for lock avoidance. It indicates whether a successful lock avoidance test occurred during a given unit of work. The record is externalized for the agent at each commit or rollback.
5. For each event, the relevant IFCID 020 and 218 records are processed. If there is a DBID/OBID combination present for IFCID 218 but not for IFCID 020, the IFCID 020 fields show N/P. If there is a DBID/OBID combination present for IFCID 020 but not for IFCID 218, the IFCID 218 field (LOCK AVOID SUCCESSFUL) shows N/P.

Field description

The fields in the page and row locking workload block are:

MEMBER
The name of the DB2 member within the DB2 data sharing group.

DATABASE
The database name, if available.

If the name is not available, the decimal DBID is printed instead.

PAGESET
The page set name, if available.

If the name is not available, the decimal OBID is printed instead.

COUNT
The number of page locking or row locking occurrences for each page set.

- Specific database and page set:
  - At commit time: always 1
  - At thread termination: the number of times this database and page set occurred on a commit record
- TOTAL
  - At commit time: the total number of page sets listed
  - At thread termination: the sum of the values for all page sets

LOCK SIZE
The lock size used:

PAGE
Page lock

ROW
Row lock

TABLE
Table space or table lock

LOB
LOB lock

UNKN
Unknown lock

*****
Multiple lock sizes

MAXIMUM PAGE OR ROW LOCKS
The maximum number of either page locks or row locks held at one time against this object.

 # LOCK ESCAL
The number of lock escalations:

- 0 if no escalations occur
- For simple table spaces and partitioned table spaces not using selective partition locking (SPL): 1 if any escalation occurred for this table space in this logical unit of work
- For segmented table spaces: the number of tables within the table space that have experienced lock escalations
- For partitioned table spaces using SPL: the number of partitions for which locks escalated within the table space

The TOTAL contains the sum of all values in this column.

HIGHEST LOCK
The highest table space lock state.

If the table space is simple or partitioned not using SPL, it is the highest lock state for this database or page set. At trace end, it is the largest value from any commit for this object. The following values are possible:

IS
Intent share

IX
Intent exclusive

S
Share

U
Update share

SIX
Share with intent exclusive

X
Exclusive

If the table space is segmented or partitioned using SPL, this field is blank.

TS TYPE
The table space type:

SIMPL
Simple table space

SEG
Segmented table space

PARTI
Partitioned table space

SPL
Partitioned table space using selective partition locking (SPL)

LOB
LOB table space

LOCK AVOID SUCCESSFUL
Indicates whether there was a successful lock avoidance test during the unit of work.

If the state of this field changed during the summarization period, an asterisk (*) is shown.

MAX PAGE OR ROW LOCKS HELD
The maximum number of page locks and row locks held at one time across all objects.

LOCK ESCALATIONS: SHARED
The total of shared lock escalations.

LOCK ESCALATIONS: EXCLUSIVE
The total of exclusive lock escalations.

Utility Phases

This block shows the utility phases for each object performed by the event. Its layout depends on whether the utility produces parallel tasks.

Note: You can process up to 40 utility phases for each object.

Phases Workload Block Example without Parallel Tasks

Here is an example of the phases workload block without parallel tasks. An example of the phases workload block with parallel tasks is shown in "Phases Workload Block Example with Parallel Tasks" on page 1382.

```
   LOCATION: PMODA22                          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)            PAGE: 1-1
      GROUP: N/P                                  UTILITY ACTIVITY TRACE                        REQUESTED FROM: NOT SPECIFIED
     MEMBER: N/P                                                                                            TO: NOT SPECIFIED
  SUBSYSTEM: DA22                                                                                  ACTUAL FROM: 05/31/15 09:01:18.84
DB2 VERSION: V10                                                                                     PAGE DATE: 05/31/15
                                                      WORKLOAD(PHASE)
                                                IDENTIFIED BY PRIMAUTH/PLANNAME
PRIMAUTH              START TIME  ELAPSED TIME                          UTILITY-ID         JOB NAME       SHRLEVEL
 PLANNAME                SUBTASKS     CPU TIME ACTIVITY TYPE            DATABASE.PAGESET   STEP           TOT. ZIIP
                SORT:  DF DB2     DATA   INDEX   OTHER                                      SORT CPU       SORT ZIIP
--------------------- ----------- ------------ ----------------------- ------------------------------------------------------
  WER
  DSNUTIL             23:59:28.26     8.369076 UTILITY                FUA8U114.STEP2     LOAD_THE_FIRST
                         N/A  N/A     0.761910   LOAD                  DSNDB04 .TSA81401
                                                                       DSNDB04 .IUA81401
                                                                       DSNDB04 .IUA81403
                                                                       DSNDB04 .IUA81402
                                                                       DSNDB04 .IUA81404
      --- UTILITY PHASES ---------------------------------------------------------------
      PHASE      DATABASE  PAGESET   PARTNO    TYPE   COUNT   ELAPSED TIME     CPU TIME
      UTILINIT / UTILTERM                                        0.171218     0.034901
      RELOAD     DSNDB04   TSA81401       0    R         16       2.640100     0.093036
      SORT       DSNDB04   TSA81401       0    IF        42       0.852126     0.103900
      BUILD      DSNDB04   IUA81401       0    I         42       0.807582     0.043772
                 DSNDB04   IUA81403       0    I         42
                 DSNDB04   IUA81402       0    I         42
                 DSNDB04   IUA81404       0    I         30
      INDEXVAL   DSNDB04   TSA81401       0    I          2       0.525681     0.032609
      ENFORCE    DSNDB04   TSA81401       0    I          2       0.761700     0.079493
      DISCARD    DSNDB04   TSA81401       0    I          4       1.755469     0.259094
      REPORT     DSNDB04   TSA81401       0    R          6       0.855201     0.115105
                 ** MAIN TASK TOTAL **                            8.369077     0.761910
```

Phases Workload Block Example with Parallel Tasks

Here is an example of the phases workload block with parallel tasks.

```
                                                WORKLOAD(PHASE)
                                          IDENTIFIED BY PRIMAUTH/PLANNAME

PRIMAUTH              START TIME  ELAPSED TIME                        UTILITY-ID         JOB NAME       SHRLEVEL
 PLANNAME                SUBTASKS     CPU TIME ACTIVITY TYPE          DATABASE.PAGESET   STEP           TOT. ZIIP
              SORT:  DF DB2     DATA   INDEX  OTHER                                      SORT CPU       SORT ZIIP
-------------------- ---------- ------------ ---------------------- ------------------------------------------------------------
 WER
 DSNUTIL              23:59:38.33    12.141981 UTILITY                FUA8U114.STEP2     LOAD_THE_SECON
                      2    0    0     0.930925   LOAD                 DSNDB04 .TSA81401
                                                                      DSNDB04 .IUA81401
                                                                      DSNDB04 .IUA81403
                                                                      DSNDB04 .IUA81402
                                                                      DSNDB04 .IUA81404

    --- UTILITY PHASES ---------------------------------------------------------------------------------------------------------
     PHASE      DATABASE  PAGESET   PARTNO    TYPE   COUNT   ELAPSED TIME     CPU TIME
     UTILINIT / UTILTERM                                        0.119844     0.036723
     RELOAD     DSNDB04   TSA81401       0    R         16       3.253289     0.137179
     SORT       DSNDB04   TSA81401       0    IF        42       0.776951     0.105233
     BUILD      DSNDB04   IUA81401       0    I         42       0.820962     0.047176
                DSNDB04   IUA81403       0    I         42
                DSNDB04   IUA81402       0    I         42
                DSNDB04   IUA81404       0    I         30
     INDEXVAL   DSNDB04   TSA81401       0    I          2       2.837690     0.032817
     ENFORCE    DSNDB04   TSA81401       0    I          2       0.754517     0.079850
     DISCARD    DSNDB04   TSA81401       0    I          4       2.618391     0.264064
     REPORT     DSNDB04   TSA81401       0    R          6       0.960336     0.117006
                ** MAIN TASK TOTAL **                           12.141980     0.820048
    >SUBTASK                                                     0.000386     0.000316
     COPY       DSNDB04   TSA81401       0    FK         6       2.125070     0.000864
                ** SUBTASK TOTAL **                             2.125456     0.001180
     SUBTASK                                                     0.003410     0.000389
     RUNSTATS   DSNDB04   TSA81401       0    R         12       2.271970     0.033347
                ** SUBTASK TOTAL **                             2.275380     0.033736
     SUBTASK                                                     0.000262     0.000182
     RUNSTATS   DSNDB04   TSA81401       0    R         10       2.880952     0.075779
    <           ** SUBTASK TOTAL **                             2.881214     0.075961
```

Note:

1. In LOAD and REORG utility parallelism, the calculation of the elapsed and CPU times for the SORT phase only takes into account the parallel sort, not the originating task.
2. Although not a phase of the LOAD or REORG utility, COPY is reported as a phase when a concurrent COPY was requested for the LOAD or REORG.
3. If the utility runs on several objects or partitions, a TOTAL is shown for each phase.

Header Fields - Utility Phases

This topic describes the header fields of the Utility Phases.

START TIME
Start of the utility. This is the timestamp of the IFCID 023 (Utility Start) for the UTILINIT.

ELAPSED TIME
Total elapsed time. This is the difference between the timestamp of the IFCID 025 (Utility End) for the UTILTERM and the timestamp of the IFCID 023 (Utility Start) for the UTILINIT.

UTILITY-ID
User–defined utility identifier. This can be up to 16 characters in length.

JOB NAME
User-defined job name.

SHRLEVEL
The SHRLEVEL value of the utility. Possible values are: NONE, REFERENCE, or CHANGE.

SUBTASKS
These three numbers show the following information about parallel subtasks:

1. Requested number of subtasks.

   Note: You can process up to 40 subtasks.
2. Number of actual subtasks.
3. Number of reused subtasks.

N/A is printed for both values when no subtasks or parallelism are used.

CPU TIME
Total CPU time. This is the difference between the CPU time of the IFCID 025 (Utility End) for the UTILTERM and the CPU time of the IFCID 023 (Utility Start) for the UTILINIT.

ACTIVITY TYPE
The name of the activity type and event. The activity type can only be BIND for bind events including remote bind activity, or UTILITY for utility events. All events are indented.

For a detailed description, of Activity Type, see page "Field description" on page 1367.

DATABASE.PAGESET
The page set ID. This field should match the corresponding field of the preceding IFCID 0024 record.

STEP
The step name of the utility job.

TOT. ZIIP
The total utility ZIIP time (if Accounting class 1 trace is activated).

SORT
The type of Sort:

DF
DFSORT was invoked at least once. Possible values: are: Y or N.

DB2
DB2 SORT was invoked at least once. Possible values: are: Y or N.

DATA
The number of parallel data sorts.

INDEX
The number of parallel index sorts.

OTHER
The number of other sorts.

SORT CPU
The Sort CPU time.

SORT ZIIP
The Sort ZIIP time (if provided by the Sort program).

Field description - Utility phases

This topic describes the fields of the Utility Phases.

PHASE
The name of the phase used by the utility.

UNLOAD
The unload phase of the maintask or the summary of unload subtasks.

SORT
The sort phase of the maintask or the summary of sort subtasks.

BUILD
The build phase of the maintask or the summary of build subtasks.

DATABASE
The database name of the object.

PAGESET
The table space name or index name of the object.

When the sort or build phase, or both, are running in parallel as part of a subtask, ******** is printed if the number of objects is greater than one.

PARTNO
The number of the partition or data set if the utility is operating on a single partition or data set. Otherwise, the value in this field is 0.

TYPE
The item type for the individual phases.

COUNT
The number of item types processed by the phase for one object.

ELAPSED TIME
The elapsed time of the phase. This is the time between the IFCID 024 (utility change) of the phase and the IFCID 024 of the next phase. For the last phase, this is the time between the IFCID 024 (utility change) of the phase and the IFCID 024 of the UTILTERM.

CPU TIME
The CPU time of the phase. This is the time between the IFCID 024 (utility change) of the phase and the IFCID 024 of the next phase. For the last phase, this is the time between the IFCID 024 (utility change) of the phase and the IFCID 024 of the UTILTERM.

UTILINIT/ UTILTERM
This is the starting and ending time of the utility. This is the sum of the time between the IFCID 023 (Utility start) of the UTILINIT and the IFCID 024 (Utility change) of the first phase and the time between the IFCID 024 and the IFCID 025 (Utility end) of the UTILTERM. This is shown as elapsed time and CPU time.

MAIN TASK TOTAL
The total time spent processing main tasks. This is shown as elapsed time and CPU time.

SUBTASK
For each subtask, the following information is shown:

SUBTASK
The time between the IFCID 023 (utility start) for the subtask and the IFCID 024 (utility change) for the first phase within the subtask. This is shown as elapsed time and CPU time.

Phase
The name of the phase and time information. For a single phase, this is the time between the IFCID 024 (utility change) for the phase and the IFCID (utility end) of the subtask.

When a subtask contains multiple phases, the duration of the first and intermediate phases is measured from the IFCID 024 of the phase to the IFCID 024 of the next phase. For the last phase in the subtask, phase duration is taken from the IFCID 024 (utility change) for the phase to the IFCID 025 (utility end) of the subtask.

This is shown as elapsed time and CPU time.

SUBTASK TOTAL
Total time spent processing the subtask. This is the time between the IFCIDs 23 (utility start) and 25 (utility end) for the subtask. This is shown as elapsed time and CPU time.

Chapter 13. Additional Record Information

These topics provide additional information about reports.

DPMOUT Record

The externalized DPMOUT data is a sequential data set with variable-length records. The following table outlines the format of the DPMOUT record.

Note: Do not use this record as a programming interface.

The DPMOUT record consists of the following sections:

- Header
- Product data section showing:
  - Instrumentation data
  - CPU data
  - DDF data
  - Data sharing information
- Repeating section information
- DBID and OBID translation information

The following tables show the layout of the DPMOUT record:

- **DPMOUT header**

Table 30. Layout of the DPMOUT Record (DPMOUT header)

Offset	Length	Data Type	Field Description
0	2	FIXED	Record length
2	2	FIXED	Reserved (zeros)
4	3	CHAR	'DPM'
7	1	FIXED	DB2PM version release flag
8	4	FIXED	Full record length
12	60	CHAR	SORT Key
12	16	CHAR	Location (EBCDIC)
28	8	CHAR	Group name
36	4	CHAR	Subsystem identifier
40	8	CHAR	Member
48	8	CHAR	SORT timestamp
56	1	CHAR	Destination code
57	4	CHAR	Destination sequence number
61	2	CHAR	Split record sequence no.
63	9	CHAR	Reserved
72	1	BIT 0	Record processing flags
73	3	CHAR	Reserved

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Table 30. Layout of the DPMOUT Record (DPMOUT header) (continued)			
Offset	**Length**	**Data Type**	**Field Description**
76	8	CHAR	TIMEZONE adjusted timestamp
84	12	CHAR	Correlation name (translated)
96	8	CHAR	Correlation number (translated)
104	8	CHAR	Connecting system type
112	1	BIT 0	Record type flag
113	1	CHAR	Correlation data present
114	1	CHAR	CPU data present
115	1	CHAR	DDF data present
116	4	PTR	Offset to DBID/OBID section
120	2	FIXED	Length to DBID/OBID section
122	2	FIXED	Number to DBID/OBID section
124	2	FIXED	Offset to DBID/OBID strings
126	2	FIXED	length of DBID/OBID strings
128	2	FIXED	Total no. of split records
130	2	FIXED	Offset to long identifier
132	2	FIXED	Length of DPM0 header and
134	2	FIXED	Reserved

- **Product Data, Instrumentation Data**

Table 31. Layout of the DPMOUT Record (Product Data, Instrumentation Data)			
Offset	**Length**	**Data Type**	**Field Description**
136	3	CHAR	Reserved
139	1	FIXED	Resource manager id
140	2	FIXED	IFCID
142	1	FIXED	Self defining area count
143	1	FIXED	DB2 version/release
144	4	PTR	ACE address
148	4	CHAR	Subsystem name
152	8	CHAR	Store clock value of header
160	4	FIXED	IFCID sequence number
164	4	FIXED	Destination sequence number
168	4	FIXED	Active trace number mask
172	16	CHAR	Local location name
188	24	CHAR	Logical unit of work ID (LUWID)
188	8	CHAR	Net id

Table 31. Layout of the DPMOUT Record (Product Data, Instrumentation Data) (continued)			
Offset	**Length**	**Data Type**	**Field Description**
196	8	CHAR	LU name
204	6	CHAR	Instance number
210	2	CHAR	Commit count
212	1	BIT 0	QWHS_Flags
212	1	BIT 1	Reserved
213	1	BIT 0	Reserved
214	2	FIXED	Offset to long location
216	2	FIXED	Record sub-version
218	2	CHAR	Reserved

- **Product Data, Correlation Data**

Table 32. Layout of the DPMOUT Record (Product Data, Correlation Data)			
Offset	**Length**	**Data Type**	**Field Description**
220	8	CHAR	Authorization id
228	12	CHAR	Correlation id
240	8	CHAR	Connection id
248	8	CHAR	Plan name
256	8	CHAR	Original operator id
264	4	FIXED	Connecting system type code
268	22	CHAR	Accounting token
290	2	CHAR	Reserved
292	66	CHAR	End user workstation data
292	16	CHAR	End user workstation userID
308	32	CHAR	End user workstation trans.
340	18	CHAR	End user workstation name
358	2	FIXED	Offset to long auth id
360	2	FIXED	Offset to long oper id
362	2	FIXED	Offset to long euser id

- **Product Data, CPU Data**

Table 33. Layout of the DPMOUT Record (Product Data, CPU Data)			
Offset	**Length**	**Data Type**	**Field Description**
364	8	CHAR	CPU time
372	2	FIXED	Count field reserved (s)
374	2	FIXED	Reserved

- **Product Data, DDF Data**

Table 34. Layout of the DPMOUT Record (Product Data, DDF Data)			
Offset	**Length**	**Data Type**	**Field Description**
376	16	CHAR	Requester location name
392	8	CHAR	STCK for DBAT trace records
400	16	CHAR	Server name
416	8	CHAR	PRDID parm (DB2 2.3)
424	2	FIXED	Offset to requester name
426	2	FIXED	Offset to server name

- **Product Data, Data Sharing**

Table 35. Layout of the DPMOUT Record (Product Data, Data Sharing)			
Offset	**Length**	**Data Type**	**Field Description**
428	8	CHAR	DB2 Member name
436	8	CHAR	DB2 data sharing group

- **Self-Defining Sections**

Table 36. Layout of the DPMOUT Record (Self-Defining Sections)			
Offset	**Length**	**Data Type**	**Field Description**
444	4	PTR	Data section 1 offset
448	2	FIXED	Data section 1 length
450	2	FIXED	Data section 1 count
452	4	PTR	Data section 2 offset
456	2	FIXED	Data section 2 length
458	2	FIXED	Data section 2 count
460	4	PTR	Data section 3 offset
464	2	FIXED	Data section 3 length
466	2	FIXED	Data section 3 count
468	4	PTR	Data section 4 offset
472	2	FIXED	Data section 4 length
474	2	FIXED	Data section 4 count
476	4	PTR	Data section 5 offset
480	2	FIXED	Data section 5 length
482	2	FIXED	Data section 5 count
484	4	PTR	Data section 6 offset
488	2	FIXED	Data section 6 length
490	2	FIXED	Data section 6 count
492	4	PTR	Data section 7 offset
496	2	FIXED	Data section 7 length

Table 36. Layout of the DPMOUT Record (Self-Defining Sections) (continued)			
Offset	**Length**	**Data Type**	**Field Description**
498	2	FIXED	Data section 7 count
500	4	PTR	Data section 8 offset
504	2	FIXED	Data section 8 length
506	2	FIXED	Data section 8 count
508	4	PTR	Data section 9 offset
512	2	FIXED	Data section 9 length
514	2	FIXED	Data section 9 count
516	4	PTR	Data section 10 offset
520	2	FIXED	Data section 10 length
522	2	FIXED	Data section 10 count
524	4	PTR	Data section 11 offset
528	2	FIXED	Data section 11 length
530	2	FIXED	Data section 11 count
532	4	PTR	Data section 12 offset
536	2	FIXED	Data section 12 length
538	2	FIXED	Data section 12 count
540	4	PTR	Data section 13 offset
544	2	FIXED	Data section 13 length
546	2	FIXED	Data section 13 count
548	4	PTR	Data section 14 offset
552	2	FIXED	Data section 14 length
554	2	FIXED	Data section 14 count
556	4	PTR	Data section 15 offset
560	2	FIXED	Data section 15 length
562	2	FIXED	Data section 15 count
564	4	PTR	Data section 16 offset
568	2	FIXED	Data section 16 length
570	2	FIXED	Data section 16 count
572	2	FIXED	Reserved

- **DBID/OBID Translation**

Table 37. Layout of the DPMOUT Record (DBID/OBID Translation)			
Offset	**Length**	**Data Type**	**Field Description**
0	2	FIXED	Offset to DBID/OBID section
2	2	FIXED	OBID number

Table 37. Layout of the DPMOUT Record (DBID/OBID Translation) (continued)			
Offset	**Length**	**Data Type**	**Field Description**
4	8	CHAR	Database name
12	8	CHAR	Table or index space name
20	2	FIXED	Offset to index name
22	1	CHAR	Pageset type: I,T,U
23	1	CHAR	Reserved
24	4	FIXED	Object size in pages

OMEGAMON for Db2 PE VSAM Data Sets

This section explains the VSAM Data Sets of OMEGAMON for Db2 PE.

OMEGAMON for Db2 PE uses the following VSAM data sets:

- A VSAM-Save data set is written when the job stream contains a SAVE subcommand without the CONVERT option.
- A physical sequential data set is written when the job stream contains a SAVE subcommand with a CONVERT option.
- Job summary data sets are written when new data is processed.

All VSAM data sets used in an OMEGAMON for Db2 PE job must exist before OMEGAMON for Db2 PE is executed. Preallocate the data sets using the IDCAMS command. You can run IDCAMS as an initial step in the OMEGAMON for Db2 PE job. The required attributes for VSAM data sets are shown in Table 38 on page 1392. An example of the required IDCAMS commands is shown in “IDCAMS Commands” on page 1393.

Refer to the *z/OS DFSMS* for more information about IDCAMS.

Note:

1. When the SAVE subcommand is specified, the save data set should be empty. If it is not empty, all existing records are deleted. If save and restore use the same physical data set, the restored data is rewritten during save.
2. You need not prime OMEGAMON for Db2 PE VSAM data sets.

Table 38. Attributes for OMEGAMON for Db2 PE VSAM Data Sets						
Data Set	**Key Length (bytes)**	**Maximum Record Length (bytes)**	**Average Record Length (bytes)**	**Buffer Space (bytes)**	**Data Control Interval Size (bytes)**	**Index Control Interval Size (bytes)**
Accounting SAVE (ACSAVDD)	255	5500	3000	40 960	8192	4096
Statistics SAVE (STSAVDD)	92	8192	2400	40 960	8192	4096
Job Summary (JSSRSDD)	52	2462	160	40 960	8192	4096

Note: Buffer space and control interval size are suggestions only. You can modify them to suit the requirements of your installation.

IDCAMS Commands

In this example, the job deletes the cluster if it already exists, then defines a new cluster with the specified attributes.

```
//ALCVSAM  EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
  DELETE (cluster.name)
  DEFINE -
    CLUSTER ( -
      NAME (cluster.name) -
      TRACKS (as required) -
      VOLUMES (as required) -
      KEYS (keylength 0) -
      RECORDSIZE (average maximum) -
      BUFFERSPACE (40960) -
      REUSE -
      ) -
   DATA ( -
      CONTROLINTERVALSIZE (8192) -
      ) -
   INDEX ( -
      CONTROLINTERVALSIZE (4096) -
      )
/*
```

Correlation Translation Record

This record layout is not intended to be used as programming interface.

Table 39. Correlation Translation Record

Offset	Length	Description
0	8	Connection ID
8	2	Correlation name offset
10	2	Correlation name length
12	2	Correlation number offset
14	2	Correlation number length
16	64	Reserved

Location Information Record

This topic describes the record format of the location information.

Table 40. Location Information Record Format

Offset	Length	Data Type	Field Description
0	16	CHAR	Location
16	2	CHAR	Reserved
18	1	CHAR	Local time relativity (E or W)
19	5	CHAR	Difference between local time and GMT (HH:MM)
24	1	CHAR	CPU time relativity (E or W)
25	5	CHAR	Difference between CPU time and GMT (HH:MM)
30	50	CHAR	Reserved

MAINPACK Definitions Record

This topic describes the record format of the MAINPACK Definitions.

Note: This record layout is not intended to be used as programming interface.

Table 41. MAINPACK Definitions Record Format

Offset	Length	Data Type	Field Description
0	16	CHAR	Requester location
16	8	CHAR	Connection ID
24	8	CHAR	Plan name
32	1	CHAR	Code

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