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



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## About this information

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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

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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 arrow 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).

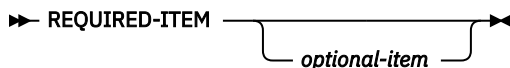
### Required items

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

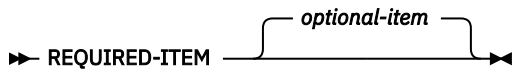


### Optional items

Optional items appear below the main path.

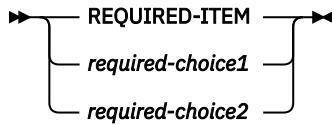


If an optional item appears above the main path, that item has no effect on the execution of the statement and is used only for readability.

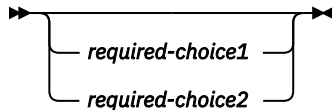


### Multiple required or optional items

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.

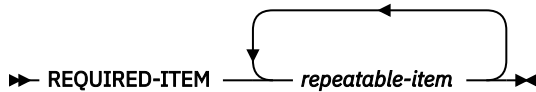


If choosing one of the items is optional, the entire stack appears below the main path.

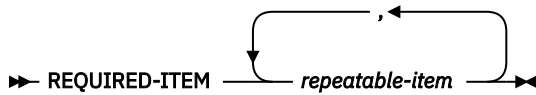


### Repeatable items

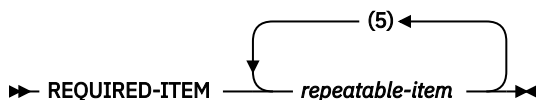
An arrow returning to the left above the main line indicates that an item can be repeated.



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



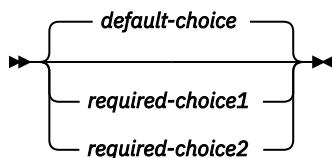
If the repeat arrow contains a number in parenthesis, the number represents the maximum number of times that the item can be repeated.



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

## 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.

<i>Table 1. Product names and their short names</i>	
Product name	Short name
IBM OMEGAMON for Db2 Performance Expert on z/OS	OMEGAMON for Db2 Performance Expert
IBM zSystems Monitoring Configuration Manager	Configuration Manager

## Accessibility features

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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.

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## Chapter 2. Logs

This topic provides information about the OMEGAMON for Db2 Performance Expert logs.

The OMEGAMON for Db2 Performance Expert logs provide summarized information about various events during OMEGAMON for Db2 Performance Expert 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 Performance Expert logs are generated automatically for each OMEGAMON for Db2 Performance Expert 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 Performance Expert logs are available:

- The *DPMLOG execution log* provides a listing of messages issued during command stream validation and OMEGAMON for Db2 Performance Expert initialization. It also reports any errors during the execution of OMEGAMON for Db2 Performance Expert.
- 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 Performance Expert 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 Performance Expert 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.

## 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)

FPEC1999I EXEC
          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 Performance Expert
- *c* is the OMEGAMON for Db2 Performance Expert 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 Performance Expert command to generate the exception log. The exception log is generated automatically for an OMEGAMON for Db2 Performance Expert 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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DB1G  
 20:34:09.92  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 EXCEPTION LOG

PAGE: 1-1

ACTUAL FROM: 06/30/15

PAGE DATE: 06/30/15

PRIMAUTH	CONNECT	EXCEPTION TIME	PER	FIELD ID	FIELD DESCRIPTION	BY	CALCULATED OR FIELD VALUE	OP	THRESHOLD VALUE	THRESHOLD TYPE
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
				ARITTERM	RID LIST TERMINATED - ANY REASON	TOTAL	0	<	1	WARN
				ASDCCL	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
				QTXALEX	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	COMMITTS	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
				QXDEGCU	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	BPO TOTAL PREFETCH REQUESTS	TOTAL	0	<	1	WARN
				QBACGET	BPO GETPAGES	TOTAL	33	>	0	PROB
				QBACIMW	BPO SYNCHRONOUS WRITES	TOTAL	0	<	1	WARN
				QBACRIO	BPO 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 *!!!-nnnnnn*, where *!!!* 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 Performance Expert:

**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.

**CORRMBR**

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 *sssss.ttt*, where *sssss* is time in seconds and *ttt* 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 Performance Expert job summary log provides a summary of events during OMEGAMON for Db2 Performance Expert execution, and other information about DB2 that helps you interpret OMEGAMON for Db2 Performance Expert 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 Performance Expert command to generate the job summary log. The log is generated automatically for each OMEGAMON for Db2 Performance Expert 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.

```

MSG.ID.   LOCATION      GROUP   SSID  MEMBER  TIMESTAMP
DESCRIPTION
-----
FPEC4060I DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  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
-----
DSNTEKO      DSNTEKO  TEK1  TEK1    01/30/15 20:24:00.00 01/30/15 20:27:00.00 3
DSNTEKO      DSNTEKO  TEK1  TEK1    01/30/15 20:27:00.00 01/30/15 20:30:00.00 8
DSNTEKO      DSNTEKO  TEK1  TEK1    01/30/15 20:30:00.00 01/30/15 20:33:00.00 6
DSNTEKO      DSNTEKO  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 DSNTEKO      DSNTEKO  TEK1  TEK1
NUMBER OF RECORDS PROCESSED WITHOUT A CPU HEADER WAS 210
FPEC4010I DSNTEKO      DSNTEKO  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 Performance Expert
- *c* is the OMEGAMON for Db2 Performance Expert 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 Performance Expert. Either specify an existing data set from a previous OMEGAMON for Db2 Performance Expert 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 Performance Expert 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 Performance Expert 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 Performance Expert 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 Performance Expert command to generate the IFCID Frequency Distribution log. The log is generated automatically for each OMEGAMON for Db2 Performance Expert 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: DSNTK0          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)          PAGE: 1
GROUP: DSNTK0          IFCID FREQUENCY DISTRIBUTION LOG                      RUN DATE: 01/30/15 09:40:29.48
MEMBER: TEK1
SUBSYSTEM: TEK1
DB2 VERSION: V10
ACTUAL FROM: 01/30/15 20:25:23.86
TO: 01/30/15 20:34:24.76
```

IFCID	INPUT COUNT	INPUT PCT OF TOTAL	PROCESSED COUNT	PROCESSED PCT OF TOTAL	IFCID	INPUT COUNT	INPUT PCT OF TOTAL	PROCESSED COUNT	PROCESSED 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.

## 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 Performance Expert 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              ORDER: PRIMAUTH-PLANNAME                                  TO: NOT SPECIFIED
SUBSYSTEM: SN11          SCOPE: MEMBER                                           INTERVAL FROM: 01/30/15 22:53:32.60
DB2 VERSION: V10                                               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
DB2 VERSION: V10       ORDER: PRIMAUTH-PLANNAME                                  TO: NOT SPECIFIED
                                                                INTERVAL FROM: 01/30/15 18:47:13.28
                                                                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              ORDER: PRIMAUTH-PLANNAME                                  TO: NOT SPECIFIED
SUBSYSTEM: SN11          SCOPE: MEMBER                                           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:

### 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 Performance Expert 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 Performance Expert 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.

$$\text{Average} = \frac{\text{Total of package counter or time (QPACxxxx)}}{\text{Number of threads that roll data into this QPAC data section (QPACRLNU)}}$$

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

- [“Package buffer pool activity - Class 10 ” on page 168](#)
- [“Package Locking Activity - Class 10 ” on page 182](#)
- [“Package SQL Activity - Class 10 ” on page 184](#)
- [“Package Times - Class 7 ” on page 193](#)
- [“Package Global Contention P-Locks - Class 8 ” on page 172](#)
- [“Package Global Contention L-Locks - Class 8 ” on page 171](#)
- [“Package Times - Class 8 - Suspensions ” on page 186](#)
- [“Package Identification - Report ” on page 173](#)
- [“Package Identification - Trace ” on page 177](#)
- [“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

PRIMAUTH PLANNAME	#OCCURS #ROLLBK	#COMMIT SELECTS FETCHES	INSERTS UPDATES MERGES	OPENS CLOSES DELETES	PREPARE CLASS1 EL.TIME CPU TIME	CLASS2 EL.TIME CPU TIME	EL.TIME GETPAGES	BUF.UPDT SYN.READ TOT.PREF	LOCK #LOCKOUT	SUS #LOCKOUT
DB2PM 'BLANK'	1 0 0	0 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 8:13.695925 0.002014			N/P N/P N/P		0.00 0 0
DB2PM DB2PM	10 0 1	655 443.20 1551.70	0.60 12.60 0.00	505.20 505.20 3.20	10.40 5:40.386999 0.115894		0.060370 0.052687 3318.30	1.20 0.60 168.50		0.00 0 0

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 K02PLAN	22 0 2	13214 4106.95 9503.18	42.09 104.09 0.00	4776.82 4776.82 33.91		209.64 1:03:48.234755 0.960242		1.213447 0.596238 29212.68		168.95 9.45 152.05		0.18 0 0
------------------	--------------	-----------------------------	-------------------------	-----------------------------	--	--------------------------------------	--	----------------------------------	--	--------------------------	--	----------------

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		0.400424		0.408331		0.041089		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 0 3	13869 2872.27 6805.67	28.24 73.21 0.00	3337.64 3337.64 23.58		142.91 44:30.264561 0.675342		0.829088 0.413458 21120.69		116.53 6.69 157.19		0.12 0 0
------------------------	--------------	-----------------------------	------------------------	-----------------------------	--	------------------------------------	--	----------------------------------	--	--------------------------	--	----------------

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

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

PRIMAUTH PLANNAME	#OCCURS #ROLLBK	#COMMIT SELECTS FETCHES	INSERTS UPDATES MERGES	OPENS CLOSES DELETES	PREPARE CLASS1 EL.TIME CPU TIME	CLASS2 EL.TIME CPU TIME	EL.TIME GETPAGES	BUF.UPDT SYN.READ TOT.PREF	LOCK #LOCKOUT	SUS #LOCKOUT
MIS ADB	2 0 0	17 0.00 11.50	1.00 0.00 0.00	4.00 4.00 0.00	9.00 1:59.441151 0.047758		0.193028 0.040293 1519.50	416.00 21.50 57.00		0.00 0 0

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

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 DSNUTIL	2 0 2	20 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00		0.00 0.972823 0.040689		0.158877 0.018292 796.50		12.00 18.00 110.00		0.00 0 0
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*** TOTAL *** MIS	10 0 2	43 0.20 4.00	0.20 0.00 0.00	1.20 1.20 0.00		1.80 24.106031 0.020380		0.092903 0.014165 753.00		109.50 12.38 47.00		0.00 0 0
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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 0 5	13912 2204.35 5223.88	21.72 56.19 0.00	2561.72 2561.72 18.09		110.09 34:14.878856 0.523025		0.645042 0.320599 17047.15		115.13 7.82 135.15		0.09 0 0
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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  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING REPORT - SHORT  
 ORDER: PRIMAUTH-PLANNAME  
 SCOPE: MEMBER

PAGE: 2-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 08/24/16 07:02:00.00  
 TO: 08/24/16 09:56:00.00

PRIMAUTH PLANNAME	#OCCURS #DISTR	#COMMIT SELECTS	INSERTS UPDATES	OPENS CLOSES	PREPARE CLASS1	CLASS2 EL.TIME	EL.TIME CLASS2	BUF.UPDT CPUTIME	LOCK SYN.READ	SUS #LOCKOUT		
	#ROLLBK	FETCHES	MERGES	DELETES	CPUTIME	GETPAGES	TOT.PREF					
DB2PM 'BLANK'	10 0 0	30 0.10 1.60	0.30 2.00 0.00	1.60 1.60 0.70	4.60 3:22.884144 0.008648	0.042704 0.001992 71.40	1.40 1.50 0.00	0.40 1.00 0				
!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 K02PLAN	116 0	2003 0.15	9.59 5.82	16.56 16.56	48.48 10:50.679206	0.425692 0.032228	39.12 1.40	3.61 1.40		0		
!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		2.278088		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 0 0	2033 0.14 43.13	8.86 5.52 0.00	15.37 15.37 6.54	45.00 10:15.139916 0.049083		0.395296 0.029828 237.20		36.13 1.40 3.36		3.36 0
!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 'BLANK'	2 0 0	2 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.021522 0.000378		0.021518 0.000374 N/P		N/P N/P N/P		0.00 0
MIS ADB	1 0 0	9 0.00 24.00	1.00 0.00 0.00	5.00 5.00 0.00	10.00 4:39.789682 0.325938	6.930629 0.317732 82939.00	448.00 102.00 5136.00	12.00 0				
!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

PRIMAUTH PLANNAME	#OCCURS #DISTR #ROLLBK	#COMMIT SELECTS FETCHES	INSERTS UPDATES MERGES	OPENS CLOSES DELETES	PREPARE CLASS1 EL.TIME CPU TIME	CLASS2 CLASS1 EL.TIME CPU TIME	EL.TIME CPU TIME GETPAGES	BUF.UPDT SYN.READ TOT.PREF	LOCK #LOCKOUT	SUS
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 PACKAGE	#OCCURS	#ALLOCS	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!ADB27SP		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 PACKAGE	#OCCURS	#ALLOCS	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!ALL PROG		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 PACKAGE	#OCCURS	#ALLOCS	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!ALL PROG		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

PRIMAUTH PLANNAME	#OCCURS #DISTR #ROLLBK	#COMMIT SELECTS FETCHES	INSERTS UPDATES MERGES	OPENS CLOSES DELETES	PREPARE CLASS1 EL.TIME CPU TIME	CLASS2 CLASS1 EL.TIME CPU TIME	EL.TIME CPU TIME GETPAGES	BUF.UPDT SYN.READ TOT.PREF	LOCK #LOCKOUT	SUS
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 PACKAGE	#OCCURS	#ALLOCS	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!DGOZDATE		9	60	60.00		0.002446		0.002390		0.000000		0.00!
!DGOZPC1		9	120	603.00		2.149922		0.043017		2.078318		122.00!
!DGOZPC2		9	120	420.00		0.070453		0.047602		0.000000		0.00!
!DGOZPC4		9	60	240.00		0.028219		0.015639		0.000000		0.00!
!FPEVWRPA		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		
K02PLAN	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 PACKAGE	#OCCURS	#ALLOCS	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!FPEVWRP2		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 PACKAGE	#OCCURS	#ALLOCS	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!ALL PROG		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 PACKAGE	#OCCURS	#ALLOCS	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!ALL PROG		55	363	194.43		0.337481		0.017141		0.298461		19.29!

LOCATION: OMPDBEE  
 GROUP: DBEE  
 MEMBER: SEE2  
 SUBSYSTEM: SEE2  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING REPORT - SHORT  
 ORDER: PRIMAUTH-PLANNAME  
 SCOPE: MEMBER

PAGE: 4-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 08/24/16 07:08:00.00  
 TO: 08/24/16 09:51:14.25

PRIMAUTH PLANNAME	#OCCURS #DISTR	#COMMIT SELECTS	INSERTS MERGES	OPENS CLOSES	PREPARE CLASS1 EL.TIME	CLASS2 EL.TIME	EL.TIME CPU TIME	BUF.UPDT SYN.READ	LOCK SUS #LOCKOUT
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
K02PLAN	0	3.35	2.71	10.03	2:34.850083	0.064482	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	077.50		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		0.002693		21.00!

*** TOTAL ***	141	13446	3.41	81.27	19.14	0.212062	13.71	2.77
DB2PM	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  
 GROUP: DBEE  
 MEMBER: SEE2  
 SUBSYSTEM: SEE2  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING REPORT - SHORT  
 ORDER: PRIMAUTH-PLANNAME  
 SCOPE: MEMBER

PAGE: 4-2  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 08/24/16 07:08:00.00  
 TO: 08/24/16 09:51:14.25

PRIMAUTH PLANNAME	#OCCURS #DISTR	#COMMIT SELECTS	INSERTS MERGES	OPENS CLOSES	PREPARE CLASS1 EL.TIME	CLASS2 EL.TIME	EL.TIME CPU TIME	BUF.UPDT SYN.READ	LOCK SUS #LOCKOUT
!ADBMAIN	1	1	19.00	0.084382	0.007224	0.068382	14.00!		
!ADBPARM	1	1	2.00	0.000224	0.000200	0.000000	0.00!		
!ADB2CON	1	1	1.00	0.000039	0.000039	0.000000	0.00!		
!ADB2GET	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	

!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										
PRIMAUTH PLANNAME	#OCCURS	#COMMIT	INSERTS	OPENS	CLASS1	PREPARE	CLASS2	EL.TIME	BUF.UPDT	LOCK SUS
	#DISTR	SELECTS	UPDATES	CLOSES	EL.TIME	CLASS2	CPUTIME	SYN.READ	#LOCKOUT	
	#ROLLBK	FETCHES	MERGES	DELETES	CLASS1	CPUTIME	GETPAGES	TOT.PREF		
DB2PM										
'BLANK'	12	55	0.25	3.17		9.42	0.015558	1.08	1.50	
	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 ***		114	438	0.09	3.29	7.65	0.231554	0.48	3.30	
DB2PM		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: DB22 ACCOUNTING REPORT - SHORT REQUESTED FROM: NOT SPECIFIED  
 MEMBER: S222 TO: NOT SPECIFIED  
 SUBSYSTEM: S222 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

PRIMAUTH PLANNAME	#OCCURS #DISTR #ROLLBK	#COMMIT SELECTS FETCHES	INSERTS UPDATES MERGES	OPENS CLOSES DELETES	PREPARE CLASS1 EL.TIME CPU TIME	CLASS2 EL.TIME CPU TIME	EL.TIME CPU TIME GETPAGES	BUF.UPDT SYN.READ TOT.PREF	LOCK #LOCKOUT	SUSP #LOCKOUT
MIS ADB27SPC	2 0 0	2 0.50 4.00	0.00 0.00 0.00	1.00 1.00 0.00	0.00 0.074793 0.007991	0.00 0.074793 0.007991	0.072999 0.007377 244.00	5.00 16.50 13.00	0.50 0	
!PROGRAM NAME !ADB27SP	TYPE PACKAGE	#OCCURS 2	#ALLOCS 2	SQLSTMT 11.50	CL7 ELAP.TIME 0.067391	CL7 ELAP.TIME 0.067391	CPU TIME CPU TIME 0.007117	CL8 SUSP.TIME 0.050804	CL8 SUSP.TIME 17.00!	SUSP! 17.00!
MIS DSNUTIL	3 0 0	44 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 1.022531 0.016776	0.00 1.022531 0.016776	0.985921 0.014510 670.67	147.00 80.67 72.67	16.00 0	
*** TOTAL *** MIS	7 0 0	62 0.14 6.14	0.29 0.00 0.00	1.43 1.43 0.00	2.57 42.241580 0.022339	2.57 42.241580 0.022339	0.592911 0.019546 744.33	202.50 85.50 55.00	8.00 0	
!PROGRAM NAME !ALL PROG	TYPE PACKAGE	#OCCURS 5	#ALLOCS 6	SQLSTMT 25.80	CL7 ELAP.TIME 0.230464	CL7 ELAP.TIME 0.230464	CPU TIME CPU TIME 0.018377	CL8 SUSP.TIME 0.143833	CL8 SUSP! 64.20!	SUSP! 64.20!
*** GRAND TOTAL ***	121 0 27	500 0.16 173.73	0.10 2.52 0.00	3.18 2.96 1.57	7.36 10:42.523735 0.019976	7.36 10:42.523735 0.019976	0.252459 0.011568 70.31	10.58 13.16 4.95	3.57 0	
!PROGRAM NAME !ALL PROG	TYPE PACKAGE	#OCCURS 140	#ALLOCS 61	SQLSTMT 39.67	CL7 ELAP.TIME 0.108019	CL7 ELAP.TIME 0.108019	CPU TIME CPU TIME 0.011003	CL8 SUSP.TIME 0.057022	CL8 SUSP! 15.55!	SUSP! 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

PRIMAUTH PLANNAME	#OCCURS #DISTR #ROLLBK	#COMMIT SELECTS FETCHES	INSERTS UPDATES MERGES	OPENS CLOSES DELETES	PREPARE CLASS1 EL.TIME CPU TIME	CLASS2 EL.TIME CPU TIME	EL.TIME CPU TIME GETPAGES	BUF.UPDT SYN.READ TOT.PREF	LOCK #LOCKOUT	SUSP #LOCKOUT
DB2PM 'BLANK'	9 0 0	0 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 1:01:34.703314 0.009477	0.00 1:01:34.703314 0.009477	0.001968 0.001001 N/P	N/P N/P N/P	0.00 0	
DB2PM DB2PM	3 0 3	12336 617.67 2923.00	0.00 586.00 0.00	2923.00 2923.00 1.00	0.00 59:03.377015 0.861259	0.00 59:03.377015 0.861259	0.656694 0.614368 8301.67	0.00 2.67 378.67	0.00 0	
!PROGRAM NAME !DGOZCHKB !DGOZPC1 !DGOZPC2 !DGOZPC4	TYPE PACKAGE PACKAGE PACKAGE PACKAGE	#OCCURS 1 3 3 3	#ALLOCS 1 3487 1743 1743	SQLSTMT 2.00 5833.00 1743.00 2324.00	CL7 ELAP.TIME 0.001980 0.292932 0.278159 0.085597	CL7 ELAP.TIME 0.001980 0.292932 0.278159 0.085597	CPU TIME CPU TIME 0.264283 0.268009 0.081679	CL8 SUSP.TIME 0.000302 0.021860 0.000190 0.000000	CL8 SUSP! 1.00! 1164.00! 0.67! 0.00!	SUSP! 1.00! 1164.00! 0.67! 0.00!
DB2PM K02PLAN	21 0 0	1209 1.00 246.10	29.67 30.81 0.00	54.24 54.24 31.71	174.95 35:03.049442 0.171146	174.95 35:03.049442 0.171146	0.251134 0.117918 805.76	118.29 2.24 1.19	0.05 0	
!PROGRAM NAME !DGOVEXCP !FPEVWRPA !FPEVWR2C	TYPE PACKAGE PACKAGE PACKAGE	#OCCURS 1 4 3	#ALLOCS 1 4 3	SQLSTMT 5270.00 9.00 1392.00	CL7 ELAP.TIME 1.728788 0.003903 0.352809	CL7 ELAP.TIME 1.728788 0.003903 0.352809	CPU TIME CPU TIME 1.364789 0.002244 0.311820	CL8 SUSP.TIME 0.336860 0.001298 0.009066	CL8 SUSP! 1065.00! 2.00! 52.33!	SUSP! 1065.00! 2.00! 52.33!
*** TOTAL *** DB2PM	33 0 3	13545 56.79 422.33	18.88 72.88 0.00	300.24 300.24 20.27	111.33 44:28.075732 0.189792	111.33 44:28.075732 0.189792	0.237881 0.131163 1742.75	103.50 2.29 48.38	0.03 0	
!PROGRAM NAME !ALL PROG	TYPE PACKAGE	#OCCURS 18	#ALLOCS 6982	SQLSTMT 2176.89	CL7 ELAP.TIME 0.265271	CL7 ELAP.TIME 0.265271	CPU TIME CPU TIME 0.230669	CL8 SUSP.TIME 0.024206	CL8 SUSP! 262.50!	SUSP! 262.50!
MIS ADB	2 0 0	8 0.00 2.00	0.00 0.00 0.00	1.00 1.00 0.00	1.00 4:19.000484 0.005096	1.00 4:19.000484 0.005096	0.096774 0.003043 26.50	0.00 9.50 0.00	0.00 0	
!PROGRAM NAME !ADBMAIN !ADBPARM !ADB2CON !ADB2GET	TYPE PACKAGE PACKAGE PACKAGE PACKAGE	#OCCURS 2 2 2 2	#ALLOCS 2 2 2 4	SQLSTMT 6.00 2.00 1.00 6.00	CL7 ELAP.TIME 0.048995 0.021260 0.000040 0.012750	CL7 ELAP.TIME 0.048995 0.021260 0.000040 0.012750	CPU TIME CPU TIME 0.000187 0.000497 0.000038 0.000365	CL8 SUSP.TIME 0.046690 0.020785 0.000000 0.012404	CL8 SUSP! 5.50! 2.50! 0.00! 3.00!	SUSP! 5.50! 2.50! 0.00! 3.00!

```

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

```

PRIMAUTH PLANNAME	#OCCURS #ROLLBK	#COMMIT SELECTS FETCHES	INSERTS UPDATES MERGES	OPENS CLOSES DELETES	CLASS1 CLASS1	PREPARE EL.TIME CPU TIME	CLASS2 CLASS2 GETPAGES	EL.TIME CPU TIME GETPAGES	BUF.UPDT SYN.READ TOT.PREF	LOCK #LOCKOUT	SUS 0
*** 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)

```

...
PRIMAUTH          #OCCURS #COMMIT INSERTS  OPENS  PREPARE CLASS2 EL.TIME BUF.UPDT LOCK SUS
PLANNAME          #DISTR SELECTS UPDATES CLOSES CLASS1 EL.TIME CLASS2 CPUTIME SYN.READ #LOCKOUT
                  #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 [QBACSWWS]

(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 [QPACST]**

(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|
|PMDA11     Db2          V16R1 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 *VvvRrrMm* , 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 *VvvRrrMm* , 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 [ADPROTOD]**

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 R65M9    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 *VvvRrrMm*, 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 *VvvRrrMm*, 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: OMPDAS 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

PRMAUTH	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	COMMITTS	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!
!ADBMMAIN	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: OMPDAS 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

PRMAUTH	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	COMMITTS	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!
!ADBMMAIN	PACKAGE	81		0.332195		0.076641		0.829595		118!

DB2PM	'BLANK'	09:03:22.794879		81493	694	0	19.018617	579314	1567
K02PLAN	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		0.077264		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
K02PLAN	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
K02PLAN	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 1-3  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 2-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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

PRMAUTH	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		COMMITTS	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		51
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

PRMAUTH	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		COMMITTS	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!
!FPEVWRP4	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  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 2-4  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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	'BLANK'	09:20:20.453396		1	7	0	0.086478	714	0
KO2PLAN	RRSAF	NORM	END USER	16	3	46	0.427041	14	4
OMEGAMON	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
OMEGAMON	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
OMEGAMON	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
OMEGAMON	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 3-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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	457	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
OMEGAMON	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	'BLANK'	09:28:00.001512		184	7	0	0.366568	3932	1055
KO2PLAN	RRSAF	NORM	STALENESS	396	4	18	2.419360	11	28
OMEGAMON	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

PRMAUTH	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		COMMITTS	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

PRMAUTH	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		COMMITTS	FETCHES	UPDATES	EL. TIME(CL1)	CPU TIME(CL2)	SYN. READ	LOCKOUTS
!ADB2GET	PACKAGE			6	0	0.000202	0.000197	0.000000	0!
!ADB2CON	PACKAGE			1	0	0.000039	0.000039	0.000000	0!
!ADB2PARM	PACKAGE			2	0	0.000224	0.000200	0.000000	0!
!ADB2MAIN	PACKAGE			19	0	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	'BLANK'	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(CL1)	EL. TIME(CL2)	BUF.UPDT	
CORRNAME	THR. TYPE		COMMITTS	FETCHES	UPDATES	EL. TIME(CL1)	CPU TIME(CL2)	CPU TIME(CL2)	LOCK SUS	
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	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

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

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

PROGRAM NAME	TYPE	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!FPEVTC01	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(CL1)	EL. TIME(CL2)	BUF.UPDT
CORRNAME	THR. TYPE		COMMITTS	FETCHES	UPDATES	EL. TIME(CL1)	CPU TIME(CL2)	CPU TIME(CL2)	LOCK SUS

(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

PROGRAM NAME	TYPE	SQLSTMT	CL7	ELAP.TIME	CL7	CPU TIME	CL8	SUSP.TIME	CL8	SUSP!
!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		0.006066		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

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

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	'BLANK'	09:40:00.001842	212	1	0	0.275400		3647	1037	
KO2PLAN	RRSAF	NORM STALENESS	489	0	0	0.186022		0	0	
'BLANK'	ALLIED		601	570	83	16:33.188075		0.123437		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  
 GROUP: DBEE  
 MEMBER: SEE2  
 SUBSYSTEM: SEE2  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 4-5  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:08:00.00  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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	0	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  
 GROUP: DBZ2  
 MEMBER: SZ22  
 SUBSYSTEM: SZ22  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 5-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:05:32.04  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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	0.003845	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: SZZ2 TO: NOT SPECIFIED  
 SUBSYSTEM: SZZ2 ACTUAL FROM: 08/24/16 07:05:32.04  
 DB2 VERSION: V10 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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	0
ADB27SPC	TSO	NORM DEALLOC	1	0	0	0.026215		0	1	0
MIS	ALLIED	1	2	0	0.027784	0.001106		7	0	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	0
ADB27SPC	TSO	NORM DEALLOC	1	0	0	0.119782		10	0	0
MIS	ALLIED	1	6	0	0.121802	0.013648		26	0	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	0
'BLANK'	TSO	NORM DEALLOC	N/P	N/P	N/P	0.005642		0	N/P	N/P
MIS	ALLIED	1	N/P	N/P	0.005646	0.000370		0	N/P	N/P

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

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

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

MIS	'BLANK'	08:14:49.713117	0	0	0	0.089688		1966	86	0
ADB	TSO	NORM DEALLOC	8	2	18	1.040978		764	7	0
MIS	ALLIED	15	35	0	4:52.468235	0.078167		238	0	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: SZZ2 TO: NOT SPECIFIED  
 SUBSYSTEM: SZZ2 ACTUAL FROM: 08/24/16 07:05:32.04  
 DB2 VERSION: V10 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	FETCHES	UPDATES	EL. TIME(CL1)	CPU TIME(CL2)	SYN.READ	LOCKOUTS

DB2PM	'BLANK'	08:23:00.002444	0	0	0	0.006732		61	4	0
KO2PLAN	RRSAF	NORM STALENESS	16	0	28	0.102024		4	2	0
'BLANK'	ALLIED	19	16	12	0.102582	0.006182		6	0	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	0
KO2PLAN	RRSAF	NORM END USER	20	0	24	0.154202		4	8	0
'BLANK'	ALLIED	24	20	4	0.154867	0.014433		24	0	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	0
KO2PLAN	RRSAF	NORM STALENESS	20	0	24	0.022597		4	0	0
'BLANK'	ALLIED	24	20	4	0.024144	0.006154		2	0	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	0
KO2PLAN	RRSAF	NORM END USER	20	0	24	1.973761		4	0	0
'BLANK'	ALLIED	24	20	4	1.975112	0.008037		0	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	0
KO2PLAN	RRSAF	NORM END USER	143	2	417	14.540830		7	313	0
'BLANK'	ALLIED	150	7010	159	15:55:47.22613	1.007260		260	0	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	0
KO2PLAN	RRSAF	NORM END USER	10	0	12	0.008825		2	0	0
'BLANK'	ALLIED	12	10	2	2:39:52.254519	0.001893		0	0	0

LOCATION: OMPDBZ2  
 GROUP: DBZ2  
 MEMBER: SZZ2  
 SUBSYSTEM: SZZ2  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 5-4  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:05:32.04  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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	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  
 GROUP: DBZ2  
 MEMBER: SZZ2  
 SUBSYSTEM: SZZ2  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 5-5  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:05:32.04  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DB51  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 6-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:17:26.37  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DB51  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 6-2  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:17:26.37  
 PAGE DATE: 08/24/16

PRMAUTH	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		COMMITTS	FETCHES	UPDATES	EL. TIME(CL1)	CPU TIME(CL2)	SYN.READ	LOCKOUTS
DB2PM	'BLANK'		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
'BLANK'	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	'BLANK'		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
'BLANK'	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	'BLANK'		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
'BLANK'	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DB51  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 6-3  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:17:26.37  
 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		COMMITTS	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	'BLANK'		09:20:20.448310	N/P	N/P	N/P	0.012308	0	0
KO2PLAN	RRSAF		NORM DEALLOC	N/P	N/P	N/P	0.000974	0	N/P
'BLANK'	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	'BLANK'		09:20:21.538346	N/P	N/P	N/P	0.003592	0	0
KO2PLAN	RRSAF		NORM DEALLOC	N/P	N/P	N/P	0.000522	0	N/P
'BLANK'	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
KO2PLAN	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DB51  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - SHORT

PAGE: 6-4  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:17:26.37  
 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		COMMITTS	FETCHES	UPDATES	EL. TIME(CL1)	CPU TIME(CL2)	SYN. READ	LOCKOUTS
DB2PM	'BLANK'		09:20:24.648777	N/P	N/P	N/P	0.002095	0	0
KO2PLAN	RRSAF		NORM DEALLOC	N/P	N/P	N/P	N/P	0	N/P
'BLANK'	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	'BLANK'		09:29:38.994436	N/P	N/P	N/P	0.011091	0	0
KO2PLAN	RRSAF		NORM DEALLOC	N/P	N/P	N/P	0.001393	0	N/P
'BLANK'	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	'BLANK'		09:29:43.051345	N/P	N/P	N/P	0.003222	0	0
KO2PLAN	RRSAF		NORM DEALLOC	N/P	N/P	N/P	0.000315	0	N/P
'BLANK'	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		COMMITTS	FETCHES	UPDATES	EL. TIME (CL1)	CPU TIME (CL2)	SYN.READ	LOCKOUTS
DB2PM	'BLANK'	09:29:43.087422		5	0	0	0.009636	140	3
K02PLAN	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 (CL1) EL. TIME (CL2) BUF.UPDT LOCK SUS
CORRNAME THR. TYPE COMMITTS 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:** ADTHRTP

## **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

## **COMMITTS**

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:** QXDELETE

## **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:** QBACSW

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 | 0.184795 | 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|
|PMDA11         DB2         V16R1 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 *VvvRrrMm* , 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 *VvvRrrMm* , 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

## COMMIT

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 *VvvRrrMm*, 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 *VvvRrrMm* , 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

### **COMMITTS**

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 (PRMAUTH-PLANNAME)  
SCOPE (MEMBER)  
...
```

# Accounting (Long Report)

1 LOCATION: RS27QD1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-1  
 GROUP: N/P ACCOUNTING REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: Q01A ORDER: PRIMAUTH-PLANNAME INTERVAL FROM: 11/07/23 10:26:10.43  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/07/23 10:26:10.43

PRIMAUTH: OMPQUSER PLANNAME: K02PLAN

ELAPSED TIME DISTRIBUTION	CLASS 2 TIME DISTRIBUTION
APPL  -----> 100%	CPU  -----> 78%
DB2	SECPU  -----> 14%
SUSP	NOTACC  -----> 8%
	SUSP  -----> 8%

AVERAGE	APPL(CL.1)	DB2 (CL.2)	CLASS 3 SUSPENSIONS	AVERAGE TIME	AV.EVENT	TIME/EVENT	HIGHLIGHTS
ELAPSED TIME	57.046652	0.012449	LOCK/LATCH (DB2+IRLM)	0.000000	0.00	N/C	#OCCURRENCES : 10
NONNESTED	57.046652	0.012449	IRLM LOCK+LATCH	0.000000	0.00	N/C	#ALLIEDS : 10
STORED PROC	0.000000	0.000000	DB2 LATCH	0.000000	0.00	N/C	#ALLIEDS DISTRIB: 0
UDF	0.000000	0.000000	SYNCHRON. I/O	0.000154	0.90	0.000171	#DBATS : 0
TRIGGER	0.000000	0.000000	DATABASE I/O	0.000154	0.90	0.000171	#DBATS DISTRIB: 0
			READ CACHE HIT	0.000154	0.90	0.000171	#NO PROGRAM DATA: 0
CP CPU TIME	0.011631	0.009721	LOG WRITE I/O	0.000000	0.00	N/C	#NORMAL TERMINAT: 10
AGENT	0.011631	0.009721	OTHER READ I/O	0.000000	0.00	N/C	#ROLLUP TRAN : 10
NONNESTED	0.011631	0.009721	OTHER WRTE I/O	0.000000	0.00	N/C	#DDFRSAF ROLLUP: 1
STORED PROC	0.000000	0.000000	SER_TASK SWTCH	0.000798	1.40	0.000570	#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
SQL DI	N/A	0.000000	SYSLGRNG REC	0.000000	0.00	N/C	#IO PARALLELISM : 0
PAR_TASKS	0.000000	0.000000	EXT/DEL/DEF	0.000000	0.00	N/C	#PCA RUP COUNT : 0
SQL DI	N/A	0.000000	OTHER SERVICE	0.000798	1.40	0.000570	#RUP AUTONOM. PR: 0
SE CPU TIME	0.000000	0.000000	ARC.LOG (QUIES)	0.000000	0.00	N/C	#AUTONOMOUS PR : 0
NONNESTED	0.000000	0.000000	LOG READ	0.000000	0.00	N/C	#INCREMENT. BIND: 0
STORED PROC	0.000000	0.000000	DRAIN LOCK	0.000000	0.00	N/C	#COMMITTS : 8
UDF	0.000000	0.000000	CLAIM RELEASE	0.000000	0.00	N/C	#ROLLBACKS : 0
TRIGGER	0.000000	0.000000	PAGE LATCH	0.000000	0.00	N/C	#SVPT REQUESTS : 0
SQL DI	N/A	0.000000	NOTIFY MSGS	0.000000	0.00	N/C	#SVPT RELEASE : 0
PAR_TASKS	0.000000	0.000000	GLOBAL CONTENTION	0.000000	0.00	N/C	#SVPT ROLLBACK : 0
SQL DI	N/A	0.000000	COMMIT PH1 WRITE I/O	0.000000	0.00	N/C	MAX SQL CASC LVL: 0
ASYNCH CF REQUESTS	0.000000	0.000000	TCP/IP LOB XML	0.000000	0.00	N/C	UPDATE/COMMIT : 0.00
TCP/IP LOB XML	0.000000	0.000000	ACCELERATOR	0.000000	0.00	N/C	SYNCH I/O AVG. : 0.000171
AUTONOMOUS PROCEDURE	0.000000	0.000000	PQ SYNCHRONIZATION	0.000000	0.00	N/C	MAX WFILE BLKS : 0
LOB COMPRESSION	0.000000	0.000000	FAST INSERT PIPE	0.000000	0.00	N/C	#ZHL READ I/O : 0.00
TOTAL CLASS 3	0.000952	0.000952		2.30	0.000414		
NOT ACCOUNT.	N/A	0.001776					
DB2 ENT/EXIT	N/A	11.40					
EN/EX-STPROC	N/A	0.00					
EN/EX-UDF	N/A	0.00					
EN/EX-SQL DI	N/A	0.00					
DCAPT_DESCR.	N/A	N/A					
LOG EXTRACT.	N/A						
N/A							

1 LOCATION: RS27QD1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-2  
 GROUP: N/P ACCOUNTING REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: Q01A ORDER: PRIMAUTH-PLANNAME INTERVAL FROM: 11/07/23 10:26:10.43  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/07/23 10:26:10.43

PRIMAUTH: OMPQUSER PLANNAME: K02PLAN

SQL DML	AVERAGE	TOTAL	SQL DCL	TOTAL	SQL DDL	CREATE	DROP	ALTER	DYNAMIC SQL STMT	AVERAGE	TOTAL
SELECT	1.60	16	LOCK TABLE	0	TABLE	0	0	0	REOPTIMIZATION	0.00	0
INSERT	0.00	0	GRANT	0	CRT TTABLE	0	N/A	N/A	NOT FOUND IN CACHE	0.00	0
ROWS	0.00	0	REVOKE	0	DCL TTABLE	0	N/A	N/A	FOUND IN CACHE	0.00	0
IAG1	0.00	0	SET CURR.SOLID	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	STOGRUP	0	0	0	STABILIZED PREPARE	0.00	0
DELETE	0.00	0	SET CURR.PREC.	0	SYNONYM	0	0	N/A	CSWL - STMTS PARSED	0.00	0
ROWS	0.00	0	SET TIMEOUT	0	VIEW	0	0	0	CSWL - LITS REPLACED	0.00	0
			FROM APPL.	0	ALIAS	0	0	N/A	CSWL - MATCHES FOUND	0.00	0
			FROM PROF.	0	PACKAGE	N/A	0	N/A	CSWL - DUPLS CREATED	0.00	0
DESCRIBE	0.00	0	CONNECT TYPE 1	0	PROCEDURE	0	0	0	RDS SORT PERFORMED	0.00	0
DESC.TBL	0.00	0	CONNECT TYPE 2	0	FUNCTION	0	0	0	RDS SORTL USED	0.00	0
PREPARE	0.00	0	SET CONNECTION	0	TRIGGER	0	0	N/A	ZAI STBLZD PREPARE	0.00	0
OPEN	0.00	0	RELEASE	0	DIST TYPE	0	0	N/A	ZAI SORT FB USED	0.00	0
FETCH	0.00	0	CALL	0	SEQUENCE	0	0	0	HISTORY LOST FOR ZAI	0.00	0
ROWS	0.00	0	ASSOC LOCATORS	0	TRUST.CTX	0	0	0	HV REC LOST FOR ZAI	0.00	0
CLOSE	0.00	0	ALLOC CURSOR	0	ROLE	0	0	N/A			
			HOLD LOCATOR	0	JAR	N/A	N/A	0			
			FREE LOCATOR	0	MASK/PERM	0	0	0			
DML-ALL	1.60	16	DCL-ALL	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	57.046652	0.012449	USED	0.00	0	IFI CALLS MADE	2.00	2
ELIGIBLE FOR ACCEL	N/A	0.000000	FAIL-NO STORAGE	0.00	0	RECORDS CAPTURED	0.00	0
			FAIL-LIMIT EXCEEDED	0.00	0	LOG RECORDS READ	0.00	0
CP CPU TIME	0.011631	0.009721	FAIL-NOT CONSTRUCTED	0.00	0	ROWS RETURNED	0.00	0
ELIGIBLE FOR SECP	0.000000	N/A	INTERRUPTED-NO STORAGE	0.00	0	RECORDS RETURNED	0.00	0
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-LIMIT EXC.	0.00	0	DATA DESC. RETURN	0.00	0
SE CPU TIME	0.000000	0.000000	OVERFLOWED-NO STORAGE	0.00	0	TABLES RETURNED	0.00	0
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-LIMIT EXC.	0.00	0	DESCRIBES	0.00	0
			SKIPPED-INDEX KNOWN	0.00	0			

STORED PROCEDURES	AVERAGE	TOTAL	UDF	AVERAGE	TOTAL	TRIGGERS	AVERAGE	TOTAL
CALL STATEMENTS	0.00	0	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			

GLOBAL	CONTENTION	L-LOCKS	AVERAGE TIME	AV.EVENT	GLOBAL	CONTENTION	P-LOCKS	AVERAGE TIME	AV.EVENT
L-LOCKS		0.000000	0.00	0	P-LOCKS		0.000000	0.00	0
PARENT (DB,TS,TAB,PART)		0.000000	0.00	0	PAGESET/PARTITION		0.000000	0.00	0
CHILD (PAGE,ROW)		0.000000	0.00	0	PAGE		0.000000	0.00	0
OTHER		0.000000	0.00	0	OTHER		0.000000	0.00	0

1 LOCATION: RS27QD1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0)  
 GROUP: N/P ACCOUNTING REPORT - LONG  
 MEMBER: N/P  
 SUBSYSTEM: QD1A ORDER: PRIMAUTH-PLANNAME  
 DB2 VERSION: V13 SCOPE: MEMBER

PAGE: 1-3  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 11/07/23 10:26:10.43  
 TO: 11/07/23 10:26:10.43

PRIMAUTH: OMPQUSER PLANNAME: K02PLAN

LOCKING	AVERAGE	TOTAL	DATA SHARING	AVERAGE	TOTAL
TIMEOUTS	0.00	0	GLOBAL CONT RATE(%)	N/C	N/A
DEADLOCKS	0.00	0	FALSE CONT RATE(%)	N/C	N/A
ESCAL.(SHARED)	0.00	0	P/L-LOCKS XES(%)	N/C	N/A
ESCAL.(EXCLUS)	0.00	0	LOCK REQ - PLOCKS	0.00	0
MAX PG/ROW LOCKS HELD	0.00	0	UNLOCK REQ - PLOCKS	0.00	0
LOCK REQUEST	2.60	26	CHANGE REQ - PLOCKS	0.00	0
UNLOCK REQUEST	2.80	28	LOCK REQ - XES	0.00	0
QUERY REQUEST	0.00	0	UNLOCK REQ - XES	0.00	0
CHANGE REQUEST	0.50	5	CHANGE REQ - XES	0.00	0
OTHER REQUEST	0.00	0	SUSPENDS - IRLM	0.00	0
TOTAL SUSPENSIONS	0.00	0	SUSPENDS - XES	0.00	0
LOCK SUSPENSIONS	0.00	0	CONVERSIONS- XES	0.00	0
IRLM LATCH SUSPENS.	0.00	0	FALSE CONTENTIONS	0.00	0
OTHER SUSPENS.	0.00	0	INCOMPATIBLE LOCKS	0.00	0
			NOTIFY MSGS SENT	0.00	0

LONGEST LOCK, LATCH, I/O WAIT	VALUE	LONGEST PAGE LATCH WAIT	VALUE
ELAPSED TIME	0.000416	ELAPSED TIME	N/P
WAIT TYPE	N/P	SOURCE ACE	N/P
SOURCE ACE	X'3AAA7F20'	DATABASE ID	N/P
DBID FOR SYNC/ASYN I/O	6	PAGESET ID	N/P
OBID FOR SYNC/ASYN I/O	15	PAGE NUMBER	N/P
LOCK HASH	X'0006000F'	PARTITION NUMBER	N/P
LOCK NAME	N/P	BEGIN TIME	N/P
LOCK RES TYPE	N/P	END TIME	N/P
LATCH CLASS	35		
LATCH TOKEN	N/P		
BEGIN TIME	10:26:10.259749		
END TIME	10:26:10.260165		

LONGEST SERVICE TASK WAIT	VALUE	QUERY PARALLELISM	AVERAGE	TOTAL	DRAIN/CLAIM	AVERAGE	TOTAL
ELAPSED TIME	0.001036	MAXIMUM DEGREE-ESTIMATED	0.00	0	DRAIN REQUESTS	0.00	0
SOURCE ACE	X'3AAA7F20'	MAXIMUM DEGREE-PLANNED	0.00	0	DRAIN FAILED	0.00	0
RESOURCE MANAGER ID	22	MAXIMUM DEGREE-EXECUTED	N/A	0	CLAIM REQUESTS	4.40	44
FUNCTION CODE	86	MAXIMUM MEMBERS USED	N/A	0	CLAIM FAILED	0.00	0
BEGIN TIME	10:16:52.034662	PARALLEL GROUPS EXECUTED	0.00	0			
END TIME	10:16:52.035698	RAN AS PLANNED	0.00	0			
		RAN REDUCED-STORAGE	0.00	0			
		RAN REDUCED-NEGOTIATION	0.00	0			
		SEQ-CURSOR	0.00	0			
		SEQ-NO ESA SORT	0.00	0			
		SEQ-NO BUFFER	0.00	0			
		SEQ-AUTONOMOUS PROC	0.00	0			
		SEQ-NEGOTIATION	0.00	0			
		ONE DB2-COORDINATOR = NO	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			

0

1 LOCATION: RS27QD1A  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: QD1A  
 DB2 VERSION: V13

IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0)  
 ACCOUNTING REPORT - LONG  
 ORDER: PRIMAUTH-PLANNAME  
 SCOPE: MEMBER

PAGE: 1-4  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 11/07/23 10:26:10.43  
 TO: 11/07/23 10:26:10.43

PRIMAUTH: OMPQUSER PLANNAME: K02PLAN

NORMAL TERM.	AVERAGE	TOTAL	ABNORMAL TERM.	TOTAL	IN DOUBT	TOTAL	ROWID	AVERAGE	TOTAL
NEW USER	0.00	0	APPL.PROGR. ABEND	0	APPL.PGM ABEND	0	DIRECT ACCESS	0.00	0
DEALLOCATION	0.00	0	END OF MEMORY	0	END OF MEMORY	0	INDEX USED	0.00	0
APPL.PROGR. END	0.00	0	RESOL.IN DOUBT	0	END OF TASK	0	TS SCAN USED	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	0.10	1							
BLOCK STOR THR	0.00	0							
STALENESS THR	0.00	0							

LOGGING	AVERAGE	TOTAL	AVERAGE SU	CLASS 1	CLASS 2	MISCELLANEOUS	AVERAGE	TOTAL
LOG RECORDS WRITTEN	0.00	0	CP CPU	1185.30	990.60	MAX STO LOB VAL (KB)	0.00	0
TOT BYTES WRITTEN	0.00	0	AGENT	1185.30	990.60	MAX STO XML VAL (KB)	0.00	0
LOG RECORD SIZE	N/C	N/A	NONNESTED	1185.30	990.60	ARRAY EXPANSIONS	0.00	0
			STORED PRC	0.00	0.00	SPARSE IX DISABLED	0.00	0
			UDF	0.00	0.00	SPARSE IX BUILT WF	0.00	0
			TRIGGER	0.00	0.00	NO DM CALL RIDL/LPF	0.00	0
			PAR.TASKS	0.00	0.00	FETCH 1 BLOCK ONLY	0.00	0
			ELIG SECP	0.00	N/A			
			ELIG ACCEL	N/A	0.00			
			SE CPU	0.00	0.00			
			NONNESTED	0.00	0.00			
			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			

BP0	BPOOL ACTIVITY	AVERAGE	TOTAL
	BPOOL HIT RATIO (%)	88.75	N/A
	GETPAGES	8.00	80
	BUFFER UPDATES	0.00	0
	SYNCHRONOUS WRITE	0.00	0
	SYNCHRONOUS READ	0.90	9
	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



1 LOCATION: RS27QD1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-5  
 GROUP: N/P ACCOUNTING REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: QD1A ORDER: PRIMAUTH-PLANNAME INTERVAL FROM: 11/07/23 10:26:10.43  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/07/23 10:26:10.43

PRIMAUTH: OMPQUSER PLANNAME: K02PLAN

FPEVDB2S	VALUE	FPEVDB2S	TIMES	FPEVDB2S	AVERAGE TIME	AVG.EV	TIME/EVENT
TYPE	PACKAGE	ELAP-CL7 TIME-AVG	0.002709	LOCK/LATCH	0.000000	0.00	N/C
LOCATION	RS27QD1A	CP CPU TIME	0.001931	IRLM LOCK+LATCH	0.000000	0.00	N/C
COLLECTION ID	K020M550	AGENT	0.001931	DB2 LATCH	0.000000	0.00	N/C
PROGRAM NAME	FPEVDB2S	PAR.TASKS	0.000000	SYNCHRONOUS I/O	0.000768	4.50	0.000171
ACTIVITY TYPE	NONNESTED	SE CPU TIME	0.000000	OTHER READ I/O	0.000000	0.00	N/C
ACTIVITY NAME	'BLANK'	SUSPENSION-CL8	0.000768	OTHER WRITE I/O	0.000000	0.00	N/C
SCHEMA NAME	'BLANK'	AGENT	0.000768	SERV.TASK SWITCH	0.000000	0.00	N/C
INCOMPATIBILITY	NO	PAR.TASKS	0.000000	ARCH.LOG (QUIESCE)	0.000000	0.00	N/C
SUCC AUTH CHECK	0	NOT ACCOUNTED	0.000010	ARCHIVE LOG READ	0.000000	0.00	N/C
OCCURRENCES	10	AVG.DB2 ENTRY/EXIT	26.00	DRAIN LOCK	0.000000	0.00	N/C
NBR OF ALLOCATIONS	2	DB2 ENTRY/EXIT	52	CLAIM RELEASE	0.000000	0.00	N/C
SQL STMT - AVERAGE	8.00	CP CPU SU	196.50	PAGE LATCH	0.000000	0.00	N/C
SQL STMT - TOTAL	16	AGENT	196.50	NOTIFY MESSAGES	0.000000	0.00	N/C
NBR RLUP THREADS	2	PAR.TASKS	0.00	GLOBAL CONTENTION	0.000000	0.00	N/C
		SE CPU SU	0.00	TCP/IP LOB XML	0.000000	0.00	N/C
				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.	0.000768	4.50	0.000171

FPEVDB2S	AVERAGE TIME	AV.EVENT	FPEVDB2S	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

FPEVDB2S	AVERAGE	TOTAL
SELECT	8.00	16
INSERT	0.00	0
UPDATE	0.00	0
DELETE	0.00	0
DESCRIBE	0.00	0
PREPARE	0.00	0
OPEN	0.00	0
FETCH	0.00	0
CLOSE	0.00	0
LOCK TABLE	0.00	0
CALL	0.00	0

FPEVDB2S	AVERAGE	TOTAL
BPOOL HIT RATIO (%)	83.93	N/A
GETPAGES	28.00	56
BUFFER UPDATES	0.00	0
SYNCHRONOUS WRITE	0.00	0
SYNCHRONOUS READ	4.50	9
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. READ	0.00	0
ZHL CPU TIME READ	0.000000	0
0.000000		

1 LOCATION: RS27QD1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-6  
 GROUP: N/P ACCOUNTING REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: QD1A ORDER: PRIMAUTH-PLANNAME INTERVAL FROM: 11/07/23 10:26:10.43  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/07/23 10:26:10.43

PRIMAUTH: OMPQUSER PLANNAME: K02PLAN

FPEVDB2S	AVERAGE	TOTAL
TIMEOUTS	0.00	0
DEADLOCKS	0.00	0
ESCAL.(SHARED)	0.00	0
ESCAL.(EXCLUS)	0.00	0
MAX PG/ROW LOCKS HELD	0.00	0
LOCK REQUEST	6.00	12
UNLOCK REQUEST	8.00	16
QUERY REQUEST	0.00	0
CHANGE REQUEST	1.00	2
OTHER REQUEST	0.00	0
TOTAL SUSPENSIONS	0.00	0
LOCK SUSPENSIONS	0.00	0
IRLM LATCH SUSPENS.	0.00	0
OTHER SUSPENS.	0.00	0

AVERAGE TIMES CL. 5 IFI (CL.5)

ELAPSED TIME	0.005801
CP CPU TIME	0.004205
DCAPT_DESCR.	0.000000
LOG EXTRACT.	0.000000

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                LWM NET: DEIBMIPS                CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92  PROD VER: N/P                LUN LUN: IPUAPZAS                CICS INS: N/A
REQUESTER  : OMPDA5                CORNAME: MIS                LUN INS: D13DD32594B7
MAINPACK  : ADB2GET                CORRMBR: 'BLANK'            LUN SEQ: 4
PRMAUTH   : MIS                    CONNTYPE: TSO                ENDUSER : MIS
ORIGAUTH  : MIS                    CONNECT : TSO                TRANACT: MIS
                                           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                LWM NET: DEIBMIPS                CICS LUN: N/A
END TIME   : 08/24/16 08:18:18.92  PROD VER: N/P                LUN LUN: IPUAPZAS                CICS INS: N/A
REQUESTER  : OMPDA5                CORNAME: MIS                LUN INS: D13DD32594B7
MAINPACK  : ADB2GET                CORRMBR: 'BLANK'            LUN SEQ: 4
PRMAUTH   : MIS                    CONNTYPE: TSO                ENDUSER : MIS
ORIGAUTH  : MIS                    CONNECT : TSO                TRANACT: MIS
                                           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
CP CPU TIME  0.005557    0.003498    LOG WRITE I/O        0.000000      0        N/C        RUP AUTONOM.PR: N/A
AGENT        0.005557    0.003498    OTHER READ I/O       0.000000      0        N/C        AUTONOMOUS PR: N/A
NONNESTED    0.005557    0.003498    OTHER WRTE I/O       0.000000      0        N/C        QUANTITY : 0
STORED PROC  0.000000    0.000000    SER.TASK SWITCH      0.038488      3        0.012829    COMMITS : 3
UDF          0.000000    0.000000    UPDATE COMMIT        0.000034      1        0.000034    ROLLBACK : 0
TRIGGER      0.000000    0.000000    OPEN/CLOSE           0.000000      0        N/C        SVPT REQUESTS : 0
PAR_TASKS    0.000000    0.000000    SYSLOGRG REC         0.000000      0        N/C        SVPT RELEASE : 0
TRIGGER      0.000000    0.000000    EXT/DEL/DEF          0.000000      0        N/C        SVPT ROLLBACK: 0
SE CPU TIME  0.000000    0.000000    OTHER SERVICE        0.038454      2        0.019227    INCREM.BINDS : 0
NONNESTED    0.000000    0.000000    ARC.LOG(QUIES)       0.000000      0        N/C        UPDATE/COMMIT : 0.00
STORED PROC  0.000000    0.000000    LOG READ             0.000000      0        N/C        SYNCH I/O AVG.: 0.002798
UDF          0.000000    0.000000    DRAIN LOCK           0.000000      0        N/C        PROGRAMS : 3
TRIGGER      0.000000    0.000000    CLAIM RELEASE        0.000000      0        N/C        MAX CASCADE : 0
PAR_TASKS    0.000000    0.000000    PAGE LATCH           0.000000      0        N/C        MAX WFILE BLKS: N/A
TRIGGER      0.000000    0.000000    NOTIFY MSGS          0.000000      0        N/C
PAR_TASKS    0.000000    0.000000    GLOBAL CONTENTION    0.000000      0        N/C
STORED PROC  0.000000    0.000000    COMMIT PH1 WRITE I/O 0.000000      0        N/C
UDF          0.000000    0.000000    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
NOT ACCOUNT. N/A                0.000233    LOB COMPRESSION      N/A            N/A        N/A
DB2 ENT/EXIT N/A                N/A        FAST INSERT PIPE      N/A            N/A        N/A
EN/EX-STPROC N/A                0        TOTAL CLASS 3        0.049679      7        0.007097
EN/EX-UDF    N/A                0
DCAPT.DESCR. N/A                N/A
LOG EXTRACT. N/A                N/A
  
```

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-3  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : 08/24/16 08:18:18.92 PROD VER: N/P LUM LUN: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUM INS: D13DD32594B7  
 MAINPACK : ADB2GET CORRMBR: 'BLANK' LUM SEQ: 4  
 PRIMAUTH : MIS CONNTYPE: TSO ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : TSO TRANSACT: MIS  
 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	CR 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	0	CSWL - DUPLS CREATED	0
OPEN	1	RELEASE	0	PROCEDURE	0	0	0		0
FETCH	2	CALL	0	FUNCTION	0	0	0		0
ROWS	1	ASSOC LOC.	0	TRIGGER	0	0	N/A		0
CLOSE	1	ALLOC CUR.	0	DIST TYPE	0	0	N/A		0
		HOLD LOC.	0	SEQUENCE	0	0	0		0
DML-ALL	6	FREE LOC.	0	TRUST. CTX	0	0	0		0
		DCL-ALL	5	ROLE	0	0	N/A		0
				JAR	N/A	N/A	0		0
				MASK/PERM	0	0	0		0
				VARIABLE	N/A	N/A	N/A		0
				TOTAL	0	0	0		0
				TRUNC TBL	0	0	0		0
				RENAME TBL	0	0	0		0
				RENAME IX	0	0	0		0
				COMMENT ON	0	0	0		0
				LABEL ON	0	0	0		0

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-4  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : 08/24/16 08:18:18.92 PROD VER: N/P LUM LUN: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUM INS: D13DD32594B7  
 MAINPACK : ADB2GET CORRMBR: 'BLANK' LUM SEQ: 4  
 PRIMAUTH : MIS CONNTYPE: TSO ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : TSO TRANSACT: MIS  
 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	FAIL-NO STORAGE	0	REC.CAPTURED	0	INDEX USED	0
CP CPU TIME	0.005557	0.003498	FAIL-LIMIT EXC.	0	LOG REC.READ	0	TS SCAN	0
ELIGIBLE FOR SECP	0.000000	N/A			ROWS RETURN	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-NO STORAGE	0	RECORDS RET.	0		
SE CPU TIME	0.000000	0.000000	INTERRUPTED-LIMIT EXC.	0	DATA DES.RET	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-NO STORAGE	0	TABLES RET.	0		
			OVERFLOWED-LIMIT EXC.	0	DESCRIBES	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-CURSORS	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD32594B7  
 MAINPACK : ADB2GET CORRNMBR: 'BLANK' LUW SEQ: 4  
 PRMAUTH : MIS CONNTYPE: TSO ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : TSO TRANSACT: MIS  
 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 PROC	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD32594B7  
 MAINPACK : ADB2GET CORRNMBR: 'BLANK' LUW SEQ: 4  
 PRMAUTH : MIS CONNTYPE: TSO ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : TSO TRANSACT: MIS  
 WSNAME : TSO

```

!PROGRAM NAME CLASS 7 ELAPSED TIME CONSUMERS
!ADB2GET !> 1%
!ADB2CON !
!ADBMMAIN !===== 99%

```

```

!PROGRAM NAME CLASS 7 CP CPU TIME CONSUMERS
!ADB2GET !===== 10%
!ADB2CON !> 1%
!ADBMMAIN !===== 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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-7  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD32594B7  
 MAINPACK : ADB2GET CONRNMBR: '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	0.038438	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-8  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD32594B7  
 MAINPACK : ADB2GET CONRNMBR: '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: OMPDAS  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-9  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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    LUN NET: DEIBMIPS    CICS LUN: N/A  
 END TIME : 08/24/16 08:18:18.92    PROD VER: N/P    LUN LUN: IPUAPZAS    CICS INS: N/A  
 REQUESTER : OMPDAS    CORRNAME: MIS    LUN INS: D13DD32594B7  
 MAINPACK : ADB2GET    CORRMBR: 'BLANK'    LUN 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: OMPDAS  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-10  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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    LUN NET: DEIBMIPS    CICS LUN: N/A  
 END TIME : 08/24/16 08:18:52.80    PROD VER: N/P    LUN LUN: IPUAPZAS    CICS INS: N/A  
 REQUESTER : OMPDAS    CORRNAME: MISIDC    LUN INS: D13DD372387C  
 MAINPACK : DSNUTIL    CORRMBR: 'BLANK'    LUN 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

APPL !=====> 84%  
 DB2 !> 1%  
 SUSP !=====> 15%

CLASS 2 TIME DISTRIBUTION

CPU !====> 6%  
 SECPU !  
 NOTACC !> 1%  
 SUSP !=====> 92%

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-11  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MISIDC LUW INS: D13DD372387C  
 MAINPACK : DSNUTIL CORRMBR: 'BLANK' LUW SEQ: 12 ENDUSER : MIS  
 PRMAUTH : 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
CP CPU TIME	0.044812	0.018438	LOG WRITE I/O	0.000343	1	0.000343	RUP AUTONOM.PR: N/A
AGENT	0.044812	0.018438	OTHER READ I/O	0.058167	23	0.002529	AUTONOMOUS PR : N/A
NONNESTED	0.044812	0.018438	OTHER WRTE I/O	0.000000	0	N/C	QUANTITY : 0
STORED PROC	0.000000	0.000000	SER.TASK SWITCH	0.099313	14	0.007094	COMMITTS : 10
UDF	0.000000	0.000000	UPDATE COMMIT	0.004054	8	0.000507	ROLLBACK : 1
TRIGGER	0.000000	0.000000	OPEN/CLOSE	0.040600	2	0.020300	SVPT REQUESTS : 0
PAR.TASKS	0.000000	0.000000	SYSLOGRG REC	0.007556	1	0.007556	SVPT RELEASE : 0
SE CPU TIME	0.000000	0.000000	EXT/DEL/DEF	0.045423	2	0.022711	SVPT ROLLBACK : 0
NONNESTED	0.000000	0.000000	OTHER SERVICE	0.001680	1	0.001680	INCREM.BINDS : N/P
STORED PROC	0.000000	0.000000	ARC.LOG(QUIES)	0.000000	0	N/C	UPDATE/COMMIT : N/P
UDF	0.000000	0.000000	LOG READ	0.000000	0	N/C	SYNCH I/O AVG.: 0.003072
TRIGGER	0.000000	0.000000	DRAIN LOCK	0.000000	0	N/C	PROGRAMS : 0
PAR.TASKS	0.000000	0.000000	CLAIM RELEASE	0.000000	0	N/C	MAX CASCADE : N/P
SUSPEND TIME	0.000000	0.000000	PAGE LATCH	0.000000	0	N/C	MAX WFILE BLKS: N/A
AGENT	N/A	0.271160	NOTIFY MSGS	0.000000	0	N/C	
PAR.TASKS	N/A	0.000000	GLOBAL CONTENTION	0.000000	0	N/C	
STORED PROC	0.000000	N/A	COMMIT PH1 WRITE I/O	0.000000	0	N/C	
UDF	0.000000	N/A	ASYNCH CF REQUESTS	0.000000	0	N/C	
NOT ACCOUNT.	N/A	0.003648	TCP/IP LOB XML	0.000000	0	N/C	
DB2 ENT/EXIT	N/A	52	ACCELERATOR	0.000000	0	N/C	
EN/EX-STPROC	N/A	0	AUTONOMOUS PROCEDURE	N/A	N/A	N/A	
EN/EX-UDF	N/A	0	PQ SYNCHRONIZATION	N/A	N/A	N/A	
DCAPT.DESCR.	N/A	N/A	LOB COMPRESSION	N/A	N/A	N/A	
LOG EXTRACT.	N/A	N/A	FAST INSERT PIPE	N/A	N/A	N/A	
			TOTAL CLASS 3	0.271160	74	0.003664	

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-12  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MISIDC LUW INS: D13DD372387C  
 MAINPACK : DSNUTIL CORRMBR: 'BLANK' LUW SEQ: 12 ENDUSER : MIS  
 PRMAUTH : MIS CONNTYPE: UTILITY TRANSACT: MISIDC  
 ORIGAUTH : MIS CONNECT : UTILITY WSNAME : UTILITY

SQL DML	TOTAL	SQL DCL	TOTAL	SQL DDL	CREATE	DROP	ALTER	DYNAMIC SQL	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
DESCRIBE	N/P	SET PREC.	N/P	SYNONYM	N/P	N/P	N/A	CSWL - STMTS PARSED		N/P
DESC. TBL	N/P	CONNECT 1	N/P	VIEW	N/P	N/P	N/P	CSWL - LITS REPLACED		N/P
PREPARE	N/P	CONNECT 2	N/P	ALIAS	N/P	N/P	N/A	CSWL - MATCHES FOUND		N/P
OPEN	N/P	SET CONNEX	N/P	PACKAGE	N/A	N/A	N/A	CSWL - DUPLS CREATED		N/P
FETCH	N/P	RELEASE	N/P	PROCEDURE	N/P	N/P	N/P			
ROWS	N/P	CALL	N/P	FUNCTION	N/P	N/P	N/P			
CLOSE	N/P	ASSOC LOC.	N/P	TRIGGER	N/P	N/P	N/A			
DML-ALL	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			
		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: OMPDAS  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DAS  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-13  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME : 08/24/16 08:18:52.80 PROD VER: N/P LUN LUN: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDAS CORRNAME: MISIDC LUN INS: D13DD372387C  
 MAINPACK : DSNUTIL CORRNMBR: 'BLANK' LUN SEQ: 12  
 PRIMAUTH : MIS CONNTYPE: UTILITY ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : UTILITY TRANSACT: MISIDC  
 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
CP CPU TIME	0.044812	0.018438	FAIL-NO STORAGE	N/P	LOG REC. READ	N/P	TS SCAN	N/P
ELIGIBLE FOR SECP	0.000000	N/A	FAIL-LIMIT EXC.	N/P	ROWS RETURN	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-NO STORAGE	N/P	RECORDS RET.	N/P		
SE CPU TIME	0.000000	0.000000	INTERRUPTED-LIMIT EXC.	N/P	DATA DES.RET	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-NO STORAGE	N/P	TABLES RET.	N/P		
			OVERFLOWED-LIMIT EXC.	N/P	DESCRIBES	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-CURSORS	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: OMPDAS  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DAS  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-14  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME : 08/24/16 08:18:52.80 PROD VER: N/P LUN LUN: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDAS CORRNAME: MISIDC LUN INS: D13DD372387C  
 MAINPACK : DSNUTIL CORRNMBR: 'BLANK' LUN SEQ: 12  
 PRIMAUTH : MIS CONNTYPE: UTILITY ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : UTILITY TRANSACT: MISIDC  
 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 PROC	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	BP00L ACTIVITY	TOTAL	BP32K	BP00L ACTIVITY	TOTAL	BP8K	BP00L ACTIVITY	TOTAL
BP00L HIT RATIO (%)		53	BP00L HIT RATIO (%)		-23	BP00L 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 REQ		0	SEQ. PREFETCH REQ		16	SEQ. PREFETCH REQ		0
LIST PREFETCH REQ		0	LIST PREFETCH REQ		0	LIST PREFETCH REQ		0
DYN. PREFETCH REQ		4	DYN. PREFETCH REQ		36	DYN. PREFETCH REQ		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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MISIDC LUW INS: D13DD372387C  
 MAINPACK : DSNUTIL CORRNMBR: 'BLANK' LUW SEQ: 12  
 PRMAUTH : MIS CONNTYPE: UTILITY ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : UTILITY TRANSACT: MISIDC  
 WSNAME : UTILITY

TOTAL	BPOOL ACTIVITY	TOTAL
BPOOL HIT RATIO (%)		59
GETPAGES		800
BUFFER UPDATES		12
SYNCHRONOUS WRITE		0
SYNCHRONOUS READ		36
SEQ. PREFETCH REQ		16
LIST PREFETCH REQ		0
DYN. PREFETCH REQ		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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD3EE0073  
 MAINPACK : ADB27SP CORRNMBR: 'BLANK' LUW SEQ: 2  
 PRMAUTH : MIS CONNTYPE: TSO ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : TSO TRANSACT: MIS  
 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD3EE0073  
 MAINPACK : ADB27SP CORRNMBR: 'BLANK' LUW SEQ: 2  
 PRMAUTH : MIS CONNTYPE: TSO ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : TSO TRANSACT: MIS  
 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
CP CPU TIME	0.002113	0.001597	LOG WRITE I/O	0.000000	0	N/C	RUP AUTONOM. PR : N/A
AGENT	0.002113	0.001597	OTHER READ I/O	0.037073	11	0.003370	AUTONOMOUS PR : N/A
NONNESTED	0.002113	0.001597	OTHER WRTE I/O	0.000000	0	N/C	QUANTITY : 0
STORED PROC	0.000000	0.000000	SER. TASK SWTCH	0.000000	0	N/C	COMMITTS : 1
UDF	0.000000	0.000000	UPDATE COMMIT	0.000000	0	N/C	ROLLBACK : 0
TRIGGER	0.000000	0.000000	OPEN/CLOSE	0.000000	0	N/C	SVPT REQUESTS : 0
PAR. TASKS	0.000000	0.000000	SYSLGRNG REC	0.000000	0	N/C	SVPT RELEASE : 0
SE CPU TIME	0.000000	0.000000	EXT/DEL/DEF	0.000000	0	N/C	SVPT ROLLBACK : 0
NONNESTED	0.000000	0.000000	OTHER SERVICE	0.000000	0	N/C	INCREM. BINDS : 0
STORED PROC	0.000000	0.000000	ARC. LOG(QUIES)	0.000000	0	N/C	UPDATE/COMMIT : 0.00
UDF	0.000000	0.000000	LOG READ	0.000000	0	N/C	SYNCH I/O AVG. : 0.004127
TRIGGER	0.000000	0.000000	DRAIN LOCK	0.000000	0	N/C	PROGRAMS : 1
PAR. TASKS	0.000000	0.000000	CLAIM RELEASE	0.000000	0	N/C	MAX CASCADE : 0
SE CPU TIME	0.000000	0.000000	PAGE LATCH	0.000000	0	N/C	MAX WFILE BLKS : N/A
NONNESTED	0.000000	0.000000	NOTIFY MSGS	0.000000	0	N/C	
STORED PROC	0.000000	0.000000	GLOBAL CONTENTION	0.000000	0	N/C	
UDF	0.000000	0.000000	COMMIT PH1 WRITE I/O	0.000000	0	N/C	
TRIGGER	0.000000	0.000000	ASYNCH CF REQUESTS	0.000000	0	N/C	
PAR. TASKS	0.000000	0.000000	TCP/IP LOB XML	0.000000	0	N/C	
SUSPEND TIME	0.000000	0.074214	ACCELERATOR	0.000000	0	N/C	
AGENT	N/A	0.074214	AUTONOMOUS PROCEDURE	N/A	N/A	N/A	
PAR. TASKS	N/A	0.000000	PQ SYNCHRONIZATION	N/A	N/A	N/A	
STORED PROC	0.000000	N/A	LOB COMPRESSION	N/A	N/A	N/A	
UDF	0.000000	N/A	FAST INSERT PIPE	N/A	N/A	N/A	
NOT ACCOUNT.	N/A	0.000047	TOTAL CLASS 3	0.074214	20	0.003711	
DB2 ENT/EXIT	N/A	22					
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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-18  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : 08/24/16 08:21:00.90 PROD VER: N/P LUM LUN: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUM INS: D13DD3EE0073  
 MAINPACK : ADB27SP CORRMBR: 'BLANK' LUM 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	CR T TABLE	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	0	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	0	0		
				RENAME TBL	0	0	0		
				RENAME IX	0	0	0		
				COMMENT ON	0	0	0		
				LABEL ON	0	0	0		

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-19  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : 08/24/16 08:21:00.90 PROD VER: N/P LUM LUN: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUM INS: D13DD3EE0073  
 MAINPACK : ADB27SP CORRMBR: 'BLANK' LUM 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	FAIL-NO STORAGE	0	REC.CAPTURED	N/P	INDEX USED	0
CP CPU TIME	0.002113	0.001597	FAIL-LIMIT EXC.	0	LOG REC.READ	N/P	TS SCAN	0
ELIGIBLE FOR SECP	0.000000	N/A	INTERRUPTED-NO STORAGE	0	ROWS RETURN	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-LIMIT EXC.	0	RECORDS RET.	N/P		
SE CPU TIME	0.000000	0.000000	OVERFLOWED-NO STORAGE	0	DATA DES.RET	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-LIMIT EXC.	0	TABLES RET.	N/P		
			SKIPPED-INDEX KNOWN	0	DESCRIBES	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	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-CURSORS	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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

REQUESTED PAGE: 1-20  
 FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD3EE0073  
 MAINPACK : ADB27SP CORRMBR: '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 PROC	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 REQ		12	SEQ. PREFETCH REQ		0	SEQ. PREFETCH REQ		12
LIST PREFETCH REQ		0	LIST PREFETCH REQ		0	LIST PREFETCH REQ		0
DYN. PREFETCH REQ		0	DYN. PREFETCH REQ		0	DYN. PREFETCH REQ		0
PAGES READ ASYNCHR.		368	PAGES READ ASYNCHR.		0	PAGES READ ASYNCHR.		368

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

REQUESTED PAGE: 1-21  
 FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD3EE0073  
 MAINPACK : ADB27SP CORRMBR: '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	0.000000	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
		DB2 ENTRY/EXIT	20	TCP/IP LOB XML	0.000000	0	N/C
				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  
GROUP: N/P  
MEMBER: N/P  
SUBSYSTEM: DA5  
DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
ACCOUNTING TRACE - LONG

PAGE: 1-22  
REQUESTED FROM: NOT SPECIFIED  
TO: NOT SPECIFIED  
ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUN NET: DEIBMIPS CICS LUN: N/A  
END TIME : 08/24/16 08:21:00.90 PROD VER: N/P LUN LUN: IPUAPZA5 CICS INS: N/A  
REQUESTER : OMPDA5 CORRNAME: MIS LUN INS: D13DD3EE0073  
MAINPACK : ADB27SP CORRMBR: 'BLANK' LUN SEQ: 2  
PRMAUTH : MIS CONNTYPE: TSO ENDUSER : 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 REQ 12  
LIST PREFETCH REQ 0  
DYN. PREFETCH REQ 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  
GROUP: N/P  
MEMBER: N/P  
SUBSYSTEM: DA5  
DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
ACCOUNTING TRACE - LONG

PAGE: 1-23  
REQUESTED FROM: NOT SPECIFIED  
TO: NOT SPECIFIED  
ACTUAL FROM: 08/24/16 08:18:18.92

---- 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 LUN NET: DEIBMIPS CICS LUN: N/A  
END TIME : 08/24/16 08:21:01.25 PROD VER: N/P LUN LUN: IPUAPZA5 CICS INS: N/A  
REQUESTER : OMPDA5 CORRNAME: MIS LUN INS: D13DD3EE4E35  
MAINPACK : ADB27SP CORRMBR: 'BLANK' LUN SEQ: 2  
PRMAUTH : MIS CONNTYPE: TSO ENDUSER : MIS  
ORIGAUTH : MIS CONNECT : TSO WSNAME : TSO

MVS ACCOUNTING DATA : DE03704  
ACCOUNTING TOKEN(CHAR) : N/A  
ACCOUNTING TOKEN(HEX) : N/A

ELAPSED TIME DISTRIBUTION

APPL !=> 2%  
DB2 !=====> 17%  
SUSP !=====> 81%

CLASS 2 TIME DISTRIBUTION

CPU !====> 7%  
SECPU !  
NOTACC !====> 10%  
SUSP !=====> 83%

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-24  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

---- IDENTIFICATION ----  
 ACCT TSTAMP: 08/24/16 08:21:01.25 PLANNAME: ADB275PC 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: IPUAPZAS CICS INS: N/A  
 REQUESTER : OMPDA5 CORRNAME: MIS LUW INS: D13DD3EE4E35  
 MAINPACK : ADB275P CORRMBR: '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
CP CPU TIME	0.010110	0.009326	LOG WRITE I/O	0.000000	0	N/C	RUP AUTONOM.PR: N/A
AGENT	0.010110	0.009326	OTHER READ I/O	0.040477	2	0.020239	AUTONOMOUS PR : N/A
NONNESTED	0.010110	0.009326	OTHER WRTE I/O	0.000000	0	N/C	QUANTITY : 0
STORED PROC	0.000000	0.000000	SER.TASK SWITCH	0.045219	2	0.022610	COMMITTS : 1
UDF	0.000000	0.000000	UPDATE COMMIT	0.000000	0	N/C	ROLLBACK : 0
TRIGGER	0.000000	0.000000	OPEN/CLOSE	0.018981	1	0.018981	SVPT REQUESTS : 0
PAR.TASKS	0.000000	0.000000	SYSLOGRG REC	0.000000	0	N/C	SVPT RELEASE : 0
SE CPU TIME	0.000000	0.000000	EXT/DEL/DEF	0.026238	1	0.026238	SVPT ROLLBACK : 0
NONNESTED	0.000000	0.000000	OTHER SERVICE	0.000000	0	N/C	INCREM.BINDS : 0
STORED PROC	0.000000	0.000000	ARC.LOG(QUIES)	0.000000	0	N/C	UPDATE/COMMIT : 0.00
UDF	0.000000	0.000000	LOG READ	0.000000	0	N/C	SYNCH I/O AVG.: 0.001623
TRIGGER	0.000000	0.000000	DRAIN LOCK	0.000000	0	N/C	PROGRAMS : 1
PAR.TASKS	0.000000	0.000000	CLAIM RELEASE	0.000000	0	N/C	MAX CASCADE : 0
SUSPEND TIME	0.000000	0.103551	PAGE LATCH	0.000000	0	N/C	MAX WFILE BLKS: N/A
AGENT	N/A	0.103551	NOTIFY MSGS	0.000000	0	N/C	
PAR.TASKS	N/A	0.000000	GLOBAL CONTENTION	0.000000	0	N/C	
STORED PROC	0.000000	N/A	COMMIT PH1 WRITE I/O	0.000000	0	N/C	
UDF	0.000000	N/A	ASYNCH CF REQUESTS	0.000000	0	N/C	
NOT ACCOUNT.	N/A	N/A	TCP/IP LOB XML	0.000000	0	N/C	
DB2 ENT/EXIT	N/A	0	ACCELERATOR	0.000000	0	N/C	
EN/EX-STPROC	N/A	0	AUTONOMOUS PROCEDURE	N/A	N/A	N/A	
EN/EX-UDF	N/A	0	PQ SYNCHRONIZATION	N/A	N/A	N/A	
DCAPT.DESCR.	N/A	N/A	LOB COMPRESSION	N/A	N/A	N/A	
LOG EXTRACT.	N/A	N/A	FAST INSERT PIPE	N/A	N/A	N/A	
			TOTAL CLASS 3	0.103551	15	0.006903	

LOCATION: OMPDA5  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA5  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 1-25  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:18:18.92

...

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

---- IDENTIFICATION ----  
 ACCT TSTAMP: 08/24/16 07:02:00.00 PLANNAME: K02PLAN 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 : K02PLAN CORRMBR: 'BLANK' LUW SEQ: 7 ENDUSER : DB2PM  
 PRIMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

MVS ACCOUNTING DATA : 'BLANK'  
 ACCOUNTING TOKEN(CHAR) : 'BLANK'  
 ACCOUNTING TOKEN(HEX) : 00

ELAPSED TIME DISTRIBUTION		CLASS 2 TIME DISTRIBUTION	
APPL	!> 1%	CPU	!====> 11%
DB2	!=====> 15%	SECPU	!
SUSP	!=====> 84%	NOTACC	!====> 4%
		SUSP	!=====> 85%

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-2  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

---- IDENTIFICATION

ACCT TSTAMP: 08/24/16 07:02:00.00 PLANNAME: K02PLAN 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 : K02PLAN CORRMBR: 'BLANK' LUW SEQ: 7  
 PRMAUTH : DB2PM CONNTYPE: RRS ENDUSER : DB2PM  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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
CP CPU TIME	0.006817	0.006288	LOG WRITE I/O	0.000718	2	0.000359	RUP AUTONOM.PR: 0
AGENT	0.006817	0.006288	OTHER READ I/O	0.000000	0	N/C	AUTONOMOUS PR : 0
NONNESTED	0.006817	0.006288	OTHER WRTE I/O	0.000000	0	N/C	QUANTITY : 6
STORED PROC	0.000000	0.000000	SER.TASK SWITCH	0.014162	9	0.001574	COMMITTS : 24
UDF	0.000000	0.000000	UPDATE COMMIT	0.002054	4	0.000513	ROLLBACK : 0
TRIGGER	0.000000	0.000000	OPEN/CLOSE	0.000000	0	N/C	SVPT REQUESTS : 0
PAR.TASKS	0.000000	0.000000	SYSLOGNG REC	0.001873	1	0.001873	SVPT RELEASE : 0
SE CPU TIME	0.000000	0.000000	EXT/DEL/DEF	0.000000	0	N/C	SVPT ROLLBACK : 0
NONNESTED	0.000000	0.000000	OTHER SERVICE	0.010236	4	0.002559	INCREM.BINDS : 0
STORED PROC	0.000000	0.000000	ARC.LOG(QUIES)	0.000000	0	N/C	UPDATE/COMMIT : 0.17
UDF	0.000000	0.000000	LOG READ	0.000000	0	N/C	SYNCH I/O AVG.: 0.000319
TRIGGER	0.000000	0.000000	DRAIN LOCK	0.000000	0	N/C	PROGRAMS : 1
PAR.TASKS	0.000000	0.000000	CLAIM RELEASE	0.000000	0	N/C	MAX CASCADE : 0
SUSPEND TIME	0.000000	0.000000	PAGE LATCH	0.000000	0	N/C	MAX WFILE BLKS: 0
AGENT	N/A	0.049511	NOTIFY MSGS	0.000000	0	N/C	
PAR.TASKS	N/A	0.000000	GLOBAL CONTENTION	0.034432	6	0.005739	
STORED PROC	0.000000	N/A	COMMIT PH1 WRITE I/O	0.000000	0	N/C	
UDF	0.000000	N/A	ASYNCH CF REQUESTS	0.000000	0	N/C	
NOT ACCOUNT.	N/A	0.002524	TCP/IP LOB XML	0.000000	0	N/C	
DB2 ENT/EXIT	N/A	252	ACCELERATOR	0.000000	0	N/C	
EN/EX-STPROC	N/A	0	AUTONOMOUS PROCEDURE	0.000000	0	N/C	
EN/EX-UDF	N/A	0	PQ SYNCHRONIZATION	0.000000	0	N/C	
DCAPT.DESCR.	N/A	N/A	LOB COMPRESSION	0.000000	0	N/C	
LOG EXTRACT.	N/A	N/A	FAST INSERT PIPE	0.000000	0	N/C	
			TOTAL CLASS 3	0.049551	18	0.002753	

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-3  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

---- IDENTIFICATION

ACCT TSTAMP: 08/24/16 07:02:00.00 PLANNAME: K02PLAN 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 : K02PLAN CORRMBR: 'BLANK' LUW SEQ: 7  
 PRMAUTH : DB2PM CONNTYPE: RRS ENDUSER : DB2PM  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

SQL DML	TOTAL	SQL DCL	TOTAL	SQL DDL	CREATE	DROP	ALTER	DYNAMIC SQL	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	STOGRUP	0	0	0	STABILIZED PREPARE		0
DESCRIBE	0	SET PREC.	0	SYNONYM	0	0	N/A	CSWL - STMTS PARSED		0
DESC.TBL	0	CONNECT 1	0	VIEW	0	0	0	CSWL - LITS REPLACED		0
PREPARE	24	CONNECT 2	0	ALIAS	0	0	N/A	CSWL - MATCHES FOUND		0
OPEN	20	SET CONNCT	0	PACKAGE	N/A	0	N/A	CSWL - DUPLS CREATED		0
FETCH	20	RELEASE	0	PROCEDURE	0	0	0			
ROWS	20	CALL	0	FUNCTION	0	0	0			
CLOSE	20	ASSOC LOC.	0	TRIGGER	0	0	N/A			
DML-ALL	88	ALLOC CUR.	0	DIST TYPE	0	0	N/A			
		HOLD LOC.	0	SEQUENCE	0	0	0			
		FREE LOC.	0	TRUST. CTX	0	0	0			
		DCL-ALL	0	ROLE	0	0	N/A			
				JAR	N/A	0	0			
				MASK/PERM	0	0	0			
				VARIABLE	0	0	N/A			
				TOTAL	0	0	0			
				TRUNC TBL	0	0	0			
				RENAME TBL	0	0	0			
				RENAME IX	0	0	0			
				COMMENT ON	0	0	0			
				LABEL ON	0	0	0			

LOCATION: OMPDBC1 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) REQUESTED PAGE: 2-4  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 06:49:59.14 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LUN LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORNAME: 'BLANK' LUN INS: D13DC1A0FC96  
 MAINPACK : K02PLAN CORNMBR: 'BLANK' LUN SEQ: 7 ENDUSER : DB2PM  
 PRIMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSWF WSNAME : RRSWF

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
CP CPU TIME	0.006817	0.006288	FAIL-NO STORAGE	0	LOG REC. READ	0	TS SCAN	0
ELIGIBLE FOR SECP	0.000000	N/A	FAIL-LIMIT EXC.	0	ROWS RETURN	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-NO STORAGE	0	RECORDS RET.	0		
SE CPU TIME	0.000000	0.000000	INTERRUPTED-LIMIT EXC.	0	DATA DES.RET	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-NO STORAGE	0	TABLES RET.	0		
			OVERFLOWED-LIMIT EXC.	0	DESCRIBES	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) REQUESTED PAGE: 2-5  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 06:49:59.14 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LUN LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORNAME: 'BLANK' LUN INS: D13DC1A0FC96  
 MAINPACK : K02PLAN CORNMBR: 'BLANK' LUN SEQ: 7 ENDUSER : DB2PM  
 PRIMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSWF WSNAME : RRSWF

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 PROC	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 REQ	0		SEQ. PREFETCH REQ	0		SEQ. PREFETCH REQ	0
	LIST PREFETCH REQ	0		LIST PREFETCH REQ	0		LIST PREFETCH REQ	0
	DYN. PREFETCH REQ	0		DYN. PREFETCH REQ	0		DYN. PREFETCH REQ	0
	PAGES READ ASYNCHR.	0		PAGES READ ASYNCHR.	0		PAGES READ ASYNCHR.	0

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-6  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

```

---- IDENTIFICATION -----
ACCT TSTAMP: 08/24/16 07:02:00.00   PLANNAME: K02PLAN   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   : K02PLAN                CORRMBR: 'BLANK'   LUW SEQ: 7
PRIMAUTH   : DB2PM                  CONNTYPE: RRS      ENDUSER  : DB2PM
ORIGAUTH   : DB2PM                  CONNECT : RRSF     TRANSACT: 'BLANK'
                                           WSNAME  : RRSF

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       0   WRITE AND REGISTER       0   WRITE AND REGISTER       0
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  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-7  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

```

---- IDENTIFICATION -----
ACCT TSTAMP: 08/24/16 07:02:00.00   PLANNAME: K02PLAN   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   : K02PLAN                CORRMBR: 'BLANK'   LUW SEQ: 7
PRIMAUTH   : DB2PM                  CONNTYPE: RRS      ENDUSER  : DB2PM
ORIGAUTH   : DB2PM                  CONNECT : RRSF     TRANSACT: 'BLANK'
                                           WSNAME  : RRSF

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    K020M530       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 1A20F6C107FBA51D 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
                                           DB2 ENTRY/EXIT    232            ACCELERATOR       0.000000        0              N/C
                                           FAST INSERT PIPE  0.000000        0              N/C
                                           PQ SYNCHRONIZATION 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: 2-10  
 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 07:02:20.03 PROD TYP: N/P LWM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LWM LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORNAME: 'BLANK' LWM INS: D13DC513780A  
 MAINPACK : K02PLAN CORRMBR: 'BLANK' LWM SEQ: 7  
 PRMAUTH : DB2PM CONNTYPE: RRS ENDUSER : DB2PM  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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 SWITCH	0.018026	9	0.002003	COMMITTS : 30
STORED PROC	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	SYSLOGNG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 07:02:20.03 PROD TYP: N/P LWM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LWM LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORNAME: 'BLANK' LWM INS: D13DC513780A  
 MAINPACK : K02PLAN CORRMBR: 'BLANK' LWM SEQ: 7  
 PRMAUTH : DB2PM CONNTYPE: RRS ENDUSER : DB2PM  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

SQL DML	TOTAL	SQL DCL	TOTAL	SQL DDL	CREATE	DROP	ALTER	DYNAMIC SQL	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	STOGRROUP	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 CONNEX	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	0	0			
				MASK/PERM	0	0	0			
				VARIABLE	0	0	N/A			
				TOTAL	0	0	0			
				TRUNC TBL	0	0	0			
				RENAME TBL	0	0	0			
				RENAME IX	0	0	0			
				COMMENT ON	0	0	0			
				LABEL ON	0	0	0			

LOCATION: OMPDBC1 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) REQUESTED PAGE: 2-12  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME: 08/24/16 07:02:20.03 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME: N/P PROD VER: N/P LUN LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER: OMPDBC1 CORNAME: 'BLANK' LUN INS: D13DC513780A  
 MAINPACK: K02PLAN CORNMGR: 'BLANK' LUN SEQ: 7 ENDUSER: DB2PM  
 PRIMAUTH: DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH: DB2PM CONNECT: RRSF WSNAME: RRSF

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
CP CPU TIME	0.008521	0.007807	FAIL-NO STORAGE	0	LOG REC. READ	0	TS SCAN	0
ELIGIBLE FOR SECP	0.000000	N/A	FAIL-LIMIT EXC.	0	ROWS RETURN	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-NO STORAGE	0	RECORDS RET.	0		
SE CPU TIME	0.000000	0.000000	INTERRUPTED-LIMIT EXC.	0	DATA DES.RET	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-NO STORAGE	0	TABLES RET.	0		
			OVERFLOWED-LIMIT EXC.	0	DESCRIBES	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) REQUESTED PAGE: 2-13  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME: 08/24/16 07:02:20.03 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME: N/P PROD VER: N/P LUN LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER: OMPDBC1 CORNAME: 'BLANK' LUN INS: D13DC513780A  
 MAINPACK: K02PLAN CORNMGR: 'BLANK' LUN SEQ: 7 ENDUSER: DB2PM  
 PRIMAUTH: DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH: DB2PM CONNECT: RRSF WSNAME: RRSF

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 PROC	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	BP00L ACTIVITY	TOTAL	BP32K	BP00L ACTIVITY	TOTAL	TOTAL	BP00L ACTIVITY	TOTAL
	BP00L HIT RATIO (%)	100		BP00L HIT RATIO (%)	100		BP00L 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 REQ	0		SEQ. PREFETCH REQ	0		SEQ. PREFETCH REQ	0
	LIST PREFETCH REQ	0		LIST PREFETCH REQ	0		LIST PREFETCH REQ	0
	DYN. PREFETCH REQ	0		DYN. PREFETCH REQ	0		DYN. PREFETCH REQ	0
	PAGES READ ASYNCHR.	0		PAGES READ ASYNCHR.	0		PAGES READ ASYNCHR.	0

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-14  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

```

----- IDENTIFICATION -----
ACCT TSTAMP: 08/24/16 07:16:00.00   PLANNAME: K02PLAN   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   : K02PLAN     CORRMBR: 'BLANK'  LUW SEQ:           7
PRIMAUTH   : DB2PM      CONNTYPE: RRS      ENDUSER  : DB2PM
ORIGAUTH   : DB2PM      CONNECT : RRSF     TRANSACT: 'BLANK'
                                     WSNAME  : RRSF

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       5   WRITE AND REGISTER       5
WRITE & REGISTER MULT    0   WRITE & REGISTER MULT    0   WRITE & REGISTER MULT    0
CHANGED PAGES WRITTEN    5   CHANGED PAGES WRITTEN    5   CHANGED PAGES WRITTEN    5
COMPL CHECKS SUSPEND     0   COMPL CHECKS SUSPEND     0   COMPL CHECKS SUSPEND     0
  
```

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-15  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

```

----- IDENTIFICATION -----
ACCT TSTAMP: 08/24/16 07:16:00.00   PLANNAME: K02PLAN   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   : K02PLAN     CORRMBR: 'BLANK'  LUW SEQ:           7
PRIMAUTH   : DB2PM      CONNTYPE: RRS      ENDUSER  : DB2PM
ORIGAUTH   : DB2PM      CONNECT : RRSF     TRANSACT: 'BLANK'
                                     WSNAME  : RRSF

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   K02M530  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 1A20F6C107FBA51D 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
                                     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) REQUESTED PAGE: 2-16  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 07:02:20.03 PROD TYP: N/P LUM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PRO D VER: N/P LUM LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORRNAME: 'BLANK' LUM INS: D13DC513780A  
 MAINPACK : K02PLAN CORNMGR: 'BLANK' LUM SEQ: 7 ENDUSER : DB2PM  
 PRMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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) REQUESTED PAGE: 2-17  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 07:17:38.21 PROD TYP: N/P LUM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PRO D VER: N/P LUM LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORRNAME: 'BLANK' LUM INS: D13DC880F05E  
 MAINPACK : K02PLAN CORNMGR: 'BLANK' LUM SEQ: 7 ENDUSER : DB2PM  
 PRMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

MVS ACCOUNTING DATA : 'BLANK'  
 ACCOUNTING TOKEN(CHAR): 'BLANK'  
 ACCOUNTING TOKEN(HEX): 000

ELAPSED TIME DISTRIBUTION CLASS 2 TIME DISTRIBUTION  
 -----  
 APPL !=> 3% CPU !=====> 26%  
 DB2 !=====> 33% SECPU !  
 SUSP !=====> 64% NOTACC !=====> 8%  
 SUSP !=====> 66%

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-18  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

---- IDENTIFICATION

ACCT TSTAMP: 08/24/16 07:30:00.01 PLANNAME: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 07:17:38.21 PROD TYP: N/P LWM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LWM LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORRNAME: 'BLANK' LWM INS: D13DC880FD5E  
 MAINPACK : K02PLAN CORRMBR: 'BLANK' LWM SEQ: 7  
 PRMAUTH : DB2PM CONNTYPE: RRS ENDUSER : DB2PM  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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 SWITCH	0.019115	11	0.001738	COMMITTS : 30
STORED PROC	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  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-19  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

---- IDENTIFICATION

ACCT TSTAMP: 08/24/16 07:30:00.01 PLANNAME: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 07:17:38.21 PROD TYP: N/P LWM NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LWM LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER : OMPDBC1 CORRNAME: 'BLANK' LWM INS: D13DC880FD5E  
 MAINPACK : K02PLAN CORRMBR: 'BLANK' LWM SEQ: 7  
 PRMAUTH : DB2PM CONNTYPE: RRS ENDUSER : DB2PM  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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	STOGRUP	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 CONNCT	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	0	0		
				MASK/PERM	0	0	0		
				VARIABLE	0	0	N/A		
				TOTAL	0	0	0		
				TRUNC TBL	0	0	0		
				RENAME TBL	0	0	0		
				RENAME IX	0	0	0		
				COMMENT ON	0	0	0		
				LABEL ON	0	0	0		

LOCATION: OMPDBC1 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) REQUESTED PAGE: 2-20  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME: 08/24/16 07:17:38.21 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME: N/P PROD VER: N/P LUN LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER: OMPDBC1 CORNAME: 'BLANK' LUN INS: D13DC80FD5E  
 MAINPACK: K02PLAN CORNMGR: 'BLANK' LUN SEQ: 7 ENDUSER: DB2PM  
 PRIMAUTH: DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH: DB2PM CONNECT: RRSF WSNAME: RRSF

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
CP CPU TIME	0.008263	0.007562	FAIL-NO STORAGE	0	LOG REC. READ	0	TS SCAN	0
ELIGIBLE FOR SECP	0.000000	N/A	FAIL-LIMIT EXC.	0	ROWS RETURN	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-NO STORAGE	0	RECORDS RET.	0		
SE CPU TIME	0.000000	0.000000	INTERRUPTED-LIMIT EXC.	0	DATA DES.RET	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-NO STORAGE	0	TABLES RET.	0		
			OVERFLOWED-LIMIT EXC.	0	DESCRIBES	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-CURSORS	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) REQUESTED PAGE: 2-21  
 GROUP: DBC1 ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME: 08/24/16 07:17:38.21 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME: N/P PROD VER: N/P LUN LUN: IPUAPC11 CICS INS: N/A  
 REQUESTER: OMPDBC1 CORNAME: 'BLANK' LUN INS: D13DC80FD5E  
 MAINPACK: K02PLAN CORNMGR: 'BLANK' LUN SEQ: 7 ENDUSER: DB2PM  
 PRIMAUTH: DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH: DB2PM CONNECT: RRSF WSNAME: RRSF

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 PROC	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	BP00L ACTIVITY	TOTAL	BP32K	BP00L ACTIVITY	TOTAL	TOTAL	BP00L ACTIVITY	TOTAL
	BP00L HIT RATIO (%)	100		BP00L HIT RATIO (%)	100		BP00L 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 REQ	0		SEQ. PREFETCH REQ	0		SEQ. PREFETCH REQ	0
	LIST PREFETCH REQ	0		LIST PREFETCH REQ	0		LIST PREFETCH REQ	0
	DYN. PREFETCH REQ	0		DYN. PREFETCH REQ	0		DYN. PREFETCH REQ	0
	PAGES READ ASYNCHR.	0		PAGES READ ASYNCHR.	0		PAGES READ ASYNCHR.	0

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-22  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

```

---- IDENTIFICATION -----
ACCT TSTAMP: 08/24/16 07:30:00.01   PLANNAME: K02PLAN   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: D13DC80FD5E
MAINPACK   : K02PLAN     CORRMBR: 'BLANK'   LUW SEQ:           7
PRIMAUTH   : DB2PM      CONNTYPE: RRS      ENDUSER  : DB2PM
ORIGAUTH   : DB2PM      CONNECT : RRSF     TRANSACT: 'BLANK'
                                           WSNAME  : RRSF

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       5   WRITE AND REGISTER       5
WRITE & REGISTER MULT    0   WRITE & REGISTER MULT    0   WRITE & REGISTER MULT    0
CHANGED PAGES WRITTEN    5   CHANGED PAGES WRITTEN    5   CHANGED PAGES WRITTEN    5
COMPL CHECKS SUSPEND     0   COMPL CHECKS SUSPEND     0   COMPL CHECKS SUSPEND     0
  
```

LOCATION: OMPDBC1  
 GROUP: DBC1  
 MEMBER: SC11  
 SUBSYSTEM: SC11  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 2-23  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 07:02:00.00

```

---- IDENTIFICATION -----
ACCT TSTAMP: 08/24/16 07:30:00.01   PLANNAME: K02PLAN   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: D13DC80FD5E
MAINPACK   : K02PLAN     CORRMBR: 'BLANK'   LUW SEQ:           7
PRIMAUTH   : DB2PM      CONNTYPE: RRS      ENDUSER  : DB2PM
ORIGAUTH   : DB2PM      CONNECT : RRSF     TRANSACT: 'BLANK'
                                           WSNAME  : RRSF

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     K02M530  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 1A20F6C107FBA51D 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
                                           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: 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 SWITCH	N/P	N/P	N/P	COMMITTS : 26
STORED PROC	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 LOG 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	SYNOGROUP	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-3  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

```

---- 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        LUN NET: DEIBMIPS    CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.78  PROD VER: N/P        LUN LUN: IPUAPEE1    CICS INS: N/A
REQUESTER  : OMPDBEE                CORRNAME: MISIDC     LUN INS: D13DD2CF7CBB
MAINPACK   : DSNUTIL                CORRMBR: 'BLANK'     LUN SEQ:                27
PRIMAUTH   : MIS                    CONNTYPE: UTILITY    ENDUSER  : MIS
ORIGAUTH   : MIS                    CONNECT : UTILITY    TRANSACT: MISIDC
                                           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
CP CPU TIME	0.305161	N/P	FAIL-NO STORAGE	N/P	LOG REC. READ	N/P	TS SCAN	N/P
ELIGIBLE FOR SECP	0.000000	N/A	FAIL-LIMIT EXC.	N/P	ROWS RETURN	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-NO STORAGE	N/P	RECORDS RET.	N/P		
SE CPU TIME	0.000000	0.000000	INTERRUPTED-LIMIT EXC.	N/P	DATA DES.RET	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-NO STORAGE	N/P	TABLES RET.	N/P		
			OVERFLOWED-LIMIT EXC.	N/P	DESCRIBES	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-4  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

```

---- 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        LUN NET: DEIBMIPS    CICS LUN: N/A
END TIME   : 08/24/16 08:16:02.78  PROD VER: N/P        LUN LUN: IPUAPEE1    CICS INS: N/A
REQUESTER  : OMPDBEE                CORRNAME: MISIDC     LUN INS: D13DD2CF7CBB
MAINPACK   : DSNUTIL                CORRMBR: 'BLANK'     LUN SEQ:                27
PRIMAUTH   : MIS                    CONNTYPE: UTILITY    ENDUSER  : MIS
ORIGAUTH   : MIS                    CONNECT : UTILITY    TRANSACT: MISIDC
                                           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 PROC	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				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 REQ	0	SEQ. PREFETCH REQ	0	SEQ. PREFETCH REQ	0	
	LIST PREFETCH REQ	0	LIST PREFETCH REQ	0	LIST PREFETCH REQ	0	
	DYN. PREFETCH REQ	2559	DYN. PREFETCH REQ	1	DYN. PREFETCH REQ	10228	
	PAGES READ ASYNCHR.	115	PAGES READ ASYNCHR.	1	PAGES READ ASYNCHR.	56	

LOCATION: OMPDBEE  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-5  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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: D13DD2CF7CBB  
 MAINPACK : DSNUTIL CORNMBR: 'BLANK' LUW SEQ: 27  
 PRIMAUTH : MIS CONNTYPE: UTILITY ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : UTILITY TRANSACT: MISIDC  
 WSNAME : UTILITY

TOTAL	BPOOL ACTIVITY	TOTAL
	BPOOL HIT RATIO (%)	100
	GETPAGES	144960
	BUFFER UPDATES	467
	SYNCHRONOUS WRITE	3
	SYNCHRONOUS READ	147
	SEQ. PREFETCH REQ	0
	LIST PREFETCH REQ	0
	DYN. PREFETCH REQ	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-6  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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 CORNMBR: 'BLANK' LUW SEQ: 11  
 PRIMAUTH : MIS CONNTYPE: UTILITY ENDUSER : MIS  
 ORIGAUTH : MIS CONNECT : UTILITY TRANSACT: MISIDC  
 WSNAME : UTILITY

MVS ACCOUNTING DATA : 00816,0000,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 SWITCH	N/P	N/P	N/P	COMMITTS : 10
STORED PROC	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-7  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-8  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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	FAIL-NO STORAGE	N/P	REC.CAPTURED	N/P	INDEX USED	N/P
			FAIL-LIMIT EXC.	N/P	LOG REC.READ	N/P	TS SCAN	N/P
CP CPU TIME	0.003552	N/P	INTERRUPTED-NO STORAGE	N/P	ROWS RETURN	N/P		
ELIGIBLE FOR SECP	0.000000	N/A	INTERRUPTED-LIMIT EXC.	N/P	RECORDS RET.	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-NO STORAGE	N/P	DATA DES.RET	N/P		
			OVERFLOWED-LIMIT EXC.	N/P	TABLES RET.	N/P		
SE CPU TIME	0.000000	0.000000	SKIPPED-INDEX KNOWN	N/P	DESCRIBES	N/P		
ELIGIBLE FOR ACCEL	N/A	0.000000						

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-CURSORS	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-9  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME : 08/24/16 08:16:02.92	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER : OMPDBEE	CORNAME: MISIDC	LUN INS: D13DD2D1D8E0	
MAINPACK : DSNUTIL	CORRWMBR: 'BLANK'	LUN SEQ: 11	ENDUSER : MIS
PRMAUTH : MIS	CONNTYPE: UTILITY		TRANSACTION: 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 PROC	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
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BPO	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-10  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME : 08/24/16 08:16:02.92	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER : OMPDBEE	CORNAME: MISIDC	LUN INS: D13DD2D1D8E0	
MAINPACK : DSNUTIL	CORRWMBR: 'BLANK'	LUN SEQ: 11	ENDUSER : MIS
PRMAUTH : MIS	CONNTYPE: UTILITY		TRANSACTION: MISIDC
ORIGAUTH : MIS	CONNECT : UTILITY		WSNAME : UTILITY

GROUP BPO	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) REQUESTED PAGE: 3-11  
 GROUP: DBEE ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 09:10:12.37 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LUN LUN: IPUAPEE1 CICS INS: N/A  
 REQUESTER : OMPDBEE CORRNAME: 'BLANK' LUN INS: D13DE057D9BB  
 MAINPACK : K02PLAN CORRMBR: 'BLANK' LUN SEQ: 3 ENDUSER : DB2PM  
 PRMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

MVS ACCOUNTING DATA : 'BLANK'  
 ACCOUNTING TOKEN(CHAR) : 'BLANK'  
 ACCOUNTING TOKEN(HEX) : 000

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) REQUESTED PAGE: 3-12  
 GROUP: DBEE ACCOUNTING TRACE - LONG 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: K02PLAN WLM SCL: 'BLANK' CICS NET: N/A  
 BEGIN TIME : 08/24/16 09:10:12.37 PROD TYP: N/P LUN NET: DEIBMIPS CICS LUN: N/A  
 END TIME : N/P PROD VER: N/P LUN LUN: IPUAPEE1 CICS INS: N/A  
 REQUESTER : OMPDBEE CORRNAME: 'BLANK' LUN INS: D13DE057D9BB  
 MAINPACK : K02PLAN CORRMBR: 'BLANK' LUN SEQ: 3 ENDUSER : DB2PM  
 PRMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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
CP CPU TIME	0.010277	0.007403	LOG WRITE I/O	0.000000	0	N/C	RUP AUTONOM.PR: 0
AGENT	0.010277	0.007403	OTHER READ I/O	0.000000	0	N/C	AUTONOMOUS.PR: 0
NONNESTED	0.010277	0.007403	OTHER WRTE I/O	0.000000	0	N/C	QUANTITY : 10
STORED PROC	0.000000	0.000000	SER.TASK SWITCH	0.016517	8	0.002065	COMMITTS : 16
UDF	0.000000	0.000000	UPDATE COMMIT	0.001120	2	0.000560	ROLLBACK : 0
TRIGGER	0.000000	0.000000	OPEN/CLOSE	0.000000	0	N/C	SVPT REQUESTS : 0
PAR.TASKS	0.000000	0.000000	SYSLOGRG REC	0.000000	0	N/C	SVPT RELEASE : 0
SE CPU TIME	0.000000	0.000000	EXT/DEL/DEF	0.000000	0	N/C	SVPT ROLLBACK : 0
NONNESTED	0.000000	0.000000	OTHER SERVICE	0.015397	6	0.002566	INCREM.BINDS : 0
STORED PROC	0.000000	0.000000	ARC.LOG(QUIES)	0.000000	0	N/C	UPDATE/COMMIT : 0.19
UDF	0.000000	0.000000	LOG READ	0.000000	0	N/C	SYNCH I/O AVG.: N/C
TRIGGER	0.000000	0.000000	DRAIN LOCK	0.000000	0	N/C	PROGRAMS : 1
PAR.TASKS	0.000000	0.000000	CLAIM RELEASE	0.000000	0	N/C	MAX CASCADE : 0
SUSPEND TIME	0.000000	0.021591	PAGE LATCH	0.000000	0	N/C	MAX WFILE BLKS: N/A
AGENT	N/A	0.021591	NOTIFY MSGS	0.005074	2	0.002537	
PAR.TASKS	N/A	0.000000	GLOBAL CONTENTION	0.000000	0	N/C	
STORED PROC	0.000000	N/A	COMMIT PH1 WRITE I/O	0.000000	0	N/C	
UDF	0.000000	N/A	ASYNCH CF REQUESTS	0.000000	0	N/C	
NOT ACCOUNT.	N/A	0.084038	TCP/IP LOB XML	0.000000	0	N/C	
DB2 ENT/EXIT	N/A	0	ACCELERATOR	0.000000	0	N/C	
EN/EX-STPROC	N/A	0	AUTONOMOUS PROCEDURE	0.000000	0	N/C	
EN/EX-UDF	N/A	0	PQ SYNCHRONIZATION	0.000000	0	N/C	
DCAPT.DESCR.	N/A	N/A	LOB COMPRESSION	N/A	N/A	N/A	
LOG EXTRACT.	N/A	N/A	FAST INSERT PIPE	N/A	N/A	N/A	
			TOTAL CLASS 3	0.021591	10	0.002159	

LOCATION: OMPDBEE  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-13  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- IDENTIFICATION ----

ACCT TSTAMP: 08/24/16 09:16:33.11	PLANNAME: K02PLAN	WLM SCL: 'BLANK'	CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37	PROD TYP: N/P	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME : N/P	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER : OMPDBEE	CORRNAME: 'BLANK'	LUN INS: D13DE057D9BB	
MAINPACK : K02PLAN	CORRNMBR: 'BLANK'	LUN SEQ: 3	ENDUSER : DB2PM
PRMAUTH : DB2PM	CONNTYPE: RRS		TRANSACTION: 'BLANK'
ORIGAUTH : DB2PM	CONNECT : RRSF		WSNAME : RRSF

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	0	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	0	0		
				RENAME TBL	0	0	0		
				RENAME IX	0	0	0		
				COMMENT ON	0	0	0		
				LABEL ON	0	0	0		

LOCATION: OMPDBEE  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-14  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- IDENTIFICATION ----

ACCT TSTAMP: 08/24/16 09:16:33.11	PLANNAME: K02PLAN	WLM SCL: 'BLANK'	CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37	PROD TYP: N/P	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME : N/P	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER : OMPDBEE	CORRNAME: 'BLANK'	LUN INS: D13DE057D9BB	
MAINPACK : K02PLAN	CORRNMBR: 'BLANK'	LUN SEQ: 3	ENDUSER : DB2PM
PRMAUTH : DB2PM	CONNTYPE: RRS		TRANSACTION: 'BLANK'
ORIGAUTH : DB2PM	CONNECT : RRSF		WSNAME : RRSF

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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-15  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- IDENTIFICATION ----

ACCT TSTAMP: 08/24/16 09:16:33.11	PLANNAME: K02PLAN	WLM SCL: 'BLANK'	CICS NET: N/A
BEGIN TIME: 08/24/16 09:10:12.37	PROD TYP: N/P	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME: N/P	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER: OMPDBEE	CORNAME: 'BLANK'	LUN INS: D13DE057D9BB	
MAINPACK: K02PLAN	CORNWBR: 'BLANK'	LUN SEQ: 3	ENDUSER: DB2PM
PRMAUTH: DB2PM	CONNTYPE: RRS		TRANSACTION: 'BLANK'
ORIGAUTH: DB2PM	CONNECT: RRS		WSNAME: RRS

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 PROC	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
BPO	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-16  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- IDENTIFICATION ----

ACCT TSTAMP: 08/24/16 09:16:33.11	PLANNAME: K02PLAN	WLM SCL: 'BLANK'	CICS NET: N/A
BEGIN TIME: 08/24/16 09:10:12.37	PROD TYP: N/P	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME: N/P	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER: OMPDBEE	CORNAME: 'BLANK'	LUN INS: D13DE057D9BB	
MAINPACK: K02PLAN	CORNWBR: 'BLANK'	LUN SEQ: 3	ENDUSER: DB2PM
PRMAUTH: DB2PM	CONNTYPE: RRS		TRANSACTION: 'BLANK'
ORIGAUTH: DB2PM	CONNECT: RRS		WSNAME: RRS

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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

REQUESTED PAGE: 3-17  
 FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- IDENTIFICATION

ACCT TSTAMP: 08/24/16 09:16:33.11	PLANNAME: K02PLAN	WLM SCL: 'BLANK'	CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37	PROD TYP: N/P	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME : N/P	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER : OMPDBEE	CORRNAME: 'BLANK'	LUN INS: D13DE057D9BB	
MAINPACK : K02PLAN	CORRMGR: 'BLANK'	LUN SEQ: 3	ENDUSER : DB2PM
PRMAUTH : DB2PM	CONNTYPE: RRS		TRANSACTION: 'BLANK'
ORIGAUTH : DB2PM	CONNECT : RRS		WSNAME : RRS

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	K0201530	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	0.003785	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
		DB2 ENTRY/EXIT	86	TCP/IP LOB XML	0.000000	0	N/C
				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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

REQUESTED PAGE: 3-18  
 FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- IDENTIFICATION

ACCT TSTAMP: 08/24/16 09:16:33.11	PLANNAME: K02PLAN	WLM SCL: 'BLANK'	CICS NET: N/A
BEGIN TIME : 08/24/16 09:10:12.37	PROD TYP: N/P	LUN NET: DEIBMIPS	CICS LUN: N/A
END TIME : N/P	PROD VER: N/P	LUN LUN: IPUAPEE1	CICS INS: N/A
REQUESTER : OMPDBEE	CORRNAME: 'BLANK'	LUN INS: D13DE057D9BB	
MAINPACK : K02PLAN	CORRMGR: 'BLANK'	LUN SEQ: 3	ENDUSER : DB2PM
PRMAUTH : DB2PM	CONNTYPE: RRS		TRANSACTION: 'BLANK'
ORIGAUTH : DB2PM	CONNECT : RRS		WSNAME : RRS

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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-21  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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' CORRMBR: LUW SEQ: 1 ENDUSER : DB2PM  
 PRMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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	0	0		
				RENAME TBL	0	0	0		
				RENAME IX	0	0	0		
				COMMENT ON	0	0	0		
				LABEL ON	0	0	0		

LOCATION: OMPDBEE  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-22  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

---- 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' CORRMBR: LUW SEQ: 1 ENDUSER : DB2PM  
 PRMAUTH : DB2PM CONNTYPE: RRS TRANSACT: 'BLANK'  
 ORIGAUTH : DB2PM CONNECT : RRSF WSNAME : RRSF

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	FAIL-NO STORAGE	0	REC.CAPTURED	0	INDEX USED	0
CP CPU TIME	0.366568	0.147791	FAIL-LIMIT EXC.	0	LOG REC.READ	0	TS SCAN	0
ELIGIBLE FOR SECP	0.000000	N/A	INTERRUPTED-NO STORAGE	0	ROWS RETURN	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	INTERRUPTED-LIMIT EXC.	0	RECORDS RET.	0		
SE CPU TIME	0.000000	0.000000	OVERFLOWED-NO STORAGE	0	DATA DES.RET	0		
ELIGIBLE FOR ACCEL	N/A	0.000000	OVERFLOWED-LIMIT EXC.	0	TABLES RET.	0		
			SKIPPED-INDEX KNOWN	0	DESCRIBES	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-CURSORS	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  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-23  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

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---- 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               CORRNMBR:          LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'               CONNTYPE: RRS     LUW SEQ:          1
PRMAUTH    : DB2PM                 CONNECT : RRSFAS  ENDUSER  : DB2PM
ORIGAUTH   : DB2PM                 WSNAME  : RRSFAS  TRANSACT: 'BLANK'

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 PROC   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   145  SYNCHRONOUS WRITE   20  SYNCHRONOUS WRITE   2
SYNCHRONOUS READ    11  SYNCHRONOUS READ    0  SYNCHRONOUS READ    0
SEQ. PREFETCH REQS  3  SEQ. PREFETCH REQS  0  SEQ. PREFETCH REQS  0
LIST PREFETCH REQS  1041  LIST PREFETCH REQS  0  LIST PREFETCH REQS  0
DYN. PREFETCH REQS  337  DYN. PREFETCH REQS  0  DYN. PREFETCH REQS  0
PAGES READ ASYNCHR.  0  PAGES READ ASYNCHR.  0  PAGES READ ASYNCHR.  0
  
```

LOCATION: OMPDBEE  
 GROUP: DBEE  
 MEMBER: SEE1  
 SUBSYSTEM: SEE1  
 DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 ACCOUNTING TRACE - LONG

PAGE: 3-24  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 08/24/16 08:16:02.78

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---- 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               CORRNMBR:          LUW INS: D13DDEECF7B0
MAINPACK   : 'BLANK'               CONNTYPE: RRS     LUW SEQ:          1
PRMAUTH    : DB2PM                 CONNECT : RRSFAS  ENDUSER  : DB2PM
ORIGAUTH   : DB2PM                 WSNAME  : RRSFAS  TRANSACT: 'BLANK'

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
  
```

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!PROGRAM NAME          CLASS 7 ELAPSED TIME CONSUMERS  !
!FPEVWRPA             !> 1%  !
!DGOZPC2              !=> 3%  !
!DGOZDATE             !  !
!DGOZPC1              !=====> 95%  !
  
```

```

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

```

```

----- 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             LUN NET: DEIBMIPS        CICS LUN: N/A
END TIME   : N/P                 PROD VER: N/P            LUN LUN: IPUAPEE1        CICS INS: N/A
REQUESTER  : OMPDBEE             CORRNAME:                 LUN INS: D13DDEECF7B0    ENDUSER  : DB2PM
MAINPACK   : 'BLANK'            CORRNMBR:                 LUN SEQ:                  TRANSACT: 'BLANK'
PRIMAUTH   : DB2PM              CONNTYPE: RRS             CONNECT : RRSAF          WSNAME   : RRSAF
ORIGAUTH   : DB2PM

```

(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	KO20M530	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 221](#)
- [“Times - Class 2 - DB2 Time” on page 226](#)

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:** Q8ACNWDW

## **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 ELPSD TIME	3:47.166	3:47.166		ZHL READ ELPSD TIME	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:** QBACSW

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:** QBACSI0

This is an *exception* field.

### ZHL SYNC READS

The number of sync reads with zHyperLink.

**Field name:** QBACSYI

### ZHL READ ELPSD TIME

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 than 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:

DATA SHARING	AVERAGE	TOTAL
GLOBAL CONT RATE(%)	N/C	N/A
FALSE CONT RATE(%)	N/C	N/A
P/L-LOCKS XES(%)	N/C	N/A
LOCK REQ - PLOCKS	0.00	0
UNLOCK REQ - PLOCKS	0.00	0
CHANGE REQ - PLOCKS	0.00	0
LOCK REQ - XES	0.00	0
UNLOCK REQ - XES	0.00	0
CHANGE REQ - XES	0.00	0
SUSPENDS - IRLM	0.00	0
SUSPENDS - XES	0.00	0
CONVERSIONS- XES	0.00	0
FALSE CONTENTIONS	0.00	0
INCOMPATIBLE LOCKS	0.00	0
NOTIFY MSGS SENT	0.00	0

Trace:

DATA SHARING	TOTAL
GLOB CONT(%)	11.35
FALS CONT(%)	0.00
P/L-LOCKS(%)	89
P-LOCK REQ	159
P-UNLOCK REQ	45
P-CHANGE REQ	40
LOCK - XES	286
UNLOCK-XES	103
CHANGE-XES	47
SUSP - IRLM	64
SUSP - XES	0
CONV - XES	64
FALSE CONT	0
INCOMP.LOCK	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:** ALLOCRA

### 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:** QTG AFCNT

**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:10.15.6#1    CONV.INITIATED   :    0.00    MESSAGES SENT   :   9877.64    ROWS SENT       :    0.57
PRODUCT ID  : COMMON SERV          #COMMIT(1) RECEIVED:    140    MESSAGES RECEIVED:   9877.64    BLOCKS SENT     :    0.29
PRODUCT VERSION: V11R5 M5      #ROLLBK(1) RECEIVED:     0      BYTES SENT      :  859365.00    #DDF ACCESSES  :    14
PRODUCT LEVEL : s2011011400    SQL RECEIVED     :   9867.64    BYTES RECEIVED  :   3784.1K    #RLUP THREADS  :   140
METHOD      : DRDA PROTOCOL    #THREADS INDOUBT :     0
  
```

Trace:

```

---- DISTRIBUTED ACTIVITY -----
REQUESTER   : ::FFFF:10.15.6#1    COMMITS(1) RECEIVED:    10    BYTES SENT      :   707720    CONVERSAT.INITIATED:     0
PRODUCT ID  : COMMON SERV          ROLLBK(1) RECEIVED:     0      BYTES RECEIVED  :   3072635    NBR RLUP THREADS  :    10
PRODUCT VERSION: V11R5 M5      SQL RECEIVED     :    8017    THREADS INDOUBT:     0
PRODUCT LEVEL : s2011011400    MESSAGES SENT   :    8027    ROWS SENT       :     8
METHOD      : DRDA PROTOCOL    MESSAGES RECEIVED:    8027    BLOCKS SENT     :     4
  
```

### 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

### 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 *VvvRrrMm*, 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 VvvRrrMm , 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 LEVEL

Product level of the remote, if known.

**Field Name:** QLACPRLV

**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

**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

**Report - SQL RECEIVED**

The number of SQL statements received from the requester location.

**Field Name:** QLACSQLR

**Report - MESSAGES SENT**

The number of messages sent to the location. It is maintained at the location where the messages originated.

**Field Name:** QLACMSGS

**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

**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

**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

**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

**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

**Report - BLOCKS SENT**

The number of blocks transmitted using block fetch. This value is maintained at the server location.

**Field Name:** QLACBTBF

**Report - #DDF ACSESSES**

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

**Field Name:** ASDDF

**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

**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 VvvRrrMm , 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 VvvRrrMm , 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 LEVEL**

Product level of the remote, if known.

**Field Name:** QLACPRLV

**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

**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

**Trace - SQL RECEIVED**

The number of SQL statements received from the requester location.

**Field Name:** QLACSQLR

**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 - 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

**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

**Trace - BLOCKS SENT**

The number of blocks transmitted using block fetch. This value is maintained at the server location.

**Field Name:** QLACBTBF

**Trace - CONVERSAT.INITIATED**

A count of conversations initiated by the requester.

This number is updated at the server location.

**Field Name:** QLACCNVR

**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
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 *VvvRrrMm*, 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 *VvvRrrMm* , 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 ACCESES**

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 *VvvRrrMm* , 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 *VvvRrrMm* , 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 - COMMIT(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:

DRAIN/CLAIM	AVERAGE	TOTAL
DRAIN REQUESTS	0.00	0
DRAIN FAILED	0.00	0
CLAIM REQUESTS	15.00	15
CLAIM FAILED	0.00	0

Trace:

DRAIN/CLAIM	TOTAL
DRAIN REQST	0
DRAIN FAILED	0
CLAIM REQST	37
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:

DYNAMIC SQL STMT	AVERAGE	TOTAL
REOPTIMIZATION	0.00	0
NOT FOUND IN CACHE	0.00	0
FOUND IN CACHE	0.00	0
IMPLICIT PREPARES	7.00	7
PREPARES AVOIDED	0.00	0
CACHE_LIMIT_EXCEEDED	0.00	0
PREP_STMT_PURGED	0.00	0
STABILIZED PREPARE	0.00	0
CSWL - STMTS PARSED	0.00	0
CSWL - LITS REPLACED	0.00	0
CSWL - MATCHES FOUND	0.00	0
CSWL - DUPLS CREATED	0.00	0
RDS SORT PERFORMED	0.00	0
RDS SORTL USED	0.00	0
ZAI STBLZD PREPARE	0.00	0
SORT FDBK USED	0.00	0

Trace:

DYNAMIC SQL STMT	TOTAL
REOPTIMIZATION	0
NOT FOUND IN CACHE	0
FOUND IN CACHE	0
IMPLICIT PREPARES	0
PREPARES AVOIDED	0
CACHE_LIMIT_EXCEEDED	0
PREP_STMT_PURGED	0
STABILIZED PREPARE	0
CSWL - STMTS PARSED	0
CSWL - LITS REPLACED	0
CSWL - MATCHES FOUND	0
CSWL - DUPLS CREATED	0
RDS SORT PERFORMED	0
RDS SORTL USED	0
ZAI STBLZD PREPARE	0
SORT FDBK USED	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 KEEP\_DYNAMIC 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 KEEP\_DYNAMIC 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

### **RDS SORT PERFORMED**

Number of times RDS Sort was performed.

**Field Name:** QXSTSRT

### **RDS SORTL USED**

Number of times RDS Sort used the IBM Integrated Accelerator for Z Sort.

**Field Name:** QXSTSRTL

### **ZAI STBLZD PREPARE**

The number of times when a PREPARE request was satisfied because db2zai stabilized the statement.

**Field Name:** QXSTMLFD

### **SORT FDBK USED**

The number of times when sort feedback was used.

**Field Name:** QXSTMLSRT

## **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:

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

Trace:

### 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
#DDFRRSF 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
#COMMITTS        :     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 programabend**

ASATAPAB

**End of memory**

ASATENDM

**Resolve indoubt**

ASATRIND

**Cancel force**

ASATCANF

## Rollup termination

ASROLL

**Field Name:** ASABNOTM

This is an *exception* field.

### #DDFRSAF 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.

### **#COMMITTS**

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

### Highlights - Trace

This topic shows detailed information about "Accounting - Highlights - Trace".

### Accounting - Highlights - Trace

The field labels shown in the following sample layout of "Accounting - Highlights - Trace" are described in the following section.

```
HIGHLIGHTS
-----
THREAD TYPE      : ALLIED
TERM.CONDITION  : NORMAL
INVOKE REASON   : DEALLOC
PARALLELISM     : CP
PCA RUP COUNT   :          0
RUP AUTONOM.PR :          0
AUTONOMOUS PR  :          0
QUANTITY        :         18
COMMITTS       :          1
ROLLBACK       :          0
SVPT REQUESTS  :          0
SVPT RELEASE   :          0
SVPT ROLLBACK  :          0
INCREM.BINDS   :          0
UPDATE/COMMIT  :         0.00
SYNCH I/O AVG. :         N/C
PROGRAMS       :          1
MAX CASCADE    :          0
MAX WFILE BLKS:       172544
CUR WFILE BLKS:          0
ZHL READ I/O   :          0
```

#### 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, resignton occurs if the only identifier changed is the transaction ID. If NO, resignton 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 RRSF and accumulated data has exceeded the staleness threshold.

**BLOCK STOR**

Accumulating data by end user for DDF or RRSF 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 RRSF 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.

**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 executed.

**Background and Tuning Information**

The number of autonomous procedures executed.

**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

## COMMITTS

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

## 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

## 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

## 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

#### UPDATE/COMMIT

The sum of SQL INSERT, SQL UPDATE, and SQL DELETE statements executed.

**Field Name:** ASIUD

#### SYNCH I/O AVG.

The synchronous I/O suspension time per event.

#### Background and Tuning Information

The synchronous I/O suspension time per event.

**Field Name:** AAIOTMCN

#### PROGRAMS

The number of packages or DBRMs for which accounting data was collected.

**Field Name:** QWACPKGN

#### MAX CASCADE

The maximum level of indirect SQL cascading. This includes cascading because of triggers, UDFs, or stored procedures.

**Field Name:** QXCASCDP

#### CUR WFILE BLKS

Current number of workfile blocks being used by this agent (traditional workfile use, DGTT and DGTT indexes).

**Field Name:** AWWFCUR

#### 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

## 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: JBBC DRIVER      CICS LUN: N/A
END TIME    : N/P                   PROD VER: V3 R66M0         LWM NET: G99A83BD       CICS INS: N/A
REQUESTER   : ::FFFF:9.154.1#1      CORRNAME: db2jcc_a         LWM LUN: GAC7
MAINPACK    : IS-255-0              CORRMBR: pp1i              LWM INS: CAEBCE3316A8   ENDUSER  : IS-128--012345#1
PRIMAUTH    : MTS                   CONNTYPE: DRDA             LWM SEQ: 2              TRANSACT: IS-255-01234567890123456789012#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 1900-01-01-00.00.000000.

**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:** ADMMAINPK

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

### **TRANSACTION**

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<sup>®</sup> 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 CICS Requester Correlation

This topic shows detailed information about "Accounting - Initial CICS Requester Correlation".

### Accounting - Initial CICS Requester Correlation

The field labels shown in the following sample layout of "Accounting - Initial CICS Requester Correlation" are described in the following section.

```
---- INITIAL CICS REQUESTER CORRELATION DATA -----  
PRODUCT ID       : CICS  
PRODUCT VERSION  : V6 R1 M0  
ADAPTER DATA EYECATCHER: Eyecatcher data  
ADAPTER DATA1   : Adapter data  
ADAPTER DATA2   : Adapter data  
ADAPTER DATA3   : Adapter data
```

## PRODUCT ID

Shows the product identifier (ID) of the CICS requester.



**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

**Field Name:** QMDAPRIDV

### ADAPTER DATA EYECATCHER

The CICS adapter data eyecatcher.

**Field Name:** QMDAAEYE

### ADAPTER DATA1

CICS adapter data 1.

**Field Name:** QMDAADT1

### ADAPTER DATA2

CICS adapter data 2.

**Field Name:** QMDAADT2

### ADAPTER DATA3

CICS adapter data 3.

**Field Name:** QMDAADT3

## 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-255-01234567890123456789012#1
```

### PRODUCT TYPE

Shows the product identifier (ID) of the requester. It can have the following values:

#### JDBC DRIVER

For Universal JDBC driver.

#### COMMON SERV

For Db2 UDB for Linux, UNIX, and Windows.

**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

**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. For the DB2 UDB for z/OS requester, this field has a value of DB2.

**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

## CORRNUMBR

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**

Shows the product identifier (ID) of the requester. It can have the following values:

#### **SQL/DS**

For DB2 UDB for VSE and VM.

#### **DB2/400**

For DB2 UDB for IBM i.

#### **LOG READER**

For Asynchronous Log Reader Task.

**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

## 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

## Initial REST Service Requester Correlation

This topic shows detailed information about "Accounting - Initial REST Service Requester Correlation".

### Accounting - Initial REST Service Requester Correlation

The field labels shown in the following sample layout of "Accounting - Initial REST Service Requester Correlation" are described in the following section.

```
---- INITIAL REST SERVICE REQUESTER CORRELATION DATA -----  
PRODUCT ID       : HTTP  
PRODUCT VERSION  : V1_R1 M0  
REST FUNCTION CODE: GET  
FULL SERVICE NAME: DB2ServiceDiscover
```

#### PRODUCT ID

Shows the product identifier (ID) of the requester. It can have the following values:

**HTTP**  
For HTTP REST application.

**HTTPS**  
For HTTPS REST application.

**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

**Field Name:** QMDAPRIDV

### REST FUNCTION CODE

The REST HTTP function code.

**Field Name:** QMDAFUNC

### FULL SERVICE NAME

The fully qualified service name.

**Field Name:** QMDASVCN

## Locking

This topic shows detailed information about "Accounting - Locking".

This block provides locking information. Locking ensures the integrity of data.

For formatting reasons, OMEGAMON 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 DEADLOCK 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:** QTXAQRV

## **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

## Longest Lock/Latch Waiter

This topic shows detailed information about "Accounting - Longest Lock/Latch Waiter".

This block shows information about the longest lock/latch, page latch and service task waits incurred during the execution of the thread.

### Accounting - Longest Lock/Latch Waiter

The field labels shown in the following sample layout of "Accounting - Longest Lock/Latch Waiter" are described in the following section.

```

LONGEST LOCK/LATCH WAIT                               VALUE
-----
ELAPSED TIME                                         32.848157
WAIT TYPE                                             DB2 - LOCK
SOURCE ACE                                           N/P
DBID FOR SYNC/ASYNC I/O                             N/P
OBID FOR SYNC/ASYNC I/O                             N/P
LOCK HASH                                           X'00010372'
LATCH CLASS                                         N/P
LATCH TOKEN                                         N/P
BEGIN TIME                                           12:24:50.373928
END TIME                                             12:25:23.222085

```

```

LONGEST PAGE LATCH WAIT                               VALUE
-----
ELAPSED TIME                                         N/P
SOURCE ACE                                           N/P
DATABASE ID                                         N/P
PAGESET ID                                          N/P
PAGE NUMBER                                         N/P
PARTITION NUMBER                                    N/P
BEGIN TIME                                           N/P
END TIME                                             N/P

```

```

LONGEST SERVICE TASK WAIT                             VALUE
-----
ELAPSED TIME                                         0.002441
SOURCE ACE                                           N/P
RESOURCE MANAGER ID                                  24
FUNCTION CODE                                        65
BEGIN TIME                                           12:25:23.222229
END TIME                                             12:25:23.224670

```

#### **LONGEST LOCK/LATCH WAIT - ELAPSED TIME**

Wait length for longest lock/latch waits.

**Field Name:** QLLLRDT

#### **LONGEST LOCK/LATCH WAIT - WAIT TYPE**

Type of operation that incurred the longest wait time.

**Field Name:** QLLLTYP

#### **LONGEST LOCK/LATCH WAIT - SOURCE ACE**

Agent Control Element (ACE) address for longest lock/latch waiter.

**Field Name:** QLLLRACE

#### **LONGEST LOCK/LATCH WAIT - DBID FOR SYNC/ASYNC I/O**

Database ID for synchronous/asynchronous I/O waits.

**Field Name:** QLLLDB

#### **LONGEST LOCK/LATCH WAIT - OBID FOR SYNC/ASYNC I/O**

Object ID for synchronous/asynchronous I/O waits.

**Field Name:** QLLLOB

#### **LONGEST LOCK/LATCH WAIT - LOCK HASH**

Lock hash for longest lock/latch waits.

**Field Name:** QLLLLH

#### **LONGEST LOCK/LATCH WAIT - LATCH CLASS**

Latch class for longest lock/latch waits.

**Field Name:** QLLLLC

**LONGEST LOCK/LATCH WAIT - LATCH TOKEN**

Latch token for longest lock/latch waits.

**Field Name:** QLLLLA

**LONGEST LOCK/LATCH WAIT - BEGIN TIME**

Begin time for longest lock/latch waits.

**Field Name:** QLLLRBT

**LONGEST LOCK/LATCH WAIT - END TIME**

End time for longest lock/latch waits.

**Field Name:** QLLLRET

**LONGEST PAGE LATCH WAIT- ELAPSED TIME**

Wait length for longest page latch waits.

**Field Name:** QLLLPIDT

**LONGEST PAGE LATCH WAIT- SOURCE ACE**

Agent Control Element (ACE) address for longest page latch waiter.

**Field Name:** QLLLPIACE

**LONGEST PAGE LATCH WAIT- DATABASE ID**

Database ID for longest page latch waits.

**Field Name:** QLLLPIDB

**LONGEST PAGE LATCH WAIT- PAGESET ID**

Pageset ID for longest page latch waits.

**Field Name:** QLLLPISB

**LONGEST PAGE LATCH WAIT- PAGE NUMBER**

Page number for longest page latch waits.

**Field Name:** QLL LPG

**LONGEST PAGE LATCH WAIT- PARTITION NUMBER**

Partition number for longest page latch waits.

**Field Name:** QLLPA

**LONGEST PAGE LATCH WAIT- BEGIN TIME**

Page latch wait begin time.

**Field Name:** QLLPIBT

**LONGEST PAGE LATCH WAIT- END TIME**

Page latch wait end time.

**Field Name:** QLLPIET

**LONGEST SERVICE TASK WAIT- ELAPSED TIME**

Wait length for service task waits.

**Field Name:** QLLSDT

**LONGEST SERVICE TASK WAIT- SOURCE ACE**

Agent Control Element (ACE) address for longest service task waiter.

**Field Name:** QLLSACE

## LONGEST SERVICE TASK WAIT- RESOURCE MANAGER ID

Resource manager ID (RMID) of the Resource Manager that performs the service.

**Field Name:** QLLIID

## LONGEST SERVICE TASK WAIT- FUNCTION CODE

Function code for the function that the service task performs.

**Field Name:** QLLLFC

## LONGEST SERVICE TASK WAIT- BEGIN TIME

Begin time for service task waits.

**Field Name:** QLLSBT

## LONGEST SERVICE TASK WAIT- END TIME

End time for service task waits.

**Field Name:** QLLSET

## 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 3. 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-255-01234567890123456789012#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:

DSNESM68	AVERAGE	TOTAL
-----	-----	-----
BPOOL HIT RATIO (%)	87.78	N/A
GETPAGES	20306.43	426435
BUFFER UPDATES	27044.33	567931
SYNCHRONOUS WRITE	17.38	365
SYNCHRONOUS READ	1653.90	34732
SEQ. PREFETCH REQS	156.10	3278
LIST PREFETCH REQS	0.24	5
DYN. PREFETCH REQS	0.33	7
PAGES READ ASYNCHR.	827.86	17385
ZHL SYNC. READ	1581.10	33203
ZHL READ ELPSD TIME	0.037187	0.780934

Trace:

DSNESM68	TOTAL
-----	-----
BPOOL HIT RATIO (%)	27
GETPAGES	1704
BUFFER UPDATES	189
SYNCHRONOUS WRITE	2
SYNCHRONOUS READ	1239
SEQ. PREFETCH REQS	33
LIST PREFETCH REQS	4
DYN. PREFETCH REQS	7
PAGES READ ASYNCHR.	0
ZHL SYNC. READ	2
ZHL READ ELPSD TIME	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:** QBACLPPF

## **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 READ ELPSD 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.

**Format:** HH:MM:SS.mmmm

**Note:** If the value is less than 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:	AVERAGE TIME	AV.EVENT	Trace:	ELAPSED TIME	EVENTS
AYRSD020			DSNTEP2		
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:	AVERAGE TIME		AV. EVENT	Trace:	ELAPSED TIME		EVENTS
AYRSD020	0.000000	0.00	0.00	DSNTEP2	0.000000	0	0
GLOBAL CONTENTION P-LOCKS	0.000000	0.00	0.00	GLOBAL CONTENTION P-LOCKS	0.000000	0	0
PAGESET/PARTITION	0.000000	0.00	0.00	PAGESET/PARTITION	0.000000	0	0
PAGE	0.000000	0.00	0.00	PAGE	0.000000	0	0
OTHER	0.000000	0.00	0.00	OTHER	0.000000	0	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 18](#).

### ***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           DSND1B
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:** QTXAQRV

## 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:

package	AVERAGE	TOTAL
-----	-----	-----
SELECT	0.00	0
INSERT	0.00	0
UPDATE	0.00	0
DELETE	0.00	0
DESCRIBE	0.00	0
PREPARE	0.00	0
OPEN	0.00	0
FETCH	0.00	0
CLOSE	0.00	0
LOCK TABLE	0.00	0
CALL	0.00	0

Trace:

package	TOTAL
-----	-----
SELECT	0
INSERT	0
UPDATE	0
DELETE	0
DESCRIBE	0
PREPARE	0
OPEN	0
FETCH	0
CLOSE	0
LOCK TABLE	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
PO SYNCHRONIZATION	0.000000	0.00	N/C	PO SYNCHRONIZATION	0.000000	0	N/C
FAST INSERT PIPE	0.000000	0.00	N/C	FAST INSERT PIPE	0.000111	1	N/C
TOTAL CLB SUSPENS.	0.000000	0.00	N/C	TOTAL CLB 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:** AAILOPTMC

**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
		DB2 ENTRY/EXIT	12

### ELAP-CL7 TIME-AVG

The total elapsed time for executing the package or DBRM.

**Field Name:** QPACSTC

### 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.

#### **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 ZPARAM 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:** ADRLFSTYP

### #OCCUR

The number of RLF occurrences.

**Field Name:** ASRLFOCC

### AVERAGE CPU SECONDS

The number of CPU seconds used.

**Field Name:** ADRLFPCPU

### 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:** QXROIITS

## 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 PROC**

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 splex 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 TIMEOUT	1
FROM APPL.	0
FROM PROF.	1
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

#### **SET TIMEOUT**

Number of times the CURRENT LOCK TIMEOUT special register was changed.

##### **Background and Tuning Information**

Number of times the CURRENT LOCK TIMEOUT special register was changed.

**Field Name:** ASTOTCTO

#### **FROM APPL.**

Number of times the SET CURRENT LOCK TIMEOUT statement was executed.

##### **Background and Tuning Information**

Number of times the SET CURRENT LOCK TIMEOUT statement was executed.

**Field Name:** QXCTOAPP

#### **FROM PROF.**

Number of times that the CURRENT LOCK TIMEOUT special register was set from a profile table.

##### **Background and Tuning Information**

Number of times that the CURRENT LOCK TIMEOUT special register was set from a profile table.

**Field Name:** QXCTOPRF

#### **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)	DB2 (CL.2)	TIMES/EVENTS	APPL (CL.1)	DB2 (CL.2)
ELAPSED TIME	1.395431	.....	ELAPSED TIME	1.361586	.....
NONNESTED	1.395431	.....	NONNESTED	1.361586	.....
STORED PROC	0.000000	.....	STORED PROC	0.000000	.....
UDF	0.000000	.....	UDF	0.000000	.....
TRIGGER	0.000000	.....	TRIGGER	0.000000	.....
CP CPU TIME	1.703832	.....	CP CPU TIME	1.673038	.....
AGENT	0.690480	.....	AGENT	0.690484	.....
NONNESTED	0.690480	.....	NONNESTED	0.690484	.....
STORED PROC	0.000000	.....	STORED PROC	0.000000	.....
UDF	0.000000	.....	UDF	0.000000	.....
TRIGGER	0.000000	.....	TRIGGER	0.000000	.....
SQL DI	N/A	.....	SQL DI	N/A	.....
PAR_TASKS	1.013352	.....	PAR_TASKS	0.982554	.....
SQL DI	N/A	.....	SQL DI	N/A	.....
SE CPU TIME	2.687904	.....	SE CPU TIME	2.763374	.....
NONNESTED	0.000000	.....	NONNESTED	0.000000	.....
STORED PROC	0.000000	.....	STORED PROC	0.000000	.....
UDF	0.000000	.....	UDF	0.000000	.....
TRIGGER	0.000000	.....	TRIGGER	0.000000	.....
SQL DI	N/A	.....	SQL DI	N/A	.....
PAR_TASKS	2.687904	.....	PAR_TASKS	2.763374	.....
SQL DI	N/A	.....	SQL DI	N/A	.....
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	.....
NOT ACCOUNT.	N/A	.....	NOT ACCOUNT.	N/A	.....
DB2 ENT/EXIT	N/A	.....	DB2 ENT/EXIT	N/A	.....
EN/EX-STPROC	N/A	.....	EN/EX-STPROC	N/A	.....
EN/EX-UDF	N/A	.....	EN/EX-UDF	N/A	.....
EN/EX-SQL DI	N/A	.....	EN/EX-SQL DI	N/A	.....
DCAPT_DESCR.	N/A	.....	DCAPT_DESCR.	N/A	.....
LOG EXTRACT.	N/A	.....	LOG EXTRACT.	N/A	.....

## 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

## 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:** ADELTP1

#### **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:** AWAEUD1

#### **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

#### **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

#### **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 (CL.1)	DB2 (CL.2)	TIMES/EVENTS	APPL (CL.1)	DB2 (CL.2)
ELAPSED TIME	1.392412	1.392412	ELAPSED TIME	1.358710	1.358710
NONNESTED	1.392412	1.392412	NONNESTED	1.358710	1.358710
STORED PROC	0.000000	0.000000	STORED PROC	0.000000	0.000000
UDF	0.000000	0.000000	UDF	0.000000	0.000000
TRIGGER	0.000000	0.000000	TRIGGER	0.000000	0.000000
CP CPU TIME	1.703134	1.703134	CP CPU TIME	1.672292	1.672292
AGENT	0.689782	0.689782	AGENT	0.689738	0.689738
NONNESTED	0.689782	0.689782	NONNESTED	0.689738	0.689738
STORED PROC	0.000000	0.000000	STORED PROC	0.000000	0.000000
UDF	0.000000	0.000000	UDF	0.000000	0.000000
TRIGGER	0.000000	0.000000	TRIGGER	0.000000	0.000000
SQL DI	0.000000	0.000000	SQL DI	0.000000	0.000000
PAR_TASKS	1.013352	1.013352	PAR_TASKS	0.982554	0.982554
SQL DI	0.858103	0.858103	SQL DI	0.827305	0.827305
SE CPU TIME	2.645366	2.645366	SE CPU TIME	2.716853	2.716853
NONNESTED	0.000000	0.000000	NONNESTED	0.000000	0.000000
STORED PROC	0.000000	0.000000	STORED PROC	0.000000	0.000000
UDF	0.000000	0.000000	UDF	0.000000	0.000000
TRIGGER	0.000000	0.000000	TRIGGER	0.000000	0.000000
SQL DI	0.000000	0.000000	SQL DI	0.000000	0.000000
PAR_TASKS	2.645366	2.645366	PAR_TASKS	2.716853	2.716853
SQL DI	2.150585	2.150585	SQL DI	2.217647	2.217647
SUSPEND TIME	0.717750	0.717750	SUSPEND TIME	0.681337	0.681337
AGENT	0.699529	0.699529	AGENT	0.665070	0.665070
PAR_TASKS	0.018222	0.018222	PAR_TASKS	0.016268	0.016268
STORED PROC	N/A	N/A	STORED PROC	N/A	N/A
UDF	N/A	N/A	UDF	N/A	N/A
NOT ACCOUNT.	0.003102	0.003102	NOT ACCOUNT.	N/C	N/C
DB2 ENT/EXIT	46.00	46.00	DB2 ENT/EXIT	46	46
EN/EX-STPROC	0.00	0.00	EN/EX-STPROC	0	0
EN/EX-UDF	0.00	0.00	EN/EX-UDF	0	0
EN/EX-SQL DI	1371968.00	1371968.00	EN/EX-SQL DI	1371968	1371968
DCAPT_DESCR.	N/A	N/A	DCAPT_DESCR.	N/A	N/A
LOG EXTRACT.	N/A	N/A	LOG EXTRACT.	N/A	N/A

## ELAPSED TIME

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

**Field Name:** ADDB2ETT

## 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:** ADELTP2

## 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:** AWAEHUD2

### **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

### **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 or 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 - AGENT - SQL DI**

The accumulated CPU time main agent thread spent processing SQL Data Insights functions. This time is included in Class 2 elapsed time. It does not include CPU consumed on an IBM speciality engine.

**Field Name:** QWSDICTM

### **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

### **CP CPU TIME - PAR.TASKS - SQL DI**

The accumulated CPU time child agent threads spent processing SQL Data Insights functions. This time is included in Class 2 elapsed time. It does not include CPU consumed on an IBM speciality engine.

**Field Name:** QWASDICT

## 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 - SQL DI

The accumulated CPU time main agent spent processing SQL Data Insights functions on an IBM speciality engine. This time is included in Class 2 CPU time.

**Field Name:** QWSDIZTM

## 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 - SQL DI

The accumulated CPU time child agent threads spent processing SQL Data Insights functions on an IBM speciality engine. This time is included in Class 2 CPU time.

**Field Name:** QWASDIZT

## 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.

#### **Background and Tuning Information**

The waiting time for all types of class 3 suspensions by the originating task and parallel tasks, if parallelism is employed.

**Field Name:** ADTSUST

### **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

### **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.

## Times - Class 2 - Time Distribution

**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

### 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 - SQL DI

The number of entry/exit events performed by SQL Data Insights functions.

**Field Name:** QWASDINO

### 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 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
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
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 4. 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:** ADDRUSUC

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

#### **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

**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.

**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.

## Times - Class 7 - Elapsed Time Distribution

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:

TRIGGERS	AVERAGE	TOTAL
STATEMENT TRIGGER	15.00	60
ROW TRIGGER	8.00	24
SQL ERROR OCCUR	0.00	0

Trace:

TRIGGERS	TOTAL
STMT TRIGGER	0
ROW TRIGGER	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 Performance Expert 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:

**DGOADFG**

General Accounting records

**DGOADFB**

Buffer pool records

**DGOADFD**

DDF records

**DGOADFGP**

Group buffer pool records

**DGOADFPK**

Package records

**DGOADFXC**

Accelerator records

## Triggers

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. A report can be ordered by identifiers in contrast to a trace.

### The Audit Summary Reports

---

The Audit summary reports present aggregated DB2 data. Data is accumulated and grouped by the specified OMEGAMON for Db2 Performance Expert 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.

##### 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.

PRIMAUTH PLANNAME	TOTAL	AUTH FAILURE	GRANT/ REVOKE	DDL ACCESS	DML READ ACCESS	DML WRITE ACCESS	DML AT BIND	AUTHID CHANGE	UTILITY 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 Performance Expert 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 Performance Expert 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 Performance Expert 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
MEMBER: MEMBER_2                AUTHORIZATION CHANGE
SUBSYSTEM: SYS2                 ORDER: PRIMAUTH-PLANNAME-OBJECT
DB2 VERSION: V10                SCOPE: MEMBER
REQUESTED FROM: NOT SPECIFIED
TO: NOT SPECIFIED
ACTUAL FROM: 01/30/15 04:21:44.17
TO: 01/30/15 07:19:20.25
```

PRIMAUTH	PLANNAME	ORIGINAL AUTHID	SET CURRENT SQLID	END OF IDENTIFY	END OF SIGNON	DISTRIBUTED 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 Performance Expert Identifiers

The identifiers define the order of the Audit data reported. Up to three OMEGAMON for Db2 Performance Expert 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 Performance Expert 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
```

PRIMAUTH	PLANNAME	OBJECT 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
DB2 VERSION: V10         AUTHORIZATION CONTROL          TO: NOT SPECIFIED
                          ORDER: OBJECT
                          SCOPE: GROUP  ACTUAL FROM: 01/30/15 04:21:44.17
                                          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 Performance Expert 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 Performance Expert 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
```

PRIMAUTH	PLANNAME	PRIVILEGE	OBJECT TYPE	OWNER	SOURCE NAME	OWNER	TARGET 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
DB2 VERSION: V10	ORDER: OBJECT	ACTUAL FROM: 01/30/15 04:21:44.17
	SCOPE: GROUP	TO: 01/30/15 07:21:20.25

PRIVILEGE	OBJECT TYPE	OWNER	SOURCE NAME	OWNER	TARGET 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 Performance Expert 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

#### **STOGRUP**

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 Performance Expert 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: LOCATTI_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

PRMAUTH 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: LOCATTI_2          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)          PAGE: 1-1
GROUP: GROUP_1            AUDIT REPORT - SUMMARY          REQUESTED FROM: NOT SPECIFIED
MEMBER: MEMBER_2         DML AT BIND ACCESS          TO: NOT SPECIFIED
SUBSYSTEM: SYS2          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
          7 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 Performance Expert 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 Performance Expert 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

PRMAUTH	PLANNAME	OWNER	OBJECT 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.

OWNER	OBJECT 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 Performance Expert identifiers

The identifiers define the order of the Audit data reported. Up to three identifiers are printed.

The defaults are:

- For member-scope reports, PRMAUTH-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 Performance Expert 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
DB2 VERSION: V10        DML ACCESS          TO: NOT SPECIFIED
ORDER: OBJECT          ACTUAL FROM: 01/30/15 04:21:44.17
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 Performance Expert 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 Performance Expert 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 259.

```
LOCATION: LOCATI_2          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)          PAGE: 1-7
GROUP: GROUP_1           AUDIT REPORT - SUMMARY          REQUESTED FROM: NOT SPECIFIED
DB2 VERSION: V10        UTILITY ACCESS          TO: NOT SPECIFIED
ORDER: OBJECT          ACTUAL FROM: 01/30/15 04:21:44.17
SCOPE: GROUP          TO: 01/30/15 07:21:20.25

DATABASE  PAGESET  MEMBER      TOTAL
-----
DBASE1    PSET1    MEMBER_2    8
          PSET1    MEMBER_3    8
*GRAND TOTAL*                               16
```

## Field description

The utility access summary report contains the following fields:

### **OMEGAMON for Db2 Performance Expert 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.











## OMEGAMON for Db2 Performance Expert 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 XXXXXXXXXXXXXXXXXXXX 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

## Audit Security Record (IFCID 319)

This topic provides a sample and the field description of the Authorization Change for different security types (IFCID 319).

### Audit Security Record (IFCID 319) - Authorization Change

This sample shows the layout for an authorization change for different security types (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.
PROFILE ACTION       : WARNING

TYPE:                ENCRYPTED                COMMS ADDR TYPE:   SNA
LU NAME:             LUN>=V9
DERIVED LOCAL UID:   DERLOCID                CLIENT PRODUCT ID: CLPRODID
SECURITY MECHANISM:  UID Encrypt PW.

TYPE:                NON ENCRYPTED            COMMS ADDR TYPE:   TCP/IP
IP ADDR:             000102030405060718191A1B1C1D1E1F  PORT:              1234
DERIVED LOCAL UID:   DERLOCID                CLIENT PRODUCT ID: CLPRODID
SECURITY MECHANISM:  UID PW.
PROFILE ACTION       : WARNING

TYPE:                PASS TICKET             COMMS ADDR TYPE:   TCP/IP
IP ADDR:             000102030405060718191A1B1C1D1E1F  PORT:              1234
DERIVED LOCAL UID:   DERLOCID                CLIENT PRODUCT ID: CLPRODID
SECURITY MECHANISM:  UID PW.
PROFILE ACTION       : EXCEPTION
```

## Field description

The fields are described in the following:

### TYPE

The type of security identity:

- KERBEROS
- ENCRYPTED
- CERTIFICATE
- NON ENCRYPTED
- PASS TICKET

*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 (HLHLHLHLHLHLHLHLHLHLHLHLHLHLHLHL) 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 PW
- UID PW NewPW
- UID ONLY
- 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

**PROFILE ACTION**

Profile action taken if this record is due to MONITOR CONNECTIONS FOR SECURITY

- W=Warning
- E=Exception

*Derivation:* DB2 field QW0319PA

## 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          SQLCODE:    0
              REASON: N/P
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

**STOGRROUP**

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	OBJECT TYPE:	PACKAGE
	PRIV CHECKED:	EXECUTE		
	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:	xxxxxxxxxxxxxxxx	OBJECT TYPE:	xxxxxxx
PRIV CHECKED:	xxxxxxxxxxxxxxxx		
ROLE:	xxxxxxxxxxxxxxxx		
SOURCE OBJECT			
QUALIFIER:	xxxxxxxxxxxxxxxx		
NAME:	xxxxxxxxxxxxxxxx		
TARGET OBJECT			
QUALIFIER:	xxxxxxxxxxxxxxxx		
NAME:	xxxxxxxxxxxxxxxx		
OTHER OBJECT			
NAME:	xxxxxxxxxxxxxxxx		
TEXT:	xxxxxxxxxxxxxxxx		

**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 : AUDDDB1          SOURCE OWNER:    DE#08541
TARGET OBJECT : AUDTB4          TARGET OWNER:    DE#08541
MLS   RID    : XXXXX            SECLABEL:        XXXXXXXXX
TEXT: CREATE TABLE AUDTB4 (IDCOLUMN ROWID GENERATED ALWAYS NOT
      NULL, BELIEBIG CHAR(50)) IN AUDDDB1.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: PM01D811.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 Performance Expert 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 (IDCOLUMNS 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 Performance Expert 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: xx xxx

### 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 Performance Expert 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 Performance Expert 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      : DSNTX
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

**DGOXDDL**

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 Performance Expert 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 Performance Expert explain execution. This is called the *Summary Report*.

---

### 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
LOCATION : PMODA11 EXPLAIN PACKAGE DB2 VERSION: V10
SUBSYSTEM: DA11 D60@TPG3 USER AUTHID: XRK
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 Performance Expert (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

##### 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 286](#) and [“Explain Identification - Plan with Packages” on page 287](#).

**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   :PMDA11
PACKAGE COLLECTION:K02EX520
PACKAGE ID         :DGO@TPG3
PACKAGE VERSION ID:OMPE_FINAL
STATEMENT NUMBER  : 1611071
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, KEEP_DYNAMIC, PATHSCHEMAS,
TYPE, DBPROTOCOL, FUNCTIONITS, OPTHINT, ENCODING_CCSID, IMMEDIATEWRITE, 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 = 'K02EX520'
```

## 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           , COLLOID      : K02EX520
VERSION          : THIS_IS_A_LONG_NAME*, 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           , CTREF         : 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_ACCESTYPE: BLANK
ACCESSNAME (Index): DSNKXX01          , ACCESSCREATOR   : SYSIBM
MATCHCOLS        : 1                   , INDEXONLY       : NO
METHOD (Join)    : a - 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                 , STMTOKEN        : 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.DSNKXX01 -----
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,CLUSTERING: Y
1*ST KEY CARD: 1,SPACE: 245.760K,UNIQUE: YES,CLUSTERED: N
INDEX TYPE  : 2,PGSIZE: 4096,BFPOOL: BPO,DB_NAME: DSNDB06
CLUSTERRATIO: 84.6328%,ERRULE: NO,CLRULE: NO,IXSPACE: DSNKXX01
MAX.PIECESIZE: 0,COPY: NO,COPYLRN: 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 NO.	COLUMN NAME	COL. TYPE	LN	NULL	KEY CARD. ORDER	LOW2KEY	HIGH2KEY	KEY USED
			LENGTH		TYPESCHEMA	TYPENAME		
1	LOCATION	VARCHAR	128	NO	1 ASC. SYSIBM	X'40404040 VARCHAR	X'40404040	<===
2	COLLID	VARCHAR	128	NO	87 ASC. SYSIBM	0001-01-01-00.00.00.000000 X'4144424C	X'55545255	
3	NAME	VARCHAR	128	NO	576 ASC. SYSIBM	0001-01-01-00.00.00.000000 X'41444232	X'535F5550	
4	VERSION	VARCHAR	122	NO	55 ASC. SYSIBM	0001-01-01-00.00.00.000000 X'31404040	X'56385231	

## 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%),0 (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, SBSCS 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 289](#) and [“Key Data” on page 290](#) 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 Performance Expert 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 291](#), 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 291](#) 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          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 Performance Expert 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
CACHE SIZE: 1024
PLENTRIES: 1
SYS. ENTR.: 0
SQL STMTS: 7
VALIDATE  : BIND
ISOLATION: CUR. STAB.
VALID ID  : 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.



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
RUV	APC5COL9	XXASP09	XXASP09	YES	2010-12-01	NAMIK_PRIVATE_VER1
RUNCURHL	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 Performance Expert 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 Performance Expert 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 295:

```
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
SUBSYSTEM: APC1                SUMMARY                       USER AUTHID: XRK
                                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(K02EXPL)
        SSID(DA11)
        SQLID(XRK)
EXPLAIN SQLSTMT
(
  SELECT * FROM SYSIBM.SYSPACKAGE
         WHERE NAME = 'DG0@TPG3'
         AND   COLLID = 'K02EX520' ;
)
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 = 'K02EX520'
```

-----  
 EXPLAIN TABLE: XRK.DSN\_STATEMNT\_TABLE -----  
 EXPLAIN\_TIME : 2016-02-21-11.57.21.680000  
 PROGRAME : DGO@TPT2 , COLLID : K02EX520  
 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  
 PROGRAME : DGO@TPT2 , COLLID : K02EX520  
 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 , CTREF : 0  
 TABLE\_ENCODE : U - Unicode , TABLE\_MCCSID : 1208  
 TABLE\_SCCSID : 367 , TABLE\_DCCSID : 1200  
 TSLOCKMODE : N - No lock \* , GROUP\_MEMBER : N/P  
 ACCESTYPE : I - Index scan , PRIMARY\_ACCESTYPE: BLANK  
 ACCESSNAME (Index): DSNKX01 , 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 , STMTOKEN : 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.DSNKX01 -----  
 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,CLUSTERING: Y  
 1<sup>ST</sup> KEY CARD: 1,SPACE : 245,760K,UNIQUE: YES,CLUSTERED: N  
 INDEX TYPE : 2,PGSIZE: 4096,BFPOOL: BPO,DB\_NAME: DSNDB06  
 CLUSTERRATIO : 84.6328%,ERRULE: NO,CLRULE: NO,IXSPACE: DSNKX01  
 MAX.PIECESIZE: 0,COPY : NO,COPYLRN: 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 : COMPLEX, 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, PAGESSET ID: 2068, CLOSERULE : NO, BUF.POOL : BPO  
 DS SIZE : 68.719G, OLD VERS : 0, LOCKPART : N/A, ENC.SCHEME: UNICODE  
 LOCKMAX : SYSTEM, CUR VERS : 1, LOCKRULE : ROW, SBSCS 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 = 'DG0@TPG3'
AND COLLID = 'K02EX520'
+ 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 Performance Expert 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           ORDER: PRIMAUTH-PLANNAME          TO: NOT SPECIFIED
SUBSYSTEM: DB2D           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 Performance Expert 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 Performance Expert 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.

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 306).
- 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: RS220DS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-1
GROUP: 0055                      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
0
-----
0 BUFFER POOL                      TOTALS      AET      EDM POOL          CT/PT/DBD    NOT IN    AVG LEN
                                -----      -      -----          -            -            -
0TOTAL I/O REQUESTS              145806     0.000414  CURSOR TABLE - HEADER      0           0         N/C      0.00
TOTAL READ I/O REQUESTS          145806     0.000414  CURSOR TABLE - DIRECTORY   0           0         N/C      0.00
NON-PREFETCH READS                604                                     CURSOR TABLE - RDS SECTION 0           0         N/C      0.00
ZHYPERLINK                        298                                     -- TOTAL PLANS ----- 0           0         N/C      0.00
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          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
0TOTAL WAITS                      48         0.000294
0READ REQUESTS                    0          N/C
READ REQUESTS                      0          N/C
DASD READ                          0          N/C
TAPE READ                          0          N/C
OFFLOAD REQUESTS                   0          N/C
BLOCKS / OFFLOAD                   0.00
OTHER WAITS                        0          N/C
ALLOCATE                           0          N/C
DEALLOCATE                         0          N/C
OPEN                               0          N/C
CLOSE                              0          N/C
HSM RECALL                        0          N/C
CATALOG LOCATE                    0          N/C
MULTI-DATA SET TAPE               0          N/C
TAPE VOL POSITIONING                0          N/C
WTOR ISSUED                       0          N/C
DATA SET UNAVAILABLE              0          N/C
PHYSICAL UNIT UNAV.              0          N/C
RDR SERV.UNAVAILABLE              0          N/C
BOOTSTRAP DATASET                TOTALS      AET
TOTAL WAITS                        0          N/C
READ REQUESTS                     0          N/C
WRITE REQUESTS                     0          N/C
CROSS-INVALIDATION ACTIVITY      TOTALS
SYNCHRONOUS READS                 0
REFRESHED FROM GROUP BPOOL        0
REFRESHED FROM DASD               0
SEQUENTIAL PREFETCHES             0
REFRESHED FROM GROUP BPOOL        0
REFRESHED FROM DASD               0

```

Figure 5. 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: RS220DS5 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) PAGE: 1-1
  GROUP: ODS5 I/O ACTIVITY REPORT - BUFFER POOL REQUESTED FROM: NOT SPECIFIED
  MEMBER: OCA5 INTERVAL FROM: 02/28/19 11:20:21.31 TO: NOT SPECIFIED
  SUBSYSTEM: OCA5 ORDER: PRIMAUTH-PLANNAME-BPID INTERVAL FROM: 02/28/19 11:20:21.31 TO: 02/28/19 11:21:58.70
  DB2 VERSION: V12
  PRIMAUTH PLANNAME BPID
  -- I/O REQUEST -- READ REQUESTS WITH I/O WRITE REQUEST
  TOTAL AET TOTAL TYPE AET % PAGES/ W/OUT TOTAL CAST PAGES/ DB
  READ I/O % TYPE OUT AET WRITE OPEN
  -----
0SYSOPR 'BLANK' BPO 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 BPO 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 !
  OI/O ACTIVITY REPORT COMPLETE

```

Figure 6. Buffer pool detail report

### OMEGAMON for Db2 Performance Expert Identifiers

The buffer pool report presents data summarized by OMEGAMON for Db2 Performance Expert identifiers. The report can be ordered by up to three OMEGAMON for Db2 Performance Expert 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 Performance Expert 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

**ASYNCH**

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 Performance Expert Statistics reports and traces include EDM pool statistics. Refer to [Chapter 10, “Statistics report set,”](#) on page 1125 for more information.

The following command produces the EDM pool report shown in [“I/O Activity EDM Pool Report”](#) on page 309.

```
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)
GROUP: GROUP1              I/O ACTIVITY REPORT - EDM POOL
MEMBER: MEMBER1           REQUESTED FROM: NOT SPECIFIED
SUBSYSTEM: DB2A           TO: NOT SPECIFIED
DB2 VERSION: V10         ORDER: INTERVAL-PRIMAUTH-PLANNAME
                           INTERVAL FROM: 01/30/15 01:00:00.00
                           TO: 01/30/15 20:50:00.00

```

INTERVAL PRIMAUTH PLANNAME	PACKAGE / DBD / PLAN NAME	TYPE	CT/PT/DBD REFERENCE	NOT IN EDM POOL	ELAPSED TIME PER LOAD	AVERAGE SECTION LENGTH (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 COLL- COLLECTION_DB2A PKID- PACKAGE_DB2A CTKN- X'C3E3D56DC4C2F2C1'	PACKAGE TABLE - HEADER	1	501	0.150000	500.00
01/30 02:40 - 06/01 02:45 AUTH_10 PLAN_10	PACKAGE: LOCN- LOCATION_SYD2 COLL- COLLECTION_SYD2 PKID- PACKAGE_SYD2 CTKN- X'C3E3D56DE2E8C4F2'	PACKAGE TABLE - DIRECTORY	1	601	0.160000	600.00
01/30 03:00 - 01/30 03:05 AUTH_10 PLAN_10	PACKAGE: LOCN- LOCATION_LOCATION1 COLL- COLLECTION_SYD1 PKID- PACKAGE_LOCATION1 CTKN- X'C3E3D56DE2E8C4F1'	PACKAGE TABLE - RDS SECTION	1	701	0.170000	700.00

```

LOCATION: LOCATION1          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)
GROUP: GROUP1              I/O ACTIVITY REPORT - EDM POOL
MEMBER: MEMBER1           REQUESTED FROM: NOT SPECIFIED
SUBSYSTEM: DB2A           TO: NOT SPECIFIED
DB2 VERSION: V10         ORDER: INTERVAL-PRIMAUTH-PLANNAME
                           INTERVAL FROM: 01/30/15 01:00:00.00
                           TO: 01/30/15 20:50:00.00

```

INTERVAL PRIMAUTH PLANNAME	PACKAGE / DBD / PLAN NAME	TYPE	CT/PT/DBD REFERENCE	NOT IN EDM POOL	ELAPSED TIME PER LOAD	AVERAGE SECTION LENGTH (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 Performance Expert Identifiers

The EDM pool report presents data summarized by OMEGAMON for Db2 Performance Expert identifiers. The report can be ordered by up to three OMEGAMON for Db2 Performance Expert 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 Performance Expert 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 Performance Expert 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 311.

```
IOACTIVITY
  REPORT
    LEVEL (ACTLOG)
```

### I/O Activity Log Report

This is an example of the I/O Activity log report.

INTERVAL DATASET	I/O REQ TOTAL AET	READ REQ TOTAL AET	--WRITE TOTAL AET	REQUESTS-- CI/WRITE	ALLOC AET	OTHER DEALLOC AET	WAITS OPEN AET	----- CLOSE AET
01/30 05:00 - 06/01 05:05 ACTLG001	1 0.200000	1 0.200000	0 N/C	N/C	0 N/C	0 N/C	0 N/C	0 N/C
01/30 05:20 - 06/01 05:25 ACTLG002	1 0.210000	1 0.210000	0 N/C	N/C	0 N/C	0 N/C	0 N/C	0 N/C
01/30 06:00 - 06/01 06:05 ACTLG003	1 0.220000	0 N/C	1 0.220000	12345.00	0 N/C	0 N/C	0 N/C	0 N/C
01/30 07:00 - 06/01 07:05 ACTLG004	1 0.270000	0 N/C	0 N/C	N/C	1 0.270000	0 N/C	0 N/C	0 N/C
ACTLG005	1 0.280000	0 N/C	0 N/C	N/C	0 N/C	1 0.280000	0 N/C	0 N/C
ACTLG006	1 0.290000	0 N/C	0 N/C	N/C	0 N/C	0 N/C	1 0.290000	0 N/C
ACTLG007	1 0.300000	0 N/C	0 N/C	N/C	0 N/C	0 N/C	0 N/C	1 0.300000
** TOTAL ** 01/30 07:00 - 01/30 07:05	4 0.285000	0 N/C	0 N/C	N/C	1 0.270000	1 0.280000	1 0.290000	1 0.300000
01/30 05:00 - 01/30 05:05 ACTLG001	1 0.200000	1 0.200000	0 N/C	N/C	0 N/C	0 N/C	0 N/C	0 N/C
*** GRAND TOTAL ***	14 0.252857	4 0.205000	2 0.220000	2 12345.00	2 0.270000	2 0.280000	2 0.290000	2 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 Performance Expert Identifiers

The active log report presents data summarized by OMEGAMON for Db2 Performance Expert identifiers. The report can be ordered by up to three OMEGAMON for Db2 Performance Expert 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 Performance Expert 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 ACTLGcxx, 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 314.

```
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                      ORDER: DATASET-INTERVAL                TO: NOT SPECIFIED
SUBSYSTEM: DB1A                  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
	BLOCKS/OFFLOAD	26999.00		HSM RECALL	0	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
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
	BLOCKS/OFFLOAD	26999.00		HSM RECALL	0	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
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
	BLOCKS/OFFLOAD	26999.00		HSM RECALL	0	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  
 GROUP: GROUP1  
 MEMBER: DB1A  
 SUBSYSTEM: DB1A  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 I/O ACTIVITY REPORT - ARCLOG

PAGE: 1-2  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 01/30/15 14:00:00.00  
 TO: 01/30/15 14:35:00.00

ORDER: DATASET-INTERVAL

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
	BLOCKS/OFFLOAD	N/C		HSM RECALL	0	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	0.006697
	OTHER	5	0.049937	CLOSE	1	0.019781
	BLOCKS/OFFLOAD	N/C		HSM RECALL	0	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
	BLOCKS/OFFLOAD	N/C		HSM RECALL	0	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  
 GROUP: GROUP1  
 MEMBER: DB1A  
 SUBSYSTEM: DB1A  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 I/O ACTIVITY REPORT - ARCLOG

PAGE: 1-3  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 01/30/15 14:00:00.00  
 TO: 01/30/15 14:35:00.00

ORDER: DATASET-INTERVAL

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	0.006697
	OTHER	8	0.036513	CLOSE	2	0.030486
	BLOCKS/OFFLOAD	N/C		HSM RECALL	0	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
	BLOCKS/OFFLOAD	N/C		HSM RECALL	0	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
	BLOCKS/OFFLOAD	26999.00		HSM RECALL	0	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

## 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 Performance Expert Identifiers**

The archive log activity report presents data summarized by OMEGAMON for Db2 Performance Expert identifiers. The report can be ordered by up to three OMEGAMON for Db2 Performance Expert 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 Performance Expert 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 317.

```
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 Performance Expert Identifiers

The bootstrap data set activity report presents data summarized by OMEGAMON for Db2 Performance Expert identifiers. The report can be ordered by up to three OMEGAMON for Db2 Performance Expert 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 Performance Expert 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 Performance Expert 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 319.

IOACTIVITY  
REPORT  
LEVEL (XI)

**I/O Activity Cross-Invalidation Report**

LOCATION: LOCATION1	OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)	REQUESTED PAGE: 1-1
GROUP: GROUP1	I/O ACTIVITY REPORT - CROSS INVALIDATION	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 PLANNAME	PAGE				-SYNCHRONOUS GBPOOL	READS- DASD	-SEQUENTIAL GBPOOL	PREFETCHES- 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
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
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
	DB=4	OB=2	PIECE#=0	PAGE#='X'000004'	BPID=BP22	1	0	0
	*SUM OF PLAN_10*					2	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
	DB=4	OB=2	PIECE#=0	PAGE#='X'000004'	BPID=BP22	2	0	0
	*SUM OF PLAN_10*					2	1	0
.								
.								
.								
*** GRAND TOTAL ***						19	4	2

I/O ACTIVITY REPORT COMPLETE

**Column description**

The following is a description of each column printed in the cross-invalidation report:

**OMEGAMON for Db2 Performance Expert Identifiers**

The XI report presents data summarized by OMEGAMON for Db2 Performance Expert identifiers. The report can be ordered by up to three OMEGAMON for Db2 Performance Expert 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 Performance Expert 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 Performance Expert 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 Performance Expert 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 Performance Expert 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 Performance Expert identifiers you have specified.

OMEGAMON for Db2 Performance Expert 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: PM0DBZ1                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                                                         PAGE DATE: 06/04/15
PRIMAUTH CORRNAME CONNTYPE      SCOPE: MEMBER
ORIGAUTH CORRNMBR INSTANCE      --- L O C K   R E S O U R C E ---
PLANNAME CONNECT                EVENT TIMESTAMP  EVENT   TYPE   NAME
-----
SKA      java      DRDA      08:10:31.30440975 DEADLOCK
SKA      'BLANK'   C614015B874D  N/P
DISTSERV SERVER
REQLOC   ::FFFF:9.152.78.
ENDUSER  :ska
WSNAME   :mupfel
TRANSACT:java

EVENT SPECIFIC DATA
-----
COUNTER =11975      WAITERS = 2
TSTAMP   =06/04/15 08:10:31.28
HASH     =X'00012011'
----- BLOCKER is HOLDER --*VICTIM*-
LUW=G9984E80.P64B.C614015B874D
MEMBER   =SZ11      CONNECT =SERVER
PLANNAME=DISTSERV  CORRID  =java
DURATION=COMMIT    PRMAUTH=SKA
STATE    =S
ENDUSER  =ska
WSNAME   =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
----- WAITER -----
LUW=G9984E80.P64A.C614015B8346
MEMBER   =SZ11      CONNECT =SERVER
PLANNAME=DISTSERV  CORRID  =java
DURATION=COMMIT    PRMAUTH=SKA
REQUEST  =CHANGE   WORTH   = 18
STATE    =X
ENDUSER  =ska
WSNAME   =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA                TABLE      DB =TDKDB
SKA      'BLANK'    C614015B874D        OB          =32        HASH =X'00012011'
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACTION:java
-----
LUW=G9984E80.P64A.C614015B8346
MEMBER =SZ11          CONNECT =SERVER
PLANNAME=DIKTSERV    CORRID =java
DURATION=COMMIT      PRIMAUTH=SKA
STATE =X              STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID =X'0000000000012B9'
-----
----- WAITER -----*VICTIM*-
LUW=G9984E80.P64B.C614015B874D
MEMBER =SZ11          CONNECT =SERVER
PLANNAME=DIKTSERV    CORRID =java
DURATION=COMMIT      PRIMAUTH=SKA
REQUEST =CHANGE       WORTH = 17
STATE =X              STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA                TABLE      DB =TDKDB
SKA      'BLANK'    C614015B7C7C        N/P          OB          =32        COUNTER =11976        WAITERS = 2
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACTION:java
-----
TSTAMP =06/04/15 08:10:36.28
HASH =X'00012011'
-----
----- BLOCKER is HOLDER ---*VICTIM*-
LUW=G9984E80.P649.C614015B7C7C
MEMBER =SZ11          CONNECT =SERVER
PLANNAME=DIKTSERV    CORRID =java
DURATION=COMMIT      PRIMAUTH=SKA
STATE =S              STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID =X'0000000000012B9'
-----
----- WAITER -----
LUW=G9984E80.P64A.C614015B8346
MEMBER =SZ11          CONNECT =SERVER
PLANNAME=DIKTSERV    CORRID =java
DURATION=COMMIT      PRIMAUTH=SKA
REQUEST =CHANGE       WORTH = 18
STATE =X              STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA                TABLE      DB =TDKDB
SKA      'BLANK'    C614015B7C7C        N/P          OB          =32        HASH =X'00012011'
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACTION:java
-----
LUW=G9984E80.P64A.C614015B8346
MEMBER =SZ11          CONNECT =SERVER
PLANNAME=DIKTSERV    CORRID =java
DURATION=COMMIT      PRIMAUTH=SKA
STATE =X              STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID =X'0000000000012B9'
-----
----- WAITER -----*VICTIM*-
LUW=G9984E80.P649.C614015B7C7C
MEMBER =SZ11          CONNECT =SERVER
PLANNAME=DIKTSERV    CORRID =java
DURATION=COMMIT      PRIMAUTH=SKA
REQUEST =CHANGE       WORTH = 17
STATE =X              STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA      08:10:41.29402510 DEADLOCK
SKA      'BLANK'    C614015D652E N/P
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACT:java
-----
COUNTER =11977    WAITERS = 2
TSTAMP  =06/04/15 08:10:41.28
HASH    =X'00012011'
-----
BLOCKER IS HOLDER --*VICTIM*--
LUW=G9984E80.P654.C614015D652E
MEMBER  =SZ11    CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT PRIMAUTH=SKA
STATE  =S       STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME  =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'
-----
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
TRANSACT=java
PROGNAME=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA      08:10:41.29402510 DEADLOCK
SKA      'BLANK'    C614015D652E N/P
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACT:java
-----
HASH    =X'00012011'
-----
BLOCKER IS WAITER-----
LUW=G9984E80.P64A.C614015B8346
MEMBER  =SZ11    CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT PRIMAUTH=SKA
STATE  =X       STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME  =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'
-----
WAITER
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
TRANSACT=java
PROGNAME=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA      08:10:51.32753756 DEADLOCK
SKA      'BLANK'    C614015B874D N/P
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACT:java
-----
COUNTER =11979    WAITERS = 2
TSTAMP  =06/04/15 08:10:51.31
HASH    =X'00012011'
-----
BLOCKER IS HOLDER --*VICTIM*--
LUW=G9984E80.P64B.C614015B874D
MEMBER  =SZ11    CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT PRIMAUTH=SKA
STATE  =S       STMTINFO=DYNAMIC
ENDUSER =ska
WSNAME  =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'
-----
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
TRANSACT=java
PROGNAME=SYSSH200
COLLID =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA                TABLE      DB =TDKDB
SKA      'BLANK'    C614015B874D          OB =32
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACTION:java
HASH    =X'00012011'
-----BLOCKER IS WAITER-----
LUW=G9984E80.P64A.C614015B8346
MEMBER  =SZ11      CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT   PRIMAUTH=SKA
STATE      =X      STMTINFO=DYNAMIC
ENDUSER   =ska
WSNAME    =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
-----*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
TRANSACTION=java
PROGRAM=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA                TABLE      DB =TDKDB
SKA      'BLANK'    C614015D652E          OB =32
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACTION:java
COUNTER =11980    WAITERS = 2
TSTAMP   =06/04/15 08:10:56.32
HASH     =X'00012011'
-----BLOCKER IS HOLDER ---*VICTIM*-----
LUW=G9984E80.P654.C614015D652E
MEMBER  =SZ11      CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT   PRIMAUTH=SKA
STATE      =S      STMTINFO=DYNAMIC
ENDUSER   =ska
WSNAME    =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
-----*VICTIM*-----
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
TRANSACTION=java
PROGRAM=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE        NAME        EVENT SPECIFIC DATA
-----
SKA      java      DRDA                TABLE      DB =TDKDB
SKA      'BLANK'    C614015D652E          OB =32
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER :ska
WSNAME  :mupfel
TRANSACTION:java
HASH    =X'00012011'
-----BLOCKER IS WAITER-----
LUW=G9984E80.P64A.C614015B8346
MEMBER  =SZ11      CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT   PRIMAUTH=SKA
STATE      =X      STMTINFO=DYNAMIC
ENDUSER   =ska
WSNAME    =mupfel
TRANSACTION=java
PROGRAM=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
-----*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
TRANSACTION=java
PROGRAM=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE NAME                        EVENT SPECIFIC DATA
-----
SKA      java      DRDA      08:11:11.38269228 DEADLOCK
SKA      'BLANK'   C614015D652E N/P
DISTSERV SERVER
REQLOC   :::FFFF:9.152.78.
ENDUSER  :ska
WSNAME   :mupfel
TRANSACT:java

COUNTER =11983    WAITERS = 2
TSTAMP   =06/04/15 08:11:11.38
HASH     =X'00012011'
----- BLOCKER IS HOLDER ---*VICTIM*
LUW=G9984E80.P654.C614015D652E
MEMBER   =SZ11    CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT  PRIMAUTH=SKA
STATE    =S      STMTINFO=DYNAMIC
ENDUSER  =ska
WSNAME   =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
----- 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
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE NAME                        EVENT SPECIFIC DATA
-----
SKA      java      DRDA      08:11:11.38269228 DEADLOCK
SKA      'BLANK'   C614015D652E N/P
DISTSERV SERVER
REQLOC   :::FFFF:9.152.78.
ENDUSER  :ska
WSNAME   :mupfel
TRANSACT:java

HASH     =X'00012011'
----- BLOCKER IS WAITER -----
LUW=G9984E80.P64B.C614015B874D
MEMBER   =SZ11    CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT  PRIMAUTH=SKA
STATE    =X      STMTINFO=DYNAMIC
ENDUSER  =ska
WSNAME   =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
----- 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
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'

```

```

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
PLANNAME CONNECT                EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE NAME                        EVENT SPECIFIC DATA
-----
SKA      java      DRDA      08:11:21.38524034 DEADLOCK
SKA      'BLANK'   C614015B7C7C N/P
DISTSERV SERVER
REQLOC   :::FFFF:9.152.78.
ENDUSER  :ska
WSNAME   :mupfel
TRANSACT:java

COUNTER =11985    WAITERS = 2
TSTAMP   =06/04/15 08:11:21.38
HASH     =X'00012011'
----- BLOCKER IS HOLDER ---*VICTIM*
LUW=G9984E80.P649.C614015B7C7C
MEMBER   =SZ11    CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT  PRIMAUTH=SKA
STATE    =S      STMTINFO=DYNAMIC
ENDUSER  =ska
WSNAME   =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'
----- 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
TRANSACT=java
PROGNAME=SYSSH200
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =X'0000000000012B9'

```

```

LOCATION: PM0DBZ1                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)                PAGE: 1-14
GROUP: DBZ1                    LOCKING TRACE - DEADLOCK                REQUESTED FROM: NOT SPECIFIED
MEMBER: SZ11                    ACTUAL FROM: 06/04/15 08:10:31.30
SUBSYSTEM: SZ11                PAGE DATE: 06/04/15
DB2 VERSION: V10                SCOPE: MEMBER
PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT
EVENT TIMESTAMP                --- L O C K   R E S O U R C E ---
RELATED TIMESTAMP EVENT        TYPE      NAME
-----
SKA      java      DRDA                TABLE   DB   =TDKDB
SKA      BLANK    C614015B7C7C          OB   =32
DISTSERV SERVER
REQLOC  ::FFFF:9.152.78.
ENDUSER  :ska
WSNAME  :mupfel
TRANSACT:java
EVENT SPECIFIC DATA
HASH    =X'00012011'
-----BLOCKER IS WAITER-----
LUW=G9984E80.P64A.C614015B8346
MEMBER  =SZ11      CONNECT =SERVER
PLANNAME=DISTSERV  CORRID  =java
DURATION=COMMIT    PRMAUTH=SKA
STATE    =X        STMTINFO=DYNAMIC
ENDUSER  =ska
WSNAME  =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID  =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'
----- WAITER -----*VICTIM*
LUW=G9984E80.P649.C614015B7C7C
MEMBER  =SZ11      CONNECT =SERVER
PLANNAME=DISTSERV  CORRID  =java
DURATION=COMMIT    PRMAUTH=SKA
REQUEST  =CHANGE   WORTH   = 17
STATE    =X        STMTINFO=DYNAMIC
ENDUSER  =ska
WSNAME  =mupfel
TRANSACT=java
PROGNAME=SYSSH200
COLLID  =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =X'0000000000012B9'

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 Performance Expert 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:

DB2 VERSION: V10

ORDER: DATABASE-PAGESET  
SCOPE: GROUP

DATABASE PAGESET MEMBER	--- L O C K R E S O U R C E ---		TOTAL SUSPENDS	--SUSPEND REASONS--			----- R E S U M E -----		R E A S O N S -----			
	TYPE	NAME		LOCAL LATCH	GLOB. IRLMQ	S.NFY OTHER	NMBR	NORMAL	TIMEOUT/CANCEL AET NMBR	DEADLOCK AET NMBR		
'BLANK' SSDQ	ALTERBUF	BPID=BP0	5	0	0	0	5	0.001645	0	N/C	0	N/C
	SCA ACCS	N/A	2	0	0	0	2	0.001674	0	N/C	0	N/C
	** SUM OF SSDQ	**	7	0	0	0	7	0.001653	0	N/C	0	N/C
V53B	GBP CAST	BPID=GBP2	1	0	0	0	1	0.001395	0	N/C	0	N/C
	GBP S/S	BPID=GBP0	3	0	0	0	3	0.002451	0	N/C	0	N/C
	** SUM OF V41B	**	4	0	0	0	4	0.002187	0	N/C	0	N/C
*GROUP TOTAL* 'BLANK'			11	0	0	0	11	0.001847	0	N/C	0	N/C
TPCCE1 TCUST000 SSDQ	OPENLOCK	N/P	1	0	0	0	1	0.001677	0	N/C	0	N/C
AUSDB01 SYDPS01 SSDQ	TREEPLCK	N/P	1	0	0	0	1	0.001445	0	N/C	0	N/C
V53B	P/P PLCK	PAGE=X'80000000' BPID=BP2	2	0	0	0	2	8.240814	0	N/C	0	N/C
*GROUP TOTAL* SYDPS01			3	0	0	0	3	5.494357	0	N/C	0	N/C
SYDPS02 V53B	P/P CAST	BPID=BP2	1	0	0	0	1	16.776381	0	N/C	0	N/C
*TOTAL* AUSDB01			4	0	0	0	4	8.314863	0	N/C	0	N/C
*GRAND TOTAL*			16	0	0	0	16	2.080090	0	N/C	0	N/C

## 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 Performance Expert identifiers, Locking reports and traces use two other identifiers to show the type of resource and event type:

### RESOURCE-Resource type

The type of lock resource. You can specify one of the values shown in [Table 3 on page 331](#).

### 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 327](#).

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: xxxxxxxxxxxxxxxx      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R34M0)      PAGE: 1-n
GROUP: xxxxxxxx              LOCKING REPORT - xxxxxxxxxxxx      REQUESTED FROM: mm/dd/yy hh:mm:ss.nn
MEMBER: xxxxxxxxxxxx          ORDER: xxxxxx              TO: mm/dd/yy hh:mm:ss.nn
SUBSYSTEM: xxxx              SCOPE: xxxxxx              INTERVAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn

```

### 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: xxxxxxxxxxxxxxxx      OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)      PAGE: 1-n
GROUP: xxxxxxxx              LOCKING TRACE - xxxxxxxxxxxx      REQUESTED FROM: mm/dd/yy hh:mm:ss.nn
MEMBER: xxxxxxxxxxxx          ORDER: xxxxxx              TO: mm/dd/yy hh:mm:ss.nn
SUBSYSTEM: xxxx              SCOPE: xxxxxx              ACTUAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn

```

### 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 Performance Expert 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 Performance Expert 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 Performance Expert 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 336 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 330 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 336 for an example of a suspension report.

The report presents data summarized by OMEGAMON for Db2 Performance Expert 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              ORDER: xxxxxx                      TO: mm/dd/yy hh:mm:ss.nn
SUBSYSTEM: xxxxx              SCOPE: xxxxxx                      INTERVAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn
                                TO: mm/dd/yy hh:mm:ss.nn

IDENT1xx
IDENT2xx
IDENT3xx
MEMBER
TYPE
NAME
TOTAL
SUSPENDS
LOCAL
LATCH
GLOB.
IRLMQ
S.NFY
OTHER
NORMAL
AET
RESUME
TIMEOUT/CANCEL
REASONS
AET
DEADLOCK
REASONS
AET

-----
xxxxxxx  xxxxxxxxxxxxxxxxxxxxxxxx  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
xxxxxxx  xxxxxxxxxxxxxxxxxxxxxxxx  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
xxxxxxx  xxxxxxxxxxxxxxxxxxxxxxxx  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
xxxxxxx  xxxxxxxxxxxxxxxxxxxxxxxx  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
*SUM OF xxxxxxxxxxxxxxxx*  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
*GROUP TOTAL*  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
*SUBTOTAL*  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
*TOTAL*  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn
*GRAND TOTAL*  nnnnnnnn  nnnnn  nnnnn  nnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn  nnnn  ssss.nnnnnn

```

### Field description

The header information to this report is described in “The Locking Header of Reports and Traces” on page 328.

#### 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 331.

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

<i>Table 3. Lock Resource Type (continued)</i>	
<b>Type</b>	<b>Description</b>
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_DBDB	Repair DBD test and diagnose lock
SCA ACCS	SCA access for restart or redo information
SKCT	Skeleton cursor table locking

<i>Table 3. Lock Resource Type (continued)</i>	
<b>Type</b>	<b>Description</b>
SKPT	<p>Skeleton package table</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Collection ID, which is compressed (18 bytes)</li> <li>• Program name, which is compressed (8 bytes)</li> <li>• Consistency token (8 bytes)</li> </ul> <p>With the hexadecimal value you can compare values of different locks. See <a href="#">“Layout of a Locking Detail report for the lock resource type SKPT”</a> on page 341 for an example of a Locking Detail report for the lock resource type SKPT.</p> <p>SKPT resource names are shown for the Locking Activity <b>report</b> at the following LEVEL:</p> <ul style="list-style-type: none"> <li>• LOCKOUT</li> <li>• SUSPENSION</li> </ul> <p>SKPT resource names are shown for the Locking Activity <b>trace</b> at the following LEVEL:</p> <ul style="list-style-type: none"> <li>• LOCKOUT</li> <li>• TIMEOUT</li> <li>• SUSPENSION</li> <li>• DETAIL</li> </ul>
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 333.

<i>Table 4. Lock Resource Name Abbreviations</i>	
<b>Abbreviation</b>	<b>Description</b>
ANCH	Anchor point ID
BPID	Buffer pool ID
COLL	Collection name
CKTN	Consistency token

<i>Table 4. Lock Resource Name Abbreviations (continued)</i>	
<b>Abbreviation</b>	<b>Description</b>
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 Performance Expert 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 Performance Expert 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 Performance Expert identifiers.

**SUSPEND REASONS**

The reason why a particular request was suspended. The requests composing the particular combination of OMEGAMON for Db2 Performance Expert 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 Performance Expert 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                      ORDER: PRIMAUTH-PLANNAME                TO: NOT SPECIFIED
SUBSYSTEM: DA21                 SCOPE: MEMBER                INTERVAL FROM: 02/14/15 19:46:09.24
DB2 VERSION: V10                TO: 02/14/15 19:48:51.36

--- LOCK RESOURCE --- --SUSPEND REASONS-- ----- RESUME REASONS -----
PRIMAUTH   TYPE   LOCK   RESOURCE   TOTAL   LOCAL   GLOB.   S.NFY   NORMAL   TIMEOUT/CANCEL   DEADLOCK
PLANNAME   TYPE   NAME   NAME       SUSPENDS LATCH  IRLM0   OTHER  NMBR     AET NMBR     AET NMBR     AET
-----
SKPT
CTKN=5359534C564C3031
COLL(HEX)= X'112233445566778899001122334455667788'
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 330](#).

- 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 337](#). 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	<ul style="list-style-type: none"> <li>• Pageset (X'02')</li> <li>• Partitioned table space (X'03')</li> <li>• Partition (X'06')</li> </ul>
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	<ul style="list-style-type: none"> <li>• CS-read drain (X'14')</li> <li>• RR-read drain (X'15')</li> <li>• Write drain (X'16')</li> </ul>
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	<ul style="list-style-type: none"> <li>• Index manager tree P-Lock (X'1C')</li> <li>• DDF CDB P-Lock (X'1F')</li> <li>• Group Buffer Pool level castout P-Lock (X'20')</li> <li>• Pageset or partition level castout P-Lock (X'21')</li> <li>• RLF P-Lock (X'22')</li> <li>• DBD P-Lock (X'23')</li> </ul>
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 Performance Expert 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 Performance Expert 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 340 for an example of a lockout report.

```

LOCATION: xxxxxxxxxxxxxxxx          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                  ORDER: xxxxxx                    TO: mm/dd/yy hh:mm:ss.nn
SUBSYSTEM: xxxx                   SCOPE: xxxxxx                    INTERVAL FROM: mm/dd/yy hh:mm:ss.nn
DB2 VERSION: Vn Rn                TO: mm/dd/yy hh:mm:ss.nn

xxxxxxx
xxxxxxx
xxxxxxx
MEMBER
TYPE      LOCK RESOURCE
-----
xxxxxxx  xxxxxxxxxxxxxxxxxxxxxxxx  nnnnn  nnnnn  xxxxxxxx  xxxxxxxx  xxxxxxxx  xxxxxxxxxxxxxxxx  nnnnnn  nnnnnn
xxxxxxx  xxxxxxxxxxxxxxxxxxxxxxxx  .      .      .      .      .      .      .      .      .      .
xxxxxxx  xxxxxxxxxxxxxxxxxxxxxxxx  .      .      .      .      .      .      .      .      .      .
xxxxxxx  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 Performance Expert 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)
GROUP: N/P                    LOCKING REPORT - LOCKOUT
MEMBER: N/P                    REQUESTED PAGE: 1-1
SUBSYSTEM: VA1A                ORDER: PRIMAUTH-PLANNAME
DB2 VERSION: V10                SCOPE: MEMBER
                                INTERVAL FROM: 06/04/15 00:15:44.20
                                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
PLANNAME  TYPE      NAME      TIMEOUTS DEADLOCKS  MEMBER  PLANNAME  CONNECT  CORRID  BLOCKER/
-----
SYSADM    SKPT
DSNTEP3
                                1      0  N/P    DSNTEP3  BATCH    L829UTT1  1      0

                                CTKN=0000000000000000
                                COLL (HEX)= X'112233445566778899001122334455667788'
                                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 Performance Expert 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 340 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 343 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: xxxxx          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)          PAGE: X-Y
GROUP: xxxxx          LOCKING REPORT - DETAIL          REQUESTED FROM: NOT SPECIFIED
MEMBER: xxxxx          ORDER: DATABASE-PAGESET          TO: NOT SPECIFIED
SUBSYSTEM: xxxxx      SCOPE: MEMBER          INTERVAL FROM: MM/DD/YY HH:MM:SS.TT
DB2 VERSION: Vx          TO: MM/DD/YY HH:MM:SS.TT
  
```

DATABASE PAGESET	--- LOCK RESOURCE ---		TOTAL REQ	LOCAL YES	--REQ TYPE--			----LOCK STATE----			--LOCK DURATION--					
	TYPE	NAME			LOCK CHNGE	UNLOCK OTHER	IS S	IX X	SIX U	NSU	MAN MAN+1	CMT CMT+1	ALLOC OTHER	COND AUTREL		
DBNAME TSNAME	LOCK TYPE	resource-name	xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
xxxxxx			xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
	** SUM OF TSNAME **		xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
*TOTAL*			xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
DBNAME			xxxxxxx	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 341 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: xxxxx          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)          PAGE: X-Y
GROUP: xxxxx          LOCKING REPORT - DETAIL          REQUESTED FROM: NOT SPECIFIED
MEMBER: xxxxx          ORDER: DATABASE-PAGESET          TO: NOT SPECIFIED
SUBSYSTEM: xxxxx      SCOPE: MEMBER          INTERVAL FROM: MM/DD/YY HH:MM:SS.TT
DB2 VERSION: Vx          TO: MM/DD/YY HH:MM:SS.TT
  
```

DATABASE PAGESET	--- LOCK RESOURCE ---		TOTAL REQ	LOCAL YES	--REQ TYPE--			----LOCK STATE----			--LOCK DURATION--					
	TYPE	NAME			LOCK CHNGE	UNLOCK OTHER	IS S	IX X	SIX U	NSU	MAN MAN+1	CMT CMT+1	ALLOC OTHER	COND AUTREL		
DBNAME TSNAME	SKPT	COLL (HEX)=X'112233445566778899001122334455667788' PKID (HEX)=X'1122334455667788' CTKN =0000000000000000	xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
xxxxxx			xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
	** SUM OF TSNAME **		xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
*TOTAL*			xxxxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
DBNAME			xxxxxxx	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 328.

#### LOCK RESOURCE TYPE

The type of resource on which the lock detail request is made. Valid values are shown in [Table 3](#) on page 331.

#### 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 333.

**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 343 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		ORDER: DATABASE-PAGESET										TO: NOT SPECIFIED						
SUBSYSTEM: DB2U		SCOPE: MEMBER										INTERVAL FROM: 03/04/15 08:54:13.83						
DB2 VERSION: V10												TO: 03/04/15 09:02:47.51						
DATABASE PAGESET	---	LOCK TYPE	RESOURCE NAME	---	TOTAL REQ	LOCAL YES	--REQ LOCK CHNGE	TYPE UNLOCK OTHER	IS S	LOCK IX X	STATE U	NSU	---	LOCK MAN+1	DURATION CMT+1	---	COND OTHER	AUTREL
'BLANK'		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
'BLANK'		EXCP UPD	HASH= 1		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 2		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 3		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 4		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 5		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 6		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 7		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 8		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 9		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 10		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 11		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 12		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 13		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 15		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 16		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 17		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 18		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 19		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 20		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 21		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	RMID= 14		32	0	16	16	0	0	0	0		32	0	0	0	0
		EXCP UPD	HASH= 22		32	0	16	16	0	0	0	0		32	0	0	0	0





LOCATION: OMPD0001  
GROUP: N/P  
MEMBER: DB2U001  
SUBSYSTEM: DB2U  
DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
LOCKING REPORT - DETAIL  
ORDER: DATABASE-PAGESET  
SCOPE: MEMBER

PAGE: 1-6  
REQUESTED FROM: NOT SPECIFIED  
TO: NOT SPECIFIED  
INTERVAL FROM: 03/04/15 08:54:13.83  
TO: 03/04/15 09:02:47.51

DATABASE PAGESET	---	L	O	C	K	R	E	S	O	U	R	C	E	---	TOTAL REQ	LOCAL YES	--REQ LOCK CHNGE	TYPE-- UNLOCK OTHER	IS S	LOCK IX X	STATE SIX U	NSU	--LOCK MAN+1	DURATION CMT+1	--ALLOC OTHER	COND AUTREL
X'09'		DB	=XDELDX31												16	12	8	8	0	0	0	0	16	0	0	8
		OB	=TSITLD01												0	4	0	0	0	16	0	0	0	0	0	0
X'09'		OB	=XDELDX31												2	0	1	1	0	0	0	0	2	0	0	0
		OB	=TSSIB008												2	2	0	0	0	1	0	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	0	4	0	0	0	0	0	0
X'2E'		DB	=512												17	0	17	0	0	17	0	0	0	0	0	0
		OB	=312												17	0	0	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	0	0	0	0	0	0	0	0
X'34'		DB	=56088												523	72	296	227	0	0	0	0	523	0	0	384
		OB	=57965												451	0	0	0	0	0	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

\*\* SUM OF 327

\*TOTAL\*  
DCXID001

6 3 6 0 0 0 0 0 6 0 0 0 6 0 0 0

DSNDB01  
DSNLLX01

OPENLOCK N/P

PAGEPLCK PART= 1

BPID=BP0

PAGEPLCK PART= 1

PAGE=X'00000E88'

BPID=BP0

PAGEPLCK PART= 1

PAGE=X'00005A8'

BPID=BP0

PAGEPLCK PART= 1

PAGE=X'00005FC'

BPID=BP0

...

LOCATION: OMPD0001  
GROUP: N/P  
MEMBER: DB2U001  
SUBSYSTEM: DB2U  
DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
LOCKING REPORT - DETAIL  
ORDER: DATABASE-PAGESET  
SCOPE: MEMBER

PAGE: 1-9  
REQUESTED FROM: NOT SPECIFIED  
TO: NOT SPECIFIED  
INTERVAL FROM: 03/04/15 08:54:13.83  
TO: 03/04/15 09:02:47.51

DATABASE PAGESET	---	L	O	C	K	R	E	S	O	U	R	C	E	---	TOTAL REQ	LOCAL YES	--REQ LOCK CHNGE	TYPE-- UNLOCK OTHER	IS S	LOCK IX X	STATE SIX U	NSU	--LOCK MAN+1	DURATION CMT+1	--ALLOC OTHER	COND AUTREL
PAGEPLCK		PART=	1												2	0	1	1	0	0	0	0	0	0	0	0
		PAGE=X'	00005F83'												2	0	0	0	0	1	0	0	0	0	0	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	0	1	0	0	0	0	0	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	0	3	0	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	0	1	0	0	0	0	0	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	0	1	0	0	0	0	0	0
		BPID=BP0																								
** SUM OF DSNLLX02															66	6	33	33	0	0	0	0	6	0	0	3

SYSLGRNX

DATAPAGE PAGE=X'00006B0'

1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0

DATAPAGE PAGE=X'00008B3'

1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0

DATAPAGE PAGE=X'000095A'

1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0

DATAPAGE PAGE=X'0000957'

2 0 2 0 0 0 0 0 0 0 0 0 0 2 0 0 0

DATAPAGE PAGE=X'0000958'

9 0 9 0 0 0 0 0 0 0 0 0 0 9 0 0 0

DATAPAGE PAGE=X'0000959'

2 0 2 0 0 0 0 0 0 0 0 0 0 2 0 0 0

DATAPAGE PAGE=X'00001DD6'

3 0 3 0 0 0 0 0 0 0 0 0 0 3 0 0 0

DATAPAGE PAGE=X'00001DD9'

3 0 3 0 0 0 0 0 0 0 0 0 0 3 0 0 0

DATAPAGE PAGE=X'00007F6D'

24 0 14 0 0 0 0 0 0 0 0 0 10 14 0 0 3

DATAPAGE PAGE=X'00007F6E'

2 0 2 0 0 0 0 0 0 0 0 0 0 2 0 0 0

DATAPAGE PAGE=X'00007F6F'

1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0

DATAPAGE PAGE=X'00007F69'

1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0

DATAPAGE PAGE=X'00007F70'

16 0 11 0 0 0 0 0 0 0 0 0 5 11 0 0 11

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

DATABASE PAGESET	---	LOCK	RESOURCE	---	TOTAL REQ	LOCAL XES	--REQ LOCK CHNGE	TYPE-- UNLOCK OTHER	IS S	LOCK IX X	STATE SIX U	NSU	---	LOCK MAN+1	DURATION CMT+1	ALLOC OTHER	COND AUTREL
DATAPAGE	PAGE=X	'00007F71'			21	0	14	0	0	0	0	0	0	7	14	0	14
DATAPAGE	PAGE=X	'00007F72'			40	0	30	0	0	0	12	0	0	0	0	0	5
OPENLOCK	N/P				6	6	3	3	0	0	0	0	0	6	0	0	3
PAGEPLCK	PART=	1			6	0	3	3	0	0	0	0	0	0	0	0	0
PAGESET	N/P				59	0	59	0	0	3	0	0	0	0	0	6	0
** SUM OF	SYSLGRNX				198	6	160	6	0	59	0	0	0	38	154	0	98
*TOTAL*	DSNDB01				334	18	228	74	0	59	0	0	0	50	154	0	104
DSNDB06	DSNACH01					316	32	0	5	123	73	0	0	0	0	130	41
DRAIN CS	N/P				2	0	1	1	0	0	0	0	0	2	0	0	1
OPENLOCK	N/P				2	2	1	1	0	0	0	0	0	2	0	0	0
** SUM OF	DSNACH01				4	2	2	2	0	0	0	0	0	4	0	0	1
SYSDBASE	DATAPAGE	PAGE=X	'00000027'		12	12	12	0	0	0	0	0	0	12	0	0	9
DATAPAGE	PAGE=X	'00000028'			6	6	6	0	0	0	0	0	0	6	0	0	0
DATAPAGE	PAGE=X	'0000016E'			132	132	66	66	0	0	0	0	0	66	0	0	0
DATAPAGE	PAGE=X	'0000016F'			24	24	12	12	0	1	0	0	0	12	0	0	0
DATAPAGE	PAGE=X	'00000170'			1656	1656	864	792	0	0	0	0	0	864	0	0	72
DATAPAGE	PAGE=X	'00000174'			720	720	400	320	0	0	0	0	0	400	0	0	0
DATAPAGE	PAGE=X	'00001337'			97	97	97	0	0	0	0	0	0	97	0	0	0
DATAPAGE	PAGE=X	'000014A7'			4	4	4	0	0	0	0	0	0	4	0	0	3
DATAPAGE	PAGE=X	'0000149A'			4	4	4	0	0	0	0	0	0	4	0	0	3

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

DATABASE PAGESET	---	LOCK	RESOURCE	---	TOTAL REQ	LOCAL XES	--REQ LOCK CHNGE	TYPE-- UNLOCK OTHER	IS S	LOCK IX X	STATE SIX U	NSU	---	LOCK MAN+1	DURATION CMT+1	ALLOC OTHER	COND AUTREL
DATAPAGE	PAGE=X	'000039D5'			12	12	12	0	0	0	0	0	0	12	0	0	9
DATAPAGE	PAGE=X	'000039EE'			12	12	12	0	0	12	0	0	0	12	0	0	9
DATAPAGE	PAGE=X	'000039EF'			52	52	52	0	0	12	0	0	0	6	0	0	0
DATAPAGE	PAGE=X	'000039E4'			52	52	52	0	0	0	0	0	0	52	0	0	39
DATAPAGE	PAGE=X	'000039F0'			32	32	32	0	0	52	0	0	0	0	0	0	0
DATAPAGE	PAGE=X	'00003968'			5	5	5	0	0	32	0	0	0	5	0	0	4
DATAPAGE	PAGE=X	'00003971'			410	410	410	0	0	0	0	0	0	410	0	0	328
DATAPAGE	PAGE=X	'00003999'			4	4	4	0	0	410	0	0	0	4	0	0	0
PAGESET	N/P				126	11	126	0	126	0	0	0	0	0	126	0	0
** SUM OF	9				2038	1923	1901	137	126	0	0	0	0	1775	126	0	601
*TOTAL*	6				2602	2095	2417	185	368	0	0	0	0	1918	451	42	723
*GRAND TOTAL*					2160727	1050K	1576K	568K	244K	70460	130	0	0	537K	891K	37113	566K
LOCKING REPORT COMPLETE						1111K	15686	781	983K	395K	5621			62188	5017	629K	40093

## 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 347 shows the general layout of the locking trace and describes the common fields.



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 348](#).

## 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'HHHHHHH'
-----
BLOCKER is HOLDER
LUW=XXXXXXXX,XXXXXXXX,XXXXXXXXXXXX
MEMBER =XXXXXXXXX CONNECT =XXXXXXXXXX
PLANNAME=XXXXXXXXX CORRID =XXXXXXXXXXXXX
DURATION=XXXXXXXXX PRMAUTH=XXXXXXXXXX
STATE  =XXXXXX STMTINFO=XXXXXXXXXX
ENDUSER =XXXXXXXXXXXXX
WSNAME =XXXXXXXXXXXXX
TRANSAC=XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
PROGNAME=XXXXXXXXXX
COLLID  =XXXXXXXXXXXXXXXXXXXXX
LOCATION=XXXXXXXXXXXXXXXXXXXXX
CONTOKEN=X'XXXXXXXXXXXXXXXXXXXXX'
STMTID  =X'XXXXXXXXXXXXXXXXXXXXX'

-----
WAITER
LUW=XXXXXXXX,XXXXXXXX,XXXXXXXXXXXX
MEMBER =XXXXXXXXX CONNECT =XXXXXXXXXX
PLANNAME=XXXXXXXXX CORRID =XXXXXXXXXXXXX
DURATION=XXXXXXXXX PRMAUTH=XXXXXXXXXX
REQUEST =XXXXXXXXX WORTH  =XXXXXX
STATE  =XXXXXX STMTINFO=XXXXXXXXXX
ENDUSER =XXXXXXXXXXXXX
WSNAME =XXXXXXXXXXXXX
TRANSAC=XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
PROGNAME=XXXXXXXXXX
COLLID  =XXXXXXXXXXXXXXXXXXXXX
LOCATION=XXXXXXXXXXXXXXXXXXXXX
CONTOKEN=X'XXXXXXXXXXXXXXXXXXXXX'
STMTID  =X'XXXXXXXXXXXXXXXXXXXXX'
```

### 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 349](#).

<i>Table 6. Lock Duration</i>	
<b>Duration</b>	<b>Description</b>
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 349](#).

<i>Table 7. Lock State</i>	
<b>State</b>	<b>Description</b>
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 350 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                ACTUAL FROM: NOT SPECIFIED
SUBSYSTEM: DA31                ACTUAL FROM: 11/03/15 17:30:58.10
DB2 VERSION: V10                PAGE DATE: 11/03/15
PRIMAUTH CORRNAME CONNTYPE     SCOPE: MEMBER
ORIGAUTH CORRNMBR INSTANCE     EVENT TIMESTAMP
PLANNAME CONNECT              RELATED TIMESTAMP EVENT   TYPE   NAME
-----
SHA      java      DRDA      17:30:58.10472181 DEADLOCK
SHA      BLANK'    C508B221EA18 N/P
DISTSERV SERVER
REQLOC   :.:FFFF:9.152.122
ENDUSER  :sha
WSNAME   :miller
TRANSACT:java

COUNTER = 5243    WAITERS = 2
TSTAMP  =11/03/15 17:30:58.10
HASH    =X'00010B1E'
----- BLOCKER IS HOLDER --*VICTIM*--
LUW=G9987A4A.B5FF.C508B221EA18
MEMBER  =DA31MEMB CONNECT =SERVER
PLANNAME=DISTSERV CORRID =java
DURATION=COMMIT PRIMAUTH=SHA
STATE   =S        STMTINFO=N/A
ENDUSER =sha
WSNAME  =miller
TRANSAC=java
PROGRAM=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
PROGRAM=SYSKA501
COLLID  =NULLID
LOCATION =N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =N/A

HASH    =X'00010B1E'
----- 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
PROGRAM=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
PROGRAM=SYSKA501
COLLID  =NULLID
LOCATION =N/P
CONTOKEN=X'5359534C564C3031'
STMTID  =N/A

COUNTER = 5245    WAITERS = 2
TSTAMP  =11/03/15 17:31:08.10
HASH    =X'00010B1E'

SHA      java      DRDA      17:31:08.12271550 DEADLOCK
SHA      BLANK'    C508B2220AB3 N/P
DISTSERV SERVER
REQLOC   :.:FFFF:9.152.122
ENDUSER  :sha
WSNAME   :miller
TRANSACT:java

COUNTER = 5245    WAITERS = 2
TSTAMP  =11/03/15 17:31:08.10
HASH    =X'00010B1E'

```

REQLOC :::FFFF:9.152.122  
 ENDUSER :sha  
 WSNAME :miller  
 TRANSACT:java

OB =11

----- BLOCKER is HOLDER --\*VICTIM\*-  
 LUW=G9987A4A.B601.C508B2220AB3  
 MEMBER =DA31MEMB CONNECT =SERVER  
 PLANNAME=DISTSERV CORRID =java  
 DURATION=COMMIT PRIMAUTH=SHA  
 STATE =S STMTINFO=N/A  
 ENDUSER =sha  
 WSNAME =miller  
 TRANSAC=java  
 PROGRAM=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  
 PROGRAM=SYSKA501  
 COLLID =NULLID  
 LOCATION=N/P  
 CONTOKEN=X'5359534C564C3031'  
 STMTID =N/A

TABLE DB =TDKDB  
 OB =11

HASH =X'00010B1E'  
 ----- 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  
 PROGRAM=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  
 PROGRAM=SYSKA501  
 COLLID =NULLID  
 LOCATION=N/P  
 CONTOKEN=X'5359534C564C3031'  
 STMTID =N/A

SHA java DRDA 17:31:13.10897581 DEADLOCK  
 SHA 'BLANK' C50864AAC7BA N/P  
 DISTSERV SERVER

TABLE DB =TDKDB

COUNTER = 5246 WAITERS = 2  
 TSTAMP =11/03/15 17:31:13.10  
 HASH =X'00010B1E'



REQLOC :::FFFF:9.152.122  
ENDUSER :sha  
WSNAME :miller  
TRANSACT:java

OB =11

----- BLOCKER is HOLDER --\*VICTIM\*-  
LUW=G9987A4A.C220.C50864AAC7BA  
MEMBER =DA31MEMB CONNECT =SERVER  
PLANNAME=DISTSERV CORRID =java  
DURATION=COMMIT PRIMAUTH=SHA  
STATE =S STMTINFO=N/A  
ENDUSER =sha  
WSNAME =miller  
TRANSACT=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  
TRANSACT=java  
PROGNAME=SYSKA501  
COLLID =NULLID  
LOCATION=N/P  
CONTOKEN=X'5359534C564C3031'  
STMTID =N/A

TABLE DB =TDKDB  
OB =11

HASH =X'00010B1E'  
----- 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  
TRANSACT=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  
TRANSACT=java  
PROGNAME=SYSKA501  
COLLID =NULLID  
LOCATION=N/P  
CONTOKEN=X'5359534C564C3031'  
STMTID =N/A

SHA java DRDA 17:31:18.11530803 DEADLOCK  
SHA 'BLANK' C508B221EA18 N/P  
DISTSERV SERVER  
...

TABLE DB =TDKDB

COUNTER = 5247 WAITERS = 2  
TSTAMP =11/03/15 17:31:18.11  
HASH =X'00010B1E'

```

REQLOC   :::FFFF:9.152.122
ENDUSER  :sha
WSNAME   :miller
TRANSACT :java

OB      =11

----- BLOCKER IS HOLDER --*VICTIM*-
LUW=G9987A4A.B5FF.C508B221EA18
MEMBER  =DA31MEMB  CONNECT =SERVER
PLANNAM=DIISTSERV CORRID  =java
DURATION=COMMIT   PRIMAUTH=SHA
STATE   =S        STMTINFO=N/A
ENDUSER  =sha
WSNAME   =miller
TRANSACT=java
PROGRAM=SYSKA501
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =N/A

----- WAITER -----
LUW=G9987A4A.B601.C508B2220AB3
MEMBER  =DA31MEMB  CONNECT =SERVER
PLANNAM=DIISTSERV CORRID  =java
DURATION=COMMIT   PRIMAUTH=SHA
REQUEST =CHANGE   WORTH   = 18
STATE   =X        STMTINFO=N/A
ENDUSER  =sha
WSNAME   =miller
TRANSACT=java
PROGRAM=SYSKA501
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =N/A

TABLE    DB    =TDKDB
         OB    =11

HASH     =X'00010B1E'
----- BLOCKER IS WAITER-----
LUW=G9987A4A.B601.C508B2220AB3
MEMBER  =DA31MEMB  CONNECT =SERVER
PLANNAM=DIISTSERV CORRID  =java
DURATION=COMMIT   PRIMAUTH=SHA
STATE   =X        STMTINFO=N/A
ENDUSER  =sha
WSNAME   =miller
TRANSACT=java
PROGRAM=SYSKA501
COLLID   =NULLID
LOCATION=N/P
CONTOKEN=X'5359534C564C3031'
STMTID   =N/A

----- WAITER -----*VICTIM*-
LUW=G9987A4A.B5FF.C508B221EA18
MEMBER  =DA31MEMB  CONNECT =SERVER
PLANNAM=DIISTSERV CORRID  =java
DURATION=COMMIT   PRIMAUTH=SHA
REQUEST =CHANGE   WORTH   = 17
STATE   =X        STMTINFO=N/A
ENDUSER  =sha
WSNAME   =miller
TRANSACT=java
PROGRAM=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 354.

#### 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
PLANNAM=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 349](#).

**ZPARAM INTERVAL**

The timeout interval (ZPARAM value), which is the timeout value specified on the installation panel DSNTIPX or in the ZPARAM name STORTIME in DSN6SYSP.

**DURATION**

The length of time for which the lock was held. Valid values are shown in [Table 8 on page 355](#).

<i>Table 8. Lock Duration</i>	
<b>Duration</b>	<b>Description</b>
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 355](#).

### **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 349](#).

### **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 356](#) 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: V41A                ACTUAL FROM: 06/04/15 00:15:44.20
DB2 VERSION: V10                SCOPE: MEMBER                PAGE DATE: 06/04/15

PRMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT
-----
SYSADM  L829UTT2 TSO          00:15:44.20054922 TIMEOUT SKPT
SYSADM  'BLANK'  C448AF2328DD N/P
DSNTEP3 BATCH

                                --- LOCK RESOURCE ---
                                TYPE NAME
                                -----
                                CTKN=0000000000000000
                                COLL(HEX)=
                                PKID(HEX)=

EVENT SPECIFIC DATA
REQUEST =LOCK      UNCONDITIONAL
STATE =U          ZPARM INTERVAL= 60
DURATION=MANUAL  INTERV.COUNTER= 1
HASH =X'0804B402'
STMTINFO=DYNAMIC
STMTID =X'0000000000000001'
X'112233445566778899001122334455667788'
X'1122334455667788'
-----
HOLDERS/WAITERS
HOLDER
LUW=USIBMSY.SYEC1DB2.C448AF1E53C6
MEMBER =N/P      CONNECT =BATCH
PLANNAME=DSNTEP3 CORRID =L829UTT1
DURATION=COMMIT PRMAUTH=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 347](#) and [“Timeout Trace” on page 354](#).

## 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

PRMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT
-----
SYSADM  SFCRIX5E TSO          11:55:42.73818275 TIMEOUT SKPT
DM      'BLANK'  D9263E6C612C N/P
DSNTEP3 BATCH
ENDUSER :SYSADM
WSNAME  :BATCH
TRANSACTION:SF00005C

                                --- LOCK RESOURCE ---
                                TYPE NAME
                                -----
                                COLL/PKID=X'42415254434F4C31000000000000050524F4739'
                                CTKN=1B24C58A0034567B

EVENT SPECIFIC DATA
REQUEST =LOCK      UNCONDITIONAL
STATE =X          ZPARM INTERVAL= 60
DURATION=COMMIT  INTERV.COUNTER= 1
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 PRMAUTH=SYSADM
STATE =S        STMTINFO=N/P
ENDUSER =SYSADM
WSNAME =BATCH
TRANSACTION=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                      SCOPE: MEMBER                TO: NOT SPECIFIED
SUBSYSTEM: DA21                ACTUAL FROM: 02/14/15 19:46:19.74
DB2 VERSION: V10                PAGE DATE: 02/14/15

PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRMBR INSTANCE
PLANNAME CONNECT                EVENT TIMESTAMP EVENT --- LOCK RESOURCE ---
RELATED TIMESTAMP                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'112233445566778899001122334455667788'
ENDUSER  :OMPE Testuser           PKID(HEX)=                X'1122334455667788'
WSNAME   :mon10e
TRANSACTION:BPWorkload

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=xxxxxxx STATE=xxxxx YES PROP=x
ORIG.RSN=xxxxxx xxxxxxxxxxxx YES FORC=x
aaaaaaaaaaaaaaaaaaaaa YES ASYN=x
PARENT =xxxxxxxxx
HASH =X'hhhhhhhh'
```

### Field description

#### DURATION

The length of time the lock is held. Valid values are shown in [Table 9 on page 358](#).

Table 9. Lock Duration - IRLM SUSPEND	
Duration	Description
INTEREST	Duration of P-Locks
MANUAL	Varies depending on the ISOLATION parameter

<i>Table 9. Lock Duration - IRLM SUSPEND (continued)</i>	
<b>Duration</b>	<b>Description</b>
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 349](#).

**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 359](#).

<i>Table 10. Reason for Suspension - IRLM SUSPEND</i>	
<b>Reason</b>	<b>Description</b>
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 Performance Expert subsystem is a member of a data sharing group.
- It is an IRLM suspension.

**aaaaaaaaaaaaaaaaaaaaaa**

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 360 shows the format in a data sharing environment, “Format of data specific to Lock, Unlock, Change, and Notify Resume (Non-Data Sharing)” on page 360 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
09:05:44.38199696 RESUME
SUSP.TIME =0.000901 LOCAL CONTENTION=N
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 bbbbbbbbbbbbbbbbbbb
XES ASYN =Y RETAINED LOCK =N
aaaaaaaaaaaaaaaaaaaaa
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=xxxxxxx 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 358](#).

**STATE**

The state or mode of the lock applied to the resource. For a list of possible values, refer to [Table 7 on page 349](#).

**RESUME RSN**

The reason for resumption. Valid values are shown in [Table 11 on page 361](#).



<i>Table 11. Reason for Resume - IRLM Requests</i>	
<b>Reason</b>	<b>Description</b>
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.

**aaaaaaaaaaaaaaaaaaaaa**

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.

## bbbbbbbbbbbbbbbbbbbb

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 xxxxxxxxxxxx
```

### Field description

This field shows the original reason for suspension. For a list of possible values, refer to [Table 10 on page 359](#).

## 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=xxxxxxxxx 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 360](#).

## 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 363](#).

<i>Table 12. Claim Classes - DRAIN SUSPEND</i>	
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 363](#)

### 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=xxxxxxxxx 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 363](#).

#### RESM.RSN

The reason for resumption. Valid values are shown in the following table.

<i>Table 13. Reason for Resume - DRAIN RESUME</i>	
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:

<i>Table 14. Latch Types - LATCH SUSPEND</i>	
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 364](#).

#### STATUS

The latch status. It can have one of the following values:

<i>Table 15. Latch Status - LATCH RESUME</i>	
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 365 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                      SCOPE: MEMBER                TO: NOT SPECIFIED
SUBSYSTEM: DA21                ACTUAL FROM: 02/14/16 19:45:51.41
DB2 VERSION: V10                PAGE DATE: 02/14/16

PRIMAUTH CORRNAME CONNTYPE
ORIGAUTH CORRNMBR INSTANCE
PLANNAME CONNECT                EVENT TIMESTMP          --- LOCK RESOURCE ---
                                  RELATED TIMESTMP      EVENT      TYPE      NAME      EVENT SPECIFIC DATA
-----
19:45:53.99629213             LOCK          SKPT
                                REQUEST
                                CTKN=18B61ACB02FABE19   HASH          =X'00003280'
                                COLL(HEX)=              X'112233445566778899001122334455667788'
                                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 367](#).

<i>Table 16. Lock State</i>	
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 367](#). 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 YES PROP=x  
RSN_CODE=xxxxxxxx RTNCD=xx YES FORC=x  
aaaaaaaaaaaaaaaaaaaaa YES ASYN=x  
PARENT =xxxxxxxx CACHE=xxx  
OWNER =xxxxxxxx HASH=X'hhhhhhh'
```

## 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 367](#).

<i>Table 17. Lock Duration-IRLM Requests</i>	
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

<i>Table 17. Lock Duration-IRLM Requests (continued)</i>	
<b>Duration</b>	<b>Description</b>
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 368](#).

<i>Table 18. Lock State-IRLM Requests</i>	
<b>State</b>	<b>Description</b>
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 368](#).

<i>Table 19. Return Codes-IRLM Requests</i>	
<b>Code</b>	<b>Description</b>
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.

### aaaaaaaaaaaaaaaaaaaaaa

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 368](#).

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 368](#).

## 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 370](#).

<i>Table 20. Claim Duration-Claim Requests</i>	
<b>Duration</b>	<b>Description</b>
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 370](#).

<i>Table 21. Claim Classes-Claim Requests</i>	
<b>Class</b>	<b>Description</b>
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 370](#).

<i>Table 22. Reason Codes-Claim Requests</i>	
<b>Code</b>	<b>Description</b>
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 371](#).

<i>Table 23. Return Codes-Claim Requests</i>	
<b>Code</b>	<b>Description</b>
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   =xxxxxx   CLASS=xxxxxx
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 371](#).

<i>Table 24. Lock State-Drain Requests</i>	
<b>State</b>	<b>Description</b>
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 371](#).

<i>Table 25. Claim Classes-Drain Requests</i>	
<b>Class</b>	<b>Description</b>
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 371](#).

<i>Table 26. Reason Codes-Drain Requests</i>	
<b>Code</b>	<b>Description</b>
0	Successful claim
00C90088	Unsuccessful claim, deadlock
00C9008E	Unsuccessful claim, timeout
00C90092	Unsuccessful claim, IRLM out-of-storage condition

<i>Table 26. Reason Codes-Drain Requests (continued)</i>	
<b>Code</b>	<b>Description</b>
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 372.

<i>Table 27. Return Codes-Drain Requests</i>	
<b>Code</b>	<b>Description</b>
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 372 and [“Format of Page P-Lock Requests”](#) on page 373.

### **Format of Page Set or Partition P-Lock Requests**

The following example shows the format of the data for this event.

```

REQUEST=xxxxxx    OBJECT=xxxxxxxxxxxx
MEMBER =xxxxxxxx  REQUESTED STATE =xxxxxx
OLD STATE=xxxxxx  OLD  CACHED STATE=xxxxxx
NEW STATE=xxxxxx  NEW  CACHED STATE=xxxxxx
aaaaaaaaaaaaaaaaaaaaaaaaaaaa

```

### Format of Page P-Lock Requests

The following example shows the format of the data for this event.

```

REQUEST=xxxxxx    OBJECT=xxxxxxxxxxxxxxxxxxxx
MEMBER =xxxxxxxx  REQUESTED STATE=xxxxxx
OLD STATE=xxxxxx  NEW STATE=xxxxxx
aaaaaaaaaaaaaaaaaaaaaaaaaaaa

```

### 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 373](#).

<i>Table 28. Lock State</i>	
State	Description
NH	Not held

<i>Table 28. Lock State (continued)</i>	
<b>State</b>	<b>Description</b>
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 373](#).

**NEW STATE**

The newly held P-Lock state.

The values for this field are shown in [Table 28 on page 373](#).

**OLD CACHED STATE**

The previous P-Lock cached state.

The values for this field are shown in [Table 28 on page 373](#).

**NEW CACHED STATE**

The new P-Lock cached state.

The values for this field are shown in [Table 28 on page 373](#).

**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=xxxxxxxxx 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 368](#).

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=XXXXXXXXXXXXXXXXXXXX
STMTID  =X'XXXXXXXXXXXXXXXXXX'
COLLID  =COLLECTIONXXXXXXXXX2XXXXXXXXX3
        XXXXXXXXXXX4XXXXXXXXX5XXXXXXXXX6
        XXXXXXXXXXX7XXXXXXXXX8XXXXXXXXX9
        XXXXXXXXXXX0XXXXXXXXX1XXXXXXXXX2
        XXXXXXXZ
PACKAGE =PACKAGEX1XXXXXXXXX2XXXXXXXXX3
        XXXXXXXXXXX4XXXXXXXXX5XXXXXXXXX6
        XXXXXXXXXXX7XXXXXXXXX8XXXXXXXXX9
        XXXXXXXXXXX0XXXXXXXXX1XXXXXXXXX2
        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 Performance Expert 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	ID			
SOF	BATCH	B1BAA2A382C5	'ANDREW	'ANDREWS_PC'	41	1	3 ACCOUNTING	'BLANK'
SOF	ZSQLASA1	TSO	23:48:01.86220375					NETWORKID: Y61Y LUNAME: STM4Y61Y LUMSEQ: 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 QHWSWSEQ.

**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.

**TRANSACTION**

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 378.

```
RETRACE
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 GROUP: DSNCAT MEMBER: V71A SUBSYSTEM: V71A DB2 VERSION: V10				OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) RECORD TRACE - SUMMARY				PAGE: 1-1 REQUESTED FROM: ALL 17:38:00.00 TO: DATES 17:40:00.00 ACTUAL FROM: 01/30/15 17:38:00.83 PAGE DATE: 01/30/15				
OPRMAUTH	CONNECT	INSTANCE	END_USER	WS_NAME	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION			
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME				ID		DATA			
PLANNAM	CORRNMNR		TCB CPU TIME							LUNAME:	SYEC1DB2	LWSEQ:
USRT014	BATCH	B0A5B5E18F4B	'BLANK'	'BLANK'	1090	1	62	DDL	-->	'BLANK'		
USRT014	T1240108	TSO	17:38:00.83013800					START		NETWORKID: USIBMSY		
DSNTEP3	'BLANK'		0.06558954					INSERT	-->	'BLANK'		
			17:38:00.83614593					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.06917288					SCAN END	<--	'BLANK'		
			17:38:00.83750325					GRANT		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.07052663					AUDIT DDL		'BLANK'		
			17:38:00.83769850					END SQL	<--	'BLANK'		
			0.07072063					ACCOUNTING		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:00.83789881							'BLANK'		
			0.07092088							NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:00.93980206							'BLANK'		
			0.08128632							NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
ADMF001	SERVER	960624184511	N/P	N/P	6907	1	22	MINIBIND		N/P		
ADMF001	CSF3VB02	APPL-DIR	17:38:15.95171522							NETWORKID: CAIBMOML	LUNAME: OMT4H0A	LWSEQ: 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'	1096	2	233	CALL STORED		'BLANK'		
USRT013	T1240109	TSO	17:38:23.09739218					PROCEDURE	-->	NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
PLJPO147	'BLANK'		0.06441099					INSERT	-->	'BLANK'		
			17:38:30.75605387					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.05800369					CALL STORED		'BLANK'		
			17:38:31.25112743					PROCEDURE	-->	NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.07773494					INSERT	-->	'BLANK'		
			17:38:52.40182268					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.05575259					SEQ. SCAN	-->	'BLANK'		
			17:38:55.09447712					BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.08326543					SCAN END	<--	'BLANK'		
			17:38:55.29068537					INSERT	-->	'BLANK'		
			0.09006213					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:55.38712487					SEQ. SCAN	-->	'BLANK'		
			0.09367793					BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:55.41357343					SCAN END	<--	'BLANK'		
			0.11081268					INSERT	-->	'BLANK'		
			17:38:55.41526831					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.11159518					CALL STORED		'BLANK'		
			17:38:55.44928231					PROCEDURE	<--	NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.11490438					SCAN END	<--	'BLANK'		
			17:38:56.70450237					INSERT	-->	'BLANK'		
			0.13236778					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:56.72342318					SEQ. SCAN	-->	'BLANK'		
			0.13788218					BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:56.73690150					SCAN END	<--	'BLANK'		
			0.13906363					INSERT	-->	'BLANK'		
			17:38:56.92114768					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.07857034					CALL STORED		'BLANK'		
			17:38:56.92144693					PROCEDURE	<--	NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			0.07886559					SCAN END	<--	'BLANK'		
			17:38:56.96434293					INSERT	-->	'BLANK'		
			0.09435964					SCAN BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:56.98754043					SEQ. SCAN	-->	'BLANK'		
			0.09626779					BEGIN		NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1
			17:38:57.07396062					CALL STORED		'BLANK'		
			0.06625079					PROCEDURE	<--	NETWORKID: USIBMSY	LUNAME: SYEC1DB2	LWSEQ: 1

LOCATION: STLEC1 GROUP: DSNCAT MEMBER: V71A SUBSYSTEM: V71A DB2 VERSION: V10				OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) RECORD TRACE - SUMMARY				PAGE: 1-5 REQUESTED FROM: ALL 17:38:00.00 TO: DATES 17:40:00.00 ACTUAL FROM: 01/30/15 17:38:00.83			
ACE NUMBER	ACE ADDRESS	ACE NUMBER	ACE ADDRESS	ACE NUMBER	ACE ADDRESS	ACE NUMBER	ACE ADDRESS	ACE NUMBER	ACE ADDRESS	ACE NUMBER	ACE ADDRESS
0											
1	X'0583CBF8'	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'0000000000000000000000000000000000000000000000000000000000000000'
```

## 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 Performance Expert reports.

Use the short record trace to access the DB2 nonserviceability data used by OMEGAMON for Db2 Performance Expert, 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 381.

```
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
-----
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 NETWORKKID: SE11 LUNAME: SE11 LUMSEQ: 1
N/P      N/P      N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P
N/P      N/P      N/P          21:54:03.28092609  91110  1  2 DB STATISTICS N/P NETWORKKID: SE11 LUNAME: SE11 LUMSEQ: 1
N/P      N/P      N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P
SYSOPR  SE11    CBA37B3FD9B8 N/P      N/P
SYSOPR  016.WVSM 'BLANK'    21:54:03.28113166  91111  1 106 SYS PARAMETERS N/P NETWORKKID: SE11 LUNAME: SE11 LUMSEQ: 1
T 01    'BLANK'    75.80329233      N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P
N/P      N/P      CBA37B3FD9B8 N/P      N/P
N/P      N/P      'BLANK'    21:55:00.30227750  91121  1  1 SYSTEM STATS N/P NETWORKKID: SE11 LUNAME: SE11 LUMSEQ: 1
N/P      N/P      N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P
N/P      N/P      N/P          21:55:00.34404053  91122  1  2 DB STATISTICS N/P NETWORKKID: SE11 LUNAME: SE11 LUMSEQ: 1
N/P      N/P      N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P          N/P
...
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 382](#).

```

...
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	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION														
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME	DESTNO	ACE	IFC	ID		DATA														
PLANNAME	CORRNMBR		TCB CPU TIME							NETWORKID: SE11	LUNAME: SE11	LWSEQ: 1											
N/P	N/P	CBA37B3FD9B8	N/P	N/P	91109	1	1	SYSTEM STATS	N/P														
N/P	N/P	'BLANK'	21:54:00.11351049																				
N/P	N/P		N/P																				
-----																							
! PROCEDURE NAME: MSTR										TCB TIME: 4:06.414847		CPU TIME DATA											
! 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'00F6B500'											
! 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) REQUESTED PAGE: 1-3  
 GROUP: DBE1 RECORD TRACE - LONG 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	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION	DATA
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME	DESTNO	ACE	IFC	ID			
PLANNAMBR	CORRNMBR		TCB CPU TIME							
N/P	N/P	CBA37B3FD9B8	N/P	N/P	91109	1	1	SYSTEM STATS		
N/P	N/P	'BLANK'	21:54:00.11351049							
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		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	3	IFCID SEQNO	3159	RECS WRITTEN	1026	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	4	IFCID SEQNO	73	RECS WRITTEN	73	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	5	IFCID SEQNO	65	RECS WRITTEN	65	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	106	IFCID SEQNO	7971	RECS WRITTEN	12607	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	140	IFCID SEQNO	0	RECS WRITTEN	0	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	141	IFCID SEQNO	0	RECS WRITTEN	0	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	142	IFCID SEQNO	0	RECS WRITTEN	0	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	143	IFCID SEQNO	0	RECS WRITTEN	0	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	144	IFCID SEQNO	0	RECS WRITTEN	0	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	145	IFCID SEQNO	0	RECS WRITTEN	0	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	

LOCATION: PMODBE1 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) REQUESTED PAGE: 1-4  
 GROUP: DBE1 RECORD TRACE - LONG 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	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION	DATA
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME	DESTNO	ACE	IFC	ID			
PLANNAMBR	CORRNMBR		TCB CPU TIME							
N/P	N/P	CBA37B3FD9B8	N/P	N/P	91109	1	1	SYSTEM STATS		
N/P	N/P	'BLANK'	21:54:00.11351049							
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		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	199	IFCID SEQNO	0	RECS WRITTEN	0	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	202	IFCID SEQNO	12551	RECS WRITTEN	12551	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
IFCID	230	IFCID SEQNO	12550	RECS WRITTEN	12550	RECS NOT WRITTEN	0	RECS NOT DESIRED	0	
				BUFFER NOT AVAILABLE	0	COLLECT FAILURES	0		0	
				QWSCOTH1	0	QWSCOTH2	0		0	
SUBSYSTEM SERVICES DATA										
IDENTIFY	171	CREATE THREAD	2572	UR INDOUBT	0	COMMIT PH 2	0		0	
ROLLBACK	8	SIGNON	2507	UR INDOUBT RESOLV	0	COMMIT PH 1	0		0	
SSAM EOM	0	TERMIN.THREAD	2802	EXITS	106	SYNCHS	37			
SSAM EOT	28	CRT.THRED 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 READS :	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'0000000000001FF2A26F8'					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: 1-7  
 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	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME	DESTNO	ACE	IFC	ID		DATA
PLANNAME	CORRNMBR		TCB CPU TIME						
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								
-----									
!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									
!qwosiflg : X'F1' qwosicde: 0 qwosisnc: 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	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME	DESTNO	ACE	IFC	ID		DATA
PLANNAME	CORRNMBR		TCB CPU TIME						
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								
-----									
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									
!REVOKE .....: 0 INCREMENTAL BINDS: 0									
!DESCRIBE TABLE .....: 0 CONNECT TYPE 1 .....: 0									
!RELEASE .....: 0 ASSOCIATE LOCATOR: 0									
!RENAME TABLE .....: 0 HOLD LOCATOR .....: 0									
!MERGE .....: 0 TRUNCATE TABLE .....: 0									
!CREATE DATABASE .....: 0 DROP DATABASE .....: 0									
!CREATE STOGROUP .....: 0 DROP STOGROUP .....: 0									
!CREATE TABSPACE .....: 0 DROP TABSPACE .....: 0									
!CREATE TABLE .....: 0 DROP TABLE .....: 0									
!CREATE AUX TABLE .....: 0 CREATE TMP TABLE .....: 0									
!CREATE INDEX .....: 0 DROP INDEX .....: 0									
!CREATE VIEW .....: 0 DROP VIEW .....: 0									
!CREATE SYNONYM .....: 0 DROP SYNONYM .....: 0									
!CREATE ALIAS .....: 0 DROP ALIAS .....: 0									
!CREATE SEQUENCE .....: 0 DROP SEQUENCE .....: 0									
!CREATE TRIGGER .....: 0 DROP TRIGGER .....: 0									
!CREATE DIST TYPE .....: 0 DROP DIST TYPE .....: 0									
!CREATE FUNCTION .....: 0 DROP FUNCTION .....: 0									
!CREATE PROCEDURE .....: 0 DROP PROCEDURE .....: 0									
!CREATE ROLE .....: 0 DROP ROLE .....: 0									
!CREATE TRUST CONT: .....: 0 DROP TRUST CONT: .....: 0									
!CREATE MASK/PERM: .....: 0 DROP 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 CUR DEGREE .....: 1 SET CUR RULES .....: 0									
!SET CUR PRECISION: 0									
!MULTI-ROW PROCESSING:									
!ROWS FETCHED .....: 500034 ROWS INSERTED .....: 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 OVERFLOW-NO STORAGE .....: 0 RL INTERRUPTED-NO STORAGE .....: 0									
!RL OVERFLOW-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 INSTNCE END_USER WS_NAME TRANSACT
ORIGAUTH CORRNAME CONNTYPE RECORD TIME DESTNO ACE IFC DESCRIPTION DATA
PLANNAME CORRMBR TCB CPU TIME ID 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
-----
!
! 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-CURSORS 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
!QXPFMAXU ..... 0 QXPFMAXUG ..... 0
!QXN1093B ..... 0 QXN1093A ..... 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 MEMBER: SE11 RECORD TRACE - LONG REQUESTED FROM: ALL 21:54:00.00  
 SUBSYSTEM: SE11 ACTUAL FROM: 07/15/15 21:56:00.00  
 DB2 VERSION: V11 PAGE DATE: 07/15/15

PRMAUTH	CONNECT	INSTNCE	END_USER	WS_NAME	IFC	DESCRIPTION	TRANSACTION
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME	DESTNO ACE	ID		DATA
PLANNAME	CORRNMBR		TCB CPU TIME				
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						
-----							
!	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					0
-----							
!-----							
! 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					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: PMODB01 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 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 DGTG STORAGE USED (KB) ...: 0
!MAX ACTIVE (NONSORT) IN-MEMORY .....: 0 MAX DGTG 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 DGTG 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 N/A OTHER REQUEST 2 DRAIN REQ. FAILED 0
!MAXIMUM PAGE/ROW LOCKS HELD N/A
!-----
! 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
! PAGES IN RDS POOL (ABOVE) : 0 FAILS DUE TO DBD POOL FULL : 0
! HELD BY CT : 0 PAGES IN SKEL POOL (ABOVE) : 25600
! HELD BY PT : 0 HELD BY SKCT : 10
! FREE PAGES : 0 STEALABLE PAGES : 135
! FAILS DUE TO RDS POOL FULL : 0 FREE PAGES : 145
! 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
!-----

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LOCATION: PMODB01 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 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
!-----

```

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LOCATION: PMODB01 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) PAGE: 1-18

```

GROUP: DBE1  
MEMBER: SE11  
SUBSYSTEM: SE11  
DB2 VERSION: V11

RECORD TRACE - LONG

REQUESTED FROM: ALL 21:54:00.00  
TO: DATES 21:56:00.00  
ACTUAL FROM: 07/15/15 21:54:00.11  
PAGE DATE: 07/15/15

PRIMAUTH	CONNECT	INSTANCE	END_USER	WS_NAME	DESTNO	ACE	IFC	DESCRIPTION	TRANSACT
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME						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	NETWORKID: SE11
'BLANK'	T 01		75.89329233						LUNAME: SE11 LUMSEQ: 1

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 BK 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 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'C4E2D5F1F1F040' QWP2WRTH: 20 QWP2OPT3: X'40' QWP2LLBS: NO
!QWP2LBPFF: 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'C4E2D5F1F1F040'
!QWP3WLST :
!0000 00000000 00000000 017E8000 60606060 60606060 60606060 60606060 60606060 ! .....=...
  
```

LOCATION: PMODBE1

GROUP: DBE1  
MEMBER: SE11  
SUBSYSTEM: SE11  
DB2 VERSION: V11

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)

RECORD TRACE - LONG

REQUESTED FROM: ALL 21:54:00.00  
TO: DATES 21:56:00.00  
ACTUAL FROM: 07/15/15 21:54:00.11  
PAGE DATE: 07/15/15

PRIMAUTH	CONNECT	INSTANCE	END_USER	WS_NAME	DESTNO	ACE	IFC	DESCRIPTION	TRANSACT
ORIGAUTH	CORRNAME	CONNTYPE	RECORD TIME						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		75.89329233						

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 DDSCS ESCAPE CHAR : 'BLANK'
!ENFORCE DPROP : NO SYSOPER ID 2 : EMIL YES 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 TBLES : 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 NO MIN DIVIDE SCALE : NONE
!CUR MAINT TYPE : SYSTEM PAD IDX BY DEFLT : N/A 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' 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 : NO 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
  
```

```

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
PLANNAM 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 RELEASE 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 THRS: 10
!MAX PARA DEG DPSI: 0 APPL COMPAT ..... V11R1 STATIST FEEDBACK: ALL
!LIKE BLANK INSGN: 0 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&SNUM..&UQ.

!QWP4MRB ..... 408 QWP4WREN ..... 300 QWP4BPOF ..... X'00000000'
!QWP4CNTL ..... B'0000000000000000' QWP4BMCK ..... OFF QWP4WIOL ..... ON
!QWP4LRNG ..... OFF QWP4SLDB ..... OFF QWP4BYCK ..... OFF
!QWP4SLEX ..... OFF QWP4NAPF ..... OFF QWP4CTUP ..... OFF
!QWP4DIV3 ..... OFF QWP4EXPL ..... OFF QWP4NHJM ..... OFF
!QWP4ST00 ..... 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
!QWP4BTR ..... 500 QWP4PSID ..... X'00000000' QWP4DSPM ..... 50
!QWP4CHKL ..... 10 QWP4PDO ..... 128 QWP4PCBS ..... 20
!QWP4HRCL ..... ON QWP4PCWH ..... 1 QWP4PCRB ..... 20
!QWP4MXRB ..... 20000 QWP4HRCD ..... 120 QWP4RCST ..... 8
!QWP4TRWT ..... 10 QWP4WPFQ ..... 4 QWP4WDFS ..... 4
!QWP4SOTM ..... 4 QWP4SQTD ..... 5 QWP4VDTM ..... 1
!QWP4MPFQ ..... 2 QWP4SWFU ..... 5 QWP4TISP ..... 24576
!QWP4DRBS ..... 30720 QWP4RMIN ..... 1 QWP4NCPU ..... 0
!QWP4RNL ..... 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 ..... ON QWP4XCTH ..... 0 QWP4UBS ..... 128
!QWP4DATE ..... X'F0F361F1F861F1F3' QWP4MIS2 ..... X'D0' QWP4DXTF ..... 2
!QWP4MXTB ..... 225 QWP4ACTHR ..... 10 QWP4STHR ..... 1048576
!QWP4SREC ..... X'8000' QWP4SIT ..... X'89' QWP4MXCE ..... 1023
!QWP4INTE ..... 30 QWP4S3TB ..... 10 QWP4MOTH ..... 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
PLANNAM 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
!QWP4LTD ..... 10 QWP4MIS3 ..... X'04' QWP4MIS4 ..... X'80'
!QWP4SCLC ..... 255 QWP4MS4A ..... X'00' QWP4MIS5 ..... X'26'
!QWP4JRCS ..... NO QWP4LRCS ..... NO QWP4IRCS ..... NO
!QWP4DMTR ..... 500 QWP4BXTX ..... 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
!QWP4QA9B ..... 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
! ALL
! DATABASES/SPACES STARTED AUTOMATICALLY

!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 IMMEDIATE WRITE FLAG : NO CONVERSION FACTOR: 281
!QWPAC00R ..... N QWPAAST ..... 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	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION
ORIGAUTH	CORRNAME	CONNNTYPE	RECORD TIME						DATA
PLANNAME	CORRNMBR		TCB CPU TIME						
SYSOPR	SE11	CBA37B3FD9B8	N/P	N/P					
SYSOPR	016.WVSM	'BLANK'	21:54:03.28113166	91111	1	106	SYS	PARAMETERS	
T	01		75.86329233						
!LOCAL TIME LENGTH: 0 SQL LANG SUPP LVL: NO UNICOD SBGS CCSID: 367 !DATE FORMAT : ISO USE FOR DYN RULES: YES UNICOD MBCS CCSID: 1208 !TIME FORMAT : ISO APPLIC ENCODING : EBCDIC UNICOD GBGS 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 !QWPLVL : V11R1M0 QWPLCHAR : 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	DESTNO	ACE	IFC	DESCRIPTION	TRANSACTION
ORIGAUTH	CORRNAME	CONNNTYPE	RECORD TIME						DATA
PLANNAME	CORRNMBR		TCB CPU TIME						
N/P	N/P	CBA37B3FD9B8	N/P	N/P					
N/P	N/P	'BLANK'	21:54:03.28598995	91112	1	202	BUFFER POOL	NETWORKID: SE11 LUNAME: SE11 LUMSEQ: 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 VPOOL SIZE MAX : 0 !FRAMESIZE : 4K VPOOL SIZE MIN : 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 VPOOL SIZE MAX : 0 !FRAMESIZE : 4K VPOOL SIZE MIN : 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 VPOOL SIZE MAX : 0 !FRAMESIZE : 4K VPOOL SIZE MIN : 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 VPOOL SIZE MAX : 0 !FRAMESIZE : 4K VPOOL SIZE MIN : 0									

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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             21:54:00.00
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 CORRMBR TCB CPU TIME ID
-----
SYSOPR SE11 CBA442ED794D N/P N/P NETWORKID: DEIBMIPS LUNAME: IPSASE11 LUWSEQ: 1
SYSOPR 020.CLST 'BLANK' 21:54:03.84100011 N/P 91118 2 105 DBID/OBID TRANSLATION
'BLANK' AT01 0.00010481
OBID: 6 DATABASE NAME: DSNDB06
OBID: 116 OBJECT NAME: DSNDCX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 2102 OBJECT NAME: DSNVX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 2099 OBJECT NAME: SYSTSVAR
OBID: 6 DATABASE NAME: DSNDB06
OBID: 217 OBJECT NAME: DSNFCX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 240 OBJECT NAME: DSNFMX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 234 OBJECT NAME: DSNFLX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 236 OBJECT NAME: DSNFLX02
OBID: 6 DATABASE NAME: DSNDB06
OBID: 95 OBJECT NAME: DSNXX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 2231 OBJECT NAME: DSNFX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 2228 OBJECT NAME: SYSTSSFB
OBID: 6 DATABASE NAME: DSNDB06
OBID: 873 OBJECT NAME: DSNRTX02
OBID: 6 DATABASE NAME: DSNDB06
OBID: 2208 OBJECT NAME: SYSTSISS
OBID: 6 DATABASE NAME: DSNDB06
OBID: 869 OBJECT NAME: DSNRTX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 2210 OBJECT NAME: SYSTSTSS
OBID: 6 DATABASE NAME: DSNDB06
OBID: 805 OBJECT NAME: DSNIDX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 178 OBJECT NAME: DSNTX01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 1931 OBJECT NAME: DSNDX05
OBID: 327 DATABASE NAME: HONGLTBD
OBID: 5 OBJECT NAME: HONGLTDX
OBID: 327 DATABASE NAME: HONGLTBD
OBID: 2 OBJECT NAME: HONGLTBS
OBID: 6 DATABASE NAME: DSNDB06
OBID: 110 OBJECT NAME: DSNAGH01
OBID: 6 DATABASE NAME: DSNDB06
OBID: 14 OBJECT NAME: SYSGPAUT
OBID: 1 DATABASE NAME: DSNDB01
OBID: 13 OBJECT NAME: DSNXPDXA
OBID: 6 DATABASE NAME: DSNDB06
OBID: 1943 OBJECT NAME: DSNAPX02
OBID: 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             21:54:00.00
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 CORRMBR TCB CPU TIME ID
-----
N/P N/P CBA37B3FD9B8 N/P N/P NETWORKID: SE11 LUNAME: SE11 LUWSEQ: 1
N/P N/P 'BLANK' 21:54:07.91536325 91120 1 225 STORAGE MGR
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 : 3333248 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
!QW0225CTLPL (S) : OFF QW0225CTL (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

```



```

LOCATION: PMODBE1 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) REQUESTED PAGE: 1-35
GROUP: DBE1 RECORD TRACE - LONG 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 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 N/P POOL SUMMARY
-----
!HMM 64-BIT REAL 4K FRAMES IN USE : 412 HMM 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 : 11806592
!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 HMM 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_REALAVAILLOK : 1180
!QW0225_ESQAS : 146554880 QW0225_ESQA_Allloc : 23918144
!QW0225_ESQA_HMM : 24973688 QW0225_ECDSA_Allloc : 141291504
!QW0225_ECDSA_HMM : 149582360 QW0225_ECDSA_Conv : 0
-----

```

```

LOCATION: PMODBE1 OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) REQUESTED PAGE: 1-36
GROUP: DBE1 RECORD TRACE - LONG 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 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 N/P POOL SUMMARY
-----
!QW0225CTGP : OFF QW0225DISC : OFF
!QW0225LFAREA : OFF QW0225_RS : OFF
-----
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 HMM 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 HMM ALLOCATED 31-BIT XPROC DYNAMIC SQL : N/A
!STATEMENTS IN 64-BIT AGENT LOCAL POOLS (ALP) : 0 HMM STMT COUNT IN 64-BIT ALP AT HIGH STOR TIME : 0
!ALLOCATED STMT CACHE IN 64-BIT ALP : 0 HMM ALLOCATED STMT CACHE 64-BIT ALP : 0
!TIMESTAMP OF HMM 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   IFC   DESCRIPTION   TRANSACT
ORIGAUTH CORRNAME     CONNTYPE   RECORD TIME DESTNO ACE ID      DATA
PLANNAME CORRNMBR
-----
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
-----
:-----:
: 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   IFC   DESCRIPTION   TRANSACT
ORIGAUTH CORRNAME     CONNTYPE   RECORD TIME DESTNO ACE ID      DATA
PLANNAME CORRNMBR
-----
N/P      N/P      CBA37B3FD9B8 N/P      N/P
N/P      N/P      'BLANK'      21:55:00.30227750 91121 1 1 SYSTEM STATS
N/P      N/P      N/P
-----
:-----:
: CPU TIME DATA
: SRB TIME          :          : 35.724014  ADDR SPACE ASID: X'0092'
: PREEMP SRB TIME   :          : 0.326470   ASCB          : X'00F69A00'
: SRB TIME          :          : 41:42.000022 ADDR SPACE ASID: X'00AA'
: PREEMP SRB TIME   :          : 41:33.249626 ASCB          : X'00F67D00'
: SRB TIME          :          : 4:28:33.951086 ADDR SPACE ASID: X'009A'
: PREEMP SRB TIME   :          : 4:28:31.650439 ASCB          : X'00F6B580'
: 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 NUMBER ACE ADDRESS ACE NUMBER ACE ADDRESS ACE NUMBER ACE ADDRESS ACE NUMBER ACE ADDRESS ACE NUMBER ACE 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 394.

```

:
: 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.



**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'0000000025056AE'
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 [QWSDCTB]**

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.

PROCEDURE NAME: MSTR	TCB TIME:	7:19.188963	CPU TIME DATA			
	I/O TIME:	25.796208	SRB TIME :	58.390413	ADDR SPACE ASID: X'02A0'	
			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

This topic shows detailed information about "Record Trace - IFCID 001 - DB2 Command Data".

### Record Trace - IFCID 001 - DB2 Command Data

The field labels shown in the following sample layout of "Record Trace - IFCID 001 - DB2 Command Data" are described in the following section.

DISPLAY DB	0	DISPLAY THRD	2	DB2 COMMAND DATA	0	DISP TRACE	15	DISPL RLIMIT	0
START DB	10	START TRACE	33	DISP UTIL	1	START RLIM	0	STOP DB	0
STOP TRACE	7	STOP DB2	0	START DB2	0	RECOV BSDS	0	RECOV INDOUBT	0
MODIFY TRACE	0	TERM UTILITY	2	STOP RLIM	0	START DDF	0	CANCEL THREAD	0
DISPL LOCATN	0	UNREC CMDS	5	START DDF	0	SET ARCH	0	DISPL ARCH	0
RESET INDOUBT	0	ALTER BUFFER	0	ARCH LOG	0	DISP BUF	2	DISP PROCEDURE	0
RESET GENERIC	0	ALTER GBPOOL	0	DISP BUF	2	DISP GROUP	2	STOP PROCEDURE	0
DISPLAY GROUP	2	ALTER UTILITY	0	DISP GBPOOL	0	START PROC	0	STOP PROCEDURE	0
SET LOG	0	DISPLAY LOG	0	DISP FUNC	0	START FUNC	0	STOP FUNCTION	0
START PROFILE	0	STOP PROFILE	0	SET SYSPARM	0	DISPLAY DDF	2	ACCESS DB	0
STOP ACCEL	0	MODIFY DDF	0	DISP PROFILE	0	DISP ACCEL	0	START ACCEL	0
ACTV_FUNC_LEV	0	DISPLAY ML	0	START DYNQRY	0	STOP DYNQRY	0	DISP DYNQRY	3
START SERVICE	0	STOP SERVICE	0	START ML	4	STOP ML	0	DISP SERVICE	0
RUN MLUTIL	2	DISPLAY STATS	6	START CDDS	0	STOP CDDS	0	DISP BLOCKERS	0

## DISPLAY DB

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:** Q9STCTRO

## DISPLAY THRD

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

## DISP UTIL

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

## DISP 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

**DISPL 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

**START DB**

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 RLIM**

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

**STOP DB**

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 STOP DB2 commands. This includes both normal and abnormal completions.

**Field Name:** Q9STSCRA

**STOP RLIM**

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

**RECOV 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



## **RECOV 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

## **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

## **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

## **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

## **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

## **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

## **DISPL LOCATN**

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

## **UNREC CMDS**

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

## **ARCH LOG**

The number of DB2 ARCHIVE LOG commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRM

## **SET ARCH**

The number of DB2 SET ARCHIVE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRP

#### **DISPL ARCH**

The number of DB2 DISPLAY ARCHIVE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRQ

#### **RESET INDOUBT**

The number of DB2 RESET INDOUBT commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRR

#### **ALTER BUFFER**

The number of DB2 ALTER BUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRN

#### **DISP BUF**

The number of DB2 DISPLAY BUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRO

#### **DISP GROUP**

The number of DB2 DISPLAY GROUP commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRX

#### **DISP PROCEDURE**

The number of DB2 DISPLAY PROCEDURE commands executed. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRU

#### **RESET GENERIC**

The number of DB2 RESET GENERICLU commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRD

#### **ALTER GBPOOL**

The number of DB2 ALTER GROUPBUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRS

#### **DISP GBPOOL**

The number of DB2 DISPLAY GROUPBUFFERPOOL commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRT

#### **START PROC**

The number of DB2 START PROCEDURE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRV

**STOP PROCEDURE**

The number of DB2 STOP PROCEDURE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRW

**DISPLAY GROUP**

The number of DB2 DISPLAY GROUP commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRX

**ALTER UTILITY**

The number of DB2 ALTER UTILITY commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRY

**DISP FUNC**

The number of DB2 DISPLAY FUNCTION commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTRZ

**START FUNC**

The number of DB2 START FUNCTION commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTX0

**STOP FUNCTION**

The number of DB2 STOP FUNCTION commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTX1

**SET LOG**

The number of DB2 SET LOG commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTX2

**DISPLAY LOG**

The number of DB2 DISPLAY LOG commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTX3

**SET SYSPARM**

The number of DB2 SET SYSPARM commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTX4

**DISPLAY DDF**

The number of DB2 DISPLAY DDF commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTX5

**ACCESS DB**

The number of DB2 ACCESS DATABASE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTAD

**START PROFILE**

The number of DB2 START PROFILE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTSS

**STOP PROFILE**

The number of DB2 STOP PROFILE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTST

**DISPLAY PROF**

The number of DB2 DISPLAY PROFILE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTSD

**DISP PROFILE**

The number of DB2 DISPLAY PROFILE commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTSD

**DISP ACCEL**

The number of DB2 DISPLAY ACCEL commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTDA

**START ACCEL**

The number of DB2 START ACCEL commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTSA

**STOP ACCEL**

The number of DB2 STOP ACCEL commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTXA

**MODIFY DDF**

The number of DB2 MODIFY DDF commands issued. This includes normal and abnormal completion of the command.

**Field Name:** Q9STCTMD

**START DYNQRY**

The number of DB2 "-START DYNQUERYCAPTURE" commands.

**Field Name:** Q9STCTSQ

**STOP DYNQRY**

The number of STOP DYNQUERYCAPTURE DB2 commands.

**Field Name:** Q9STCTXQ

**DISP DYNQRY**

The number of DB2 "-DISPLAY DYNQUERYCAPTURE" commands.

**Field Name:** Q9STCTDQ

**ACTV FUNC LEV**

The number of DB2 "-ACTIVATE FUNCTION LEVEL" commands.

**Field Name:** Q9STCTEN

**DISPLAY ML**

The number of DB2 "-DISPLAY ML" commands.

**Field Name:** Q9STCTDM

**START ML**

The number of DB2 "-START ML" commands.

**Field Name:** Q9STCTSM

**STOP ML**

The number of DB2 "-STOP ML" commands

**Field Name:** Q9STCTPM

**DISP SERVICE**

The number of DB2 "-DISPLAY RESTSVC" commands.

**Field Name:** Q9STCTDR

**START SERVICE**

The number of DB2 "-START RESTSVC" commands.

**Field Name:** Q9STCTSR

**STOP SERVICE**

The number of DB2 "-STOP RESTSVC" commands.

**Field Name:** Q9STCTPR

**START CDDS**

The number of DB2 "-START CDDS" commands.

**Field Name:** Q9STCTS1

**STOP CDDS**

The number of DB2 "-STOP CDDS" commands

**Field Name:** Q9STCTS2

**DISP BLOCKERS**

The number of DB2 "-DISPLAY BLOCKERS" commands.

**Field Name:** Q9STCTBL

**RUN MLUTIL**

The number of DB2 "-RUN MLUTIL" commands.

**Field Name:** Q9STCTX6

**DISPLAY STATS**

The number of DB2 "-DISPLAY STATS" commands.

**Field Name:** Q9STCTX7

## 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 CONNECTIONS.....	0	DEALLOCATED CONNECTIONS.....	0
INITIATED FROM REMOTE SITE .....	2		
MESSAGES SENT TO REMOTE.....	29	MESSAGES RECV FR REMOTE.....	29
SQL STMTS SENT TO REMOTE.....	0	SQL STMTS RECV FR REMOTE.....	19
BYTES SENT TO REMOTE.....	35584	BYTES RECV FR REMOTE.....	3772
ROWS SENT TO REMOTE.....	21	ROWS RETRIEVED FR REMOTE.....	0
BLOCKS TRANSMITTED.....	12	BLOCKS RECEIVED.....	0
COMMIT REQUESTS SENT.....	0	COMMIT REQUESTS RECEIVED.....	8
ABORT REQUESTS SENT.....	0	ABORT REQUESTS RECEIVED.....	0
INDOUBT THREADS.....	0	CONN REQUESTS QUEUED.....	0
REST REQUESTS.....	0	KEEPDYNAMIC PACKAGES USED.....	0
SET SPECIAL REGISTERS.....	0	HIGH PERFORMANCE DBATS USED.....	0
SET GLOBAL VARIABLES.....	0	HELD LOB LOCATOR(S).....	0
SYSPLEX BALANCING USED.....	0	STORED PROCEDURE COMMITS.....	0
TLS/SSL USED.....	0	CONDBAT REACHED.....	0
TRUSTED CONTEXT USED.....	0	PROFILE EXCEPTIONS.....	0
AES ENCRYPTION USED.....	0	MAXCONQN REACHED.....	0
XA GLOBAL TRANSACTION USED.....	0	MAXCONQW REACHED.....	0
DRDA ENCRYPTION USED.....	0	THREADS QUEUED (PROFILE).....	0
UID/PWD AUTH USED.....	2	THRDS TERMINATED (PROFILE).....	0
KERBEROS AUTH USED.....	0	REMOTE THREADS ABENDED.....	0
CLIENT CERT AUTH USED.....	0	CONNECTIONS (SNAPSHOT).....	0
FAILED SEC AUTH.....	0	CONNECTIONS (INT. HWM).....	2
WITH HOLD CSR NOT CLOSED.....	0	ACTIVE THREADS (SNAPSHOT).....	0
DGTT NOT DROPPED.....	0	ACTIVE THREADS (INT. HWM).....	1
MULTIFACTOR AUTH USED.....	0	REMOTE THREADS CANCELLED.....	0
THRDS TERMINATED(PPOOLINAC).....	0	THRDS TERMINATED(CONN LOSS).....	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 CONNECTIONS

The number of connections that were initiated from the requester site to the remote site. This value is maintained at the requester site.

A connection is a specific instance of using TCP/IP or SNA LU 6.2 to transfer information between a requester and a server. It is a logical connection between a requester and a server.

**Field Name:** Db2 field QLSTCNVS

#### INITIATED FROM REMOTE SITE

The number of connections that were initiated from the requester to the server location. This value is updated at the server location.

**Field Name:** Db2 field 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:** Db2 field 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:** Db2 field 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:** Db2 field 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:** Db2 from field QLSTROWS

#### **BLOCKS TRANSMITTED**

The number of blocks transmitted using block fetch. This value is maintained at the server location.

**Field Name:** Db2 field 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:** Db2 field QLSTCOMS

#### **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:** Db2 field QLSTABRS

#### **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:** Db2 field QLSTINDT

#### **REST REQUESTS**

Number of times that a connection from the remote site invoked a rest service.

**Field Name:** QLSTNREST

#### **SET SPECIAL REGISTERS**

Number of times that a connection from the remote site caused a system monitoring profile to set special registers.

**Field Name:** QLSTNSSR

#### **SET GLOBAL VARIABLES**

Number of times that a connection from the remote site caused a system monitoring profile to set global variables.

**Field Name:** QLSTNSGV

#### **SYSPLEX BALANCING USED**

Number of connections from the remote site using sysplex workload balancing.

**Field Name:** QLSTNWLB

#### **TLS/SSL USED**

Number of connections from the remote site configured with SSL and AT/TLS support.

**Field Name:** QLSTNTLS

**TRUSTED CONTEXT USED**

Number of connections from the remote site under control of a trusted context.

**Field Name:** QLSTNTRS

**AES ENCRYPTION USED**

Number of connections from the remote site using AES encryption.

**Field Name:** QLSTNAES

**XA GLOBAL TRANSACTION USED**

Number of connections from the remote site under control of an XA global transaction.

**Field Name:** QLSTNXA

**DRDA ENCRYPTION USED**

Number of connections from the remote site using DRDA data encryption.

**Field Name:** QLSTNENC

**UID/PWD AUTH USED**

Number of connections from the remote site using userid and/or password authentication.

**Field Name:** QLSTNPWD

**KERBEROS AUTH USED**

Number of connections from the remote site using kerberos authentication.

**Field Name:** QLSTNKER

**MULTIFACTOR AUTH USED**

Number of connections from the remote site using multifactor authentication.

**Field Name:** QLSTNMFA

**CLIENT CERT AUTH USED**

Number of connections from the remote site using client certificate authentication.

**Field Name:** QLSTNCCA

**FAILED SEC AUTH**

Number of times that a connection from the remote site had security authentication failures.

**Field Name:** QLSTFSEC

**WITH HOLD CSR NOT CLOSED**

Number of times that cursors defined with HOLD prevented thread pooling.

**Field Name:** QLSTHCRSR

**DGTT NOT DROPPED**

Number of times where the existence of active declared global temp tables prevented thread pooling.

**Field Name:** QLSTDGTT

**PRDID REMOTE LOCATION**

The product ID and version of the remote location.

**Field Name:** QLSTPRID



## DEALLOCATED CONNECTIONS

The number of connections that were deallocated from this site to the remote site if Db2 was requester. Otherwise, the number of connections received by Db2 from the remote site which were terminated as incomplete.

**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:** Db2 field QLSTMSGGR

## 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:** Db2 field 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:** Db2 field QLSTBYTR

## ROWS RETRIEVED FR REMOTE

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

- 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:** Db2 field 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:** Db2 field 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:** Db2 field QLSTCOMR

## 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:** Db2 field QLSTABRR

## **CONN REQUESTS QUEUED**

The number of connection requests queued by the distributed data facility that were waiting for allocation or waiting for a DBAT because MAXDBAT was exceeded. This value is maintained at the requester location.

### **Note:**

When this value is high, increase the limit for the number of connections.

**Field Name:** Db2 field QLSTCNVQ

## **KEEPDYNAMIC PACKAGES USED**

Number of times where the usage of keepdynamic packages prevented thread pooling.

**Field Name:** QLSTKPDYN

## **HIGH PERFORMANCE DBATS USED**

Number of times where the usage of high performance DBATs prevented thread pooling.

**Field Name:** QLSTHIPRF

## **HELD LOB LOCATOR(S)**

Number of times where the existence of active held lob locators prevented thread pooling.

**Field Name:** QLSTHLOBLOC

## **STORED PROCEDURE COMMITS**

Number of times where a stored procedure issued commit prevented thread pooling.

**Field Name:** QLSTSPCMT

## **CONDBAT REACHED**

Number of connections from the remote site that were terminated due to CONDBAT being reached.

**Field Name:** QLSTCNVTC

## **PROFILE EXCEPTIONS**

Number of connections from the remote site that were terminated due to system monitoring profile exception.

**Field Name:** QLSTCNVTP

## **MAXCONQN REACHED**

Number of connections from the remote site that were terminated due to MAXCONQN being reached.

**Field Name:** QLSTCNVTQN

## **MAXCONQW REACHED**

Number of connections from the remote site that were terminated due to MAXCONQW being reached.

**Field Name:** QLSTCNVTQW

## **THREADS QUEUED (PROFILE)**

Number of times where threads used by connections from the remote site were queued due to a system monitoring profile exception.

**Field Name:** QLSTNTHDPQ

## **THRDS TERMINATED (PROFILE)**

Number of times where threads used by connections from the remote site were terminated due to a system monitoring profile exception.

**Field Name:** QLSTNTHDPT

### REMOTE THREADS ABENDED

Number of times where threads used by connections from the remote site abended.

**Field Name:** QLSTNTHDA

### REMOTE THREADS CANCELLED

Number of times where threads used by connections from the remote site were canceled.

**Field Name:** QLSTNTHDC

### CONNECTIONS (SNAPSHOT)

Current number of active connections from this location.

**Field Name:** QLSTNCNV

### CONNECTIONS (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

### ACTIVE THREADS (SNAPSHOT)

Current number of active threads in use by this location.

**Field Name:** QLSTNTHD

### ACTIVE THREADS (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

### THRDS TERMINATED (POOLINAC)

Number of times that threads used by connections from remote site were terminated after high performance DBAT remained in pool longer than POOLINAC (or 120 seconds if POOLINAC=0).

**Field Name:** QLSTNTPLH

### THRDS TERMINATED (CONN LOSS)

Number of times that threads used by connections from the remote site were terminated after TCP socket closed due to connection loss.

**Field Name:** QLSTNTILS

## 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-overflow 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 SUCCEDED	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		
DBATS TERM POOLINAC LIM EXC	0	DBATS TERM REUSE LIMIT EXC	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
DBATS SUSPEND PROF EXCEPT	0	HWM DBATS SUSPEND PROF EXCEPT	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 QDSTNQ2.

**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

#### **DBATS TERM POOLINAC LIM EXC**

The number of times that threads used by connections from the remote site were terminated after remaining in pool longer than POOLINAC.

**Field Name:** QDSTNTPL

#### **DBATS TERM REUSE LIMIT EXC**

The number of times that threads used by connections from the remote site were terminated after exceeding the number of times the thread can be reused.

**Field Name:** QDSTNTRU

#### **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 KEEP DYNAMIC YES.

**Field Name:** QDSTNAKD

#### **HWM ACTIVE DBATS-BND KEEPDY**

The maximum number of DBATS that are active due to usage of packages bound with KEEP DYNAMIC YES.

**Field Name:** QDSTMAKD

#### **DBATS SUSPEND PROF EXCEPT**

Current number of DBATs suspended due to system profile exception was reached.

**Field Name:** QDSTDBPQ

#### **HWM DBATS SUSPEND PROF EXCEPT**

Maximum number of DBATs suspended due to system profile exception was reached since DDF started.

**Field Name:** QDSTMDPQ

#### **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          1 IFCID SEQNO          16 RECS WRITTEN          15 RECS NOT WRITTEN          15 RECS NOT DESIRED          0
IFCID                0 COLLECT FAILURES          0
BUFFER NOT AVAILAB  0 QWSCOTH2                0
QWSCOTH1
```

### 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:** QWSCRSRW

### 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.

```

LOG MANAGER DATA
WRITE REQUEST-WAIT .....:          0  READ FROM OUTPUT BUFFER .....:      4464
WRITE REQUEST-NO WAIT .....: 20143583  READ FROM ACTIVE LOG .....:      57671
WRITE REQUEST-FORCE .....: 116271  READ FROM ARCHIVE LOG .....:          0
WRITE LOG BUFFER .....: 265031  READ DELAY-TAPE VOLUME CONTENTION .....:          0
WRITE I/O REQUESTS .....: 696824  READ DELAY-UNAVAILABLE RESOURCE .....:          0
WRITE BUFFER SCHEDULED-THRESHOLD .....: 24867  CI CREATED-ACTIVE LOG .....: 1352938
WRITE BUFFER PAGED IN .....:          0  CI OFFLOADED .....: 1347840
WAIT FOR UNAVAILABLE LOG BUFFER .....:          0  CI WRITTEN .....: 3056832
TOTAL BSDS ACCESS REQUESTS .....: 135311  CI SERIAL WRITE .....:          0
TOTAL CDDS ACCESS REQUESTS .....:          0  LOOK-AHEAD TAPE VOL MOUNTS ATTEMPTED. :          0
ARCHIVE READ ALLOCATIONS .....:          0  LOOK-AHEAD TAPE VOL MOUNTS SUCCEEDED. :          0
ARCHIVE WRITE ALLOCATIONS .....: 156  TOTAL ZHYPERLINKLOG WRITES .....:          0
TOTAL LOG SUSP TIME ASYNC DUPLICATION .....:          0  TOTAL ZHYPERLINKLOG WRITE FAILED SYNC :          0
TOTAL SUSPENDS ASYNC DUPLICATION .....:          0

QJSTLSUS .....: 190089  QJSTSPNN .....:          0  QJSTSPNI .....:          0
QJSTCLID .....:          1  QJSTCL2 .....: X'0000'
QJSTCLSN .....: X'00CAF11AE9A68B3F5A00'
QJSTAVAIL .....: 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

This is an *exception* field.

## **READ FROM ARCHIVE LOG**

The number of log reads satisfied from archive log data sets.

**Field Name:** QJSTRARY

This is an *exception* field.

## **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 WRTHRS 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:** QJTSERW

#### **TOTAL CDDS ACCESS REQUESTS**

Total CDDS access requests.

**Field Name:** QJSTCDDS

#### **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

#### **TOTAL LOG SUSP TIME ASYNC DUPLEXING**

Total time in microseconds XES suspended the log writer to update the secondary lock structure for asynchronous lock duplexing.

**Field Name:** QJSTDPXT

#### **TOTAL ZHYPERLINKLOG WRITES**

Total number of zhyperlinklog write I/O requests.

**Field Name:** QJSTSYCW

## TOTAL SUSPENDS ASYNC DUPLEXING

Total number of suspends XES suspended the log writer to update the secondary lock structure for asynchronous lock duplexing.

**Field Name:** QJSTDPXN

## TOTAL ZHYPERLINKLOG WRITE FAILED SYNC

Total number of zhyperlinklog write I/O requests which failed to be synchronous.

**Field Name:** QJSTSYCF

## 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	QSSTEXPV	1143	QSSTCONF	2
QSSTGPLV	227	QSSTFPLV	24	QSSTFREY	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
QVASKSRS	1477	QVASKSRT	3704	QVASKSADUR	138	QVASKSADDL	0	QVASKSADIR	0
QVASCBOB	0	QVASCBOF	0	QVASKSBOS	0	QVASKSBMBOF	0		
QVASBRPT		896		QVASBRP					
QVASACEB		0		QVASACEF					

## 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      0 QVLSLC32      0 QVLSLC254      19 QVLSLC33      0 QVLSLC34      3 QVLSLC35      25
QVLSLC36      0 QVLSLC37      0 QVLSLC38      19 QVLSLC39      0 QVLSLC40      3 QVLSLC41      25
QVLSLC42      0 QVLSLC43      0 QVLSLC44      19 QVLSLC45      0 QVLSLC46      3 QVLSLC47      25
QVLSLC48      0 QVLSLC49      0 QVLSLC50      19 QVLSLC51      0 QVLSLC52      3 QVLSLC53      25
QVLSLC54      0 QVLSLC55      0 QVLSLC56      19 QVLSLC57      0 QVLSLC58      3 QVLSLC59      25
QVLSLC60      0 QVLSLC61      0 QVLSLC62      19 QVLSLC63      0 QVLSLC64      3

```

### 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

**QVLSLC33**

This field is for IBM service use.

**Field Name:** QVLSLC33

**QVLSLC34**

This field is for IBM service use.

**Field Name:** QVLSLC34

**QVLSLC35**

This field is for IBM service use.

**Field Name:** QVLSLC35

**QVLSLC36**

This field is for IBM service use.

**Field Name:** QVLSLC36

**QVLSLC37**

This field is for IBM service use.

**Field Name:** QVLSLC37

**QVLSLC38**

This field is for IBM service use.

**Field Name:** QVLSLC38

**QVLSLC39**

This field is for IBM service use.

**Field Name:** QVLSLC39

**QVLSLC40**

This field is for IBM service use.

**Field Name:** QVLSLC40

**QVLSLC41**

This field is for IBM service use.

**Field Name:** QVLSLC41

**QVLSLC42**

This field is for IBM service use.

**Field Name:** QVLSLC42

**QVLSLC43**

This field is for IBM service use.

**Field Name:** QVLSLC43

**QVLSLC44**

This field is for IBM service use.

**Field Name:** QVLSLC44

**QVLSLC45**

This field is for IBM service use.

**Field Name:** QVLSLC45

**QVLSLC46**

This field is for IBM service use.

**Field Name:** QVLSLC46

**QVLSLC47**

This field is for IBM service use.

**Field Name:** QVLSLC47

**QVLSLC48**

This field is for IBM service use.

**Field Name:** QVLSLC48

**QVLSLC49**

This field is for IBM service use.

**Field Name:** QVLSLC49

**QVLSLC50**

This field is for IBM service use.

**Field Name:** QVLSLC50

**QVLSLC51**

This field is for IBM service use.

**Field Name:** QVLSLC51

**QVLSLC52**

This field is for IBM service use.

**Field Name:** QVLSLC52

**QVLSLC53**

This field is for IBM service use.

**Field Name:** QVLSLC53

**QVLSLC54**

This field is for IBM service use.

**Field Name:** QVLSLC54

**QVLSLC55**

This field is for IBM service use.

**Field Name:** QVLSLC55

**QVLSLC56**

This field is for IBM service use.

**Field Name:** QVLSLC56

**QVLSLC57**

This field is for IBM service use.

**Field Name:** QVLSLC57

**QVLSLC58**

This field is for IBM service use.

**Field Name:** QVLSLC58



## QVLSLC59

This field is for IBM service use.

**Field Name:** QVLSLC59

## QVLSLC60

This field is for IBM service use.

**Field Name:** QVLSLC60

## QVLSLC61

This field is for IBM service use.

**Field Name:** QVLSLC61

## QVLSLC62

The predominant latch usage is: Storage manager.

**Field Name:** QVLSLC62

## QVLSLC63

The predominant latch usage is: Storage manager.

**Field Name:** QVLSLC63

## QVLSLC64

This field is for IBM service use.

**Field Name:** QVLSLC64

## 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 GEIR AFC, which is the number of available real storage frames.

**Field Name:** QWOSLR SF

### **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 [Q8STSTATE]

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 [Q8STQUEUE]**

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  $((\text{maximum data slice size} - \text{minimum data slice size}) / \text{median data slice size})$ .

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
CURRENTLY EXECUTING QUERIES .....: 0
MAXIMUM EXECUTING QUERIES .....: 1
CURRENT QUEUE LENGTH .....: 0

CONNECTS TO ACCELERATOR .....: 2
REQUESTS SENT TO ACCELERATOR .....: 4
REQUESTS TIMED OUT .....: 0
REQUESTS FAILED .....: 0
BLOCKS SENT TO ACCELERATOR .....: 0
BLOCKS RECEIVED FROM ACCELERATOR ..: 1

ELAPSED TIME IN TCP/IP SERVICES .....: 9.889521
CPU TIME IN TCP/IP SERVICES .....: 0.001102
ELAPSED TIME IN ACCELERATOR SERVICES : 0.000000
CPU TIME IN ACCELERATOR SERVICES .....: 0.000000

CPU TIME FOR LOG READER TASK .....: 0.000000
ZIIIP ELIGIBLE TIME FOR LOG READ TASK: 0.000000

LOG RECORDS READ .....: 20458
LOG RECORDS FOR ACCELERATOR TABLES ..: 20397
LOG RECORD BYTES PROCESSED .....: 1349033
CPU TIME FOR REPLICATION .....: 4:57.779008
REPLICATION STATUS .....: 0
REPLICATION STATUS CHANGE .....: 09/28/20 17:52:29.264347

WAITFORDATA - SUCCESSFUL .....: 10
WAITFORDATA - TIMED OUT .....: 21

QUERIES FAILED TO EXECUTE .....: 21
CPU TIME EXECUTING QUERIES .....: 4.320000
CPU TIME LOAD/ARCHIVE/RESTORE .....: 58.810000

BYTES SENT TO ACCELERATOR .....: 4282
BYTES RECEIVED FROM ACCELERATOR ..: 3852
MESSAGES SENT TO ACCELERATOR .....: 22
MESSAGES RECEIVED FROM ACCELERATOR ..: 22
ROWS SENT TO ACCELERATOR .....: 0
ROWS RECEIVED FROM ACCELERATOR ..: 10

ELAPSED TIME IN ACCELERATOR .....: 9.775866
CPU TIME IN ACCELERATOR .....: 0.000692
WAIT TIME IN ACCELERATOR .....: 9.762848

ZIIIP TIME FOR LOG READER TASK .....: 0.000000

INSERT ROWS FOR ACCELERATOR TABLES ...: 4
UPDATE ROWS FOR ACCELERATOR TABLES ..: 0
DELETE ROWS FOR ACCELERATOR TABLES ..: 2
REPLICATION LATENCY .....: 1.000000
REPLICATION VELOCITY .....: 1.062799

```

**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 reader 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 493.

## 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 ID		BUFFER POOL ACTIVITY	
BUFFER POOL ID	:	0	FLAGS
CURRENT ACTIVE BUFFERS	:	96	GETPAGE REQUESTS
BUFFER UPDATES	:	1512283	UNAVAILABLE BUFFER-VPPOOL FULL
GETPAGE REQUESTS-SEQUENTIAL	:	1565136	PAGES WRITTEN
NUMBER OF DATA SET OPENS	:	334	SYNCHRONOUS READS
SYNCHRONOUS WRITES	:	579	BUFFERS ALLOCATED-VPPOOL
SYNCHRONOUS READS-SEQUENTIAL	:	7085	ASYNCHRONOUS WRITES
DFHSM MIGRATED DATA SETS	:	0	SEQUENTIAL PREFETCH REQUESTS
HORIZONTAL DEFERRED WRITE THRESHOLD	:	0	DFHSM RECALL TIMEOUTS
SEQUENTIAL PREFETCH READS	:	66736	VERTICAL DEFERRED WRITE THRESHOLD
VPPOOL EXPANSION OR CONTRACT	:	0	PAGES READ VIA SEQUENTIAL PREFETCH
DATA MANAGER BUF CRITICAL THRESHOLD	:	0	VPPOOL OR HPOOL EXPANSION FAILURE
LIST PREFETCH REQUESTS	:	214	CONCURRENT PREFETCH I/O STREAMS-HMM
LIST PREFETCH READS	:	57	PAGE-INS REQUIRED FOR WRITE
PREFETCH I/O STREAMS REDUCTION	:	0	PAGES READ VIA LIST PREFETCH
MAX WORKFILES CONCURRENTLY USED	:	0	PARALLEL QUERY REQUESTS
DYNAMIC PREFETCH REQUESTS	:	13266	MERGE PASSES REQUESTED
DYNAMIC PREFETCH READS	:	237	MERGE PASS DEGRADED-LOW BUFFER
PAGES READ VIA DYNAMIC PREFETCH	:	3011	WORKFILE REQUEST REJECTED-LOW BUFFER
WORKFILE REQUESTED-ALL MERGE PASS	:	0	WORKFILE NOT CREATED-NO BUFFER
PREFETCH QUANTITY REDUCED TO HALF	:	46172	PREFETCH DISABLED-NO BUFFER
WORKFILE PREFETCH NOT SCHEDULED	:	0	PREFETCH QUANTITY REDUCED TO QUARTER
PREFETCH DISABLED-NO READ ENGINE	:	0	WORKFILE PAGES TO DESTRUCT
FAILED COND SEQ&RDM GETPAGE REQUEST	:	0	PAGE-INS REQUIRED FOR READ
WORKFILE PAGES NOT WRITTEN	:	0	FAILED COND SEQ GETPAGE REQUEST
MINIMUM BUFFERS ON SLRU (LHM)	:	1720	PAGES ADDED TO LPL
MAXIMUM BUFFERS ON SLRU (HMM)	:	1721	LENGTH OF SLRU = VPSEQT
IN-MEM OVL RND REQUESTS	:	0	IN-MEM OVL SEQ REQUESTS
IN-MEM OVL RND SYNC READS	:	0	IN-MEM OVL SEQ SYNC READS
RANDOM GETPAGE BUFFER HIT	:	10226	DASD CACHE READ HITS
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 (QBSTWS) 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 (QBSTRIO) 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 ZPARAM 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 (QBSTSP).

**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:** QBSTSP

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 DGETT STORAGE USED (KB) .....	0
MAX ACTIVE (NONSORT) IN-MEMORY .....	0	MAX DGETT 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 DGETT 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:** QISTR CUR

### CUR RIDLIST BLOCKS OVERFLOWED

This field is currently not set by DB2.

**Field Name:** QISTWFR CUR

### 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:** QISTDGGTCTO

**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)      : 171952  SYNCH.XES - LOCK REQ      : 1371719  SUSPENDS - IRLM GLBL CONT: 84
UNLOCK REQ (P-LOCKS)   : 157709  SYNCH.XES - CHANGE REQ   : 73577   SUSPENDS - XES GLBL CONT : 19
CHANGE REQ (P-LOCKS)   : 14444  SYNCH.XES - UNLOCK REQ   : 1252281 NO DELAY LOCK REQ REJECTS: 0
NOTIFY MESSAGES SENT   : 103504 ASYNCH.XES - RESOURCES   : 1       INCOMPAT RETAINED LOCK   : 0
NOTIFY MESSAGES RECEIVED : 28529  P-LOCK/NFY - EXITS ENGINES : 500    P-LOCK/NFY EX.ENGINE N/A : 0
PSET/PART P-LOCK NEGOTIAT: 22     PAGE P-LOCK NEGOTIATION : 0       OTHER P-LOCK NEGOTIATION : 16
P-LOCK CHANGE DURING NEG.: 27     FALSE CONTENTIONS       : 116    GLOBAL DEADLOCKS         : 0
P-LOCK EXITS           : 38     ACTIVE IRLM CB CONTEN.  : 189    SYNC-ASYNCH XES CONV     : 80
NOTIFY EXITS           : 28529  LOCAL RES CONTENTIONS   : 200    FLMG COUNTS PER          : SUBSYS
```

### LOCK REQ (P-LOCKS)

The number of lock requests for physical 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 physical 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 GLBL 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 physical 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

#### **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

#### **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

#### **GLOBAL DEADLOCKS**

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:** QTGSDGBL

#### **P-LOCK EXITS**

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:** QTGSCPLOK

#### **ACTIVE IRLM CB CONTENT.**

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:** QTGSLCAIC

#### **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

#### **NOTIFY EXITS**

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:** QTGSCNOTY

#### **LOCAL RES CONTENTIONS**

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:** QTGLICNT

#### **FLMG COUNTS PER**

Flags describing QTGS counters:

**ON**

QTGSFLMG counts per subsystem (SUBSYS)

**OFF**

QTGSFLMG counts per LPAR

**Field Name:** QTGSFLGS



## 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 KEEP DYNAMIC 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 KEEP DYNAMIC 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 :      0
POSSIBLE ROW FOUND :      0 MATCH THR TXT/BND OPT :      0
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
HELD BY STATEMENTS        :      710
FREE PAGES                 :    27636
FAILS DUE TO STMT POOL FULL :      0

PAGES IN RDS POOL (ABOVE)  :      0
HELD BY CT                :      0
HELD BY PT                :      0
FREE PAGES                 :      0
FAILS DUE TO RDS POOL FULL :      0

SHAREABLE STATIC SQL STMT REQUESTS :    4221
PLAN BTB STORAGE             :      0
PLAN ATB STORAGE            :    29568
REQ STOR FOR STATIC STMTS:      0

PAGES IN DBD POOL (ABOVE) :      N/A
HELD BY DBD               :    177
STEALABLE PAGES           :      83
FREE PAGES                 :      N/A
FAILS DUE TO DBD POOL FULL :      0

PAGES IN SKEL POOL (ABOVE) :      N/A
HELD BY SKCT              :      11
HELD BY SKPT              :    7523
STEALABLE PAGES           :    7534
FREE PAGES                 :      N/A
FAILS DUE TO SKEL POOL FULL :      0

XPROC ALLOC STOR         :      N/A
PKG BTB STORAGE          :      0
PKG ATB STORAGE          :      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:** QISEDPC

#### **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:** QIESTMT

#### **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:** QISEDPE

#### **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:** QISEDDBD

**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
SYN.READS(XI)-DATA RETURNED	16941	SYN.READS(NF)-DATA RETURNED
SYN.READS(XI)-NO DATA RET	25589	SYN.READS(NF)-NO DATA RET
READ FOR CASTOUT MULT	1242	WRITE AND REGISTER MULT
READ FOR CASTOUT	6688	WRITE AND REGISTER
CLEAN PAGES WRITTEN	0	PAGES WRITE & REG MULT
CHANGED PAGES SYNC.WRITTEN	17880	PAGES CASTOUT
CHANGED PAGES ASYNC.WRITTEN	77	CASTOUT CLASS THRESHOLD
WRITE FAILED-NO STORAGE	0	GROUP BP CASTOUT THRESHOLD
REG.PAGE LIST (RPL) REQ	607	DELETE NAME LIST SEC-GBP
GBP CHECKPOINTS TRIGGERED	0	DELETE PAGE FROM SEC-GBP
PAGES RETRIEVED FROM GBP	78	READ CASTOUT STATS SEC-GBP
READ STORAGE STATS	66803	UNLOCK CASTOUT
DELETE NAME	333	READ CASTOUT CLASS
UNREGISTER PAGE	0	NR.OF READ FOR CASTOUT REQ
REGISTER PAGE	47	READ DIRECTORY INFO
EXPLICIT X-INVALID	0	GBP-DEPENDENT GETPAGES
PG P-LOCK UNLOCK REQ	2095465	ASYNCH GBP REQUESTS
PG P-LOCK LOCK REQ SP MAP PG	2078633	ASYNCH SEC-GBP REQUESTS
PG P-LOCK LOCK SUSP SP MAP PG	39439	WRITE SEC-GBP FAILED
PG P-LOCK LOCK NEG SP MAP PG	0	PG P-LOCK LOCK REQ DATA PG
PG P-LOCK LOCK REQ IX LEAF PG	3718	PG P-LOCK LOCK SUSP DATA PG
PG P-LOCK LOCK SUSP IX LEAF PG	15	PG P-LOCK LOCK NEG DATA PG
PG P-LOCK LOCK NEG IX LEAF PG	0	PAGES IN WRITE AROUND
IXLXLSN REQ WITH ASYNCH XI	797523	IXLXLSN SYNCH-UP CALLS
IXLXLSN 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
ESCALATIONS(SHR).....: 0
ESCALATIONS(EXC).....: 579
LOCK SUSPENSIONS.....: 120
IRLM LATCH SUSPENSIONS.....: 17388
OTHER SUSPENSIONS.....: 103530
MAXIMUM PAGE/ROW LOCKS HELD.....: N/A
MAIN CONT - MAIN LATCH HELD.....: 0
MAIN CONT - USE COUNT NOT 0.....: 26
SECONDARY CONT - MAIN LATCH HELD.....: 15148
NOTIFY CB LATCH CONT - NOTIFY.....: 25
GENERIC LATCH CONTENTIONS.....: 0
RESOURCE LATCH CONTENTIONS.....: 0
LOCAL DEADLOCKS.....: 0
IRLM PURGED - TIMEOUT.....: 0
IRLM ABENDS RETRYABLE.....: 0
IRLM ABENDS NON RETRYABLE.....: 0
RESOURCE HASH TABLE CONTENTIONS.....: 0
LOCK.....: 1922
UNLOCK.....: 1549
CHANGE.....: 1
COMPAT.....: 0
ASYNC LOCK.....: 0
QUERY FAST.....: 0
NOTIFY.....: 1
TIMEOUTS.....: 0
LOCK REQUEST.....: 5164997
UNLOCK REQUEST.....: 3765096
QUERY REQUEST.....: 48
CHANGE REQUEST.....: 483228
CLAIM REQUESTS.....: 1738448
CLAIM REQUEST FAILED.....: 28
DRAIN REQUESTS.....: 21203
DRAIN REQUEST FAILED.....: 0
OTHER REQUEST.....: 2
SUSPEND EXITS.....: 121338
STATUS EXITS.....: 0
TIMEOUT EXITS.....: 0
RESUME EXITS.....: 121337
DEADLOCK EXITS.....: 0
CQE USE COUNT.....: 0
CQE GENERATED.....: 120
WORKUNIT HASH TABLE CONTENTIONS
LOCK.....: 38
UNLOCK.....: 41
CHANGE.....: 0
COMPAT.....: 0
ASYNC LOCK.....: 0
QUERY FAST.....: 0
SYNC.....: 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 DEADLCK 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

## 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

## 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

## LOCK REQUEST

The number of requests to lock a resource.

**Field Name:** QTXALOCK

## 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

### **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

### **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

### **QUERY REQUEST**

The number of query requests.

**Field Name:** QTXAQRV

### **IRLM LATCH SUSPENSIONS**

The number of latch suspensions.

**Field Name:** QTXASLAT

### **CHANGE REQUEST**

The number of change requests.

**Field Name:** QTXACHG

### **OTHER SUSPENSIONS**

The number of suspensions caused by something other than lock or latch.

**Field Name:** QTXASOTH

### **CLAIM REQUESTS**

The number of claim requests.

**Field Name:** QTXACLNO

### **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

**CLAIM REQUEST FAILED**

The number of unsuccessful claim requests.

**Field Name:** QTXACLUN

**MAIN CONT - MAIN LATCH HELD**

The number of unsuccessful claim requests.

**Field Name:** QTXALCMM

**DRAIN REQUESTS**

The number of drain requests.

**Field Name:** QTXADRNO

**MAIN CONT - USE COUNT NOT 0**

The number of drain requests.

**Field Name:** QTXALCMU

**DRAIN REQUEST FAILED**

The number of unsuccessful drain requests.

**Field Name:** QTXADRUN

**SECONDARY CONT - MAIN LATCH HELD**

The number of unsuccessful drain requests.

**Field Name:** QTXALCSM

**OTHER REQUEST**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXAIRLM

**NOTIFY CB LATCH CONT - NOTIFY**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACNNT

**SUSPEND EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXASUSP

**GENERIC LATCH CONTENTIONS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACGEN

**STATUS EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXASTAT

**RESOURCE LATCH CONTENTIONS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXASRCL

**TIMEOUT EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXATIME

**LOCAL DEADLOCKS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXADLCL

**RESUME EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXARSUM

**IRLM PURGED - TIMEOUT**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXATOUT

**DEADLOCK EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXADEAD

**IRLM ABENDS RETRYABLE**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXARTRY

**CQE USE COUNT**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXAUCNT

**IRLM ABENDS NON RETRYABLE**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXANRTY

**CQE GENERATED**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXALCCP

**RESOURCE HASH TABLE CONTENTIONS - LOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRLK

**WORKUNIT HASH TABLE CONTENTIONS - LOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWLK

**RESOURCE HASH TABLE CONTENTIONS - UNLOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRUK

**WORKUNIT HASH TABLE CONTENTIONS - UNLOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWUK

**RESOURCE HASH TABLE CONTENTIONS - CHANGE**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRCH

### WORKUNIT HASH TABLE CONTENTIONS - CHANGE

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWCH

### RESOURCE HASH TABLE CONTENTIONS - COMPAT

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRCP

### WORKUNIT HASH TABLE CONTENTIONS - COMPAT

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWCP

### RESOURCE HASH TABLE CONTENTIONS - ASYNC LOCK

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRAL

### WORKUNIT HASH TABLE CONTENTIONS - ASYNC LOCK

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWAL

### RESOURCE HASH TABLE CONTENTIONS - QUERY FAST

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRQF

### WORKUNIT HASH TABLE CONTENTIONS - QUERY FAST

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWQF

### RESOURCE HASH TABLE CONTENTIONS - NOTIFY

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRNT

### WORKUNIT HASH TABLE CONTENTIONS - SYNC

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWSY

## 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
SPARSE IX DISABLED	0	SPARSE IX BUILT WF	0
TRANSFER OWNERSHIP	0	NO DM CALL RID/LPF	19
HISTORY LOST	0	HV RECORDING LOST	70
RDS SORT PERFORM.	0	RDS SORTL USED	80
QXPFSLNUM .....	0	QXPFSENUM .....	0
QXPFMAXU .....	0	QXPFMAXUG .....	0
QXN1093B .....	0	QXPFSENUM .....	0
		QXPFSENUM .....	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.

**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

#### **HISTORY LOST**

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.

**Field Name:** QXSTHVLST

#### **ZAI STABL. PREPARE**

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.

**Field Name:** QXSTSRT

## RDS SORTL USED

Number of times RDS Sort used the IBM Integrate Accelerator for Z Sort.

**Field Name:** QXSTRTL

## SORT FEEDBACK

The number of times when 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    0
UDF EXECUTED       0
STMT TRIGGER       0
PROCEDURE ABENDS   0
UDF ABENDS        0
ROW TRIGGER       0
CALL TIMEOUTS     0
UDF TIMEOUTS     0
SQL ERROR TRIGGER 0
CALL REJECTS     0
UDF REJECTS     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 VXPSEQT=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:** QXDEGCR

**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:** QXSTODGNRGP

#### **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.

```
RL PROCESSING USED .....:          RID LIST PROCESSING
RL PROCESSING NOT USED-LIMIT EXCEEDED: 73361  RL PROCESSING NOT USED-NO STORAGE ....: 11610
RL OVERFLOWED-NO STORAGE .....:      0    RL SKIPPED-INDEX KNOWN .....: 11610
RL OVERFLOWED-MAX LIMIT .....:      0    RL INTERRUPTED (HJ)-NO STORAGE .....: 11610
RL PROCESSING NOT USED-NOT CONSTRUCT.: 2    RL INTERRUPTED (HJ)-MAX LIMIT .....: 11610
```

### 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.

**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
PLAN_ALLOC.SUCC.	142	PACK_ALLOC.SUCC.	6	OPEN_DATASETS - CURR.	101
PLANS_BOUND	30	PACKAGES_BOUND	67	DS_NOUSE,NOCLOSE-HWM	101
BIND_PLAN(ADD)	0	BIND_PACK(ADD)	0	DS_NOUSE,NOCLOSE-CURR.	100
BIND_PLAN(REPL)	30	BIND_PACK(REPL)	67	DS_CLOSED-THRESH.REACH	0
AUTOB.PLAN_ATTMP	1	AUTOB.PACK_ATTMP	0	DS_CLOSED-INTRQ_ACCESS	2
AUTOB.PLAN_SUCC.	1	AUTOB.PACK_SUCC.	0	DS_CLOSED-UTIL_ACC_ONLY	3
AUTOB.PLAN_ATTMP	1	AUTOB.PACK_ATTMP	0	R/W TO R/O CONVERSIONS	97
AUTOB.PLAN_SUCC.	1	AUTOB.PACK_SUCC.	0		
REBIND_PLAN_COMM	0	REBIND_PACK_COMM	0		
REBIND_PLAN_ATTMP	0	REBIND_PACK_ATTMP	0	PKG-AUTHID_OWRRTN	0
PLANS_REBOUND	0	PACKAGES_REBOUND	0	PKG-ENTRY_OWRRTN	0
FREE_PLAN_COMMND	0	FREE_PACKAGE_COMM	0	RTN-AUTH_SUCC	2
FREE_PLAN_ATTMP	0	FREE_PACK_ATTMP	0	RTN-AUTH_SUCC-PUB	0
PLANS_FREED	0	PACKAGES_FREED	0	RTN-AUTH_UNSUCC	6
TEST_BINDS	0	AUTOB.INV.RES.ID	0	RTN-AUTHID_OWRRTN	0
QTREOPN	2346			RTN-ENTRY_OWRRTN	0
				RTN-CACHE_NO_ADD	0
				PLN-AUTH_UNSUCC	0
				PLN-AUTHID_OWRRTN	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**

The 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**

The 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 rebound 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 rebound.

**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 rebound 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 rebound a package. This can be larger than the value shown in Rebind package subcommands because you can rebound 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 rebound 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

## PLN-AUTH.UNSUCC

Number of unsuccessful checks for plan EXECUTE privilege made using the plan authorization cache because an applicable entry was not found in the cache.

**Field Name:** QTAUCNOT

## PLN-AUTHID OWRTN

Number of times Db2 overwrote an authorization ID in the plan authorization cache.

**Field Name:** QTAUCOW1

## 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
CURRENT PAGES IN USE    :      2677149
MAX PAGES IN USE        :      2677152
CURRENT SEQ PAGES IN USE :      109436
MAX SEQ PAGES IN USE    :      113140
PAGES MOVED INTO SIMULATED BP :      34732432
TOTAL AVOIDABLE SYNC I/O DELAY :      2:37:06.172028

FLAGS
AVOIDABLE READ I/O:          : X'80'
SYNC READ I/O (R)          :      25866384
SYNC READ I/O (S)          :      322891
ASYNC READ I/O             :      3661730
SYNC GBP READS (R)         :          0
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:** QBSPPIUS

**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        ALTER JAR .....:              0
                                DROP PACKAGE .....:         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        SET TIMEOUT (APP):           0        SET TIMEOUT (PRF):           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:** QXDELETE

## **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:** QXDSCR TB

#### **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 TABLESPACE**

The number of CREATE TABLESPACE statements executed.

**Field Name:** QXCTABS

**DROP TABLESPACE**

The number of DROP TABLESPACE statements executed.

**Field Name:** QXDRPTS

**ALTER TABLESPACE**

The number of ALTER TABLESPACE statements executed.

**Field Name:** QXALTT5

**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

**SET TIMEOUT (APP)**

Number of times the SET CURRENT LOCK TIMEOUT statement was executed from application.

**Field Name:** QXCTOAPP

**SET TIMEOUT (PRF)**

Number of times that the CURRENT LOCK TIMEOUT special register was set from a profile table.

**Field Name:** QXCTOPRF

**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.

```
SERVER ID:          IDAAS07          ACCELERATOR DATA
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 TCP/IP 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 TCP/IP 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	ZHL READ ELPSD TIME	10167

## 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:** QBACSWWS

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:** QBACSI0

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

### **ZHL READ ELPSD TIME**

The elapsed time that was used for successful read operations that used zHyperLink.

**Field Name:** QBACSYIT

### **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
LOCATION NAME (LONG): :FFFF:9.65.12.94
LOCATION NAME (SHORT): :FFFF:9.65.12.9
ROLLED NBR THREADS.....: 1
FLAGS.....: X'00'
ABORT REQUESTS RECEIVED.....: 0
BLKS RECV USING BLK FETCH...: 0
BYTES RECV FROM REMOTE.....: 819
CONV REQS QUEUED BY DDF.....: 0
CONV INITIATED FR LOCAL.....: 0
COMMIT REQS RECV FR REQ/COO: 1
MSGS RECV FR REMOTE.....: 8
ROWS OF DATA RETR FR REMOTE: 0
SQL STMT RECEIVED FR REMOTE: 3
LOCAL ELAPSED TIME.....: 0.000000
TYPE.....: ROLLUP
LOCATION NAME (LONG): PMODA11
LOCATION NAME (SHORT): PMODA11
ABORT REQUESTS SENT.....: 0
BLKS TRANS USING BLK FETCH.: 2
BYTES SENT TO REMOTE.....: 752
CONV INITIATED FR REMOTE...: 1
CONV TERMINATED FR LOCAL...: 0
COMMIT REQS SENT TO SRV/PAR: 0
MSGS SENT TO REMOTE.....: 8
ROWS OF DATA SENT TO REMOTE: 1
SQL STMT SENT TO REMOTE...: 0
INDOUBT THREADS.....: 0
ROLLED NBR THREADS.....: 9
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.

<b>Original ID from DB2</b>	<b>Shown as</b>
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 *VvvRrrMm* , 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 KEEP DYNAMIC 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 KEEP DYNAMIC 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 TCB CPU TIME          0.000000
IFI CALL ELAPSED TIME                        0.000000                      LOG EXTRACT ELAPSED          0.000000
DESCRIBES ELAPSED                           0.000000                      LOG RECS CAPTURED           0
IFI CALLS                                     0 LOG READS PERFORMED         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:** 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
PRODUCT ID: DB2
PRODUCT VERSION: V11R01M5
LOCATION: PMOBB1H
NET ID : DEIBMIPS LU NAME : IPSAQB1H CONNECT: DB2CALL
CONNTYPE: BATCH CORRNAME : BBEEXC1 CORRNMBR: 'BLANK' AUTHID : BBE
PLANNAME: DBIHEXC1
MVS ACCOUNTING DATA: ACCOUNTING-ASTR0-1234567890ABCDEGHIJKLMNOPQRSTUVWXYZACCOUNTING-ASTR1-1234567890ABCDEGHIJKLMNOPQ
RSTUVWXYZACCOUNTING-ASTR2-1234567890ABCDEGHI
*** Long name section:
LOCATION : PMOBB1H
*** 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 QWACTRTRT_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
SQL DATA INSIGHTS ELAPSED TIME 0.065535 SQL DATA INSIGHTS CPU TIME 0.065535
SQL DATA INSIGHTS ENTRY/EXITS 65535 SQL DATA INSIGHTS ZIIP TIME 0.065535
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
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 CLAS: 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. For a rollup record elapsed time will be equal to QWACESC. QWACESC contain the accumulated elapsed time for all child tasks or all DDF/RRSAF threads rolled into the record.

**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. For a rollup record MVS CPU time will be equal to QWACEJST. QWACEJST contain the accumulated CPU time for all child tasks or all DDF/RRSAF threads rolled into the record.

**Field Name:** RT0003TT

#### **CLASS 1: BEGINNING MVS TCB TIME**

The beginning MVS CPU time for all environments (such as: CICS, IMS, RRSAP, 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

#### **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

**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:** QWACPKG

**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

**CLASS 1: REASON ACCT INVOKED**

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

**Field Name:** QWACRINV

**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

#### **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:** QWACSPPEB

**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:** QWACSPPT

**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.

**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**

HFSHORT

**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**

Accumulated CPU time consumed on an IBM specialty engine while running triggers on nested task or 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

**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: SQL DATA INSIGHTS ELAPSED TIME**

The accumulated elapsed time spent processing SQL Data Insights functions. This time is included in Class 2 elapsed time.

**Field Name:** QWAC\_AIDB\_FNS\_ELAP

**CLASS 2: SQL DATA INSIGHTS CPU TIME**

The accumulated CPU time spent processing SQL Data Insights functions. This time is included in Class 2 CPU time. It does not include CPU consumed on an IBM specialty engine.

**Field Name:** QWAC\_AIDB\_FNS\_CP

**CLASS 2: SQL DATA INSIGHTS ZIIP TIME**

The accumulated CPU time spent processing SQL Data Insights functions on an IBM specialty engine. This time is included in Class 2 CPU time.

**Field Name:** QWAC\_AIDB\_FNS\_zIIP

## **CLASS 2: SQL DATA INSIGHTS ENTRY/EXITS**

The number of entry/exit events performed by SQL Data Insights functions.

**Field Name:** QWAC\_AIDB\_COUNT

## **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

## **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

### **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

### **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: CLASS 3 DATA COLLECTED**

The accounting class 3 data was being collected when this accounting record was written.

**Field Name:** QWACCL30

**CLASS 7: DATA COLLECTED**

The accounting class 7 data was being collected when this accounting record was written.

**Field Name:** QWACCL70

**CLASS 8: DATA COLLECTED**

The accounting class 8 data was being collected when this accounting record was written.

**Field Name:** QWACCL80

**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

## **ASYNCR. IXL REQ. TIME**

The accumulated wait time for IXLCACHE and IXLFCOMP requests.

**Field Name:** QWAXIXLT

## ASYNCR. 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
ESCALATIONS(SHR).....: 0
ESCALATIONS(EXC).....: 579
LOCK SUSPENSIONS.....: 120
IRLM LATCH SUSPENSIONS.....: 17368
OTHER SUSPENSIONS.....: 103530
MAXIMUM PAGE/ROW LOCKS HELD.....: N/A
MAIN CONT - MAIN LATCH HELD.....: 0
MAIN CONT - USE COUNT NOT 0.....: 26
SECONDARY CONT - MAIN LATCH HELD.....: 15148
NOTIFY CB LATCH CONT - NOTIFY.....: 25
GENERIC LATCH CONTENTIONS.....: 0
RESOURCE LATCH CONTENTIONS.....: 0
LOCAL DEADLOCKS.....: 0
IRLM PURGED - TIMEOUT.....: 0
IRLM ABENDS RETRYABLE.....: 0
IRLM ABENDS NON RETRYABLE.....: 0
RESOURCE HASH TABLE CONTENTIONS.....: 0
LOCK.....: 1922
UNLOCK.....: 1549
CHANGE.....: 1
COMPAT.....: 0
ASYNCR LOCK.....: 0
QUERY FAST.....: 0
NOTIFY.....: 1
TIMEOUTS.....: 0
LOCK REQUEST.....: 5164997
UNLOCK REQUEST.....: 3765096
QUERY REQUEST.....: 48
CHANGE REQUEST.....: 483228
CLAIM REQUESTS.....: 1738448
CLAIM REQUEST FAILED.....: 28
DRAIN REQUESTS.....: 21203
DRAIN REQUEST FAILED.....: 0
OTHER REQUEST.....: 2
SUSPEND EXITS.....: 121338
STATUS EXITS.....: 0
TIMEOUT EXITS.....: 0
RESUME EXITS.....: 121337
DEADLOCK EXITS.....: 0
CQE USE COUNT.....: 0
CQE GENERATED.....: 120
WORKUNIT HASH TABLE CONTENTIONS
LOCK.....: 38
UNLOCK.....: 41
CHANGE.....: 0
COMPAT.....: 0
ASYNCR LOCK.....: 0
QUERY FAST.....: 0
SYNC.....: 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

## 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

## 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

## LOCK REQUEST

The number of requests to lock a resource.

**Field Name:** QTXALOCK

## 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

### **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

### **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

### **QUERY REQUEST**

The number of query requests.

**Field Name:** QTXAQRV

### **IRLM LATCH SUSPENSIONS**

The number of latch suspensions.

**Field Name:** QTXASLAT

### **CHANGE REQUEST**

The number of change requests.

**Field Name:** QTXACHG

### **OTHER SUSPENSIONS**

The number of suspensions caused by something other than lock or latch.

**Field Name:** QTXASOTH

### **CLAIM REQUESTS**

The number of claim requests.

**Field Name:** QTXACLNO

### **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

**CLAIM REQUEST FAILED**

The number of unsuccessful claim requests.

**Field Name:** QTXACLUN

**MAIN CONT - MAIN LATCH HELD**

The number of unsuccessful claim requests.

**Field Name:** QTXALCMM

**DRAIN REQUESTS**

The number of drain requests.

**Field Name:** QTXADRNO

**MAIN CONT - USE COUNT NOT 0**

The number of drain requests.

**Field Name:** QTXALCMU

**DRAIN REQUEST FAILED**

The number of unsuccessful drain requests.

**Field Name:** QTXADRUN

**SECONDARY CONT - MAIN LATCH HELD**

The number of unsuccessful drain requests.

**Field Name:** QTXALCSM

**OTHER REQUEST**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXAIRLM

**NOTIFY CB LATCH CONT - NOTIFY**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACNNT

**SUSPEND EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXASUSP

**GENERIC LATCH CONTENTIONS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACGEN

**STATUS EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXASTAT

**RESOURCE LATCH CONTENTIONS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXASRCL

**TIMEOUT EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXATIME

**LOCAL DEADLOCKS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXADLCL

**RESUME EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXARSUM

**IRLM PURGED - TIMEOUT**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXATOUT

**DEADLOCK EXITS**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXADEAD

**IRLM ABENDS RETRYABLE**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXARTRY

**CQE USE COUNT**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXAUCNT

**IRLM ABENDS NON RETRYABLE**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXANRTY

**CQE GENERATED**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXALCCP

**RESOURCE HASH TABLE CONTENTIONS - LOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRLK

**WORKUNIT HASH TABLE CONTENTIONS - LOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWLK

**RESOURCE HASH TABLE CONTENTIONS - UNLOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRUK

**WORKUNIT HASH TABLE CONTENTIONS - UNLOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWUK

**RESOURCE HASH TABLE CONTENTIONS - CHANGE**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRCH



### **WORKUNIT HASH TABLE CONTENTIONS - CHANGE**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWCH

### **RESOURCE HASH TABLE CONTENTIONS - COMPAT**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRCP

### **WORKUNIT HASH TABLE CONTENTIONS - COMPAT**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWCP

### **RESOURCE HASH TABLE CONTENTIONS - ASYNC LOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRAL

### **WORKUNIT HASH TABLE CONTENTIONS - ASYNC LOCK**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWAL

### **RESOURCE HASH TABLE CONTENTIONS - QUERY FAST**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRQF

### **WORKUNIT HASH TABLE CONTENTIONS - QUERY FAST**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWQF

### **RESOURCE HASH TABLE CONTENTIONS - NOTIFY**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACRNT

### **WORKUNIT HASH TABLE CONTENTIONS - SYNC**

The number of requests to IRLM to perform a function other than LOCK, UNLOCK, QUERY, or CHANGE.

**Field Name:** QTXACWSY

## **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          0          TOTAL BYTES WRITTEN          X'000000000000'
```

### **NUMBER OF LOG RECORDS WRITTEN**

The number of log records written.

**Field Name:** QWACL RN

## TOTAL BYTES WRITTEN

The total number of log record bytes written.

**Field Name:** QWACLRAB

## IFCID 003 - Longest Lock/Latch Waiter

This topic shows detailed information about "Record Trace - Longest Lock/Latch Waiter".

This data block shows longest lock latch wait information. It is recorded from the longest delta time in one of the followings waits: SYNCHRONOUS I/O WAIT, BEGIN LOCK/LATCH WAIT, BEGIN ASYNCHRONOUS I/O WAIT, BEGIN DRAIN LOCK WAIT in addition, it will also record the longest service task wait and the page latch wait.

## Record Trace - IFCID 003 - Longest Lock/Latch Waiter

The field labels shown in the following sample layout of "Record Trace - IFCID 003 - Longest Lock/Latch Waiter" are described in the following section.

```
LONGEST LOCK/LATCH WAITER
LOCK/LATCH, SYNC/ASYNC I/O, DRAIN LOCK:
DBID FOR SYNC/ASYNC I/O.: DSNDB06
OBID FOR SYNC/ASYNC I/O.: DSNHBX01
LOCK HASH.: X'0006029A'
LATCH CLASS.: X'029A'
LATCH TOKEN.: N/P
ACE ADDRESS.: N/P
WAIT TYPE.: DB2 - I/O
BEGIN TIME.: 09/23/22 10:30:07.177982
END TIME.: 09/23/22 10:30:07.181802
DELTA TIME.: 0.003820

SERVICE TASK:
RMID.: 3
FUNCTION CODE.: 73
ACE ADDRESS.: N/P
BEGIN TIME.: 09/23/22 10:30:07.184961
END TIME.: 09/23/22 10:30:07.213433
DELTA TIME.: 0.028472

PAGE LATCH WAIT INFORMATION:
DATABASE ID.: DSNDB07
PAGESET ID.: DSN32K00
ACE ADDRESS.: X'0000000026AEC520'
PAGE NUMBER.: 1
PARTITION NUMBER.: N/P
BEGIN TIME.: 09/23/22 10:30:07.177982
END TIME.: 09/23/22 10:30:07.181802
DELTA TIME.: 0.003820

OTHER INFORMATION:
ROLLUP ID.: N/P
```

### DBID FOR SYNC/ASYNC I/O

DBID for I/O.

**Field Name:** QLLLLDB

### OBID FOR SYNC/ASYNC I/O

OBID for I/O.

**Field Name:** QLLLLOB

### LOCK HASH

Lock hash.

**Field Name:** QLLLLH

### LATCH CLASS

Latch class.

**Field Name:** QLLLLC

### LATCH TOKEN

Latch token.

**Field Name:** QLLLLA

### ACE ADDRESS

Agent Control Element (ACE) address for longest lock/latch waiter.

**Field Name:** QLLLLRACE

**WAIT TYPE**

Type of operation that incurred the longest wait time.

**Field Name:** QLLLTYP

**BEGIN TIME**

Begin time for longest lock/latch waits.

**Field Name:** QLLLRBT

**END TIME**

End time for longest lock/latch waits.

**Field Name:** QLLLRET

**DELTA TIME**

Delta time for longest lock/latch waits.

**Field Name:** QLLLRDT

**DATABASE ID**

Database id.

**Field Name:** QLLLPIDB

**PAGESET ID**

Pageset id.

**Field Name:** QLLLPISB

**ACE ADDRESS**

Agent Control Element (ACE) address for longest longest page latch waiter.

**Field Name:** QLLLPIACE

**PAGE NUMBER**

Page number.

**Field Name:** QLL LPG

**PARTITION NUMBER**

Part number.

**Field Name:** QLLLPA

**BEGIN TIME**

Page latch wait begin time.

**Field Name:** QLLLPIBT

**END TIME**

Page latch wait end time.

**Field Name:** QLLLPIET

**DELTA TIME**

Page latch wait delta time.

**Field Name:** QLLLPIDT

**RMID**

Rmid.

**Field Name:** QLLLID

## FUNCTION CODE

Function code.

**Field Name:** QLLLFC

## ACE ADDRESS

Agent Control Element (ACE) address for longest service task waiter.

**Field Name:** QLLLSACE

## BEGIN TIME

Begin time for service task wait.

**Field Name:** QLLLSBT

## END TIME

End time for service task wait.

**Field Name:** QLLLSET

## DELTA TIME

Delta time for service task wait.

**Field Name:** QLLSDDT

## ROLLUP ID

The type of rollup record.

**Field Name:** QLLLRUID

## 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 493

## 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	0				
MAX CASCAD LVL	0	PROCEDURE ABENDS	0	CALL TIMEOUTS	0
CALL STATEMENTS	0	UDF ABENDS	0	UDF TIMEOUTS	0
UDF EXECUTED	0	ROW TRIGGER	0	SQL ERROR TRIGGER	0
STMT 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 497](#).

## 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          RLF TABLE ID          01          LIMIT IN CPU 16 MICROSEC          0
RES LIMIT SCOPE                   5          LIMIT IN SERVICE UNITS          0          HIGHEST CPU 16 MICROSEC USED          2107
RES LIMIT TYPE      INFINITE
QTXAFLG1 (5) :      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 500.

## 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 510.

## 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'

**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
IRLM FUNC CODE : LOCK (NAME)
LOCK STATE : SHARED
LOCK ATTRIBUTES: MODIFY NOFORCE
LOCK DURATION : MANUAL
PARENT TOKEN : X'7F68F3F0'
CACHED STATE : N/A

DBID: DSNDB06
RETURN TOKEN : X'7F690A80'
DB2 TOKEN : X'00C150001DFFD428'
PROP TO XES : NO
REQUEST TYPE: L-LOCK
GLOBAL/LOCAL: GLOBAL

OBID: SYSUSER
REQUEST TOKEN : X'00000000'
IRLM RETURN CODE : 0
ASYN TO XES : NO
IRLM RETURN SUBCODE: B'0000000000000000'
OWNER : 'BLANK'
LOCK HASH VALUE : X'0C4C3603'

RESOURCE ID: X'00000313123456'

```

### 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  COLLDID      : 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      :

-----
PLANO     :          1  METHOD        : FIRST TABLE ACCESSED  SORTN_UNIQ     : NO          SORTC_UNIQ     : NO
DATABASE  : DSNDB06  NEXTSTEP     : NOT APPLICABLE         SORTN_JOIN     : NO          SORTC_JOIN     : NO
OBJECT    :          42  ACCESTYPE    : 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 : IS          MERGE_JOIN_COLS :          0  ACCESS_DEGREE  :          0  JOIN_DEGREE    :          0
TSLOCKMODE : IS          PARALLELISM_MODE : NO          ACCESS_PGROUP_ID :          0  JOIN_PGROUP_ID :          0
AGGREGATE_FUNCNT : 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 : DSNDH01
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'  QW0022AZ : X'00'
QW0022DT : X'00'    QW0022PS : 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  UNLOAD SHRLEVEL REFERENCE : NO  LOAD PART INDDN      : NO
REORG COPYDDN        : 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 ID
-----
09:01:19.05114383  568  1  25  UTILITY  <--
0.04901157        END

JOBNAME      : BBED          STEPNAME      : UNLD0      ELAPSED TIME:
DFSORT      : YES DB2SORT   :              NO DATA SORTS :
OTHER SORTS : 0 SHRLEVEL   : N           CPU TIME    : 0.038269
IMP DEC POINT: NO              SORT CPU     : 0.000000
                                         SORT OPTMODE: CPU
                                         ZIIP ONLINE : NO

NETWORKID: DEIBMIPS LUNAME: IPSARA22 LUWSEQ: 15
DBID TESTDB UTILITY NAME REORG
OBID EMPLOYEE UTILITY PHASE UTILTERM
ITEMS 0 UTILITY ID BBE.BBED
0.208941 SUBTASKS : 0
1 INDEX SORTS : 0
0.038269 ZIIP TIME : 0.000109
0.000000 SORT ZIIP : 0.000000
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 LUVSEQ: 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 LUNSEQ: 5
KO2PLAN  'BLANK' N/P      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

<b>E</b>	The end of a merge pass
<b>Z</b>	The start of output work file partitioning
<b>W</b>	During the output work file partitioning
<b>X</b>	The end of output work file partitioning
<b>K</b>	The start of last merge pass partitioning
<b>M</b>	During last merge pass partitioning
<b>L</b>	The end of last merge pass partitioning
<b>T</b>	The start of one record partitioning
<b>O</b>	During one record partitioning
<b>U</b>	The end of one record partitioning
<b>V</b>	The start of presorted records partitioning
<b>P</b>	During presorted records partitioning
<b>Y</b>	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
          RELEASE BOUND X'00'
```

```
LOCATION      N/P
COLLECTION   HSRTEP2VL1XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXX
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
              RELEASE BOUND X'00' RECORDS READ          0

LOCATION      N/P
COLLECTION  HSRTEP2VL1XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXX
XXXXX
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 LOCATION01XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXX
XXXXZ
COLLECTION COLLECTION01XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXX
XXXXZ
PACKAGE ID PACKAGE001XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXX
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 LOCATION01XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXXXXXXX
Z
COLLECTION COLLID01XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXXXXXXX
Z
PACKAGE ID PACKAGE001XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4X
XXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XX
XXXXXXXXX9XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2XXXXXXXX
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
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    : DSN1IA10
PROGRAM NAME         : DSN1IAD
CONSISTENCY TOKEN    : X'18B61ACB02FABE19'
STATEMENT NUMBER     : 1989
SQL REQUEST TYPE     : 0
QUERY COMMAND ID    : X'0000000000000000'
EXPANSION REASON    : X'0000000000000000'
SECTION NUMBER      : 1
QUERY INSTANCE ID   : X'0000000000000000'

SQLCAID: SQLCA      SQLCABC      136
SQLERRD1 -100      SQLERRD2      0
SQLERRD4 -1        SQLERRD5      0
SQLERRD3      0
SQLERRD6      0

SQLCODE : -805
SQLERRP : DSNXEPM
SQLWARN0:
SQLWARN1:
SQLWARN2:
SQLWARN3:
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'  
STATEMENT NUMBER     : 1989  
SQL REQUEST TYPE     : 0  
QUERY COMMAND ID    : X'0000000000000000'  
EXPANSION REASON    : X'0000000000000000'  
SECTION NUMBER      : 1  
QUERY INSTANCE ID   : X'0000000000000000'
```

SQLCAID: SQLCA	SQLCABC	136	SQLERRD3	0	SQLERRP: DSN	SQLSTATE: 00000
SQLERRD1	SQLERRD2	0	SQLERRD6	0	SQLWARN0: SQLWARN1:	SQLTEXT: 00000
SQLERRD4	SQLERRD5	0		0	SQLWARN4: SQLWARN5:	SQLWARN2: SQLWARN3:
					SQLWARN8: SQLWARN9:	SQLWARN6: SQLWARN7:
						SQLWARNA:

SQLERRM:

DATA TYPE	INX	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	:	7.503900	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 times 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      : PM05D851
PKG COLLECTION ID: HSRTEP2VL1XXXXXXXXXX2XXXXXXXXXX3XXXX
XXXXXXXXXXXXX4XXXXXXXXXXXX5XXXXXXXXXXXX6XXXXXXXXXX
X7XXXXXXXXXXXX8XXXXXXXXXXXX9XXXXXXXXXXXX0XX
XXXXXXXXX1XXXXXXXXXXXX2XXXXXXXXXXZ
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

## IFCID 060 - Select Start

### 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      : PM05D851
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 GLOB 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 GLOB 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      : PM05D851
PKG COLLECTION ID: HSRTEP2VL1XXXXXXXXXX2XXXXXXXXXX3XXXX
XXXXXXXXXXXXX4XXXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX
X7XXXXXXXXXX8XXXXXXXXXX9XXXXXXXXXX0XX
XXXXXXXX1XXXXXXXXXX2XXXXXXXXXZ
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

## IFCID 065 - Open Cursor

### 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'CO'**

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      : PM05D851
PKG COLLECTION ID : HSRTEP2VL1XXXXXXXXXX2XXXXXXXXXX3
XXXXXXXXXX4XXXXXXXXXX5XXXXXXXXXX6
XXXXXXXXXX7XXXXXXXXXX8XXXXXXXXXX9
XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2
XXXXXXXXXXZ
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          : PM05D851
PKG COLLECTION ID : HSRTEP2VL1XXXXXXXXXX2XXXXXXXXXX3
XXXXXXXXXX4XXXXXXXXXX5XXXXXXXXXX6
XXXXXXXXXX7XXXXXXXXXX8XXXXXXXXXX9
XXXXXXXXXX0XXXXXXXXXX1XXXXXXXXXX2
XXXXXXXXXZ
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

## IFCID 067 - Accounting

- 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          @ QW0085RS          @ 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 : DG0@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  PARTITIONING 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.

## IFCID 098 - IBM Service Record

**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    DSN310.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: DSND07
OBID:     24  OBJECT NAME: DSNDX02

```

**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).

## IFCID 106 - Application Programming Defaults

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
DEFAULT SUBSYSTEM: DC61
DEFAULT HOST LANG: IBMCOB
DECFLOAT RND MODE: HALF EVEN
DEFAULT DELIMITER: APOST
DEFLT SQL DELIMIT: APOST
DATE FORMAT .....: ISO
TIME FORMAT .....: ISO
IMP TIMEZONE .....: CURRENT
IMP TIMEZONE(HEX) : X'9999999C'
APPLIC ENCODING ..: EBCDIC
DSNHDECP DS NAME : SYS1.DSN.DC61.SDSNEXIT(DSNHDECP)
DEFAULT LOCALE ..: 'BLANK'

DECIMAL POINT OPT:
DEFLT ENC SCHEME :
DISTR SQL STR DEL:
DEFLT DEC ARITHM :
DEFLT MIXED GRAPH:
SQL LANG SUPP LVL:
USE FOR DYN RULES:
DB2 DECP INDICAT:
LOCAL DATE LENGTH:
LOCAL TIME LENGTH:
PAD NULL-TERMIN ..:
PERIOD EBCDIC SBCS CCSID: 1148
EBCDIC EBCDIC MBCS CCSID: 65534
APOST EBCDIC GBCS CCSID: 65534
DEC15 ASCII SBCS CCSID : 819
NO ASCII MBCS CCSID : 65534
NO ASCII GBCS CCSID : 65534
YES UNICOD SBCS CCSID: 367
X'D5' UNICOD MBCS CCSID: 1208
0 UNICOD GBCS CCSID: 1200
0 NEWFUN CUR REL ..: N/A
YES NEWFUN CUR REL-1 : N/A
NEWFUN CUR REL-2 : N/A

QWPBVLV .....: V12R1M0
QWPBCHAR .....: ALPHANUM
QWPBLEN .....: 260
QWPBEYE .....: DECP
```

#### 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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:** QWPBDS

**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 ZPARAM 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'.

ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM AMCCSID in DSNHDECP.

**Field Name:** QWPBAMID

### DEFLT SQL DELIMIT

The string delimiter for SQL.

Install parameter SQL STRING DELIMITER on panel DSNTIPF, or ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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

## IFCID 106 - Application Programming Defaults

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 ZPARAM DYNRULS in DSNHDECP.

**Field Name:** QWPBDRLS

### UNICODE SBCS CCSID

Unicode Single Byte Character Set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM DATELEN in DSNHDECP.

**Field Name:** QWPBDLEN

### UNICODE GBCS CCSID

Unicode graphics character set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARAM 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 ZPARAM 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 ZPARAM NEWFUN in DSNHDECP.

**Field Name:** QWPBNEWF

**APPLIC ENCODING**

Application encoding scheme.

Install parameter APPLICATION ENCODING on installation panel DSNTIPF, or ZPARAM 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 ZPARAM 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.

ZPARAM 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            IMMEDIATE FLAG ..         NO  CONVERSION FACTOR:          224
RANDOM ATTACH .....                YES PEER RECOVERY .....     NONE
QWPALVL ..... DSN1210            QWPACOODR .....          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 ZPARAM 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

### QWPACOOOR

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 ZPARAM COORDNTR in DSN6GRP.

**Field Name:** QWPACOOOR

### 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 ZPARAM 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 :
SP_PARMS_JV     : NO             DDF COMPATIBILITY
DSBL_IMPCAST_JV : NO             SP_PARMS_NJV     : NO        IGNORE_TZ         : NO
                   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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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, ZPARAM 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.

ZPARAM 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 ZPARAM 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 ZPARAM 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.

ZPARAM 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 ZPARAM 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.

ZPARAM name DDF\_COMPATIBILITY and ZPARAM 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\_PARAMS\_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 OUTPUT BUFFER:          LOG INITIALIZATION PARAMETERS (PART 1)
READ COPY2 ARCH  :         4000 MAX ARCH INP UNIT:          2 DEALLOC TIME(MIN):          0
ACTIVE LOG COPIES:          NO  MAX ARCH IN BSDS :         10000 DEALLOC TIME(SEC):          0
ARCH LOG COPIES  :          1  DUAL BSDS MODE   :          YES OFFLOAD OPTION ...:          YES
QWP2LVL ..... DSN1210      1  REM COPY SW ACCEL:          NO
QWP2LBP .....              1  QWP2WRTH .....          20  QWP2LLBS .....          NO

```

**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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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'C4E2D5F1F1F040'
QWP3WLST ... :
0000 00000000 00000000 017E8000 60606060 60606060 60606060 60606060 | .....=.....
0020 60606060 60606060 60606060 60606060 60606060 60606060 60606060 | .....
0040 60606060 60606060 60606060 60606060 60606060 60606060 60606060 | .....
0060 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM ARCPFX2 in DSN6ARVP.

**Field Name:** QWP3RE2N

**SINGLE VOLUME**

Indicates whether single-volume DASD archives are used.

Install parameter SINGLE VOLUME on panel DSNTIPA, or ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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: *DyyddThhmmssst*, 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 ZPARAM 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".

This 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, 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 line.

**Record Trace - IFCID 106 - Miscellaneous Installation Parameters**

The field labels shown in the following sample layout of "Record Trace - IFCID 106 - Miscellaneous Installation Parameters" are described in the following section.

# IFCID 106 - Miscellaneous Installation Parameters

MISCELLANEOUS INSTALLATION PARAMETERS

```

EDM POOL SIZE .... N/A
TAB OWNER ..... DSNRGCOL
APPL TABLE ..... DSN_REGISTER_APPL
OBJ TABLE ..... DSN_REGISTER_OBJT
INSTALL SYSADM ... LOGO
SYSADM ID 2 ..... SYSADM
DEFAULT USERID ... IBMUSER
DATABASE NAME .... DSNRGFDB
SYSOPER ID ..... LOGO
SYSOPER ID 2 ..... EMIL
DDCS ESCAPE CHAR : 'BLANK'
BIND NEW PACKAGE : BINDADD
ENABLE DB2 AUTH : YES
MFA UNUSED TIME .. 600
AUTH CACHE SIZE .. 3072
ACCEL MODELING ... NO
OPT HINTS ALLOWED: NO
RIDPOOL SIZE (KB): 400000
MAX DEG OF PARALL: 0
USE X LOCK ..... NO
NPAGES THRESHOLD : 0
MAX EXT SERV TASK: 20
MAX NOT FOUND-HSH: 100
EVAL UNCOMMITTED : NO
SUPPRESS SOFT ERR: YES
STAR JOIN THRESH : 10
LONG RUNNING READ: 10
CUR MAINT TYPE ... SYSTEM
FREE CACHED STMTS: NO
MAX DATA CACHING : 20
MAX STORED PROCS : 2000
MAX TEMP STORAGE : 0
MAX CONC AUTOBIND: 10
PLANMGMT ..... EXTENDED
PLANMGMTSCOPE ... STATIC
SEPARATE SECURITY: NO
MAX TEMP RID ..... NOLIMIT
SKIP UNCOMM INSN : NO
DDL TIMEOUT FACT : 1
MAX UTIL PARALL .. 99
MULT INDEX ACCESS: YES
OPT 1 ROW-NO SORT: NO
UTIL OBJ CONVERTS: NONE
OBJ CREATE FORMAT: EXTENDED
TEMPLATE TIME .... UTC
LOAD RO OBJECTS .. YES
MAX PARA DEG DPSI: 0
WF DB AGNT THRESH: 0
WF DB SYS THRESH : 90
SIMULATED CPUS ... 0
UT SORT DS ALLOC : YES
UT DB2 SORT USE .. YES
UT TEMP STORCLASS: 'BLANK'
FLASHCOPY PPRC ... REQUIRED
FLASHCOPY COPY ... NO
FLASHCOPY LOAD ... NO
FLASHCOPY REB IX : NO
FLASHCOPY REORG TS: NO
FLASHCOPY REORG IX: NO
MAX REAL+AUX STOR: 0
SEPAR WORK FILES : NO
RETRY STOPPED ... NO
ALTERNATE CYPPOOL: CP1
COPY FAST REPLIC : PREFERRED
CACHE DYN STABIL : BOTH
INDEX MEMORY CTRL: AUTO
STATFDBK PROFILE : YES
ZHYPERLINK ..... DISABLE
FTB NON UNQE IDX : YES
REORG IC LI. DASD : 0
UTLIS USE ZSORT ... NO
ALLOW U/D/I W. UR: NO
STATCLGSRT ..... 10
MAX USER DEF FUNC: 5000
IRLM PROCEDURE ... DC11IRLM
IRLM MODULE NAME : IC11
IRLM START TIME .. 120
IRLM INIT TIME ... 1
IRLM AUTOSTART ... YES
UTILITY FACTOR ... 6
EXPL AT AUTOBIND : YES
ENABLE DATA CAPT : NO
SITE TYPE ..... LOCAL
TRACKER SITE ..... NO
WAIT RETAIN LOCKS: NO
AUTO BIND ..... YES
MAX APPL LOCKS ... 10000
REP READ U LOCK .. YES
MAX TSPACE LOCK .. 2000
SORT POOL SIZE ... 10240000
PACK AUTH CACHE .. 5242880
RTN AUTH W/O CAT : 5242880
STAR JOIN ENABL .. DISABLE
MAX # LE TOKENS .. 20
PROJ Z INS THRESH: 2
MANAGE THREAD STO: NO
STATISTICS HIST .. NONE
EDM STATMNT CACHE: 116107264
EDM DBD CACHE ... 23961600
EDM SKEL POOLSIZE: 10485760
MIN DIVIDE SCALE : NONE
CUR REFRESH AGE .. 0
RESTORE/RECOVER .. NO
INDEX I/O PARALL : YES
REVOKE DEP PRIVIL: SQLSTMT
SYS-LEVEL BACKUP : NO
MAX TAPE UNITS ... 0
SECADM1 TYPE ..... AUTHID
SECADM2 TYPE ..... AUTHID
LMT CONV PART TAB: YES
REORG SORT NPSI .. AUTO
REORG IGN FREESPC : NO
REORG TABSPC LIST: PARALLEL
REORG MAPPING DB : 'BLANK'
REORG DROP PARTS : NO
REORG KEEP DICT .. NO
STATIST FEEDBACK : ALL
APPL COMPAT ..... V11R1
LIKE BLANK INSIGN: NO
D.STMT CACHE STOR: 2
MSEC OF TASK/SRB : 0
MAX ZL DICT ENTR : 4096
ENABLE DB CHECK .. NO
BIF COMPATIBILITY: V9
CAT DAT DATACLASS: XVSAM
CAT DAT MGMTCLASS: DB2
CAT DAT STORCLASS: DB2
CAT IDX DATACLASS: XVSAM
CAT IDX MGMTCLASS: DB2
CAT IDX STORCLASS: DB2
PARALL EFFICIENCY: 50
PREVENT ALTER LMT: YES
EMPTY XML ELEMENT: YES
DB BAK STG GRP ... SG1
PAGE NUMBERING ... ABSOLUTE
SELECT FOR UNLOAD: YES
HSM MSG DS HLQ ... HSMHLQ
MAT NODET SQLTUDF: NO
SUBSTRING COMPAT.: PREVIOUS
UTILITY HISTORY ... UTILITY
REORG IC LI. TAPE : 0
RENAME TABLE ... NO
LOG BAK STG GRP ... SG2
COMPRESS DIRLOB ... NO
DDL MATERIALIZATN: ALWAYS_IMMEDIATE
DFLT INSERT ALG ... 2
ACCEL WT FOR DATA: 0.0
LOAD IMPL. SCALE : NO
LONG COLU. NAMES : YES
REORG I. NOSYSUT1: NO
LOCK TIMEOUT MAX : -3
REORG TS NOPAD DF: YES
IX MEM CT STR LIM: N/A
LOCK AV SINGLESEL: YES

```

LIST OF LONG NAMES  
FCOPY DEFLT TEMPL: DSNCL1.&DB.&SN.&DSNUM.&UQ.  
ENCRYPTION KEY.... DB2SYS.KEY01

```

QWP4LEN ..... 2724 QWP4EYE ..... SPRM
QWP4MRB ..... 408 QWP4WREN .....
QWP4MRU ..... YES QWP4BMCK .....
QWP4BMC1 ..... 10 QWP4BMC2 .....
QWP4LRNG ..... OFF QWP4SLDB .....
QWP4SLIX ..... OFF QWP4NAPP .....
QWP4DIV3 ..... OFF QWP4EXPL .....
QWP4ST00 ..... OFF QWP4UDEG .....
QWP4DB0F ..... 2692 QWP4SHFN .....
QWP4BMC1 ..... 10 QWP4BMC2 .....
QWP4SWT2 ..... 40 QWP4DWF1 .....
QWP4DWU2 ..... 8 QWP4VDWT .....
QWP4KDSB ..... 1000 QWP4RDEU .....
QWP4PF32 ..... 0 QWP4PFT1 .....
QWP4BBTR ..... 500 QWP4PSID ..... X'00000000'
QWP4CHKL ..... 10 QWP4PDQ ..... 128
QWP4HRCL ..... ON QWP4PCWH ..... 1
QWP4MXRB ..... 20000 QWP4HRCD ..... 120
QWP4TRWT ..... 10 QWP4WPFQ ..... 4
QWP4SOTM ..... 4 QWP4SQTD ..... 5
QWP4MPFQ ..... 2 QWP4SWFU ..... 5
QWP4DRBS ..... 30720 QWP4RMIN ..... 1
QWP4RNLPL ..... 8 QWP4RHTI ..... 4
QWP4QCTM ..... 120 QWP4TXS ..... 24576
QWP4AND ..... 32 QWP4QR ..... 25
QWP4CUT ..... 100 QWP4SPC ..... 100
QWP4NLG ..... NO QWP4AST ..... 99
QWP4ZUT ..... 2 QWP4ULBZ ..... 10240
QWP4COC1 ..... 128 QWP4COC2 ..... 10
QWP4IOP ..... ON QWP4DBCK ..... OFF
QWP4FFB ..... NO QWP4XCTH ..... 0
QWP4DATE ..... 10/05/15 QWP4AURT ..... 50
QWP4MYTB ..... 225 QWP4CTHR ..... 10
QWP4SREC ..... X'8000' QWP4RMTI ..... 1
QWP4INLP ..... 50 QWP4RRBA ..... NO
QWP4TTRS ..... 1 QWP4MXOS ..... 40
QWP4LTD ..... 10 QWP4URNM ..... YES
QWP4SLC ..... 255 QWP4UNM7 ..... NO
QWP4JRCS ..... NO QWP4LRCS ..... NO
QWP4DMTR ..... 500 QWP4BXTR ..... 500
QWP4LVL ..... DSN1210
QWP4FSTP ..... YES
QWP4WIOL ..... ON
QWP4SWT1 ..... 5
QWP4BYCK ..... OFF
QWP4CTUP ..... OFF
QWP4NHJM ..... OFF
QWP4VC0F ..... 2704
QWP4SMXN ..... 64000
QWP4SWT1 ..... 5
QWP4DWU1 ..... 8
QWP4KDSA ..... 1300
QWP4LRUT ..... 4000
QWP4PFT2 ..... 10
QWP4DSPM ..... 50
QWP4PCBS ..... 20
QWP4PCRB ..... 20
QWP4RCST ..... 8
QWP4WPF5 ..... 4
QWP4VDTM ..... 1
QWP4TISP ..... 24576
QWP4MXVL ..... NO
QWP4INTV ..... 120
QWP4SRBT ..... 10
QWP4NOIN ..... NO

```

QWP4SCAC .....	YES	QWP4PST .....	YES	QWP4VCFK .....	NO
QWP4DSCM .....	NO	QWP4CDIO .....	NO	QWP40PSE .....	YES
QWP40JEH .....	YES	QWP4DCFS .....	'BLANK'	QWP4STCL .....	'BLANK'
QWP4COMC .....	NO	QWP4IXIO .....	YES	QWP4STCL .....	YES
QWP4QA98 .....	NO	QWP4QA99 .....	NO	QWP4N45G4 .....	NO
QWP4ATRC .....	560	QWP4MUSE .....	N/P	QWP4N2645_1 .....	NO
QWP4QRWD .....	1	QWP4N0193A .....	1624	QWP4N0193B .....	100
QWP4TRSU .....	YES	QWP4FLKT .....	0	QWP4HAVL .....	NO
QWP4TRSS .....	NO	QWP4FLMT .....	100	QWP4TRCK .....	NO
QWP4FTST .....	NO	QWP4FLBS .....	10	QWP4P3J3 .....	NO
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	QWP4ACNPTSrch .....	NO	QWP4DCNPTSrch .....	NO
QWP4LOBDIAG .....	NO	QWP4IXSAT .....	1000	QWP4PKGDEPLV .....	PACKAGE
QWP4IMPLCAST .....	NO	QWP4POOLCONTRACT .....	NO	QWP4PRLD .....	0
QWP4QA93 .....	NO	QWP4QA94 .....	NO		

**EDM POOL SIZE**

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 ZPARAM EDMPOOL in DSN6SPRM.

**Field Name:** QWP4EDPL

**IRLM PROCEDURE**

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 ZPARAM IRLMPRC in DSN6SPRM.

**Field Name:** QWP4IPRC

**TAB OWNER**

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 ZPARAM RGFCOLID in DSN6SPRM.

**Field Name:** QWP4REGC

**INST DD CTRL SUPT**

Indicates whether data definition support has been installed.

Install parameter INSTALL DD CONTROL SUPT on panel DSNTIPZ, or ZPARAM RGFINSTL in DSN6SPRM.

**Field Name:** QWP4REGI

**IRLM MODULE NAME**

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 ZPARAM IRLMSID in DSN6SPRM.

**Field Name:** QWP4ISID

### APPL TABLE

The name of the application registration table.

Install parameter APPL REGISTRATION TABLE on panel DSNTIPZ or ZPARAM RGFNMPRT in DSN6SPRM.

**Field Name:** QWP4REGA

### CTRL ALL APPLIC

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 ZPARAM RGFDEDPL in DSN6SPRM.

**Field Name:** QWP4REGD

### IRLM START TIME

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 ZPARAM IRLMSWT in DSN6SPRM.

**Field Name:** QWP4ISWT

### OBJ TABLE

The name of the object registration table.

Install parameter OBJT REGISTRATION TABLE on panel DSNTIPZ, or ZPARAM RGFNMORT in DSN6SPRM.

**Field Name:** QWP4REGO

### REQ FULL NAMES

Indicates whether registered objects require fully qualified names.

Install parameter REQUIRE FULL NAMES on panel DSNTIPZ, or ZPARAM RGFFULLQ in DSN6SPRM.

**Field Name:** QWP4REGQ

### IRLM INIT TIME

The number of seconds DB2 waits before querying whether IRLM has completed initialization.

DB2 parameter SPRMISWI in DSNMSPRM.

**Field Name:** QWP4ISWI

### INSTALL 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 ZPARAM SYSADM in DSN6SPRM.

**Field Name:** QWP4SADM

### UNREGIST DDL DFLT

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 ZPARAM RGFDEFLT in DSN6SPRM.

**Field Name:** QWP4REGU

### **IRLM AUTOSTART**

Indicates whether IRLM is started automatically by DB2.

Install parameter AUTO START on panel DSNTIPI, or ZPARAM IRLMAUT in DSN6SPRM.

**Field Name:** QWP4IAUT

### **SYSADM ID 2**

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 ZPARAM SYSADM2 in DSN6SPRM.

**Field Name:** QWP4ADM2

### **UTILITY FACTOR**

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 ZPARAM UTIMOUT in DSN6SPRM.

**Field Name:** QWP4UTO

### **IRLM TIMEOUT**

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 ZPARAM IRLMRWT in DSN6SPRM.

**Field Name:** QWP4TOUT

### **DEFAULT USERID**

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 ZPARAM DEFLTID in DSN6SPRM.

**Field Name:** QWP4DFID

### **EXPL AT AUTOBIND**

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 ZPARAM ABEXP in DSN6SPRM.

**Field Name:** QWP4ABX

### MAXIMUM DATASETS

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 ZPARAM DSMAX in DSN6SPRM.

**Field Name:** QWP4DSMX

### DATABASE NAME

The name of the database that contains the registration tables.

Install parameter REGISTRATION DATABASE on panel DSNTIPZ, or ZPARAM RGFDBNAM in DSN6SPRM.

**Field Name:** QWP4REGN

### ENABLE DATA CAPT

Indicates whether change data capture is enabled.

Install parameter DPROP SUPPORT on panel DSNTIPO. ZPARAM name is CHGDC in DSN6SPRM.

**Field Name:** QWP4CDC

### ASYNC DRAIN START

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

### SYSOPER ID

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 ZPARAM SYSOPR1 in DSN6SPRM.

**Field Name:** QWP4OPR1

**SITE TYPE**

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

**ASYNCR DRAIN STOP**

The percentage of maximum open data sets until the asynchronous drain operations are stopped.

DB2 parameter SPRMMDD in DSN6SPRM.

**Field Name:** QWP4MDDN

**SYSOPER ID 2**

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

**TRACKER SITE**

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

**ENFORCE DPROP**

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

#### **DDCS ESCAPE CHAR**

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

#### **WAIT RETAIN LOCKS**

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

#### **IMS/BMP TIMEOUT**

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

#### **BIND NEW PACKAGE**

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 ZPARAM BINDNV in DSN6SPRM.

**Field Name:** QWP4BNVA

### AUTO BIND

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 ZPARAM ABIND in DSN6SPRM.

**Field Name:** QWP4ABN

### IMS/DLI TIMEOUT

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 ZPARAM DLITOUT in DSN6SPRM.

**Field Name:** QWP4WDLI

### ENABLE DB2 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 ZPARAM AUTH in DSN6SPRM.

**Field Name:** QWP4AUTH

### MAX APPL LOCKS

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 ZPARAM NUMLKUS in DSN6SPRM.

**Field Name:** QWP4LKUS

### CACHE DYNAMIC SQL

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 ZPARAM CACHEDYN in DSN6SPRM.

**Field Name:** QWP4CDYN

### MFA UNUSED TIME

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.

#### Background and Tuning Information

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.

**Field Name:** QWP4MFAT

### AUTH CACHE SIZE

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 ZPARAM AUTHCACH in DSN6SPRM.

**Field Name:** QWP4AUCA

### REP READ U LOCK

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 ZPARAM RRULOCK in DSN6SPRM.

**Field Name:** QWP4RRU

### MAX KEPT DYN STMT

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 ZPARAM MAXKEEPD in DSN6SPRM.

**Field Name:** QWP4MXKD

**ACCEL MODELING**

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 ZPARAM QUERY\_ACCELERATION (set by the CURRENT QUERY ACCEL) must be set to NONE for accelerator modeling. All other values for the special register and ZPARAM 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

**MAX TSPACE LOCK**

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 ZPARAM NUMLKTS in DSN6SPRM.

**Field Name:** QWP4LKTS

**CURRENT DEGREE**

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 ZPARAM CDSSRDEF in DSN6SPRM.

**Field Name:** QWP4CDEG

**OPT HINTS ALLOWED**

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 ZPARAM OPTHINTS in DSN6SPRM.

**Field Name:** QWP4HINT

**SORT POOL SIZE**

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 ZPARAM SRTPOOL in DSN6SPRM.

**Field Name:** QWP4SPOL

**STATIC DESCRIBE**

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 ZPARAM DESCSTAT in DSN6SPRM.

**Field Name:** QWP4DSST

### RIDPOOL SIZE (KB)

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 ZPARAM MAXRBLK in DSN6SPRM.

**Field Name:** QWP4RMAX

### PACK AUTH CACHE

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 ZPARAM CACHEPAC in DSN6SPRM.

**Field Name:** QWP4PAC

### CONTR THREAD STOR

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 ZPARAM CONSTOR in DSN6SPRM.

**Field Name:** QWP4CONT

### MAX DEG OF PARALL

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

### RTN AUTH W/O CAT

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

### USE X LOCK

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

### STAR JOIN ENABL

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.  $2 < N \leq 32768$ .

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

### NPAGES THRESHOLD

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 NPGTHRS 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

**DBADM CREATE VIEW**

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

**MAX # LE TOKENS**

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

**MAX EXT SERV TASK**

Maximum number of extended service tasks.

**Field Name:** QWP4EST

**PROJ Z INS THRESH**

Project z insertion threshold.

**Field Name:** QWP4ZTN

**MAX NOT FOUND-HSH**

The maximum number of NOT FOUND hash records.

**Field Name:** QWP4KNFC

**FIELD PROCS T BLK**

The number of field procedures for the DESCRIBE TABLE block.

ZPARM SPRMFDP.

**Field Name:** QWP4FDP

**MANAGE THREAD STO**

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

**EVAL UNCOMMITTED**

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

### STATISTICS ROLLUP

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

### STATISTICS HIST

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

### SUPPRESS SOFT ERR

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

### REAL TIME STATS

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



**EDM STATMNT CACHE**

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

**STAR JOIN THRESH**

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

**ZOSMETRICS**

YES indicates that gathering of z/OS metrics using the RMF interface is enabled. ZPARM ZOSMETRICS in DSN6SPRM.

**Field Name:** QWP4METE

**EDM DBD CACHE**

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

### LONG RUNNING READ

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

### MAX OPEN CURSORS

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

### EDM SKEL POOLSIZE

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

### CUR MAINT TYPE

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

### PAD IDX BY DEFLT

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

### MIN DIVIDE SCALE

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

### FREE CACHED STMTS

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 KEEP DYNAMIC(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

### TEMP UNIT NAME

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

### CUR REFRESH AGE

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

### MAX DATA CACHING

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

### ONL ZPARM TYPE

The type of DB2 system parameter changed by the last SET SYSPARM statement.

**Field Name:** QWP4OZTP

### RESTORE/RECOVER

If YES, the system-level backup that is the recovery base, is from a dump on tape. Otherwise NO is shown.

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Install parameter RESTORE/RECOVER on installation panel DSNTIP6, or ZPARAM RESTORE\_RECOVER\_FROMDUMP in DSN6SPRM.

**Field Name:** QWP4RRFD

### MAX STORED PROCS

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 ZPARAM MAX\_ST\_PROC in DSN6SPRM.

**Field Name:** QWP4MXSP

### ONL ZPARAM USER ID

The user ID that made the last online change to DB2 system settings.

**Field Name:** QWP4OZUS

### INDEX I/O PARALL

In DB2 12 this field is a serviceability field.

The enablement of the index I/O parallelism ZPARAM.

**Field Name:** QWP4IIOP

### MAX TEMP STORAGE

The maximum amount of temporary storage in megabytes (MB) for each agent.

Install parameter MAX TEMP STORAGE on panel DSNTIP6 or ZPARAM MAXTEMPS in DSNTIP9.

**Field Name:** QWP4WFAL

### ONL ZPARAM CORID

The correlation ID of the online application that made the last change to DB2 system settings.

**Field Name:** QWP4OZCI

### REVOKE DEP PRIVIL

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

### MAX CONC AUTOBIND

The maximum number of package requests that can be processed simultaneously.

DB2 parameter MAX\_CONCURRENT\_PKG\_OPS in DSN6SPRM.

**Field Name:** QWP4MXAB

### ONL ZPARAM TIME

Time of the last online change made to DB2 system settings.

**Field Name:** QWP4OZTM

### 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

### **ADM SCHED JCLPROC**

The name of the JCL procedure for starting the DB2 administrative scheduler task address space.

DB2 parameter ADMTPROC in DSN6SPRM.

**Field Name:** QWP4ADMT

### **SYS-LEVEL BACKUP**

Shows if RECOVER uses system level backups as the recovery base.

Install parameter SYSTEM-LEVEL BACKUPS on installation panel DSNTIP6, or ZPARAM SYSTEM\_LEVEL\_BACKUPS in DSN6SPRM.

**Field Name:** QWP4SLBU

### **PLANMGMTSCOPE**

Controls which queries are populated in the access path repository (ZPARAM 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

### **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 ZPARAM UTILS\_DUMP\_CLASS\_NAME in DSN6SPRM.

**Field Name:** QWP4RSDC

### **MAX TAPE UNITS**

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 ZPARAM RESTORE\_TAPEUNITS in DSN6SPRM.

**Field Name:** QWP4RSMT

### **SEPARATE SECURITY**

Separate security tasks. Possible values are:

**Y**

SYSADM/SYSCTRL cannot GRANT/REVOKE

**N**

SYSADM/SYSCTRL can GRANT/REVOKE

**Field Name:** QWP4SEPSD

**SECADM1 ID**

Security administrator 1.

**Field Name:** QWP4SECA1

**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 ZPARAM SECADM1\_TYPE in DSN6SPRM.

**Field Name:** QWP4SECA1\_TYPE

**MAX TEMP 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 ZPARAM 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

**SECADM2 ID**

Security administrator 2.

**Field Name:** QWP4SECA2

**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 ZPARAM SECADM2\_TYPE in DSN6SPRM.

**Field Name:** QWP4SECA2\_TYPE

**SKIP UNCOMM INS**

YES indicates that uncommitted inserts are treated as if they have not yet been executed. The ZPARAM name is SKIPUNCI.

**Field Name:** QWP4SKUI

**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.

ZPARAM name GET\_ACCEL\_ARCHIVE in macro DSN6SPRM.

**Field Name:** QWP4CGAA

**LMT CONV PART TAB**

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 ZPARAM name is IX\_TB\_PART\_CONV\_EXCLUDE in DSN6SPRM.

**Field Name:** QWP4XPKE

**DDL TIMEOUT FACT**

Shows the time out factor of the SQL data definition. The time out value is the product of this value and the IRLMRWT value.

ZPARAM name DDLTOX in DSN6SPRM.

**Field Name:** QWP4DDLTO

**CUR QUERY ACCEL**

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

### REORG 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

### MAX UTIL PARALL

The maximum degree of utility parallelism.

**Field Name:** QWP4UMD

### ACCEL STARTUP OPT

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

### REORG IGN FREESPC

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.

**Field Name:** QWP4RIFS

### MULT INDEX ACCESS

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 ZPARAM name is SUBQ\_MIDX IN DSN6SPRM.

**Field Name:** QWP4SQMX

**ACCEL OPT**

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.

**8**

Favor new ACCELERATOR\_TYPE.

**9**

Enable uncertainty cost estimation.

**10**

Balance workload between versions.

**11**

Use only new ACCELERATOR\_TYPE.

**12**

In predicate with more than 32K elements.

**13**

Enable accelerator specific results.

ZPARAM name QUERY\_ACCEL\_OPTIONS in macro DSN6SPRM.

**Field Name:** QWP4QACO

**REORG TABSPC LIST**

Specifies the default value for the REORG TABLESPACE PARALLEL option.

- Parallel
- Serial

The ZPARAM name is REORG\_LIST\_PROCESSING in DSN6SPRM.

**Field Name:** QWP4RLPR

### OPT 1 ROW-NO SORT

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.

ZPARAM name is OPT1ROWBLOCKSORT in DSN6SPRM.

**Field Name:** QWP4O1RBS

### AUTH EXIT 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. ZPARAM name is RACF\_AUTHCHECK in DSN6SPRM.

**Field Name:** QWP4RACK

### REORG MAPPING DB

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 ZPARAM name RECORD\_MAPPING\_TABLE in DSN6SPRM.

**Field Name:** QWP4RMDB

### UTIL OBJ CONVERTS

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 (QWP4UTO1=1 and QWP4UTO2=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 (QWP4UTO1=0 and QWP4UTO2=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 (QWP4UTO1=1 and QWP4UTO2=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 ZPARAM name is UTILITY\_OBJECT\_CONVERSION in DSN6SPRM.

**Field Name:** RT0106OC

**AUTHEX CACHE REF**

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. ZPARAM name is AUTHEXIT\_CACHEREFRESH in DSN6SPRM.

**Field Name:** QWP4AE1CR

**REORG DROP 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 ZPARAM name is REORG\_DROP\_PBG\_PARTS in DSN6SPRM.

**Field Name:** QWP4RPBG

**OBJ 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

**PKG RELEASE 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 ZPARAM name is PKGREL\_COMMIT in DSN6SPRM.

**Field Name:** QWP4PKRC

### REORG KEEP DICT

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

### 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

### MAX IN-MEM SORT

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

### STATIST FEEDBACK

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

### LOAD RO OBJECTS

Specifies whether the load utility is allowed to load data into read-only target objects. Possible values are:

#### YES

Db2 utilities allow LOAD with any SHRLEVEL option to load into read-only objects.

#### NO

Db2 utilities disallow LOAD with any SHRLEVEL option to load into read-only objects.

#### Background and Tuning Information

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.

**Field Name:** QWP4LIRO

### MAX PARA DEG 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

**APPL COMPAT**

Specifies the DB2 level for downward compatibility with applications. The ZPARM name is APPLCOMPAT in DSN6SPRM.

**Field Name:** QWP4APCO\_VAR

**PCTFREE UPDATE**

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

**WF DB AGNT THRESH**

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

**LIKE BLANK INSIGN**

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

**IDX CLEANUP THRDS**

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

**WF DB SYS THRESH**

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

**D.STMT CACHE STOR**

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

**SPT01 MAX 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

### **SIMULATED CPUS**

The number of CPUs that are online.

**Field Name:** QWP4NCPU

### **MSEC OF TASK/SRB**

Specifies the microseconds of task or service request block (SRB) execution time per service unit for the simulated CPU. Use this field only for DB2 optimization modeling. A value of 0 represents OFF, which is the default. OFF indicates that DB2 optimizes for the actual CPU that it runs on and is recommended for DB2 production environments.

Before DB2 10, this field indicated the number of TCB or SRB CPU microseconds per service unit (SRU).

### **Background and Tuning Information**

Specifies the microseconds of task or service request block (SRB) execution time per service unit for the simulated CPU. Use this field only for DB2 optimization modeling. A value of 0 represents OFF, which is the default. OFF indicates that DB2 optimizes for the actual CPU that it runs on and is recommended for DB2 production environments.

Before DB2 10, this field indicated the number of TCB or SRB CPU microseconds per service unit (SRU).

**Field Name:** QWP4CPUM

### **COMPRESS SPT01**

Enables the compression of SPT01.

**Field Name:** QWP4CS01

### **UT SORT DS ALLOC**

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

### **MAX ZL DICT ENTR**

The maximum number of ZIVLEMPPEL dictionary entries.

**Field Name:** QWP4MDE

### **I/O SCHEDULING**

Determines whether the I/O scheduling feature is activated. DB2 parameter SPRMIOP in DSN6SPRM.

**Field Name:** QWP4IOP

### **UT DB2 SORT USE**

In DB2 12 this field is a serviceability field.

Enables the use of DB2 SORT.

**Field Name:** QWP4DB2SRT

### **ENABLE DB CHECK**

Enable database checking.

**Field Name:** QWP4DBCK

### **IGN SORTNUM STMT**

Ignores SORTNUM clause in utility control statements. The ZPARM name is IGNSORTN in DSN6SPRM.

**Field Name:** QWP4IGSN

### UT TEMP STORCLASS

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 are 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

### 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

### FAST REPLICATION

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

### 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

### CAT DAT DATACLASS

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

### FAST RESTORE

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

### 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 ZPARAM name is FLASHCOPY\_COPY in DSN6SPRM.

**Field Name:** QWP4FCCP

### CAT DAT MGMTCLASS

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 ZPARAM name is CATDMGCL in DSN6SPRM.

**Field Name:** QWP4CDMC

### RESTR ALT COL 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 ZPARAM name is RESTRICT\_ALT\_COL\_FOR\_DCC in DSN6SPRM.

**Field Name:** QWP4RACD

### FLASHCOPY LOAD

YES indicates that the load utility uses the subsystem parameter settings for FLASHCOPY, FCCOPYDD, and FCAUXOBS when those keywords are not present in the utility control statement. ZPARAM NAME: FLASHCOPY\_LOAD IN DSN6SPRM.

**Field Name:** QWP4FCLD

### CAT DAT STORCLASS

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 ZPARAM name is CATDSTCL in DSN6SPRM.

**Field Name:** QWP4CDSC

### SET CHECK PENDING

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 ZPARAM name is CHECK\_SETCHKP in DSN6SPRM.

**Field Name:** QWP4CSCP

### FLASHCOPY REB IX

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 ZPARAM name is FLASHCOPY\_REBUILD\_INDEX in DSN6SPRM.

**Field Name:** QWP4FCRBI

### CAT IDX DATACLASS

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 ZPARAM name is CATXDACL in DSN6SPRM.

**Field Name:** QWP4CXDC

### DISABLE EDM RTS

Hexadecimal (X'01'). YES disables the use of EDM real-time Statistics. The ZPARAM name is DISABLE\_EDMRTS in DSN6SPRM.



**Field Name:** QWP4DEDR

### FLASHCPY REORG TS

YES indicates that the Reorg Tablespace utility uses the subsystem parameter settings for FLASHCOPY, FCCOPYDDN, and FCAUXOBS when these keywords are not present in the utility control statement. The ZPARAM name is FLASHCOPY\_REORG\_TS in DSN6SPRM.

**Field Name:** QWP4FCROT

### CAT IDX MGMTCLASS

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 ZPARAM name is CATXMGCL in DSN6SPRM.

**Field Name:** QWP4CXMC

### DRDA RESOLV 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.

ZPARAM name DRDA\_RESOLVE\_ALIAS in DSN6SPRM.

**Field Name:** QWP4RSLV

### FLASHCPY REORG IX

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 ZPARAM name is FLASHCOPY\_REBUILD\_INDEX in DSN6SPRM.

**Field Name:** QWP4FCRBI

### CAT IDX STORCLASS

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 ZPARAM name is CATXSTCL in DSN6SPRM.

**Field Name:** QWP4CXSC

### MANAGE REAL STOR

Specifies whether DB2 manages real storage consumption. This field corresponds to field MANAGE REAL STORAGE on installation panel DSNTIPE. The ZPARAM name is REALSTORAGE\_MANAGEMENT in DSN6SPRM.

**Field Name:** QWP4STMN

### MAX REAL+AUX STOR

The maximum amount of real plus auxiliary storage that can be used.

A value of 0 is displayed for NOLIMIT.

The ZPARAM name is REALSTORAGE\_MAX in DSN6SPRM.

**Field Name:** QWP4RSMX

### PARALL EFFICIENCY

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

### REORDERD ROW FORM

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

### SEPAR WORK FILES

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

### PREVENT ALTER LMT

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 IDX PART

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

### RETRY STOPPED OBJ

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 ZPARAM RETRY\_STOPPED\_OBJECTS in DSN6SPRM.

**Field Name:** QWP4RSO

**EMPTY XML ELEMENT**

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.

ZPARAM name is XML\_RESTRICT\_EMPTY\_TAG in DSN6SPRM.

**Field Name:** QWP4NOET

**RENAME TABLE**

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 ZPARAM RENAMETABLE in DSN6SPRM.

**Field Name:** QWP4ERTS

**ALTERNATE CPYPOOL**

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 ZPARAM name is ALTERNATE\_CP in DSN6SPRM.

**Field Name:** QWP4BSACP

**DB BAK STG GRP**

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 ZPARAM name is UTIL\_DBBSG in DSN6SPRM.

**Field Name:** QWP4UDBSG

**LOG BAK STG GRP**

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 ZPARAM name is UTIL\_LGBSG in DSN6SPRM.

**Field Name:** QWP4ULBSG

**COPY FAST REPLIC**

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

### PAGE NUMBERING

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

### 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

### CACHE DYN STABIL

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

**SELECT FOR UNLOAD**

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:** QWP4ACSU

**DDL MATERIALIZATN**

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:** QWP4DDL M

**INDEX MEMORY CTRL**

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

**HSM MSG DS 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

**DFLT INSERT ALG**

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

**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

### **MAT 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

### **ACCEL WT FOR DATA**

Beginning with IDAA V5 PTF 6, a query can optionally wait for replication to complete instead of failing if the necessary data is not available in the accelerator. The default value for the SET CURRENT QUERY ACCELERATION WAITFORDATA special register is controlled by the QUERY\_ACCEL\_WAITFORDATA system parameter. The value range is 0.0 to 3600.0 seconds.

**Field Name:** QWP4QAWFD

### **ZHYPERLINK**

Specifies how DB2 uses z/OS zHyperLinks, which are used for synchronous I/O connections to Media Manager. In DB2 data sharing, it is recommended to use the same setting for all group members.

This field is new in DB2 12.

#### **Background and Tuning Information**

Valid values are:

#### **DISABLED**

zHyperLink I/O not used by this subsystem. This is default value.

#### **ENABLED**

DB2 requests zHyperLink protocol for all of eligible I/O requests to Media Manager.

#### **DATABASE**

DB2 requests zHyperLink protocol only for database synchronous read I/Os.

#### **ACTIVELOG**

zHyperLink will only be used for eligible I/O on active log objects.

**Field Name:** QWP4ZHYPL

### **SUBSTRING COMPAT.**

Specifies whether the SUBSTR built-in function returns error when the length argument of the function violat this documented rule: the value must be greater than or equal to 0 and less than or equal to n, where n is the length attribute of string-expression - start + 1. The values are:

#### **PREVIOUS**

An error is not returned.

#### **CURRENT**

An error is returned.

This value corresponds to field SUBSTR COMPATIBILITY on installation panel DSNTIPX. ZPARM name: SUBSTR\_COMPATIBILITY in DSN6SPRM.

**Field Name:** QWP4SUBSTRCP

### **LOAD IMPL. SCALE**

Specifies how the load utility with the format delimiter option processes decimal data that does not contain a explicit decimal point.

#### **YES**

The decimal point is determined from the scale that is specified in the field specification in the load utility control statement.

**NO**

The decimal point is placed to the right of the rightmost digit of the number.

This value corresponds to field load format delimited implicit dec scale on installation panel DSNTIP63. ZPARM name: LOAD\_DEL\_IMPLICIT\_SCALE in DSN6SPRM.

**Field Name:** QWP4LDISCALE

**FTB NON UNQE IDX**

Fast index traversal for non-unique indexes is enabled when index\_memory\_control is enabled.

**YES****NO**

This value corresponds to field FTB NON UNIQUE INDEX installation panel DSNTIP71. ZPARM name: FTB\_NON\_UNIQUE\_INDEX in DSN6SPRM.

**Field Name:** QWP4FTBUO

**UTILITY HISTORY**

Utility history.

**Field Name:** QWP4UTHIST

**LONG COLU. NAMES**

Use long column names.

**Field Name:** QWP4TCNE

**REORG IC LI. DASD**

Specifies the maximum number of sequential DASD image copies that the reorg tablespace utility can allocate. This value corresponds to field REORG IC LIMIT DASD on installation panel DSNTIP63. ZPARM name: REORG\_IC\_LIMIT\_DASD in DSN6SPRM.

**Field Name:** QWP4RICLD

**REORG IC LI. TAPE**

Specifies the maximum number of sequential tape image copies that the reorg tablespace utility can allocate. This value corresponds to field REORGI IC LIMIT TAPE on installation panel DSNTIP63. ZPARM name: REORG\_IC\_LIMIT\_TAPE in DSN6SPRM.

**Field Name:** QWP4RICLT

**REORG I. NOSYSUT1**

Specifies whether the reorg index utility avoids using the sysut1 data set or a specified work data set to hold unloaded index keys.

**YES**

Reorg index avoids using the sysut1 data set or a specified work data set to hold unloaded index keys.

**NO**

Reorg index uses the sysut1 data set or a specified work data set to hold unloaded index keys.

This value corresponds to field REORG INDEX NOSYSUT1 on installation panel DSNTIP63. ZPARM name: REORG\_INDEX\_NOSYSUT1 in DSN6SPRM.

**Field Name:** QWP4RINSU

**UTILS USE ZSORT**

Specifies whether db2 utilities attempt to use the IBM integrated accelerator for z sort interface when the utilities invoke DFSORT for their processing.

**YES**

Db2 utilities attempt to use the IBM integrated accelerator for z sort interface.

**NO**

Db2 utilities do not attempt to use the IBM integrated accelerator for z sort interface.

This value corresponds to field UTILS USE ZSORT on installation panel DSNTIP63. ZPARM name: UTILS\_USE\_ZSORT in DSN6SPRM.

**Field Name:** QWP4UZS

**BLOCK UTILS CDC**

Specifies whether certain Db2 utilities are blocked from running on tables with replication enabled, or on table spaces that contain those tables.

**YES**

Utilities are blocked.

**NO**

Utilities are not blocked.

This value corresponds to field UTILS BLOCK FOR CDC on installation panel DSNTIP6. ZPARM name: UTILS\_BLOCK\_FOR\_CDC in DSN6SPRM.

**Field Name:** QWP4UBCDC

**LOCK TIMEOUT MAX**

Specifies valid values for the CURRENT LOCK TIMEOUT statement. Possible values are:

**-1**

Any supported value can be specified.

**0 to 32767**

The maximum value that can be specified. This value corresponds to field.

This value corresponds to field LOCK TIMEOUT MAX on installation panel DSNTIPI. ZPARM name: SPREG\_LOCK\_TIMEOUT\_MAX in DSN6SPRM.

**Field Name:** QWP4LTMX

**ALLOW U/D/I W. UR**

Specifies if db2 executes a PREPARE of an INSERT, UPDATE, or DELETE statement, Db2 allows the isolation clause of the INSERT, UPDATE, or DELETE statement to include the WITH UR clause. ZPARM name: ALLOW\_UPD\_DEL\_INS\_WITH\_UR in DSN6SPRM.

**Field Name:** QWP4AUDIWU

**DISALLOW SSAR**

Disallow SSAR authorization.

**Field Name:** QWP4DSSAR

**REORG TS NOPAD DF**

Specifies the default setting for the NOPAD option of the reorg tablespace unload external or discard specification. Possible values are:

**YES**

the default is NOPAD.

**NO**

the default is not NOPAD.

This value corresponds to field REORG TS NOPAD DEFAULT on installation panel DSNTIP63. ZPARM name: REORG\_TS\_NOPAD\_DEFAULT in DSN6SPRM.

**Field Name:** QWP4RTNP



**STATCLGSRT**

Specifies the default setting for the NOPAD option of the reorg tablespace unload external or discard specification. Possible values are:

**YES**

the default is NOPAD.

**NO**

the default is not NOPAD.

This value corresponds to field REORG TS NOPAD DEFAULT on installation panel DSNTIP63. ZPARAM name: REORG\_TS\_NOPAD\_DEFAULT in DSN6SPRM.

**Field Name:** QWP4STACS

**STATPGSAMP**

Specifies the default setting for the NOPAD option of the reorg tablespace unload external or discard specification. Possible values are:

**YES**

the default is NOPAD.

**NO**

the default is not NOPAD.

This value corresponds to field REORG TS NOPAD DEFAULT on installation panel DSNTIP63. ZPARAM name: REORG\_TS\_NOPAD\_DEFAULT in DSN6SPRM.

**Field Name:** QWP4STPGS

**IX MEM CT STR LIM**

Specifies the default setting for the NOPAD option of the reorg tablespace unload external or discard specification. Possible values are:

**YES**

the default is NOPAD.

**NO**

the default is not NOPAD.

This value corresponds to field REORG TS NOPAD DEFAULT on installation panel DSNTIP63. ZPARAM name: REORG\_TS\_NOPAD\_DEFAULT in DSN6SPRM.

**Field Name:** QWP4IXMCS

**MAX USER DEF FUNC**

Determines the maximum number of external user-defined functions that are allowed for each thread to help minimize potential storage shortages. Valid entry is an integer between 0 and 99999 inclusive. The default is 2000.

**Field Name:** QWP4MXUDF

**LOCK AV SINGLESEL**

Specifies whether Db2 enables lock avoidance for singleton SELECT with ISOLATION(CS) CURRENTDATA(YES). NO : Db2 disables lock avoidance for singleton SELECT with ISOLATION(CS) CURRENTDATA (YES). This is the default setting. YES: Db2 enables lock avoidance for singleton SELECT with ISOLATION(CS) CURRENTDATA (YES).

**Field Name:** QWP4LSSIC

### 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 ZPARAM 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 ZPARAM 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 ZPARAM 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
WTO ROUTE CODES : X'8000'
BACKGROUND IDS : 50
FOREGROUND IDS : 50
STATS MAIN INTRVL : 60
RLIMIT TABLE ID : 01
RLIMIT TAB AUTHID : SYSIBM
RLF DYNAMIC ERROR : NOLIMIT
RLF STATIC ERROR : NOLIMIT
RLF AUTO START : NO
EXTENDED SECURITY : YES
WLM ENVIRONMENT : N/P
ROLLUP PARAL THRD : YES
LEVEL ID CHECKPS : 5
DEF 4K BP U.DATA : BP0
DEF 8K BP U.DATA : BP8K0
DEF 16K BP U.DATA : BP16K0
DEF 32K BP U.DATA : BP32K
DEF BP USER INDEX : BP0
DEF BP IMPL LOB : BP0
DEF BP IMPL XML : BP16K0
VARY DS CTRL INTV : YES
AGGREGATION FLDS : 0
DEFINE DATA SETS : YES
PARAMETER MODULE : DC11BIF9
ACCESS CONTROL : DSNX@XAC
IDENTIFY/AUTH : DSN3@ATH
SIGNON : DSN3@SGH
QWP1LVLC : DSN1210

          TRACETAB SIZE(4K) : 16
          LOCAL TRACETAB SZ : 16
          MONITOR BUF SIZE : 1048576
          STATS INTERVAL : 1
          PSEUDOCLOSE CHCKP : 10
          PSEUDOCLOSE MIN : 10
          CONCURRE THREADS : 200
          RLF SCOPE : DYNAMIC
          UR LOG THRESHOLD : 10000
          UR CHECK FREQ : 5
          UNIT PRICE TRACK : NO
          USER LOB VAL STOR : N/A
          SYS LOB VAL STOR : 51200
          LOB INLINE LENGTH : 0
          EXTRA BLOCKS SRV : 100
          EXTRA BLOCKS REQ : 100
          DDF/RRSAF ACCUM : 10
          DSET STATS TIME : 5
          UNICODE IFCIDS : NO
          DEL CF STRUCTS : NO
          USE DATA COMPRESS : NO
          COMPRESS SMF RECS : OFF
          MAX OPEN FILE REF : 100
          CHECKPOINT TYPE : SINGLE
          RECORDS/CHECKP : N/P
          MINUTES/CHECKP : N/P
          QWP1LVL : 99

GLOBAL CLASSES : X'00000000'
STATS CLASSES : X'BC000000'
ACCOUNT CLASSES : X'80000000'
AUDIT CLASSES : X'00000000'
MONITOR CLASSES : X'80000000'
REM THRDS(ACTIVE) : 200
REM THRDS(CONN) : 10000
LIMIT BACKOUT : AUTO
BACKOUT DURATION : 5
OTC LIC ACCEPTED : NO
USER XML VAL (KB) : N/A
SYS XML VAL (MB) : 51200
RANDOM XML DOCID : NO
SYNVAL W/IN HOUR : N/P
SYNCHR FLAG : NO
TS ALLOCATION : 0
IX ALLOCATION : 0
OPT EXTENT SIZING : NO
DEF PART SEGSIZE : 32
DSSIZE IMPL TS : 4
TRACKMOD IMPL TS : YES
RESERV Z/OS SPACE : 40960
RESERV CRIT SPACE : 26279936
RESERV SOS SPACE : 26279936
PROFILE AUTOSTART : NO
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, ZPARAM 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 ZPARAM 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 ZPARAM 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 DSNTIPI, or ZPARAM ROUTCDE in DSN6SYSP.

**Field Name:** QWP1SMRC

### LOCAL TRACETAB SZ

The size of the local trace tables in multiples of 4 KB. ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM SMFACCT in DSN6SYSP.

**Field Name:** QWP1SMFA

### BACKGROUND 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 ZPARAM 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 ZPARAM 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 ZPARAM AUDITST in DSN6SYSP.

**Field Name:** QWP1AUDT

### STATS MAIN INTRVL

The time interval in seconds, for collection of interval-driven statistics not collected at the interval specified by the STATIME subsystem parameter. This value corresponds to field MAIN STATS TIME on installation panel DSNTIPN. ZPARAM name: STATIME\_MAIN in DSN6SYSP

**Field Name:** QWP1STIMM

### 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 ZPARAM RLFTBL in DSN6SYSP.

**Prior to Db2 12:** Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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, ZPARAM 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 ZPARAM 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 ZPARAM 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 DFSS 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 ZPARAM 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 ZPARAM 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.

ZPARAM 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 ZPARAM 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 ZPARAM 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.

ZPARAM 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 desired 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 ZPARAM 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 ZPARAM 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, ZPARAM 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 ZPARAM IDXBPOOL in DSN6SYSP.

**Field Name:** QWP1IXPL

### DDF/RRSAF ACCUM

Shows whether Db2 accounting data for DDF and RRSF 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 RRSF 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 RRSF threads using the RRSF 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 RRSF 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 RRSF thread) causes Db2 to write the accumulated accounting data for all end users on this thread (one record per end user).

## IFCID 106 - System Initialization Parameters

Install parameter DDF/RRSAF ACCUM on installation panel DSNTIPN, or ZPARAM 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 ZPARAM 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 ZPARAM name is TSBPLOB 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 ZPARAM 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 ZPARAM 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 ZPARAM name is TSBPXML 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 ZPARAM 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 ZPARAM 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 ZPARAM 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.

ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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).

ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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. ZPARAM name: PROFILE\_AUTOSTART in DSN6SYSP.

**Field Name:** QWP1PFASY

## IFCID 106 - VSAM Catalog Name Qualifier

### 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: DSND07
OBID:          24  OBJECT NAME:  DSNSX02
```

#### 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        : PM050851    DEGREE        : 1        EXPLAIN       : NO      TYPE         : BIND    QUALIFIER    : HSR
COLLECT ID    : HSRTEP2VL1XXXXXXXXX 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     KEEP DYNAMIC : NO
DBPROTOCOL    : DRDA      DEFERPREPARE : N/P     OPT_HINT_IDENT : N/P     IMMEDIATE    : NO
VERSION       : V9R1
-----
LIST OF LONG NAMES
COLLECT ID    HSRTEP2VL1XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4XXXXXXXXXX5XXXXXXXXXX6XXXXXXXXXX7XXXXXXXXXX8XXXXXXXXXX9XXXXXXXXX
XXXXXXXXXXXXX1XXXXXXXXXX2XXXXXXXXX

```

**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     : PM05D85C  
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:

## IFCID 112 - Thread Allocate

### **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'   LUMSEQ: 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

**LWSEQ**

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

**TRANSACTION**

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  LWSEQ:      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'      QW01260F X'0005'      QW0126XX X'08'
QW0126R1      6      QW0126R2      7      QW0126TS X'000000000000009'
QW0126DT
0000 E3C5E2E3 40F14040 40404040 40404040 40404040 40404040 40404040 40404040 | TEST 1
0020 40404040 40404040 40404040 40404040 40404040 40404040 40404040 |
0040 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

## IFCID 128 - Page Wait I/O In Prog (End)

### 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 QW01290F X'0000'
QW0129DT
0000 00000010 00000010 0000C350 0014002B 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:** QW01400B

#### 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

## IFCID 140 - Audit Auth Failures

### 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 PRDID: JCC V3 R59 M0
AR_NAME: candlelight
GRANTOR: SKADM RETURN: 0
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:** QW01410B

**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:** QW01410T

**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.

## IFCID 144 - Audit First Read

**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 COLLECT 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 COLLECT 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 COLLECT 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 COLLECT 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.

## IFCID 147 - Instrumentation Accounting Data

**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:** QWHDSTP

### 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 540.

## 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 553.

### 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:** QWACL RN

#### **BYTES LOGGED**

The number of log record bytes written. This field is calculated from DB2 fields QWACL RAB x QWACL RN.

**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            0      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            1      STATUS INDICATOR 5:         AGENT NOT QUEUED FOR EOT TERM
!THREAD TOKEN : X'00000818'      LUWSEQ                          :      STATUS INDICATOR 6:         NOT RUNNING STORED PROCEDURE
!NESTING-LVL :                   :                                :      STATUS INDICATOR 7:         NOT WAITING FOR STORED PROC.
!NESTING ACTIVITY: NO NESTED ACTIVITY
!NETWORKID : DEIMMIPS            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

**LWSEQ**

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 RRSF

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.

## IFCID 149 - Resource Locking

**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 801.



## 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

## IFCID 150 - Held Lock Data

- 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'
ACE TOKEN          : X'00000BB9'   LOCK TYPE    : P-LOCK
LOCK DURATION      : X'00'         SUBSYSTEM NAME : SYS00003
QW0150RW: X'0C000002'   QW0150UC: X'00000000'   FUNCTION      : LOCK
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 RES TYPE: X'3F'          DBID: 25290          OBID: 51968          LOCK RESOURCE DATA
HASH TOKEN   : X'00000002'          RESOURCE ID: X'00000313123456'
```

**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

## IFCID 150 - Retained Lock Data

### 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'
ACE TOKEN          : X'00000068'      LOCK TYPE  : RETAINED
LOCK DURATION     : FREE ALL          SUBSYSTEM NAME : SUBSYS11
QW0150RW: X'000000FF'      QW0150UC: X'00000100'      FUNCTION      : UNLOCK
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

## IFCID 151 - User Record

### 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:** QW0159I5

## 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 .

## IFCID 162 - DTM Request

**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: gixer 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

## IFCID 166 - IBM Service Record

### 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

## IFCID 170 - Suspend of Agent

### 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.

```

INTERVAL COUNT:      230681  WAITERS INVOLVED:      DEADLOCK HEADER
                                                           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.

```

RESOURCE
LOCK RES TYPE: LPL RECOVERY      UNIT OF WORK
LOCK HASH VALUE: X'005859E8'     DBID: 1      OBID: 2      RESOURCE ID: X'00000313123456'
    
```

**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 : LUNID 1    LUNAME  : XXXXXXXX  OWNING WORK UNIT:      54979  UNIQUENESS VALUE: X'E7E7E7E7E7E7'
MEMBER    : BLOCKMEM  DURATION : PLAN      STATE  : PROTECTED SHARE  ACE   : 2
TRANSACTION : HOLDTRANSACTION NAME 0000000001 WS_NAME : HOLD WORKSTATION 1  END_USER: HOLDENDUSER00001
PROGRAM NAME: PGM00001  LOCATION : LOCATION00000001  PKG/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 : LUNID 1  LUNAME   : XXXXXXXX   OWNING WORK UNIT:    51683   UNIQUENESS VALUE: X'E7E7E7E7E7E7'
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'12'   WORTH SOURCE : OTHER      QW0172WG: X'30'
    
```

**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 contending the resource. It need not be the program that acquired the lock.

**Background and Tuning Information**

The name of the program that is contending the resource. It need not be the program that acquired the lock.

**Field Name:** QW0172Q5

**LOCATION**

Package collection ID of the program contending the resource. It need not be the program that acquired the lock.

**Background and Tuning Information**

Package collection ID of the program contending the resource. It need not be the program that acquired the lock.

**Field Name:** QW0172Q6

**PCKG/COLL ID**

Location of the program contending the resource. It need not be the program that acquired the lock.

**Background and Tuning Information**

Location of the program contending the resource. It need not be the program that acquired the lock.

**Field Name:** QW0172Q7

**CONS TOKEN**

Consistency token of the program contending the resource. It need not be the program that acquired the lock.

**Background and Tuning Information**

Consistency token of the program contending the resource. It need not be the program that acquired the lock.

**Field Name:** QW0172Q8

**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

**WORTH SOURCE**

Source of the waiters Db2 assigned worth value. Possible values are: GLOBAL, OTHER, N/P

**Field Name:** QW0172WAS

## 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
QW0173UT: X'00000001' QW0173AT: X'00000002' CACHED STMT ID: X'00000004'
```

#### 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 STMT 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:** QW01770H

**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      :          TRACEXXXX1XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4XXXXXXXXXXZ
    
```

## If TCP/IP V4:

```

TYPE OF EVENT : RECEIVED DISTRIBUTED DATA MESSAGE
NETWORK PROTOCOL: TCP/IP V4  SOCKET DESCRIPTOR: X'00000010'  IP ADDRESS: X'1000000000000000D3D4E7E7E7E9'
LOCAL PORT    : X'A7A7'     PARTNER PORT    : X'A7A7'
MSG LENGTH    :          52
MSG/FMH-5     :          TRACEXXXX1XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4XXXXXXXXXXZ
    
```

## If TCP/IP V6:

```

TYPE OF EVENT : RECEIVED A DISTRIBUTED DATA MESSAGE
NETWORK PROTOCOL: TCP/IP V6  SOCKET DESCRIPTOR: X'00000010'  IP ADDRESS: X'1000000000000000D3D4E7E7E7E9'
LOCAL PORT    : X'A7A7'     PARTNER PORT    : X'A7A7'
MSG LENGTH    :          52
MSG/FMH-5     :          TRACEXXXX1XXXXXXXXXX2XXXXXXXXXX3XXXXXXXXXX4XXXXXXXXXXZ
    
```

## 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
LOG READ ELAPSED  :                   0.000000 LOG RECS RETURNED :                   3      TABLES RETURNED :                   8
LOG EXTRACT ELAPSED:                   0.000000 LOG RECS CAPTURED :                   2      DATA ROWS RETURNED:                   6
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	DRDACDTA	PARSE	STATUS	DRDASUCC	CODE POINT	X'2415'	RELATIVE NUMBER	EA SECTION
EYECATCHER	RPY/RQS/OBJ	PARSE FAIL	FD SECTION	RT SECTION	LT 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 ! .....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_DESCRIPTOR_SECTION PROCESSED      1  SQLDTAGRP TRIPLETS      1      L1 X'D0' L2 X'E0' L3 X'E4' L4 X'F0'
GEOMETRY STATUS X'F000'
```

**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 DRDA0BJ TYPE X'3000'
-----
6B DSS DATA
0000 00422412 06310610 07780005 0101330C 70509100 00002501 017FFF07 78000502 | .....&j.....".....
0020 01D00676 0950000A 07780005 0301E406 71E40000 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 | .....
0020 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0040 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0060 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0080 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00A0 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00C0 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

## IFCID 192 - Previous 6A Header

### 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'
FMHS 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

## IFCID 195 - SQLDA Discrepancy

### 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: xxxxxxxxxxxxxxxxxxxx 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: D8HDA000   CONN: SERVER
NETWORKID : GA11DE90   LUNAME: P984   INSTANCE: 06DC47093936   OWNING WORK UNIT: X'14B200'
LOCK STATE: INTENT EXCLUSIVE   LOCK DURATION: COMMIT   MEMBER: D8H0
TRANSACT  : D8HDA000   WS_NAME: ih1s04   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

**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

**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      : 30      INTERVAL COUNTER: 1      INTERVAL SOURCE      : SPECIAL REGISTER
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**

HFSHORT

**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**

HFSHORT

**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

**ZPARAM INTERVAL**

The timeout interval of the ZPARAM value.

**Field Name:** QW0196TI

**INTERVAL COUNTER**

The timeout counter for this thread.

**Field Name:** QW0196TC

**INTERVAL SOURCE**

Source of timeout interval (QW0196TI). Possible values are: IRLMRWT, Special register, IRLM internal.

**Field Name:** QW0196TR

**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 DSNJ0FF3 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                      39
AVG. DELAY I/O (USEC)                 393
MAX. DELAY I/O (USEC)                 7706
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.

## IFCID 201 - Alter Buffer Pool

```
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 : 5 VPOOL VDWT THRESH : 5
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         VPOOL SIZE MAX       : 0
FRAMESIZE     : 4K          VPOOL SIZE MIN       : 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:** QDBVPMA

**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.

## IFCID 204 - DDF Partner Cold Start

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

## IFCID 205 - As Remembered by DB2

### 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.

# IFCID 206 - DDF Protocol Error

```
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'FFFFFFF'
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  60606060  | -----
RVD :
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  60606060  60606060  | -----END_0
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'0000154B527B'
LAST MESSAGE:
SENT :
0000 0001040A          | .....
RCVD :
0000 0001060A 0806    | .....
VTAM RPL:
0000 00006270 82A53958 02A57940 00000000 00000024 00000000 007E0F38 00000000 | ...&bv...v' .....=.....
0020 7F6C0033 00000000 08000000 00000000 00000000 00000000 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).I.?.....SY00CDB2IBMRDB
0040 11000000 09000000 00000000 7F66110C 00000000 00000000 00000000 00000000 | .....@.....
0060 00000000 00000000 00000000 00000000          | .....
QW0208PV 9
    
```

#### 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

## IFCID 209 - DDF Syncpoint Comm Failure

### 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

## IFCID 211 - Claim Data

### 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'
```

### 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: IPSA0811 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

## IFCID 215 - Claim Count 0 Wait Start

### 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.

## IFCID 217 - Agent Local Storage Pool Sizes

```
AGENT LOCAL STORAGE POOL SIZES
TOTAL POOL STORAGE : 0
CONNECTION NAME : DA61
WORKSTATION NAME : N/P
FIXED STORAGE POOL : NO
AUTHORIZATION ID : 'BLANK'
CORRELATION ID : 010.CS16K5
TRANSACTION NAME : N/P
VARIA STORAGE POOL: YES
STORAGE CLASS : 'BLANK' 21
PLAN NAME :
MVS SUBPOOL : 0
OWNING ASID : 261
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:

#### DSNESP RR

For SPUFI with repeatable read.

#### DSNESP CS

For SPUFI with cursor stability.

#### DSNUT IL

For utilities.

#### DSNTE P2

For DSNTEP2.

#### DSNB IN D

For binding.

#### The application plan name

For IMS.

#### The application plan name

For CICS.

#### A blank plan name

For IMS and CICS commands.

#### DSQP LAN

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

## IFCID 217 - DBM1 Storage Pool Sizes

### 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.

## IFCID 219 - Utility LISTDEF List Information

**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.

## IFCID 221 - Detail Buffer Pool Constrained Data (Section Type E)

```
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 | .....
0020 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0040 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0060 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0080 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00A0 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00C0 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00E0 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
HIGH PAGE RANGE: X'000000'
HIGH KEY RANGE:
0000 BFFFFEBF 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0020 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0040 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0060 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
0080 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00A0 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00C0 00000000 00000000 00000000 00000000 00000000 00000000 00000000 | .....
00E0 00000000 00000000 00000000 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

## IFCID 222 - Parallel Group Elapsed Time

### 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
QW02222FM          0  QW02222CS          0  QW02222PR          103  QW022220D          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'
QW02222SR          21  QW022220R          0  QW02222CT          0
.....
SUB-PIPE CREATION : 12/18/08 16:35:47.319217  SUB-PIPE ELAPSED:      0.059854
SUB-PIPE TERMINATION: 12/18/08 16:35:47.379071  TASK TOKEN      : X'7B45015C'  MEMBER      : 'BLANK'
QW02222SR          82  QW022220R          0  QW02222CT          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'
QW02230   X'008500331ACA33A0'
QW0223CL  X'00'
```

## IFCID 224 - Select Procedure Bypassed

### 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 889.

### 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 : 12836064 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
HMM 64-BIT REAL 4K FRAMES IN USE : 43047 HMM 64-BIT AUX SLOTS IN USE : 27059
HMM 64-BIT REAL 2GB FRAMES IN USE : 500 DISCARDED PAGES ELIGIBLE FOR STEAL : 5
QW0225CTPL (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:** QW0225HVGPPAGESINREAL

**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:** QW0225HVGGAUXSLOTS

**HWM 64-BIT REAL 2GB FRAMES 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:** QW0225HVPAGESINREAL2G

**DISCARDED PAGES ELIGIBLE FOR STEAL**

Number of pages that are discarded from private storage that are eligible for page steal.

**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
ATB PRIVATE CURRENT	:	5	ATB PRIVATE HIGH WATER MARK
ATB PRIVATE MAX AVAILABILITY	:	1844	
BELOW THE BAR VALUES:			
BTB PRIVATE CURRENT	:	5773596	BTB PRIVATE HIGH WATER MARK
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

## IFCID 225 - Statement Cache / XPROC Detail

### 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

## IFCID 225 - Shared/Common Storage Summary

### 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_REALAVAILLOK                 :
2952
QW0225_ESQAS                           :      146112512  QW0225_ESQA_Alloc                   :
36460240
QW0225_ESQA_HWM                        :      40098656  QW0225_ECSA_Alloc                   :
103727624
```



QW0225_ECSA_HWM	:	105048816	QW0225_ECSA_Conv	:
0	:	0		:
QW0225_RS	:	OFF	QW0225DISC	:
QW0225CTGP	:			:
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

## IFCID 225 - Storage Pool Details

### 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\_ECDSA\_CONV

This field is for IBM service.

**Field Name:** QW0225\_ECDSA\_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

## IFCID 226 - Page Latch Contention Start

### 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 is 0.

**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
DATA AREA RESIDENCY TIME:          N/A  DATA ENTRY RESIDENCY TIME :          N/A
QGBBERC                  :          0  QGBBERS                    :          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

## IFCID 231 - Parallel Group Task Time

### 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

### DATA AREA RESIDENCY TIME

Weighted average in microseconds of the elapsed time a data area resides in a group buffer pool before it is reclaimed.

**Field Name:** QBGBART

### DATA ENTRY RESIDENCY TIME

Weighted average in microseconds of the elapsed time a directory entry resides in a group buffer pool before it is reclaimed.

**Field Name:** QBGBERT

## 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.

## IFCID 233 - Call User Routine

**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'000000000000455'
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.





**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 ZHL READ ELPSD TIME      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:** QBACSWWS

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

## IFCID 239 - General Package Overflow Accounting Data

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:** QBACSI0

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

### ZHL READ ELPSD TIME

The elapsed time that was used for successful read operations that used zHyperLink.

**Field Name:** QBACSYIT

### 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.

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	OTHER REQUEST	16	DRAIN REQ. FAILED	20
MAXIMUM PAGE/ROW	LOCKS HELD						

### 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:** QTXAQRV

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

## IFCID 239 - Package/DBRM Accounting Data

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.

```
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/A      LAST EXECUTED: N/A        NON-ZERO CLASS 7: YES  ACTIVITY TYPE: NATIVE SQL PROC
PACKAGE SWITCH : 1          ROLLED NBR THRS: N/A        INCOMPAT FUNCT : NO
CLASS 7 BEGINNING STORE CLOCK TIME N/A          ENDING STORE CLOCK TIME N/A
      BEGINNING TCB CPU TIME N/A          ENDING TCB CPU TIME N/A
      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/A) 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/A
- 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/A
- The Accounting FILE and SAVE PROGRAM table: 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/A
- 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:** QPACPCAC

**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:** QPACAFG

**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

**INCOMPAT FUNCT**

The package has an incompatible function. IFCID 0366 and 0376 have information about the incompatible function.

**Field Name:** QPACINCOMPAT

**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:** QPACSC E

**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 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.

## IFCID 239 - Resource Limit Facility

**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          7          LIMIT IN CPU 16 MICROSEC          9
RES LIMIT SCOPE                  7          LIMIT IN SERVICE UNITS          8
RES LIMIT TYPE      INFINITE      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: PM05D851
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 : DSNDDB01
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: DSND806  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   : DSND806             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

## IFCID 251 - Buffer Manager PSET/Part P-Lock Request

### 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	GBPO	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		
DATA AREA RESID TIME	0	DATA ENTRY RESID TIME	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

**DATA AREA RESID TIME**

Weighted average in microseconds of the elapsed time a data area resides in a group buffer pool before it is reclaimed.

**Field Name:** QW0254AR

**DATA ENTRY RESID TIME**

Weighted average in microseconds of the elapsed time a directory entry resides in a group buffer pool before it is reclaimed.

**Field Name:** QW0254ER

**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.

## IFCID 256 - Alter Group Buffer Pool

```
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.

## IFCID 258 - Data Set Extend Activity

**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      QW0259TK X'00000000' QW0259RC X'00000008' QW0259RS X'40000000' QW0259PC X'0000'
QW0259EV X'D3'
    
```

#### 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
INIT BY SPECIAL CASTOUT :      0
INIT W/O SENDING MSG :      0
INIT BY SENDING MSG :      0
NEW RECOVERY LRSN : X'ADE91D00AD07'
OLD RECOVERY LRSN : X'ADE91B349E86'
NEW MINIMUM LRSN  : X'ADE8EE38F414'
OLD MINIMUM LRSN  : X'ADE8EE38F414'
START TIME        : 12/13/08 12:06:
ELAPSED TIME      : 00:00:00.659423
READ DIRECTORY INFO :      1
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.

## IFCID 261 - Group Buffer Pool Checkpoint

**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
READ CASTOUT STATISTICS: 9999999999
INIT BY SENDING MSG : 9999999999
INIT W/O SENDING MSG : 9999999999
CASTOUT P-LOCKS   : 9999999999
CHANGED PAGES CASTOUT: 9999999999
CHANGED PAGES IN GBP : 9999999999
CHANGED PAGES GBPOOLT: 9999999999
START TIME       : mm/dd/yy hh:mm:ss.nnnnnn
ELAPSED TIME    : hh:mm:ss.nnnnnn
FIRST CASTOUT CLASS: 99999
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 POOL 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: XXXXXXXXXXXXXXXX
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:

- O** 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 rebuilt, 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      'BLANK'
'BLANK' 'BLANK'      N/P      CONTEXT TRACE      NETWORKID: D951      LUNAME: D951      LUWSEQ: 1
-----
|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 : XXX3XXXXXXXXX4XXXXXXXXXXZ
|ENCRYPTION : CCCCCCCCCcCc
|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.

## IFCID 271 - Row Level and Column Level Access Control

### 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      : LOCATION01XXXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
PKG COLLECTION ID : COLLECTION01XXXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
PROGRAM NAME     : PROGRAM001XXXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
STO PROC LOCATION : LOCATION OF STORED PROCEDURE 01XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXXZ
STO PROC QUALIFIER : QUALIFIER OF STORED PROCEDURE 01XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXXZ
STO PROC NAME    : STORED PROCEDURE NAME 01XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXXZ
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 identifier. This is BLANK when the statement executes without a package.

**Field Name:** QW0272PC

**PROGRAM NAME**

The program name.

**Field Name:** QW0272PG

## IFCID 273 - Allocate Cursor

### 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      : LOCATION01XXXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
PKG COLLECTION ID : PACKAGE01XXXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
PROGRAM NAME     : PROGRAM001XXXXXXXX2XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
STO PROC LOCATION : LOCATION OF STORED PROCEDURE 01XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
STO PROC QUALIFIER : QUALIFIER OF STORED PROCEDURE 01XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
STO PROC NAME    : STORED PROCEDURE NAME 01XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
ALLOCATED CURSOR : ALLOCATE CURSOR NAME01XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
REAL CURSOR NAME : REAL CURSOR NAME 001XXXXXXXX3XXXXXXXX4XXXXXXXX5XXXXXXXX6XXXXXXXX7XXXXXXXX8XXXXXXXX9XXXXXXXX0X
XXXXXXXX1XXXXXXXX2XXXXXXXX
STATEMENT NUMBER :          4711 LOCATOR VALUE      :          815 CONSISTENCY TOKEN : X'F2F0F4C6C5C2F1'
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 identifier. 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.

## IFCID 305 - Table Check Constraint

EDVA EDVA DSNTEP2	BATCH EDVANKL 'BLANK'	D08B6272DA5C TSO	EDVA 10:05:31.62662556 N/P	BATCH 17	1	305	TABLE CHECK CONSTRAINT	EDVANKL NETWORKID: DEIBMIPS LUNAME: IPUAQC61 LUSWSEQ: 1 NAME: 'BLANK' TEXT: DBID: 6 OBID: 17 OPERATION: ENFORCE RESULT: OK RECORD IDENTIFIER: N/A TABLE_SPACE_TYPE : N/A CHARACTERS: N/A
...								
EDVA EDVA DSNTEP2	BATCH EDVANKL 'BLANK'	D0AEE0499CB1 TSO	EDVA 15:35:09.09492137 N/P	BATCH 85	2	305	TABLE CHECK CONSTRAINT	EDVANKL NETWORKID: DEIBMIPS LUNAME: IPUAQC61 LUSWSEQ: 2 NAME: F2 TEXT: DBID: 276 OBID: 19 OPERATION: ENFORCE RESULT: REJ RECORD IDENTIFIER: X'00000201' TABLE_SPACE_TYPE : R PARTITION: 2 CHARACTERS: X'0080000000000003E900E5F0404040' 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 FIELDS: -----
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 UNCOMMITTED 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 : RRSAP 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 : RRSAP
    
```

**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

## IFCID 313 - Uncommitted Unit of Recovery

- 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
ACCE UTOKEN      : UTOKEN01XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
PARAMETER LIST   :
0000 C1C2C3C4 C5C6C7C8 C9A0A0A0 40404040 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.

## IFCID 316 - SQL Statement Statistics

**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'
LITERAL REPLACEMENT : NO
STATUS              : INVALIDATED BY DROP OR ALTER
STATEMENT IDENTIFIER : 593
LINE NUMBER         : 0
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
TIME STATEMENT UPDATED IN CACHE : 12/22/10 11:36:42.874778
IN STORE CLOCK FORMAT : X'C710D9CFD18F1F1A'
IN STORE CLOCK FORMAT : X'20101222113642874778'

STATEMENT COPIES      : 0
SYNCH BUFFER READS   : 0
CURRENT USERS        : 0
TABLESPACE SCANS     : 0
ROWS EXAMINED       : 0
SORTS                : 0
ACCUMULATED CPU TIME : 0.000210
STATEMENT EXECUTIONS : 1
SYNCH BUFFER WRITES : 0
GETPAGE OPERATIONS  : 2
PARALLEL GROUPS CREATED : 0
ROWS PROCESSED      : 1
INDEX SCANS         : 0
ACCUMULATED ELAPSED TIME : 0.000218

STABILIZED STMT ID   : 121
HASH-ID              : X'7074620275690619425A2A4A5B2E2332'
HASH-ID VERSION      : 1
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 OV - NO POOL STOR AVAIL: 0
HJA - NO POOL STOR AVAIL : 0
RL RETRIEVAL IA SKIPPED : 0
RL NOT USED NO STOR AVAIL : 0
RL OV - RIDS EXCEED LIMIT : 0
HJA - RIDS EXCEED LIMIT : 0

ACCUMULATED WAIT TIMES
READ BY OTHER THREAD : 0.005985
WRITE BY OTHER THREAD : N/P
GLOBAL LOCKS        : N/P
LATCH REQUEST       : N/P
DRAIN LOCK          : N/P
LOG WRITER          : N/P
WAIT CHILD L-LOCKS  : 0.100000
WAIT P/P P-LOCKS    : 0.100000
WAIT OTHER P-LOCKS  : 0.100000
WAIT PARALLEL QUERIES : N/A
SYNCH EXECUTION UNIT SWITCH: N/P
SYNCHRONOUS I/O     : 0.008773
LOCK AND LATCH REQ  : N/P
PAGE LATCH          : N/P
DRAIN WAITING FOR CLAIM REL: N/P
WAIT OTHER L-LOCKS  : 0.100000
WAIT PAGE P-LOCKS   : 0.100000
WAIT PIPE           : N/A

CURRENT DATA BIND OPTION : NO
CURRENT PRECISION SPEC REG: DEC15
CURRENT DEGREE SPECIAL REG: 1
CURRENT RULES SPECIAL REG : DB2
CURSOR WITH HOLD         : NO
DYNAMIC RULES BIND OPTION : RUN
ISOLATION BIND OPTION    : CURSOR STABILITY
DSG MEMBER               : 'BLANK'

TRANSACTION NAME : db2jcc_application
SIGNON USER ID  : skadm
WORKSTATION ID   : cand1elight
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 CPU TIME : 0.000001
ACCUMULATED ELAPSED TIME : 0.042998
ACCUMULATED QUEUE WAIT TIME : 0.000000
WAIT TIME FOR 1ST ROW : 0.061247
HTAP TIMEOUTS : 0
ACCUMULATED # ROWS RETURNED : 7
ACCUMULATED # BYTES RETURNED : 454257
ACCUMULATED EXECUTION TIME : 0.118118
WAIT TIME FOR DB2 : 0.401856
ACCUMULATED WAIT FOR HTAP : 0.334567
    
```

**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 KEEP DYNAMIC(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 the 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-XXXXX2XXXXXXXXXX3XXXXXXXXXX4XZ
```

### 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 LUMSEQ: 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 : NON ENCRYPTED PROFILE ACTION : WARNING
FLAGS: SECURITY MECHANISM : ENCRYPT UID PW
- USER REGISTRY NAME: NO
- AES IS USED: NO
IPV6 ADDRESS : X'00000000000000000000000000000000FFFF099D8419'
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
- CERTIFICATE
- NON ENCRYPTED
- PASS TICKET

**Field Name:** QW0319TY

### PROFILE ACTION

Profile action taken if this record is due to MONITOR CONNECTIONS FOR SECURITY:

- W=Warning
- E=Exception

**Field Name:** QW0319PA

### SECURITY MECHANISM

The security mechanism used. Possible values are:

- User ID (UID) and password (PW)
- User ID, password and new password.

- User ID only
- User ID and encrypted password
- 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

#### **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

## IFCID 322 - Force-at-Commit End

### 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
PROGRAMME    : 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

### PROGRAMME

The program name.

**Field Name:** QW0324PG



**CONSYS\_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

## IFCID 325 - Trigger Activation

### 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 01XXXXXXXXXXXXXXXXXXXX3XXXXXXXXXXXX4XXXXXXXXXXXX5XXXXXXXXXXXX6XXXXXXXXXXXX7XXXXXXXXXXXX8XXXXXXXXXXXX9XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
PROG NAME        : PROGRAM001XXXXXXXXXXXX2XXXXXXXXXXXX3XXXXXXXXXXXX4XXXXXXXXXXXX5XXXXXXXXXXXX6XXXXXXXXXXXX7XXXXXXXXXXXX8XXXXXXXXXXXX9XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
TRIGGER NAME     : TRIGGER NAME 01XXXX2XXXXXXXXXXXX3XXXXXXXXXXXX4XXXXXXXXXXXX5XXXXXXXXXXXX6XXXXXXXXXXXX7XXXXXXXXXXXX8XXXXXXXXXXXX9XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
EXT_TRIGGER NAME : EXTERNAL TRIGGER 001XXXXXXXXXXXX3XXXXXXXXXXXX4XXXXXXXXXXXX5XXXXXXXXXXXX6XXXXXXXXXXXX7XXXXXXXXXXXX8XXXXXXXXXXXX9XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
SCHEMA NAME      : SCHEMA0001XXXXXXXXXXXX2XXXXXXXXXXXX3XXXXXXXXXXXX4XXXXXXXXXXXX5XXXXXXXXXXXX6XXXXXXXXXXXX7XXXXXXXXXXXX8XXXXXXXXXXXX9XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
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:  XXXXXXXXXXXX  REQUEST TYPE:  XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  ASYNC. WAIT TIME:  999999999
```

#### 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 PRI0 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      : INTENDED EXCLUSIVE LOWER LOCK TYPE : PAGE LOCK  NUMBER LOWER LOCKS:    2001
STATEMENT ID    :                    774 STATEMENT TYPE : DYNAMIC    ESC LOCK PART NUM :      1
COLLECTION ID   : NULLID
PACKAGE NAME    : SYSLH200          NUM OTHER PART ESC:      0
```

**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

**STATEMENT ID**

The waiter statement ID.

**Field Name:** QW0337SI

**STATEMENT 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

**ESC LOCK PART NUM**

Lock partition number that triggered escalation.

**Field Name:** QW0337PT

**NUM OTHER PART ESC**

Number of other partitions escalated.

**Field Name:** QW0337PC

**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      PACKAGE COLLECTION ID: 'BLANK'      PACKAGE NAME      : 'BLANK'      PLAN NAME: 'BLANK'
AUTH. ID                    : 'BLANK'
MAX TEMP STORAGE:          99      CURRENT WORKFILE SIZE:
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
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901
2345678901234567890123
```

### 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: QMPDB51          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          INCOMPAT FUNCT : NO
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/A) 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/A
- 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/A
- The Accounting FILE and SAVE PROGRAM table: 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/A
- 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:** QPACAFG

**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

**INCOMPAT FUNCT**

The package has an incompatible function. IFCID 0366 and 0376 have information about the incompatible function.

**Field Name:** QPACINCOMPAT

**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:** QPACSCS

**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   :
STMT TYPE    : N/A          CCSID      :
SQL LENGTH: 0
SQL STATEMENT:

```

**OPTIONS**

Shows the parser options and host language.

**Field Name:** QW03500T

**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

## IFCID 331 - IBM Service Record

### 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 INSTNTYPE RECORD TIME DESTNO ACE IFC DESCRIPTION DATA
PLANNAME CORRNMBR TCB CPU TIME ID 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' C3F0C1F8C2F4C3C34BD2C2C5F9130403052550404040' REQUEST TYPE : GET
07:03:39.89253200 654661 1 351 WAIT TCPIP LOB java
1.18259834 REQUESTING LOCATION: 192.168.180.204 NETWORKID: C0A8B4CC LUNAME: KBE9 LUWSEQ: 1
REQUESTING TIMESTAMP: N/P AR NAME: cfpamst5.prod.fe PRDID: CLNT/SER V8 R2 M0
ACCTKN X' C3F0C1F8C2F4C3C34BD2C2C5F9130403052550404040' REQUEST TYPE : CLOSE
07:04:39.89253200 654661 1 351 WAIT TCPIP LOB java
1.18259834 REQUESTING LOCATION: 192.168.180.204 NETWORKID: C0A8B4CC LUNAME: KBE9 LUWSEQ: 1
REQUESTING TIMESTAMP: N/P AR NAME: cfpamst5.prod.fe PRDID: CLNT/SER V8 R2 M0
ACCTKN X' C3F0C1F8C2F4C3C34BD2C2C5F9130403052550404040' 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'ABCDEFFFFFFFFF'
```

#### 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    REASON 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 :          N/P
IN MEM WORKFILE : N              INPUT RID IN WKF : N          OUTPUT RID IN WKF: N
TOTAL INPT ELEM #:          4          TOTAL RECORDS # :          4      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

This topic shows detailed information about "Record Trace - IFCID 365 - Remote Location Statistics"

IFCID 0365 records 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

The field labels shown in the following sample layout of "Record Trace - IFCID 365 - Remote Location Statistics" are described in the following section.

REMOTE LOCATIONS STATISTICS			
SECTIONS IN RECORD .....	2	ANOTHER IFCID365 FOLLOWS ...	NO
DDF DATA BY LOCATION			
LOCATION NAME (SHORT) .....	::FFFF:10.15.60.	PRDID REMOTE LOCATION .....	JCC03720
LOCATION NAME (LONG) .....	::FFFF:10.15.60.28		
INITIATED CONNECTIONS .....	0	DEALLOCATED CONNECTIONS .....	0
INITIATED FROM REMOTE SITE ..	2		
MESSAGES SENT TO REMOTE .....	29	MESSAGES RECV FR REMOTE .....	29
SQL STMTS SENT TO REMOTE .....	0	SQL STMTS RECV FR REMOTE .....	19
BYTES SENT TO REMOTE .....	35584	BYTES RECV FR REMOTE .....	3772
ROWS SENT TO REMOTE .....	21	ROWS RETRIEVED FR REMOTE .....	0
BLOCKS TRANSMITTED .....	12	BLOCKS RECEIVED .....	0
COMMIT REQUESTS SENT .....	0	COMMIT REQUESTS RECEIVED .....	8
ABORT REQUESTS SENT .....	0	ABORT REQUESTS RECEIVED .....	0
INDOUBT THREADS .....	0	CONN REQUESTS QUEUED .....	0
REST REQUESTS .....	0	KEEPDYNAMIC PACKAGES USED ..	0
SET SPECIAL REGISTERS .....	0	HIGH PERFORMANCE DBATS USED:	0
SET GLOBAL VARIABLES .....	0	HELD LOB LOCATOR(S) .....	0
SYSPLEX BALANCING USED .....	0	STORED PROCEDURE COMMITS ..	0
TLS/SSL USED .....	0	CONDBAT REACHED .....	0
TRUSTED CONTEXT USED .....	0	PROFILE EXCEPTIONS .....	0
AES ENCRYPTION USED .....	0	MAXCONQ REACHED .....	0
XA GLOBAL TRANSACTION USED ..	0	MAXCONQW REACHED .....	0
DRDA ENCRYPTION USED .....	0	THREADS QUEUED (PROFILE) ..	0
UID/PWD AUTH USED .....	2	THRDS TERMINATED (PROFILE) ..	0
KERBEROS AUTH USED .....	0	REMOTE THREADS ABENDED .....	0
CLIENT CERT AUTH USED .....	0	CONNECTIONS (SNAPSHOT) .....	0
FAILED SEC AUTH .....	0	CONNECTIONS (INT. HWM) .....	2
WITH HOLD CSR NOT CLOSED .....	0	ACTIVE THREADS (SNAPSHOT) ..	0
DGTT NOT DROPPED .....	0	ACTIVE THREADS (INT. HWM) ..	1
MULTIFACTOR AUTH USED .....	0	REMOTE THREADS CANCELLED .....	0
THRDS TERMINATED (POOLINAC) ..	0	THRDS TERMINATED (CONN LOSS) ..	0

#### SECTIONS IN RECORD

Provides the number of QLST sections that are part of this IFCID 365 record.

**Field Name:** QW0365NO

#### ANOTHER IFCID365 FOLLOWS

This bitcounter indicates if another IFCID 365 is shown in the Db2 trace data.

**Field Name:** QW0365FL

#### 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 CONNECTIONS

The number of connections that were initiated from the requester site to the remote site. This value is maintained at the requester site.

A connection is a specific instance of using TCP/IP or SNA LU 6.2 to transfer information between a requester and a server. It is a logical connection between a requester and a server.

**Field Name:** Db2 field QLSTCNVS

#### **INITIATED FROM REMOTE SITE**

The number of connections that were initiated from the requester to the server location. This value is updated at the server location.

**Field Name:** Db2 field 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:** Db2 field 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:** Db2 field 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:** Db2 field 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:** Db2 from field QLSTROWS

#### **BLOCKS TRANSMITTED**

The number of blocks transmitted using block fetch. This value is maintained at the server location.

**Field Name:** Db2 field 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:** Db2 FIELD QLSTCOMS

#### **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:** Db2 FIELD QLSTABRS

#### **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:** Db2 field QLSTINDT

#### **REST REQUESTS**

Number of times that a connection from the remote site invoked a rest service.

**Field Name:** QLSTNREST

#### **SET SPECIAL REGISTERS**

Number of times that a connection from the remote site caused a system monitoring profile to set special registers.



**Field Name:** QLSTNSSR

#### **SET GLOBAL VARIABLES**

Number of times that a connection from the remote site caused a system monitoring profile to set global variables.

**Field Name:** QLSTNSGV

#### **SYSPLEX BALANCING USED**

Number of connections from the remote site using sysplex workload balancing.

**Field Name:** QLSTNWLB

#### **TLS/SSL USED**

Number of connections from the remote site configured with SSL and AT/TLS support.

**Field Name:** QLSTNTLS

#### **TRUSTED CONTEXT USED**

Number of connections from the remote site under control of a trusted context.

**Field Name:** QLSTNTRS

#### **AES ENCRYPTION USED**

Number of connections from the remote site using AES encryption.

**Field Name:** QLSTNAES

#### **XA GLOBAL TRANSACTION USED**

Number of connections from the remote site under control of an XA global transaction.

**Field Name:** QLSTNXA

#### **DRDA ENCRYPTION USED**

Number of connections from the remote site using DRDA data encryption.

**Field Name:** QLSTNENC

#### **UID/PWD AUTH USED**

Number of connections from the remote site using userid and/or password authentication.

**Field Name:** QLSTNPWD

#### **KERBEROS AUTH USED**

Number of connections from the remote site using kerberos authentication.

**Field Name:** QLSTNKER

#### **CLIENT CERT AUTH USED**

Number of connections from the remote site using client certificate authentication.

**Field Name:** QLSTNCCA

#### **FAILED SEC AUTH**

Number of times that a connection from the remote site had security authentication failures.

**Field Name:** QLSTFSEC

#### **WITH HOLD CSR NOT CLOSED**

Number of times that cursors defined with HOLD prevented thread pooling.

**Field Name:** QLSTHCRSR

**DGTT NOT DROPPED**

Number of times where the existence of active declared global temp tables prevented thread pooling.

**Field Name:** QLSTDGTT

**MULTIFACTOR AUTH USED**

Number of connections from the remote site using multifactor authentication.

**Field Name:** QLSTNMFA

**THRDS TERMINATED (POOLINAC)**

Number of times that threads used by connections from remote site were terminated after high performance DBAT remained in pool longer than POOLINAC (or 120 seconds if POOLINAC=0).

**Field Name:** QLSTNTPLH

**PRDID REMOTE LOCATION**

The product ID and version of the remote location.

**Field Name:** QLSTPRID

**DEALLOCATED CONNECTIONS**

The number of connections that were deallocated from this site to the remote site if Db2 was requester. Otherwise, the number of connections received by Db2 from the remote site which were terminated as incomplete.

**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:** Db2 field QLSTMSGGR

**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:** Db2 field 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:** Db2 field QLSTBYTR

**ROWS RETRIEVED FR REMOTE**

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

- 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:** Db2 FIELD 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:** Db2 field 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:** Db2 FIELD QLSTCOMR

#### **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:** Db2 FIELD QLSTABRR

#### **CONN REQUESTS QUEUED**

The number of connection requests queued by the distributed data facility that were waiting for allocation or waiting for a DBAT because MAXDBAT was exceeded. This value is maintained at the requester location.

##### **Note:**

When this value is high, increase the limit for the number of connections.

**Field Name:** Db2 field QLSTCNVQ

#### **KEEPDYNAMIC PACKAGES USED**

Number of times where the usage of keepdynamic packages prevented thread pooling.

**Field Name:** QLSTKPDYN

#### **HIGH PERFORMANCE DBATS USED**

Number of times where the usage of high performance DBATs prevented thread pooling.

**Field Name:** QLSTHIPRF

#### **HELD LOB LOCATOR(S)**

Number of times where the existence of active held lob locators prevented thread pooling.

**Field Name:** QLSTHLOBLOC

#### **STORED PROCEDURE COMMITS**

Number of times where a stored procedure issued commit prevented thread pooling.

**Field Name:** QLSTSPCMT

#### **CONDBAT REACHED**

Number of connections from the remote site that were terminated due to CONDBAT being reached.

**Field Name:** QLSTCNVTC

#### **PROFILE EXCEPTIONS**

Number of connections from the remote site that were terminated due to system monitoring profile exception.

**Field Name:** QLSTCNVTP

**MAXCONQN REACHED**

Number of connections from the remote site that were terminated due to MAXCONQN being reached.

**Field Name:** QLSTCNVTQN

**MAXCONQW REACHED**

Number of connections from the remote site that were terminated due to MAXCONQW being reached.

**Field Name:** QLSTCNVTQW

**THREADS QUEUED (PROFILE)**

Number of times where threads used by connections from the remote site were queued due to a system monitoring profile exception.

**Field Name:** QLSTNTHDPQ

**THRDS TERMINATED (PROFILE)**

Number of times where threads used by connections from the remote site were terminated due to a system monitoring profile exception.

**Field Name:** QLSTNTHDPT

**REMOTE THREADS ABENDED**

Number of times where threads used by connections from the remote site abended.

**Field Name:** QLSTNTHDA

**CONNECTIONS (SNAPSHOT)**

Current number of active connections from this location.

**Field Name:** QLSTN CNV

**CONNECTIONS (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

**ACTIVE THREADS (SNAPSHOT)**

Current number of active threads in use by this location.

**Field Name:** QLSTNTHD

**ACTIVE THREADS (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

**REMOTE THREADS CANCELLED**

Number of times where threads used by connections from the remote site were canceled.

**Field Name:** QLSTNTHDC

**THRDS TERMINATED (CONN LOSS)**

Number of times that threads used by connections from the remote site were terminated after TCP socket closed due to connection loss.

**Field Name:** QLSTNTILS

## 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
                :          2819 SECTION  :          1 PLAN_NAME QUERY: DSNTEP3
STMT NBR QUERY :          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.

The following data sections provide information for each connection type that is listed in DATA SECTION 2 - CONNECTION TYPES:

- DATA SECTION 3: ACCOUNTING DATA
- DATA SECTION 4: ACCOUNTING DATA OVERFLOW

**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)
GROUP: N/P                                     RECORD TRACE - LONG
MEMBER: N/P                                     PAGE: 1-1
SUBSYSTEM: D6Y0                                REQUESTED FROM: NOT SPECIFIED
DB2 VERSION: V10                               TO: NOT SPECIFIED
PRIMAUTH CONNECT INSTANCE END_USER WS_NAME TRANSACT
ORIGAUTH CORRNAME CONNTYPE RECORD TIME DESTNO ACE IFC DESCRIPTION DATA
PLANNAME CORRNMBR TCB CPU TIME ID DESCRIPTION DATA
-----
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
TIMESTAMP WHEN ENABLED: 07/10/13 07:14:32.981817
TIMESTAMP WHEN DISABLED: 07/09/13 14:50:57.335291
ACTUAL FROM: 07/10/12 07:18:00.09
PAGE DATE: 07/10/12
-----
DATA SECTION 2: CONNECTION TYPES
CONNECTION TYPE 1: UTILITY
CONNECTION TYPE 2: BATCH
CONNECTION TYPE 3: RRSF ATTACH
CONNECTION TYPE 4: DDF CONNECTION
-----
ACCOUNTING DATA FOR TYPE: 1
CLASS 1 BEGINNING STORE CLOCK TIME INSTRUMENTATION ACCOUNTING DATA
ELAPSED TIME 19.770758 N/P ENDING STORE CLOCK TIME 01/02/00 00:00:19.770757
BEGINNING MVS TCB TIME 0.000000 MVS TCB TIME 1.138304
STORED PROC ELAPSED TIME 0.000000 ENDING MVS TCB TIME 1.138304
STORED PROCEDURE TCB TIME 0.000000 CONVERSION FACTOR 0
UDF ELAPSED TIME 0.000000 PAR.TASKS: 97 PAR.TOKEN: X'00000000
UDF TCB TIME 0.000000 COMMITS : 5090 SVPT REQ.: 0
NETWORK ID VALUE 'BLANK' ROLLBACKS: 1 SVPT RLB.: 0
REASON ACCT INVOKED: 0 PROGRAMS : 0 SVPT REL.: 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
    
```

# IFCID 331 - IBM Service Record

CLASS	LOCK/LATCH(DB2+IRLM) SUSP TIME	WAIT TIME LOCAL LOCKS	N/A	0.013750	LOCK/LATCH(DB2+IRLM) SUSP EVENTS	N/A	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'	1 369	AGGR ACCOUNTING		
SYSOPR	016.WVSM	'BLANK'	07:18:00.09381935	41903		STATISTICS		
'BLANK'	T 01	N/P						
	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 . . . : DSNCO00.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:** QW03700P

## 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
ACE ADDRESS . . . . : X'1602D430'
PART NUMBER . . . . : X'00000001'
OPENED DATA SETS : 47
DATABASE ID . . . . : 274
INSTANCE NUMBER . . : X'00000001'
DEALLOC TIME . . . . : 0.000424
FLAGS . . . . . : X'02'
OBID . . . . . : 2
DSMAX . . . . . : 500
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".

IFCID 0376 is a serviceability trace. It can be used to identify SQL statements with potential incompatible changes when switching to the new application behavior (e.g V11R1). This trace record is written once for each unique dynamic cached statement and static statement if it was bound on V10 NFM or later. For static statements that are bound before V10 NFM, this trace record will be externalized once per unique combination of: plan, package ID, statement number.

Note that it is not practical to maintain history of every SQL that has been processed, and therefore, it is possible that more than one trace record will be written for the same statement. This should be a rare occurrence.

This trace record is similar to IFCID 0366 trace record except the IFCID 0366 trace could be written much more frequently, since it does not perform uniqueness checking. For instance, when the same dynamic SQL statement is executed by several threads (or repeatedly by the same thread) multiple IFCID 0366 records would be written, but only one IFCID 0376 record would be written. See IFCID 0366 description for additional information.

**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**

Incompatibility type numeric representation. This number meaning further explained in the REASON field description.

**Field Name:** QW0376FNT

**REASON**

The incompatible change indicator. 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
- 7**  
Unsupported implicit cast of input host variables
- 8**  
Server returned output data match the data types of call args
- 9**  
Ignore time zone in hostvar BIND in TMSTZ data type to TMS
- 10**  
V9 LTRIM(string-expr), RTRIM(string-expr) or STRIP(string-expr)
- 11**  
Illegal SELECT INTO with a SET operator is being bound
- 13**  
Insert, update or delete is prepared with WITH UR attribute
- 14**  
Invalid argument to SUBSTR function
- 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
- 1112**  
Empty XML element is serialized to <X></X>
- 1201**  
Pre-V12 POWER function returned -802 (out of range)
- 1215031**  
SYSTEM-PERIOD temporal table defined with ON DELETE ADD EXTRA ROW
- 1215032**  
SET\_MAINT\_MODE\_RECORD\_NO\_TEMPORALHISTORY is deprecated

**1204**

CURRENT\_SERVER or CURRENT\_TIMEZONE is used as a col name or var name

**1315001**

Default MAXPARTITIONS is set to 254

**1315031**

Row change timestamp is changed to the ALTER TABLE statement timestamp

**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.

**Background and Tuning Information**

The QW0376FN field indicates the type of incompatible change as:

**QW0376FN = 1**

Indicates that the pre Version 10 CHAR built-in function has been invoked. There is an incompatible change to the output of the CHAR function for some decimal data. The zparm BIF\_COMPATIBILITY and/or the SYSCOMPAT\_V9 schema have been used by this application to get the old behavior. Please make the appropriate changes and rebind with the SYSCURRENT schema to use the Version 10 CHAR(decimal) built-in function. (PM29124 V10 only, usermod V8/V9)

**QW0376FN = 2**

Indicates that the pre Version 10 VARCHAR built-in function or CAST(decimal AS CHAR or VARCHAR) has been invoked.

**QW0376FN = 3**

Indicates that an unsupported character representation of a timestamp string was used. PM48741 V10 only.

**QW0376FN = 7**

A QW0376FN 7 record indicates that DB2 for z/OS server issued a SQLCODE -301 for incompatible data type conversion from string data type (e.g. CHAR, VARCHAR, GRAPHIC, VARGRAPHIC etc.) to numeric data type in V10 CM mode when implicit cast is not supported or V10 NFM mode when DDF\_COMPATIBILITY zparm is set to DISABLE\_IMPCAST\_NJV or SP\_PARMS\_NJV to disable implicit cast, and the client is CLI driver or v11 NFM mode and APPLCOMPAT = V10R1 when DDF\_COMPATIBILITY is set to SP\_PARMS\_NJV or DISABLE\_IMPCAST\_NJV to disable implicit cast either from string data type to numeric or from numeric data type to string data type.

**QW0376FN = 8**

A QW0376FN 8 record indicates that DB2 for z/OS server returned output data match the data types of the corresponding CALL statement arguments when DDF\_COMPATIBILITY zparm is set to SP\_PARMS\_NJV or SP\_PARMS\_JV or both.

**QW0376FN = 9**

A QW0376FN 9 record indicates that DB2 for z/OS server ignores the TIMEZONE part in the input of TIMESTAMP WITH TIMEZONE data type when the client application using IBM Java Data Server driver is binding a TIMESTAMP WITH TIMEZONE input into a TIMESTAMP target and DDF\_COMPATIBILITY zparm is set to IGNORE\_TZ. Note that in DB2 Version 11, IGNORE\_TZ is effective only if application compatibility is set to V10R1.

**QW0376FN = 10**

A QW0376FN 10 record indicates that pre-version 10 function for LTRIM, RTRIM or STRIP has been executed.

**QW0376FN = 11**

A QW0376FN 11 record indicates that an illegal SELECT INTO with a set operator is being bound.

**QW0376FN = 13**

A QW0376FN 13 record indicates that Insert, update or delete is prepared with WITH UR attribute.

**QW0376FN = 14**

A QW0376FN 14 record indicates that the value of the argument of the SUBSTR built-in function was invalid.

**QW0376FN = 1101**

Indicates that the INSERT statement that inserts into an XML column without XMLDOCUMENT function has been processed (which should result in SQLCODE -20345 when run on DB2 release prior to V11). Starting with V11, SQL error will no longer be issued. Application will no longer receive SQLCODE for this statement.

**QW0376FN = 1102**

Indicates that V10 XPath evaluation behavior was in effect which resulted in an error. For instance, a data type conversion error could have occurred for a predicate that would otherwise be evaluated to false. Starting from V11, such "irrelevant" errors might be suppressed so an application might no longer receive the SQLCODE for this statement.

**QW0376FN = 1103**

Indicates that a dynamic SQL uses the ASUtime limit that has been set for the entire thread for RLF reactive governing. For instance, when a dynamic SQL is processed from package A, if the ASUtime limit is already set during other dynamic SQL processing from package B in the same thread, the SQL from package A will use the ASUtime limit set during the SQL processing from package B. Starting with v11, dynamic SQLs from multiple packages will use the ASUtime limit that is set considering its own package information.

**QW0376FN = 1104, 1105, 1106, 1107**

Indicates that CLIENT special register (CLIENT\_USERID, CLIENT\_WRKSTNNAME, CLIENT\_APPLNAME, CLIENT\_ACCTNG) has been set to a value that is longer than what is supported prior to V11. A shorter value has been used instead.

**QW0376FN = 1108**

Indicates that CLIENT special register (CLIENT\_USERID, CLIENT\_WRKSTNNAME, CLIENT\_APPLNAME, CLIENT\_ACCTNG) has been set to a value that is longer than what is supported prior to V11. Truncated values up to the supported lengths prior to v11 have been used for RLF table search instead.

**QW0376FN = 1109**

Indicates that CAST(string AS TIMESTAMP) was processed for the input string of length 8 and input was treated as a store clock value (or input string was of length 13 and was treated as a GENERATE\_UNIQUE value). This behavior is incorrect for a CAST and is valid for TIMESTAMP built-in function only. This behavior is being corrected in DB2 11 so that input to CAST is not treated as a store clock value nor GENERATE\_UNIQUE.

**QW0376FN = 1110**

Indicates the integer argument of SPACE function is greater than 32764.

**QW0376FN = 1111**

Indicates the optional integer argument of VARCHAR function has a value greater than 32764.

**QW0376FN = 1112**

Indicates the empty XML element is serialized to <X></X> instead of <X/>.

**QW0376FN = 1201**

Indicates that pre-v12 POWER BIF returned SQLCODE = -802 for out of range. The SQLCODE is +802 starting v12.

**QW0376FN = 1301**

Indicates that default MAXPARTITIONS will be changed to 254.

**QW0376FN = 1315031**

Indicates that row change timestamp for existing rows will be changed to the ALTER TABLE statement timestamp.

**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

**SCHEMA NAME**

Schema name.

**Field Name:** QW0376SC

**SPECIFIC NAME**

Specific name.

**Field Name:** QW0376PR

**INCOMPAT PARMS**

The ordinal number of output parm (if fn8) or input parm (if fn7), source datatype, target datatype.

**Field Name:** QW0376INC

**SQL TEXT**

SQL statement text. Full SQL text length in this field can be as big as 4000 bytes.

**Field Name:** QW0376SQL

**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 ORIGAUTH PLANNAME	CONNECT CORRNAME CORRNMBR	INSTANCE CONNNTYPE	END_USER RECORD TIME TCB CPU TIME	WS_NAME DESTNO ACE	IFC ID	DESCRIPTION	TRANSACTION DATA
SYSOPR SYSOPR 'BLANK'	DB2B 014.IDAE MK01	CB6EA03AAC12 'BLANK'	N/P 11:47:21.66633960 N/P	N/P 454	1 377	PSEUDO DELETE DAEMON CLEANUP	N/P NETWORKID: DKBD0N01 LUNAME: BDP0DTST LUWSEQ: 144
----- 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 N/P	455	1 377	PSEUDO DELETE DAEMON CLEANUP	N/P 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 LUNAME: E57A LUNAME: E57A
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 LUNAME: E57A LUNAME: E57A
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: 6998CD69 LUNAME: GD02 LUNSEQ: 184
DISTSERV e 3.93821228 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 LUVSEQ: 169
DISTSERV e      1.41514242      DETAIL RECORD ACCTKN X'5CD3D6C31D34BC4C2F24BF1F2F0F2F0F8F0F8F3F2F2'
!-----
!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'414141414141464462' ENTRY/EXIT TYPE: ENTERING
!NESTING LEVEL: 0
!
!STATEMENT NO : 210 TYPE : DYNAMIC ROUTINE ID : X'0000000000000450'
!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 CORRNAME CORRNMBR	INSTANCE CONNTYPE	END_USER RECORD TIME TCB CPU TIME	WS_NAME DESTNO ACE	IFC ID	DESCRIPTION	TRANSACTION DATA
N/P N/P N/P	DOB9113C791A 'BLANK'	N/P 18:19:12.26938222 N/P	N/P 12133	1 389	FTB INDEXES	N/P NETWORKID: DSND20G LUNAME: DSND1H
-----						
NUMBER OF INDEXES :		7				
DBID: 364	PSID: 10	PARTITION NO:	1 INDEX LEVELS :	2 FTB SIZE :	2339584	
			INDEX TRAVERSALS:	10 FTB FACTOR:	15	
DBID: 364	PSID: 5	PARTITION NO:	1 INDEX LEVELS :	3 FTB SIZE :	1368064	
			INDEX TRAVERSALS:	12 FTB FACTOR:	17	
DBID: 370	PSID: 5	PARTITION NO:	1 INDEX LEVELS :	2 FTB SIZE :	1560064	
			INDEX TRAVERSALS:	20 FTB FACTOR:	16	
DBID: 370	PSID: 5	PARTITION NO:	2 INDEX LEVELS :	3 FTB SIZE :	5209600	
			INDEX TRAVERSALS:	15 FTB FACTOR:	18	
DBID: 370	PSID: 5	PARTITION NO:	3 INDEX LEVELS :	2 FTB SIZE :	2560000	
			INDEX TRAVERSALS:	5 FTB FACTOR:	10	
DBID: 370	PSID: 5	PARTITION NO:	4 INDEX LEVELS :	3 FTB SIZE :	146176	
			INDEX TRAVERSALS:	11 FTB FACTOR:	99	
DBID: 350	PSID: 5	PARTITION NO:	1 INDEX LEVELS :	2 FTB SIZE :	195584	
			INDEX TRAVERSALS:	17 FTB FACTOR:	54	

### 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

### FTB FACTOR

A calculated value that Db2 uses to identify indexes that might benefit from fast index traversal

**Field Name:** QW0389FF

### INDEX TRAVERSALS

The number of index traversals

**Field Name:** QW0389IT

## 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 393 - Phased-Out package copy information

This topic shows detailed information about "Record Trace - IFCID 393 - Phased-Out package copy information".

With rebind-phase in, Db2 can rebind a package concurrently with its execution. A rebind operation creates a new copy of the package. When the rebind operation finishes, new threads can use the new package copy immediately, and existing threads can continue to use the copy that was in use prior to the rebind (the phased-out copy) without disruption. This record provides information about phased-out package copies.

### Record Trace - IFCID 393 - Phased-Out package copy information

The field labels shown in the following sample layout of "Record Trace - Phased-Out package copy information" are described in the following section.

```
                                PHASED-OUT PACKAGE COPY INFORMATION
COLLECTION ID   :   LONGRU2
PACKAGE NAME   :   LONGRU2
PACKAGE CONTKN :   X'1BAC112B1DB2431A'
BLOCKING THREAD TOKEN      :   X'0001A14F'
THREAD PCKG ALLOC TIMESTAMP: 09/27/23 07:56:05.719165
FAILING MEMBER RETURN CODE :   0
THREAD MEMBER NAME      :   N/P
FAILING MEMBER REASON CODE:   0
QW0393THDCT: X'0000120D7EA6CD08'
```

#### COLLECTION ID

Collection ID of the Phased-Out package copy.

**Field Name:** QW0393COLLID

#### PACKAGE NAME

Name of the Phased-Out package copy.

**Field Name:** QW0393PK

#### PACKAGE CONTKN

Consistency token of the Phased-Out package copy.

**Field Name:** QW0393CONTK

#### BLOCKING THREAD TOKEN

Thread token of the thread that prevented Phased-Out copies from being freed.

**Field Name:** QW0393THDTK

#### THREAD MEMBER NAME

Name of the data sharing member to which the thread is connected.

**Field Name:** QW0393MEMBER

#### THREAD PCKG ALLOC TIMESTAMP

Package allocation timestamp for the thread.

**Field Name:** QW0393THDTS

#### QW0393THDCT

Reserved.

**Field Name:** QW0393THDCT



**FAILING MEMBER RETURN CODE**

Failing member return code.

**Field Name:** QW0393MRC

**FAILING MEMBER REASON CODE**

Failing member reason code.

**Field Name:** QW0393MRSN

**IFCID 396 - Index Split Information**

This topic shows detailed information about "Record Trace - IFCID 396 - Index Split Information".

IFCID396 is a trace record for detail index split information when current index split process is considered as abnormal (elapsed time of index split is > a threshold). IFCID 396 is always enabled/opened by default under class 3 and performance class 6.

**Record Trace - IFCID 396 - Index Split Information**

The field labels shown in the following sample layout of "Record Trace - IFCID 396 - Index Split Information" are described in the following section.

```

|                                     INDEX SPLIT INFORMATION
|
| DATABASE ID       : FALCDB01  PAGE NUMBER       :          667149
| PAGE SET ID      : PKRUIXRO  URID              : X'000000000C4D422F7B5D'
| DATA SHR MEMBER ID:        1  TOTAL ELAPSED TIME:        21:39.189856
| PARTITION NUMBER :        1  CURRENT TIME STAMP: 11/29/17 21:35:46.815024
| GBP DEPENDENT    :          YES

```

**DATABASE ID**

Database ID of current splitting index.

**Field Name:** QW0396DBID

**PAGE SET ID**

Page set ID of current splitting index.

**Field Name:** QW0396PSID

**DATA SHR MEMBER ID**

Data sharing member ID of current splitting index. 0 means non-data sharing.

**Field Name:** QW0396MEMID

**PARTITION NUMBER**

Partition number of current splitting index.

**Field Name:** QW0396PARTNUM

**GBP DEPENDENT**

Whether current index page set is marked as GBP dependent. 'Y' = GBP dependent.

**Field Name:** QW0396GBPD

**PAGE NUMBER**

Current splitting page number.

**Field Name:** QW0396PAGENUM

**URID**

UR ID related with current splitting index.

**Field Name:** QW0396URID

## IFCID 331 - IBM Service Record

### TOTAL ELAPSED TIME

Total elapse time of current abnormal index split. Unit is millisecond.

**Field Name:** QW0396ELAPSETIME

### CURRENT TIME STAMP

Current timestamp of IFCID 396 generation.

**Field Name:** QW0396TIMESTAMP

## 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'
DATE/TIME WHEN UPDATED: X'20110418112535104180'
CONSISTENCY TOKEN: X'7844424B71324169'
STORE CLOCK FORMAT: X'C7A3DB35A929A195'
STORE CLOCK FORMAT: X'C7A3E420AF8B4109'

STATEMENT IDENTIFIER      : 132285
NBR OF EXECUTIONS        : 50
NBR OF GETPAGES          : 0
NBR OF ROWS PROCESSED    : 0
NBR OF INDEX SCANS       : 0
NBR OF BUFFER WRITES     : 0
ELIGIBLE FOR ACCELERATOR : YES
NBR OF SYNC BUFFER READS : 0
NBR OF ROWS EXAMINED     : 0
NBR OF SORTS             : 0
NBR OF TABLESPACE SCANS : 0
NBR OF PAR. GRPS CREATED : 0

ACCUMULATED TIME VALUES SECTION
IN-DB2 ELAPSED          : N/P
WAIT FOR SYNC I/O       : N/P
SYNC EXEC UNIT SWITCH   : N/P
WT FOR READ BY OTHER THR : N/P
WT FOR LATCH REQ        : N/P
WAIT FOR DRAIN LOCK     : N/P
WAIT FOR LOG WRITER     : N/P
WAIT CHILD L-LOCKS      : 0.100000
WAIT P/P P-LOCKS        : 0.100000
WAIT OTHER P-LOCKS      : N/P
PARENT CHILD WAIT TIME  : N/P
IN-DB2 CPU              : N/P
WAIT FOR LOCK/LATCH     : N/P
WT FOR GLOBAL LOCKS     : N/P
WT FOR WRTE BY OTHER THR : N/P
WAIT FOR PAGE LATCH     : N/P
WAIT FOR CLAIM RELEASE  : N/P
WAIT OTHER L-LOCKS      : 0.100000
WAIT PAGE P-LOCKS       : 0.100000
FAST INSERT PIPE 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 OV - NO POOL STOR AVAIL : 0
HJA - NO POOL STOR AVAIL   : 0
RL RETRIEVAL IA SKIPPED    : 0
RL NOT USED NO STOR AVAIL  : 0
RL OV - RIDS EXCEED LIMIT  : 0
HJA - RIDS EXCEED LIMIT    : 0

ACCELERATOR DATA
ACCELERATOR NAME      : SIM35
STATEMENT IDENTIFIER  : 985622
ACCELERATOR EXECUTIONS : 1
ACCUMULATED CPU TIME  : 0.000004
ACCUMULATED ELAPSED TIME : 0.005998
ACCUMULATED QUEUE WAIT TIME : 0.000000
WAIT TIME FOR 1ST ROW  : 0.061247
HTAP TIMEOUTS        : 0
ACCUMULATED # ROWS RETURNED : 24
ACCUMULATED # BYTES RETURNED : 150797
ACCUMULATED EXECUTION TIME : 0.138040
WAIT TIME FOR DB2       : 0.065245
ACCUMULATED WAIT FOR HTAP : 0.054567
```

**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	9	1	402	SYSTEM PROFILE NETWORKID: VA1A	LUNAME: VA1A	LWSEQ: 1
N/P	N/P	'BLANK'	23:08:00.02150456	N/P					MONITORING STA		
N/P	N/P		N/P								
-----											
PROFILE ID	:						1		(THR = THREAD, EXC = EXCEPTION, TSH=THRESHOLD)		
ACCUMULATED COUNTER OF ...											
ITHR 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
CURRENT ACTIVE THREADS	:						485		CURRENT SUSPENDED THREADS	:	199
HW THREADS SINCE DDF STARTED	:						485		CURRENT NUMBER OF CONNECTIONS	:	112
HW CONNECTIONS SINCE DDF STARTED	:						155				
MONITOR REST CONNECTIONS FOR SECURITY EXC	:						453		MONITOR REST CONNECTIONS FOR SECURITY WARN	:	7490
MONITOR JOBC CONNECTIONS FOR SECURITY EXC	:						744		MONITOR JOBC CONNECTIONS FOR SECURITY WARN	:	0
MONITOR CLT CONNECTIONS FOR SECURITY EXC	:						0		MONITOR CLT CONNECTIONS FOR SECURITY WARN	:	0
MONITOR DSN CONNECTIONS FOR SECURITY EXC	:						0		MONITOR DSN CONNECTIONS FOR SECURITY WARN	:	0
MONITOR DB2CONNECT CONN FOR SECURITY EXC	:						0		MONITOR DB2CONNECT CONN FOR SECURITY WARN	:	0
OTHER MONITOR CONNECTIONS FOR SECURITY EXC	:						0		OTHER MONITOR CONNECTIONS FOR SECURITY WARN	:	0
TOKEN 1	:						JCC04260				
TOKEN 2	:						JBC04223				
-----											

### PROFILE ID

The profile ID.

**Field Name:** QW0402PI

### THR EXC TSH EXCEEDED

Number of times that a thread exception threshold was exceeded.

**Field Name:** QW0402TE

### THR QUEUED/SUSP WHEN EXC TSH WAS EXCEEDED

Number of threads that were queued or suspended when a thread exception threshold was exceeded. When the keywords value for a profile entry is monitor all threads, this value is 0.

**Field Name:** QW0402TQ

### REQUEST FAILED WHEN THR EXC TSH WAS EXCEEDED

Number of requests that failed because a thread exception threshold was exceeded.

**Field Name:** QW0402TF

**THR WARNING TSH BEING EXCEEDED**

Number of times that a thread exception warning was exceeded.

**Field Name:** QW0402TW

**CONNECTION EXC TSH BEING EXCEEDED**

Number of times that a connection exception threshold was exceeded.

**Field Name:** QW0402CE

**CONNECTION WARN TSH BEING EXCEEDED**

Number of times that a connection warning threshold was exceeded.

**Field Name:** QW0402CW

**IDLE THR EXC TSH BEING EXCEEDED**

Number of times that an idle thread exception threshold was exceeded. When the keywords value for a profile entry is monitor all threads or monitor all connections, this value is 0.

**Field Name:** QW0402OE

**IDLE THR WARN TSH BEING EXCEEDED**

Number of times that an idle thread warning threshold was exceeded. When the keywords value for a profile entry is monitor all threads or monitor all connections, this value is 0.

**Field Name:** QW0402OW

**CURRENT ACTIVE THREADS**

Current number of active threads.

**Field Name:** QW0402TC

**CURRENT SUSPENDED THREADS**

Current number of suspended threads.

**Field Name:** QW0402TS

**HW THREADS SINCE DDF STARTED**

Highest number of threads since DDF start.

**Field Name:** QW0402TH

**CURRENT NUMBER OF CONNECTIONS**

Current number of connections.

**Field Name:** QW0402CC

**HW CONNECTIONS SINCE DDF STARTED**

Highest number of connections since DDF start.

**Field Name:** QW0402CH

**MONITOR REST CONNECTIONS FOR SECURITY EXC**

Accumulated counter of MONITOR REST CONNECTIONS FOR SECURITY exceptions.

**Field Name:** QW0402MCS\_REST\_E

**MONITOR REST CONNECTIONS FOR SECURITY WARN**

Accumulated counter of MONITOR REST CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_REST\_W

**MONITOR JDBC CONNECTIONS FOR SECURITY EXC**

Accumulated counter of MONITOR JDBC CONNECTIONS FOR SECURITY exceptions.

**Field Name:** QW0402MCS\_JDBC\_E

**MONITOR JDBC CONNECTIONS FOR SECURITY WARN**

Accumulated counter of MONITOR JDBC CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_JDBC\_W

**MONITOR CLI CONNECTIONS FOR SECURITY EXC**

Accumulated counter of MONITOR CLI CONNECTIONS FOR SECURITY exceptions..

**Field Name:** QW0402MCS\_CLI\_E

**MONITOR CLI CONNECTIONS FOR SECURITY WARN**

Accumulated counter of MONITOR CLI CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_CLI\_W

**MONITOR DB2CONNECT CONN FOR SECURITY EXC**

Accumulated counter of MONITOR DB2CONNECT CONNECTIONS SECURITY exceptions.

**Field Name:** QW0402MCS\_DB2C\_E

**MONITOR DB2CONNECT CONN FOR SECURITY WARN**

Accumulated counter of MONITOR DB2CONNECT CONNECTIONS SECURITY warnings.

**Field Name:** QW0402MCS\_DB2C\_W

**MONITOR DSN CONNECTIONS FOR SECURITY EXC**

Accumulated counter of MONITOR DSN CONNECTIONS FOR SECURITY exceptions.

**Field Name:** QW0402MCS\_DSN\_E

**MONITOR DSN CONNECTIONS FOR SECURITY WARN**

Accumulated counter of MONITOR DSN CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_DSN\_W

**OTHER MONITOR CONNECTIONS FOR SECURITY EXC**

Accumulated counter of other MONITOR CONNECTIONS FOR SECURITY exceptions.

**Field Name:** QW0402MCS\_DFT\_E

**OTHER MONITOR CONNECTIONS FOR SECURITY WARN**

Accumulated counter of other MONITOR CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_DFT\_W

**TOKEN 1**

First token value. When the keywords value for a profile entry is monitor all threads or monitor all connections, this value is '':0'.

**Field Name:** QW0402TN1

**TOKEN 2**

Second token value.

**Field Name:** QW0402TN2

## 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
QW0404T0:  X'E4'          QW0404PR:          297          QW0404NM:  UNLOAD
QW0404OT:  X'E3'          QW0404AT:  X'40'
    
```

## IFCID 411 - Remote Application Statistics

This topic shows detailed information about "Record Trace - IFCID 411 - Remote Application Statistics".

IFCID 0411 records detailed statistics about the remote applications that connect to a local Db2 subsystem using the DRDA protocol. This record is written when Statistics trace class 10 is on. The REMOTE APPLICATION STATISTICS section is shown for each application connected to the Db2 subsystem remotely.

### Record Trace - IFCID 411 - Remote Application Statistics

The field labels shown in the following sample layout of "Record Trace - IFCID 411 - Remote Application Statistics" are described in the following section.

```

                                REMOTE APPLICATIONS STATISTICS
SECTIONS IN RECORD.....:          50
ANOTHER IFCID 411 FOLLOWS...:    YES

APPLICATION NAME.:  JAVAAPPLICATION#10NAME

GENERAL INFORMATION          APPLICATION THREADS          QUANTITY
-----
QLAP VERSION                000001          QUEUED (PROFILE EXC)          0
PRODUCT ID                  JCC04270          TERMINATED (PROFILE EXC)     0
PRODUCT LEVEL                25              ABENDED                      0
                                CANCELED                0

REQUESTS                    QUANTITY          SERVER THREADS          QUANTITY
-----
COMMIT                      1              ACTIVE                      0
ABORT                      0              INTERVAL HWM                1
REST SERVICE                0              QUEUED (MAXDBAT)           0
PROFILE SET SPECIAL REGISTERS 0              TERMINATED                  0
PROFILE SET GLOBAL VARIABLES 0              IDTHTOIN EXCEEDED          0
                                CANCELED                0
DBAT NOT POOLED (REASON)    QUANTITY          IDLE THD PROF              0
WITH HOLD CURSOR NOT CLOSED 0              KEEP DYNAMIC REFRESH IDLE  0
DGTI NOT DROPPED           0              KEEP DYNAMIC REFRESH USE   0
KEEPDYNAMIC PACKAGES USED  0              NETWORK                    0
HIGH-PERF DBAT USED        0
HELD LOB LOCATOR EXIST     0
STORED PROCEDURE COMMIT    0
    
```

### SECTIONS IN RECORD

Number of QLAP sections in the record.

**Field Name:** QW0411NO

### ANOTHER IFCID 411 FOLLOWS

This bitcounter indicates if another IFCID 411 is shown in the DB2 trace data.

**Field Name:** QW0411FL

### APPLICATION NAME

The name of the application that is running at the remote site. This field contains the value of the CURRENT CLIENT\_APPLNAME special register at the time of the initial connection, converted to uppercase. See the CURRENT CLIENT\_APPLNAME topic in IBM documentation for more information.

**Field Name:** QLAPAPPN

#### **GENERAL - QLAP VERSION**

Version of the QLAP record.

'000001' : The QLAP section contains fields QLAPAPPN\_OFF to QLAPTHDTN.

**Field Name:** QLAPVRSN

#### **GENERAL - PRODUCT ID**

The product ID of the remote location from which the application connects. See QLAPPRLV for the product level.

**Field Name:** QLAPPRID

#### **GENERAL - PRODUCT LEVEL**

Product level, if known.

**Field Name:** QLAPPRLV

#### **REQUESTS - COMMIT**

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:** QLAPCOMR

#### **REQUESTS - ABORT**

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:** QLAPABRR

#### **REQUESTS - REST SERVICE**

The number of times that the application reported a connection or application condition from a REST service request.

**Field Name:** QLAPNREST

#### **REQUESTS - PROFILE SET SPECIAL REGISTERS**

The number of times that the application reported a connection or application condition from setting a special register through a profile.

**Field Name:** QLAPNSSR

#### **REQUESTS - PROFILE SET GLOBAL VARIABLES**

The number of times that the application reported a connection or application condition from setting a global variable through a profile.

**Field Name:** QLAPNSGV

#### **DBAT NOT POOLED - WITH HOLD CURSOR NOT CLOSED**

The number of times that the application used a cursor that was defined as WITH HOLD, and was not closed. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPHCRSR

#### **DBAT NOT POOLED - DGTT NOT DROPPED**

The number of times that the application did not drop a declared temporary table. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPDGTT

**DBAT NOT POOLED - KEEP DYNAMIC PACKAGES USED**

The number of times that the application used a KEEP DYNAMIC package. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPKPDYN

**DBAT NOT POOLED - HIGH-PERF DBAT USED**

The number of times that the application used a high-performance DBAT. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPHIPRF

**DBAT NOT POOLED - HELD LOB LOCATOR EXIST**

The number of times that the application had a held LOB locator. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPHLOBLOC

**DBAT NOT POOLED - STORED PROCEDURE COMMIT**

The number of times that a commit was issued in a stored procedure. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPSPCMT

**APPLICATION THREADS - QUEUED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application was queued because a profile exception threshold was exceeded.

**Field Name:** QLAPNTHDPQ

**APPLICATION THREADS - TERMINATED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application was terminated because a profile exception threshold was exceeded.

**Field Name:** QLAPNTHDPT

**APPLICATION THREADS - ABENDED**

The number of times that a thread that was used by a connection from the application abended.

**Field Name:** QLAPNTHDA

**APPLICATION THREADS - CANCELED**

The number of times that a thread that was used by a connection from the application was canceled.

**Field Name:** QLAPNTHDC

**SERVER THREADS - ACTIVE**

The current number of active threads for the application.

**Field Name:** QLAPNTHD

**SERVER THREADS - INTERVAL HWM**

For a statistics trace, this is the highest number of active threads during the current statistics interval. For a READS request, this is the highest number of active threads since DDF was started.

**Field Name:** QLAPHTHD

**SERVER THREADS - QUEUED (MAXDBAT)**

The number of threads that were queued because the MAXDBAT subsystem parameter value was exceeded.

**Field Name:** QLAPTHDTM

**SERVER THREADS - TERMINATED - IDTHTOIN EXCEEDED**

the number of threads that were terminated because the IDTHTOIN subsystem parameter value was exceeded.

**Field Name:** QLAPTHDTI

**SERVER THREADS - TERMINATED - CANCELED**

The number of threads that were terminated because the CANCEL THREAD command was issued.

**Field Name:** QLAPTHDTC

**SERVER THREADS - TERMINATED - IDLE THD PROF**

The number of threads that were terminated because a profile exception condition for idle threads was exceeded.

**Field Name:** QLAPTHDTR

**SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH IDLE**

The number of threads that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the idle time exceeded the idle time limit.

**Field Name:** QLAPTHDTK

**SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH USE**

the number of threads that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the time that the threads were in use exceeded the in-use time limit.

**Field Name:** QLAPTHDTF

**SERVER THREADS - TERMINATED - NETWORK**

The number of threads that were terminated due to network termination.

**Field Name:** QLAPTHDTN

**IFCID 412 - Remote User Statistics**

This topic shows detailed information about "Record Trace - IFCID 412 - Remote User Statistics".

IFCID 0412 records detailed statistics about the remote user IDs that connect to a local Db2 subsystem using the DRDA protocol. This record is written when Statistics trace class 11 is on. The REMOTE USER STATISTICS section is shown for each user ID that has connected to the Db2 subsystem remotely.

**Record Trace - IFCID 412 - Remote User Statistics**

The field labels shown in the following sample layout of "Record Trace - IFCID 412 - Remote User Statistics" are described in the following section.

REMOTE USER STATISTICS			
SECTIONS IN RECORD.....:		50	
ANOTHER IFCID 412 FOLLOWS...:		YES	
USER NAME.: USERIDTS5785A#10LONGIDS			
GENERAL INFORMATION		APPLICATION THREADS	QUANTITY
QLAU VERSION	000001	QUEUED (PROFILE EXC)	0
PRODUCT ID	JCC04270	TERMINATED (PROFILE EXC)	0
PRODUCT LEVEL	25	ABENDED	0
		CANCELED	0
REQUESTS		SERVER THREADS	QUANTITY
COMMIT	1	ACTIVE	0
ABORT	0	INTERVAL HWM	1
REST SERVICE	0	QUEUED (MAXDBAT)	0
PROFILE SET SPECIAL REGISTERS	0	TERMINATED	0
PROFILE SET GLOBAL VARIABLES	0	IDTHTOIN EXCEEDED	0
		CANCELED	0
DBAT NOT POOLED (REASON)	QUANTITY	IDLE THD PROF	0
WITH HOLD CURSOR NOT CLOSED	0	KEEP DYNAMIC REFRESH IDLE	0
DGTT NOT DROPPED	0	KEEP DYNAMIC REFRESH USE	0
KEEPDYNAMIC PACKAGES USED	0	NETWORK	0
HIGH-PERF DBAT USED	0		
HELD LOB LOCATOR EXIST	0		
STORED PROCEDURE COMMIT	0		

**SECTIONS IN RECORD**

Number of QLAU sections in the record.

**Field Name:** QW0412NO

**ANOTHER IFCID 411 FOLLOWS**

This bitcounter indicates if another IFCID 412 is shown in the DB2 trace data.

**Field Name:** QW0412FL

**USER NAME**

The name of the client user ID under which the connection from the remote application to the local site is established. This field contains the value of the CURRENT\_CLIENT\_USERID special register at the time of the initial connection, converted to uppercase. See the CURRENT\_CLIENT\_USERID topic in IBM documentation for more information.

**Field Name:** QLAUUSRI

**GENERAL - QLAU VERSION**

Version of the QLAU record.

'000001' : The QLAU section contains fields QLAUUSRI\_OFF to QLAUTHDTN.

**Field Name:** QLAUVRSN

**GENERAL - PRODUCT ID**

The product ID of the remote location from which the application connects. See QLAUPRLV for the product level.

**Field Name:** QLAUPRID

**GENERAL - PRODUCT LEVEL**

Product level, if known.

**Field Name:** QLAUPRLV

**REQUESTS - COMMIT**

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:** QLAUCOMR

**REQUESTS - ABORT**

Number of abort requests received from the requester (single-phase commit protocol) and number of backout requests received from the coordinator (two-phase commit protocol).



**Field Name:** QLAUABRR

#### **REQUESTS - REST SERVICE**

The number of times that the application reported a connection or application condition from a REST service request.

**Field Name:** QLAUNREST

#### **REQUESTS - PROFILE SET SPECIAL REGISTERS**

The number of times that an application run by the specified client user ID reported a connection or application condition from setting a special register through a profile.

**Field Name:** QLAUNSSR

#### **REQUESTS - PROFILE SET GLOBAL VARIABLES**

The number of times that an application run by the specified client user ID reported a connection or application condition from setting a global variable through a profile.

**Field Name:** QLAUNSGV

#### **DBAT NOT POOLED - WITH HOLD CURSOR NOT CLOSED**

The number of times that an application run by the specified client user ID used a cursor that was defined as WITH HOLD, and was not closed. That condition prevented Db2 from pooling dbats.

**Field Name:** QLAUHCRSR

#### **DBAT NOT POOLED - DGTT NOT DROPPED**

The number of times that an application run by the specified client user ID did not drop a declared temporary table. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUDGTT

#### **DBAT NOT POOLED - KEEP DYNAMIC PACKAGES USED**

The number of times that an application run by the specified client user ID used KEEP DYNAMIC packages. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUKPDYN

#### **DBAT NOT POOLED - HIGH-PERF DBAT USED**

The number of times that an application run by the specified client user ID used a high-performance DBAT. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUHIPRF

#### **DBAT NOT POOLED - HELD LOB LOCATOR EXIST**

The number of times that an application run by the specified client user ID used a held LOB locator. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUHLOBLOC

#### **DBAT NOT POOLED - STORED PROCEDURE COMMIT**

The number of times that a commit was issued in a stored procedure that was called by the specified client user ID. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUSPCMT

#### **APPLICATION THREADS - QUEUED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application run by the specified client user ID was queued because a profile exception threshold was exceeded.

**Field Name:** QLAUNTHDPQ

**APPLICATION THREADS - TERMINATED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application run by the specified client user ID terminated because a profile exception threshold was exceeded.

**Field Name:** QLAUNTHDPT

**APPLICATION THREADS - ABENDED**

The number of times that a thread that was used by a connection from an application run by the specified client user ID abended.

**Field Name:** QLAUNTHDA

**APPLICATION THREADS - CANCELED**

The number of times that a thread that was used by a connection from an application run by the specified client user ID was canceled.

**Field Name:** QLAUNTHDC

**SERVER THREADS - ACTIVE**

The current number of active threads for the application run by the specified client user ID.

**Field Name:** QLAUNTHD

**SERVER THREADS - INTERVAL HWM**

For a statistics trace, this is the highest number of active threads during the current statistics interval. For a READS request, this is the highest number of active threads since DDF was started.

**Field Name:** QLAUHTHD

**SERVER THREADS - QUEUED (MAXDBAT)**

The number of threads associated with the specified client user ID that were queued because the MAXDBAT subsystem parameter value was exceeded.

**Field Name:** QLAUTHDTM

**SERVER THREADS - TERMINATED - IDTHTOIN EXCEEDED**

The number of threads associated with the specified client user ID that were terminated because the IDTHTOIN subsystem parameter value was exceeded.

**Field Name:** QLAUTHDTI

**SERVER THREADS - TERMINATED - CANCELED**

The number of threads associated with the specified client user ID that were terminated because the CANCEL THREAD command was issued.

**Field Name:** QLAUTHDTC

**SERVER THREADS - TERMINATED - IDLE THD PROF**

The number of threads associated with the specified client user ID that were terminated because a profile exception condition for idle threads was exceeded.

**Field Name:** QLAUTHDTR

**SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH IDLE**

The number of threads associated with the specified client user ID that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the idle time exceeded the idle time limit.

**Field Name:** QLAUTHDTK

**SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH USE**

The number of threads associated with the specified client user ID that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the time that they were in use exceeded the in-use time limit.

**Field Name:** QLAUTHDTF

**SERVER THREADS - TERMINATED - NETWORK**

The number of threads associated with the specified client user ID that were terminated due to network termination.

**Field Name:** QLAUTHDTN

**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 437 - Set Current Lock Timeout**

This topic shows detailed information about "Record Trace - IFCID 437 - Set Current Lock Timeout".

IFCID 437 is a trace record for execution of the SET CURRENT LOCK TIMEOUT statement.

**Record Trace - IFCID 437 - Set Current Lock Timeout**

The field labels shown in the following sample layout of "Record Trace - IFCID 437 - Set Current Lock Timeout" are described in the following section.

```

                                SET CURRENT LOCK TIMEOUT
|-----|-----|-----|-----|-----|-----|
| SET DONE BY.....:          PROFILE TABLE   STATUS.....:          SUCCESSFUL
| OLD TIMEOUT VALUE.....:          N/P        NULL INDICATOR FOR OLD VALUE.:          YES
| NEW TIMEOUT VALUE.....:          -1         NULL INDICATOR FOR NEW VALUE.:          NO
| PACKAGE CONSISTENCY TOKEN.: X'1A0D8BD811DAADD8'
|-----|-----|-----|-----|-----|-----|
| COLLECTION ID.....:          DSNESPCS
| PACKAGE ID.....:          DSNESM68
|-----|-----|-----|-----|-----|-----|
```

**SET DONE BY**

SET CURRENT LOCK TIMEOUT statement was executed by application or Profile table.

**Field Name:** QW0437FromSource

**OLD TIMEOUT VALUE**

Specifies an old value for CURRENT LOCK TIMEOUT special register. Possible values are between -1 and 32767 or N/P in case null indicator for old value is set.

Value of -1 is equivalent to the WAIT keyword without an integer value. A value of 0 is equivalent to the NOT WAIT clause.

**Field Name:** QW0437OldTimeOut

**NEW TIMEOUT VALUE**

Specifies a new value for CURRENT LOCK TIMEOUT special register. Possible values are between -1 and 32767 or N/P in case null indicator for new value is set.

Value of -1 is equivalent to the WAIT keyword without an integer value. A value of 0 is equivalent to the NOT WAIT clause.

**Field Name:** QW0437NewTimeOut

**PACKAGE CONSISTENCY TOKEN**

Package consistency token. This field is displayed only when SET CURRENT LOCK TIMEOUT statement was executed by Application.

**Field Name:** QW0437Contoken

**COLLECTION ID**

Collection ID. This field is displayed only when SET CURRENT LOCK TIMEOUT statement was executed by Application.

**Field Name:** QW0437CollID\_var

**PACKAGE ID**

Package ID. This field is displayed only when SET CURRENT LOCK TIMEOUT statement was executed by Application.

**Field Name:** QW0437PKG\_var

**STATUS**

Status of statement execution.

**Field Name:** QW0437Status

**NULL INDICATOR FOR OLD VALUE**

Null indicator for old value of CURRENT LOCK TIMEOUT special register.

**Field Name:** QW0437OldTimeOutNI

**NULL INDICATOR FOR NEW VALUE**

Null indicator for new value of CURRENT LOCK TIMEOUT special register.

**Field Name:** QW0437NewTimeOutNI

**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 CORRNAME CORRNMBR	INSTANCE CONNTYPE	END_USER RECORD TIME TCB CPU TIME	WS_NAME DESTNO ACE IFC ID	DESCRIPTION	TRANSACTION DATA
N/P N/P N/P	DOB9113C791A 'BLANK'	N/P 18:19:12.26938222 N/P	N/P 12133	1 477 FTB IDX ALLOC	N/P NETWORKID: DSND20G LUNAME: DSND01H
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 LUMSEQ: 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 identifier. It is shown as an integer and in hexadecimal format.

**Field Name:** QW0499SID

**CONV INTO HEX**

The unique statement identifier. 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 LUSSEQ: 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 identifier. It is shown as an integer and in hexadecimal format.

**Field Name:** QW0499SID

### CONV INTO HEX

The unique statement identifier. 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 identifier. It is shown as an integer and in hexadecimal format.

**Field Name:** QW0499SID

**CONV INTO HEX**

The unique statement identifier. 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 Performance Expert identifiers you specify. If you specify no OMEGAMON for Db2 Performance Expert 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 Performance Expert 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:





- 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 1071](#)
- All
- Data capture activity
- Exit activity
- I/O activity
- Locking activity
- Minibind, see [“3” on page 1071](#)
- None
- Scan, RID list, and query parallelism activity
- Sort activity
- UDF, see [“4” on page 1071](#)
- 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 1073](#)
- [“SQL Activity Trace Header” on page 1074](#)
- [“SQL Activity Trace Index Header” on page 1074](#)

The report headers contain the standard OMEGAMON for Db2 Performance Expert 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 Performance Expert identifiers**

The identifiers define the order of the SQL Activity data printed. If you specify no OMEGAMON for Db2 Performance Expert identifiers with ORDER, the default order of PRMAUTH-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
- yyyy 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.





SUMMARIZED BY PROGRAM				
PRIMAUTH: SUIB101	PLANNAME: DISTSERV	THREAD TOTAL:	1	START AET: N/P STOP AET: N/P
EVENT	COUNT	TOT. ELAPS AET/EVENT	TOTAL TCB TCB/EVENT	DETAIL
SYSSTAT	1	0.124457 0.124457		PACKAGE: MOPDBB0.NULLID.SYSSTAT.X'5359534C564C3031' ACQUIRE(USE) REOPT(N) RELEASE(COMMIT) ISO(CS) DYNAMICRULES(RUN) PREPARE(NODEFER) KEEP DYNAMIC(NO) PROTOCOL(DRDA) OPTHINT(N/P) STMTTYPE COUNT AET/OCCUR TCB/OCCUR CALL 1 0.124457
PACKAGE_TOUR_OFFER	1	0.078445 0.078445		PACKAGE: MOPDBB0.OTR.PACKAGE_TOUR_OFFER.X'1984ABC311D26448' V1 ACQUIRE(USE) REOPT(N) RELEASE(COMMIT) ISO(UR) DYNAMICRULES(RUN) PREPARE(NODEFER) KEEP DYNAMIC(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
ORIGAUTH: XXASP09	PLANNAME: LOCCURHL	CORRNMBR: 'BLANK'
ENDUSER : 1234567890123456	WSNAME : 123456789012345678	CONNTYPE: TSO
		THRDTYPE: ALLIED
		TRANSACT: 12345678901234567890123456789012

## SQL Activity Trace Index Header

This is an example of the SQL Activity Trace Index Header.

LOCATION: USIBMSYSTD2	OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)	PAGE: 0-3
GROUP: DSNACAT	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 Performance Expert identifiers. This grouping is applied to any SUMMARIZEBY, SORTBY, or WORKLOAD options you specify.

The ORDER subcommand specifies by which OMEGAMON for Db2 Performance Expert identifiers, and in which order, the SQL Activity is reported. If you specify no OMEGAMON for Db2 Performance Expert 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 1075 to “Summarized by Statement Type” on page 1077 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 Performance Expert 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              ORDER: PRIMAUTH-PLANNAME          TO: NOT SPECIFIED
SUBSYSTEM: SE11          ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10        TO: 01/30/15 07:05:37.61

PRIMAUTH: WRL            PLANNAME: PARALCPU          ORDER: PRIMAUTH-PLANNAME          ACTUAL FROM: 01/30/15 06:55:37.58
EVENT                   COUNT          TOT.ELAPS          TOTAL TCB          THREAD TOTAL: 11          START AET: 0.053771          STOP AET: N/P
                       AET/EVENT          TCB/EVENT          TCB/EVENT          DETAIL

-----
PACKAGE                SYS1DSN2.PARAL.PARALC01.X'158A622D10FD8B50'
DB20MPETEST
ACQUIRE(USE)          REOPT(N)          RELEASE(COMMIT)          ISO(CS)          DYNAMICRULES(RUN)
PREPARE(NODEFER)      KEEP(DYNAMIC(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 Performance Expert 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              ORDER: ENDUSER-PRIMAUTH-ORIGAUTH          TO: NOT SPECIFIED
SUBSYSTEM: V1A1A        ORDER: ENDUSER-PRIMAUTH-ORIGAUTH          ACTUAL FROM: 01/22/15 21:00:05.88
DB2 VERSION: V10        SUMMARIZED BY CURSOR                          TO: 01/22/15 21:00:37.11

```

```

ENDUSER : SYSADM        PRIMAUTH: SYSADM        ORIGAUTH: SYSADM        THREAD TOTAL: 1 START AET: N/P        STOP AET: N/P

```

EVENT	COUNT	TOT.ELAPS AET/EVENT	TOTAL TCB TCB/EVENT	DETAIL		
-----						
PACKAGE				STLEC1.BARTCOB.PGSPNL1.X'1959EE260805DDDE'		
TESTE-CURSOR				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	0.000028 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 Performance Expert 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            ORDER: PRIMAUTH-PLANNAME          TO: NOT SPECIFIED
SUBSYSTEM: SE11        ORDER: PRIMAUTH-PLANNAME          ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10        SUMMARIZED BY PROGRAM                          TO: 01/30/15 07:05:37.61

```

```

PRIMAUTH: WRL          PLANNAME: PARALCPU          THREAD TOTAL: 11 START AET: 0.053771 STOP AET: N/P
EVENT                 COUNT                     DETAIL

```

EVENT	COUNT	TOT.ELAPS AET/EVENT	TOTAL TCB TCB/EVENT	DETAIL			
-----							
PARALC01	1	7:47.087226	55.323204	PACKAGE: SYS1DSN2.PARAL.PARALC01.X'158A622D10FD8B50'			
		7:47.087226	55.323204	DB2COMPTEST			
				ACQUIRE (USE)	REOPT (N)	RELEASE (COMMIT)	
				PREPARE (NODEFER)	KEEPDYNAMIC (NO)	ISO (CS)	
				IMMEDWRITE (NO)		PROTOCOL (DRDA)	
				OPHTINT (N/P)			
				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  
 GROUP: DBZE  
 MEMBER: SZE1  
 SUBSYSTEM: SZE1  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)

SQL ACTIVITY - REPORT

ORDER: PRIMAUTH-PLANNAME

SUMMARIZED BY STMTID

PAGE: 1-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 05/01/15 07:57:15.39  
 TO: 05/01/15 07:59:12.18

PRIMAUTH: BBE      PLANNAME: DISTSERV      THREAD TOTAL:    2    START AET: N/P      STOP AET:  
 N/P

EVENT	COUNT	TOT.ELAPS	TOTAL TCB
EVENT		AET/EVENT	TCB/

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)				

CLOSE	304747	2	0.000012
-------	--------	---	----------

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 :		

DELETE	304764	7	0.000133
--------	--------	---	----------

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 :
0.000100	IN-DB2 ELAPSED :	0.000103	IN-DB2 CPU :
0.000000	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 :		

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 Performance Expert 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            ORDER: PRIMAUTH-PLANNAME          TO: NOT SPECIFIED
SUBSYSTEM: SE11        ACTUAL FROM: 01/30/15 06:55:37.58
DB2 VERSION: V10      TO: 01/30/15 07:05:37.61
PRIMAUTH: WRL          PLANNAME: PARALCPU          SUMMARIZED BY STMTTYPE          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 Performance Expert 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          ORDER: PRIMAUTH-PLANNAME          TO: NOT SPECIFIED
SUBSYSTEM: SDL2        ACTUAL FROM: 01/30/15 11:36:56.45
DB2 VERSION: V10      TO: 01/30/15 11:36:56.45
PRIMAUTH: N/P          PLANNAME: PARALCPU          SUMMARIZED BY THREAD          THREAD TOTAL: 11 START AET: 0.053771 STOP AET: N/P
ORIGAUTH: N/P        ORDER: PRIMAUTH-PLANNAME          CORRNAME: N/P          CONNTYPE: 'BLANK'
ENDUSER: N/P         WSNAME: N/P          CORRNMNR: N/P          THRDTYPE: ALLIED
TRANSACTION: 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 1 AET/OCCUR TCB/OCCUR
0.025761            6.823537      0.025761 CREATE          1 6.823537

```

## 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

PRIMAUTH: WRL PLANNAME: DSNESPRR SUMMARIZED BY STMTNO, WITH ALL WORKLOAD THREAD TOTAL: 11 START AET: N/P STOP AET: N/P  
 EVENT COUNT TOT. ELAPS AET/EVENT TOTAL TCB TCB/EVENT

---

DBRM # 119 13 DSNESM68 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	DATA CAPT:	YES	RIDS UNUSED:	2	CHECKCON :	REJECTED	DEGREE REDUCTION :	3
LOB_PAGSCAN:	12345	LOB_UPD_PAGE:	12345								

--- SCAN ACTIVITY ---

DATABASE MEMBER	PAGESET TYPE	SCANS	PROCESS	EXAMINE	STAGE 1	STAGE 2	INSERTS	UPDATES	DELETES	PAGES-SCANNED	SCANS	RI-DELETES
DSNDB06	SYSDBASE	70		70	0	70	0	0	0	164	0	0
SE21	INDX			46	0	0	0	0	0	46	0	0
DSNDB06	SYSDBASE	46		46	0	0	0	0	0	0	0	0
SE21	SEQD			116	70	0	0	0	0	210	0	0
# 193	TOTAL	12		116	70	0	0	0	0	210	0	0
				0.003194	0.002885	CLOSE						
				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	DATA CAPT:	YES	RIDS UNUSED:	2	CHECKCON :	REJECTED	DEGREE REDUCTION :	3
LOB_PAGSCAN:	12345	LOB_UPD_PAGE:	12345								

--- SCAN ACTIVITY ---

DATABASE MEMBER	PAGESET TYPE	SCANS	PROCESS	EXAMINE	STAGE 1	STAGE 2	INSERTS	UPDATES	DELETES	PAGES-SCANNED	SCANS	RI-DELETES
DSNDB04	DG071J5L	6		31	31	31	0	0	0	24	0	0
SE21	SEQD			25	25	25	0	0	0	24	0	0
DSNDB04	DG0719AX	6		25	25	25	0	0	0	24	0	0
SE21	SEQD			56	56	56	0	0	0	48	0	0
# 218	TOTAL	12		56	56	56	0	0	0	48	0	0

--- LOCK SUSPENSION ACTIVITY ---

RESOURCE NAME MEMBER	TYPE	REQUEST	LOCAL	LATCH	IRLMQ	GROUP	NOTIF	OTHER	NORML COUNT	RESUME AET COUNT	TIMEO AET COUNT	RESUME AET COUNT	DEADL AET COUNT	RESUME AET	
DSNDB04	DG071J5L	PAGESET	LOCK	0	0	0	2	0	0	1	59.5816	1	72.4844	0	N/C
SE21															
# 193															

### 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

PRIMAUTH: WRL PLANNAME: DSNESPRR SUMMARIZED BY CURSOR, WITH ALL WORKLOAD THREAD TOTAL: 11 START AET: N/P STOP AET: N/P  
 EVENT COUNT TOT. ELAPS AET/EVENT TOTAL TCB TCB/EVENT

---

DBRM C1 13 2:12.305597 0.076366 STMTTYPE COUNT AET/OCCUR TCB/OCCUR COMMITS: 2  
 10.177354 0.005874

--- 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	DATA CAPT:	YES	RIDS UNUSED:	2	CHECKCON :	REJECTED	DEGREE REDUCTION :	3
LOB_PAGSCAN:	12345	LOB_UPD_PAGE:	12345								

--- SCAN ACTIVITY ---

DATABASE MEMBER	PAGESET TYPE	SCANS	PROCESS	EXAMINE	STAGE 1	STAGE 2	INSERTS	UPDATES	DELETES	PAGES-SCANNED	SCANS	RI-DELETES
DSNDB04	DG071J5L	6		31	31	31	0	0	0	24	0	0
SE21	SEQD			25	25	25	0	0	0	24	0	0
DSNDB04	DG0719AX	6		25	25	25	0	0	0	24	0	0
SE21	SEQD			56	56	56	0	0	0	48	0	0
# 119	TOTAL	12		56	56	56	0	0	0	48	0	0

--- LOCK SUSPENSION ACTIVITY ---

RESOURCE NAME MEMBER	TYPE	REQUEST	LOCAL	LATCH	IRLMQ	GROUP	NOTIF	OTHER	NORML COUNT	RESUME AET COUNT	TIMEO AET COUNT	RESUME AET COUNT	DEADL AET COUNT	RESUME AET	
DSNDB04	DG071J5L	PAGESET	LOCK	0	0	0	2	0	0	1	59.5816	1	72.4844	0	N/C
SE21															

--- PAGE & ROW LOCKING ---

MEMBER	DATABASE	PAGESET	COUNT	LOCK SIZE	MAXIMUM PAGE OR ROW LOCKS	# LOCK ESCAL	HIGHEST LOCK	TS TYPE	LOCK AVOID SUCCESSFUL
SE21	DSNDB04	DG071J5L	2	PAGE	1	0	0	X SIMPL	NO
SE21	DSNDB04	DG0719AX	2	PAGE	1	0	0	X SIMPL	NO
SE21	DSNDB06	SYSDBASE	2	TABLE	0	0	0	IS SIMPL	NO
SUMMARY :	MAX PAGE OR ROW LOCKS HELD		3	LOCK ESCALATIONS :	SHARED	0	EXCLUSIVE		0

# 119 13 0.777747 0.641076 DESCRIBE  
 # 119 25 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	DATA CAPT:	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 DSNEPRR 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                                FROM: NOT SPECIFIED
MEMBER: SE21              ORDER: PRIMAUTH-PLANNAME                                          TO: NOT SPECIFIED
SUBSYSTEM: SE21          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: DSNEPRR          THREAD TOTAL: 11          START AET: N/P          STOP AET: N/P
EVENT                  COUNT                     TCB/EVENT                DETAIL
-----
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  0.000089
                                                                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
RONSPROC: 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 DG071J5L 12 53 53 33 0 0 2 0 0 44 0 0
SE21 SEQD
DSNDB04 DG0719AX 12 43 43 25 0 0 2 0 0 44 0 0
SE21 SEQD
DSNDB06 SYSDBASE 70 70 0 70 0 0 0 0 0 164 0 0
SE21 INDX
DSNDB06 SYSDBASE 46 46 46 0 0 0 0 0 0 46 0 0
SE21 SEQD
TOTAL 140 212 142 128 0 4 2 0 0 298 0 0
--- LOCK SUSPENSION ACTIVITY ---
RESOURCE NAME TYPE REQUEST LOCAL LATCH IRLM Q GROUP NOTIF OTHER COUNT RESUME TIMEO RESUME DEADL RESUME
MEMBER AET COUNT AET COUNT AET COUNT
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 DG071J5L PAGESET LOCK 0 0 0 2 0 0 1 59.5816 1 72.4844 0 N/C
SE21
DSNDB04 DG0719AX P/P CAST LOCK 0 0 0 1 0 0 1 0.00707 0 N/C 0 N/C
SE21
--- PAGE & ROW LOCKING ---
MEMBER DATABASE PAGESET COUNT LOCK MAXIMUM PAGE # LOCK HIGHEST TS LOCK AVOID
SIZE OR ROW LOCKS ESCAL LOCK TYPE SUCCESSFUL
DSNDB04 DG071J5L 2 PAGE 1 0 X SIMPL NO
SE21 DSNDB04 DG0719AX 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 DSNEPRR 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                     ORDER: PRIMAUTH-PLANNAME                TO: NOT SPECIFIED
SUBSYSTEM: SE21                  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                    THREAT TOTAL: 11 START AET: N/P    STOP AET: N/P
EVENT                            COUNT                                TCB/EVENT
-----
CLOSE                            12  0.003194  0.002885
DELETE                            4   0.000266  0.000240
                                0.010126  0.007825
                                0.002531  0.001956
--- WORKLOAD HIGHLIGHT ---
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 DG071J5L 2 11 11 0 0 0 0 0 0 8 0 0
SE21 SEQD
DSNDB04 DG0719AX 2 9 9 0 0 0 0 0 0 8 0 0
SE21 SEQD
TOTAL 4 20 20 0 0 0 0 0 0 16 0 0
DESCRIBE
FETCH 69 2:12.298682 0.070083
      1.917372 0.001016
--- WORKLOAD HIGHLIGHT ---
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 DG071J5L 6 31 31 31 0 0 0 0 0 24 0 0
SE21 SEQD
DSNDB04 DG0719AX 6 25 25 25 0 0 0 0 0 24 0 0
SE21 SEQD
TOTAL 12 56 56 56 0 0 0 0 0 48 0 0
--- LOCK SUSPENSION ACTIVITY ---
RESOURCE NAME TYPE REQUEST LOCAL LATCH IRLMQ GROUP NOTIF OTHER COUNT NORML RESUME TIMEO RESUME DEADL RESUME
MEMBER PAGESET LOCK 0 0 0 2 0 0 1 59.5816 1 72.4844 0 N/C
DSNDB04
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                                FROM: NOT SPECIFIED
MEMBER: N/P                      REQUESTED FROM: NOT SPECIFIED
SUBSYSTEM: DA21                  TO: NOT SPECIFIED
DB2 VERSION: V10                 ACTUAL FROM: 03/02/15 15:57:19.88
  
```

### 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' VARI.PM96278
	ACQUIRE (USE)					REOPT(N) RELEASE(COMMIT) ISO(CS) DYNAMICRULES(RUN) 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' VARI.PM96278
ACQUIRE (USE)						REOPT(N) RELEASE(COMMIT) ISO(CS) DYNAMICRULES(RUN) 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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: V71A  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 SQL ACTIVITY - TRACE

PAGE: 1-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 01/30/13 17:16:27.41

SUMMARIZED BY OCCURRENCE

PRIMAUTH: SYSADM                   CONNECT : BATCH                   CORRNAME: INS                   CONNTYPE: TSO  
 ORIGAUTH: SYSADM                  PLANNAME: DSNTDP3               CORRNMBR: 'BLANK'              THRDTYPE: ALLIED  
 ENDUSER : 'BLANK'                  WSNAME : 'BLANK'               TRANSACTION: 'BLANK'

TRACE #	EVENT	TIMESTAMP	ELAP.TIME	TCB TIME	DETAIL
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.DSNTDP3.DSNTDP3.X'167241E51B69975C' ACQUIRE(USE) REOPT(N) RELEASE(COMMIT) ISO(CS) DYNAMICRULES(RUN) PREPARE(NODEFER) KEEP(DYNAMIC(NO) PROTOCOL(DRDA) OPTHINT(N/P) IMMEDIATEWRITE(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','FFFFFFFF', '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 : DSNTDP3 PROGRAM : DSNTDP3 SCHEMA : M80119 EXT_NAME: 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) KEEP(DYNAMIC(NO) PROTOCOL(DRDA) OPTHINT(N/P) IMMEDIATEWRITE(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) KEEP(DYNAMIC(NO) PROTOCOL(DRDA) OPTHINT(N/P) IMMEDIATEWRITE(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.DSNTDP3.DSNTDP3.X'167241E51B69975C' ACQUIRE(USE) REOPT(N) RELEASE(COMMIT) ISO(CS) DYNAMICRULES(RUN) PREPARE(NODEFER) KEEP(DYNAMIC(NO) PROTOCOL(DRDA) OPTHINT(N/P) IMMEDIATEWRITE(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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA21  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 SQL ACTIVITY - TRACE

PAGE: 1-1  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 03/02/15 15:57:19.88

SUMMARIZED BY OCCURRENCE

PRIMAUTH: EDVA  
 ORIGAUTH: EDVA  
 ENDUSER : EDVA

CONNECT : BATCH  
 PLANNAME: DSNTEP2  
 WSNNAME : BATCH

CORRNAME: EDVADDL CONNTYPE: TSO  
 CORRNMBR: 'BLANK' THRDTYPE: ALLIED  
 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' VARI.PM96278 ACQUIRE (USE) REOPT(N) RELEASE (COMMIT) ISO (CS) DYNAMICRULES (RUN) PREPARE (NODEFER) KEEP DYNAMIC (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' VARI.PM96278 ACQUIRE (USE) REOPT(N) RELEASE (COMMIT) ISO (CS) DYNAMICRULES (RUN) PREPARE (NODEFER) KEEP DYNAMIC (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  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: DA21  
 DB2 VERSION: V10

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 SQL ACTIVITY - TRACE

REQUESTED PAGE: 1-2  
 FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 ACTUAL FROM: 03/02/15 15:57:19.88

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 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)                      REQUESTED PAGE: 1-3 GROUP: N/P                      SQL ACTIVITY - TRACE                      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)                      KEEP(DYNAMIC(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)                      KEEP(DYNAMIC(NO)                      PROTOCOL(DRDA)                      OPTHINT(N/P)
DESCRIBE		15:57:20.21				STMT# 5388                      SQLST:00000 SQLCO: 0
DESCRIBE		15:57:20.21				STMT# 5390                      SQLST:00000 SQLCO: 0

## 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 HIGHLIGHT ---
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-----
DATABASE MEMBER  PAGESET TYPE  SCANS  PROCESS EXAMINE  STAGE 1  STAGE 2  INSERTS  UPDATES  DELETES  PAGES-SCANNED  SCANS  DELETES
V71A  INDX  1  25770M  8589935K  0  16  25770M  0  0  0  0  0  0
V71A  SEQD  1  0  12885M  0  21475M  9  0  0  0  0  0  0
TOTAL  2  25770M  21475M  0  21475M  25770M  0  0  0  0  0  0
--- MINIBIND ---
QUERYNO : 1358  PLANNAME : DSNTEP3  COST : 3302  PARALLELISM_DISABLED : N/A
QBLOCKNO : 1  COLLID : DSNTEP3  PROGRAM : 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
-----
PLANO : 1  METHOD : FIRST TABLE ACCESSED  SORTN_UNIQ : NO  SORTC_UNIQ : NO
DATABASE : DSNDB04  NEXTSTEP : NOT APPLICABLE  SORTN_JOIN : NO  SORTC_JOIN : NO
OBJECT : 13  ACESSTYPE: 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 AET/EVENT    TOTAL TCB   TCB/EVENT    DETAIL
-----
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)  KEEP(DYNAMIC(NO)  PROTOCOL(DRDA)  OPTHINT(N/P)
                IMMEDIATEWRITE(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 AET/EVENT    TOTAL TCB   TCB/EVENT    DETAIL
-----
DBRM
# 1924          3
PACKAGE
# 1415          1
# 1846          6      0.061955  0.010326  PREPARE      CURSOR: C1
# 1900          6
# 1924          1      0.020686  0.020686  DELETE      CURSOR: C1          ISO(CS) REOPT(NO)  KEEP UPD LOCKS: N/A
# 1924          1      0.000521  0.000521  INSERT
# 1952          1      0.000007  0.000007  OPEN        CURSOR: C1          ISO(CS) REOPT(NO)  KEEP UPD LOCKS: NO
                SENSITIVE(UNS) TABLE(UNS)
                IMPLICIT COMMIT(NO )
# 1982          2      0.000083  0.000042  FETCH      CURSOR: C1          SENSITIVE(N/P) ORIENTATION(NEXT)
# 2277          1      0.000005  0.000005  CLOSE      CURSOR: C1          CLOSE TYPE(N/P)
# 5388          5
# 5390          5

```

### 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 LUID: 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          ACE ADDRESS
AET/EVENT      TCB/EVENT          TCB/EVENT          TCB/EVENT          DETAIL
-----
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 Performance Expert 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 1088). For DBATs, the requester location is different to the local location (for example, the second entry shown in “SQL Activity Trace Index” on page 1088).

```

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
TRACE START          CONNECT  CORRNAME  CORRNMBR  PRIMAUTH  ORIGAUTH  PLANNAME  REQUESTER  SERVER  INSTANCE  ACE  TRACE  STARTS
                   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 Performance Expert identifiers**

The identifiers define the order of the SQL Activity data printed. If you specify no OMEGAMON for Db2 Performance Expert 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 1112](#).

## 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 1091](#).

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 1091.

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) KEEP(DYNAMIC(NO)) PROTOCOL(DRDA) OPTHINT(N/P) IMMEDIATEWRITE(NO)

### SQL Activity Trace Statement Detail

For field information, see [“Field Descriptions of SQL Activity Detail Report and Trace Details”](#) on page 1091.

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 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 1091.

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 COLLID : DSNTPE3 EXT_NAM: SBTRIGR GRAN : STMT STMT : INSERT	SQLSTATE: N/P SQLCODE: 0 PROGRAM : DSNTPE3 SCHEMA : M80119 ACT_TIME : AFTER 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 1091.

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 SCHEDULE TIME: N/P	SQLSTATE: N/P SQLCODE: 0 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 SCHEDULE TIME: N/P PACKAGE: STLEC1.USRT001.	SQLSTATE: N/P SQLCODE: 0 SCHEDULE TCB: N/P SCHEMA : 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.

**COMMITTS**

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 102.](#)

### 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         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  PROGRAM : xxxxxxxx  CONSYS_TOKEN : xxxxxxxxxxxxxxxx  
BIND_TIME : 01/30/10 03:28:55.21  VERSION : xxxxxxxx10xxxxxxxx20xxxxxxxx30xxxxxxxx40xxxxxxxx50xxxxxxxxxxxx64  
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 : xxxxxxxx  FUNCT_NAME : xxxxxxxxxxxxxxxx  SPECIFIC_NAME : xxxxxxxxxxxxxxxx  FUNCT_TYPE : xxxxx  
VIEW_CREATOR : NAME-111  VIEW_NAME : xxxxxxxxxxxxxxxx  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.

#### PROGRAM

The program name.

#### CONSYS\_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 -----
```

RESOURCE MEMBER	NAME	TYPE	REQUEST	LOCAL	LATCH	SUSPEND IRLM Q	REASON GROUP	NOTIF	OTHER	NORML COUNT	RESUME AET	TIMEO COUNT	RESUME AET	DEADL COUNT	RESUME AET
DBPARALL SE11		TSPARALL DATAPAGE	NOTIFY	0	0	0	24 24	0	0	24	0.74382	0	N/C	0	N/C
DBPARALL SE11		TSPARALL DATAPAGE	LOCK	0	3	0	0 0	0	0	3	0.04096	0	N/C	0	N/C
DBPARALL SE12		TSPARALL DATAPAGE	LOCK	0	5	0	0 0	0	0	5	0.06957	0	N/C	0	N/C
DBPARALL SE21		TSPARALL DATAPAGE	UNLOCK	0	1	0	2 2	0	0	3	0.59058	0	N/C	0	N/C

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 331](#).

**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_UNCOMMITTED_READ

```

- SQL Activity trace, where WSNAME and TRANSACT, and the OMEGAMON for Db2 Performance Expert identifiers, PRMAUTH 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
PRMAUTH> ccccccc        CONNECT : BATCH      CORRNAME: YCLO6287  CONNTYPE: TSO
ORIGAUTH> ccccccc        PLANNAME: DSNLIA10  CORRNMBR: 'BLANK'  THRDTYPE: ALLIED
ENDUSER > ccccccc        WSNAME  > dddddddd  TRANSACT> eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
>PRMAUTH: ccccccc
cccccc
>ORIGAUTH: ccccccc
cccccc
>ENDUSER : ccccccc
cccccc
>WSNAME  : dddddddd
>TRANSACT: eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
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 > DSNDDYNAMICSQLCACHE  PROGRAM > ADBMAINI  CONSISTENCY_TOKEN : 13762228000042C
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 : DSNDDYNAMICSQLCACHECONTENTS
>PROGRAM: 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        ACCESSSTEP: 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_FAI7350BBE63 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_NAME: PETER_FAI7350BBE63597AA194FD11847636593984AEF7463972773384635EA635FC5348390AA8745FBFAE73652894BF6543A96
: 2EC1025863FE8A
-----
ACCESS_CREATOR  ACCESS_NAME >      MATCHCOLS  INDEXONLY  PREFETCH_INDEX  OPERATION  MIXOPSEQ
SYSADM          KNKPXPUS#SKNKPXPS 1          YES        NO              SCAN          1
>ACCESS_NAME : KNKPXPUS#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        ACCESSSTEP: 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 PARALLELISM_MODE: NO          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_NAME: PETER_AE17350930FE83274376359AA7436FB74376CE71009470F0E0848921763FFE737CEA26184F7365DAE8BB7653EF77FEAC73
: 6259837E6354
-----
ACCESS_CREATOR  ACCESS_NAME >      MATCHCOLS  INDEXONLY  PREFETCH_INDEX  OPERATION  MIXOPSEQ
SYSADM          PXPUS#SKNKNKGREKPX 1          YES        NO              SCAN          1
>ACCESS_NAME : PXPUS#SKNKNKGREKXPSPUAHTR0U6GXS#

```

### 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 -----
MEMBER   DATABASE  PAGESET  COUNT  LOCK  MAXIMUM PAGE  # LOCK  HIGHEST  TS  LOCK AVOID
SE11     DBPARALL  TSPARALL  1      PAGE  SIZE          OR ROW  ESCAL    LOCK   TYPE  SUCCESSFUL
SUMMARY : MAX PAGE OR ROW LOCKS HELD  1      1      LOCK  ESCALATIONS : SHARED  0      0      SPL   EXCLUSIVE  YES
                                                0
SE12     DBPARALL  TSPARALL  2      PAGE  5            0      0      SPL   YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD  5      5      LOCK  ESCALATIONS : SHARED  0      0      EXCLUSIVE  0
SE21     DBPARALL  TSPARALL  1      PAGE  2            0      0      SPL   YES
SUMMARY : MAX PAGE OR ROW LOCKS HELD  2      2      LOCK  ESCALATIONS : SHARED  0      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 PARALLEL AT BIND AT RUN AT REASON ELAPSED TIME CPU TIME TYPE MEMBERS
1 1 3 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 1112.

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:

$$\text{Normalized TCB time for that activity} = (TCB_P * (CV_O / CV_P))$$

**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 Performance Expert 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 ---												
DATABASE MEMBER	PAGESET TYPE	SCANS	ROWS		QUALIFIED AT		ROWS			PAGES-SCANNED	RI	
			PROCESS FST INS	EXAMINE N-PIPE	STAGE 1 PIPE RE	STAGE 2 INS WAIT	INSERTS	UPDATES	DELETES		SCANS	DELETES
DAPSTEST	SAPSCL	1	63792	63792	63792	33	0	0	0	2942	0	0
N/P	SEQD		0	0	0	0	0	0	0			
DAPSTEST	6	33	33	0	33	33	0	0	0	56	0	0
N/P	INDX		0	0	0	0	0	0	0			
DAPSTEST	6	33	33	33	0	0	0	0	0	32	0	0
N/P	SEQD		0	0	0	0	0	0	0			
309	2	127584	127584	127584	127584	2	0	0	0	5884	0	0
N/P	SEQD		0	0	0	0	0	0	0			
309	6	2	2	0	2	2	0	0	0	4	0	0
N/P	INDX		0	0	0	0	0	0	0			
309	6	2	2	2	0	0	0	0	0	2	0	0
N/P	SEQD		0	0	0	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          : SAUB5C  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:** SQLTOTO

**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          PROGRAM : DYNSEL08          CONSYS_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

### PROGRAM

Program name.

**Field Name:** QW0247PN

### CONSYS\_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.

**PAGSCAN**

The number of pages scanned.

**DATAAPT**

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 1151](#)
- [“Buffer Pool General ” on page 1156](#)
- [“Buffer Pool Write ” on page 1169](#)
- [“CPU Times ” on page 1177](#)
- [“Data Sharing Locking ” on page 1184](#)
- [“EDM Pool Activity ” on page 1218](#)
- [“ Global DDF Activity ” on page 1222](#)
- [“Group Buffer Pool Activity ” on page 1227](#)
- [“Highlights ” on page 1238](#)
- [“Locking Activity ” on page 1257](#)
- [“Log Activity ” on page 1260](#)
- [“Miscellaneous” on page 1264](#)
- [“Open/Close Activity ” on page 1267](#)
- [“Plan/Package Activity ” on page 1268](#)
- [“Query Parallelism ” on page 1276](#)
- [“RID List Processing ” on page 1291](#)
- [“ROWID ” on page 1294](#)
- [“ SQL DCL ” on page 1304](#)
- [“SQL DDL ” on page 1306](#)
- [“ SQL DML ” on page 1312](#)
- [“Stored Procedures ” on page 1297](#)
- [“Subsystem Services ” on page 1298](#)
- [“Triggers ” on page 1314](#)
- [“Use Currently Committed ” on page 1315](#)
- [“User-Defined Functions ” on page 1315](#)
- [“Workfile Database ” on page 1316](#)

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: RS250C1A          IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0)
   GROUP: N/P                  STATISTICS REPORT - LONG
   MEMBER: N/P
   SUBSYSTEM: OC1A
   DB2 VERSION: V13
                                     SCOPE: MEMBER
                                     PAGE: 1-1
                                     REQUESTED FROM: NOT SPECIFIED
                                     TO: NOT SPECIFIED
                                     INTERVAL FROM: 11/06/23 08:36:55.96
                                     TO: 11/06/23 08:38:00.80

---- HIGHLIGHTS -----
INTERVAL START : 11/06/23 08:36:55.96  SAMPLING START: 11/06/23 08:36:55.96  TOTAL THREADS : 0.00
INTERVAL END   : 11/06/23 08:38:00.80  SAMPLING END   : 11/06/23 08:38:00.80  TOTAL COMMITS : 0.00
INTERVAL ELAPSED: 1:04.846084          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    N/C    LOCK TABLE          0.00    0.00    N/C    N/C
INSERT              0.00    0.00    N/C    N/C    GRANT                 0.00    0.00    N/C    N/C
  NUMBER OF ROWS    0.00    0.00    N/C    N/C    REVOKE               0.00    0.00    N/C    N/C
  TYPE 1 INSERT ALGORITHM 0.00    0.00    N/C    N/C    SET HOST VARIABLE    0.00    0.00    N/C    N/C
  TYPE 2 INSERT ALGORITHM 0.00    0.00    N/C    N/C    SET CURRENT SQLID    0.00    0.00    N/C    N/C
  RE-ENABLE ATTEMPTED  0.00    0.00    N/C    N/C    SET CURRENT DEGREE   0.00    0.00    N/C    N/C
  RE-ENABLE SUCCESSFUL  0.00    0.00    N/C    N/C    SET CURRENT RULES    0.00    0.00    N/C    N/C
UPDATE              0.00    0.00    N/C    N/C    SET CURRENT PATH     0.00    0.00    N/C    N/C
  NUMBER OF ROWS    0.00    0.00    N/C    N/C    SET CURRENT PRECISION 0.00    0.00    N/C    N/C
MERGE               0.00    0.00    N/C    N/C    SET CURRENT LOCK TIMEOUT 0.00    0.00    N/C    N/C
DELETE              0.00    0.00    N/C    N/C    FROM APPLICATION     0.00    0.00    N/C    N/C
  NUMBER OF ROWS    0.00    0.00    N/C    N/C    FROM PROFILE         0.00    0.00    N/C    N/C
PREPARE              0.00    0.00    N/C    N/C    CONNECT TYPE 1       0.00    0.00    N/C    N/C
DESCRIBE             0.00    0.00    N/C    N/C    CONNECT TYPE 2       0.00    0.00    N/C    N/C
DESCRIBE TABLE     0.00    0.00    N/C    N/C    RELEASE              0.00    0.00    N/C    N/C
OPEN                 0.00    0.00    N/C    N/C    SET CONNECTION       0.00    0.00    N/C    N/C
CLOSE               0.00    0.00    N/C    N/C
FETCH               0.00    0.00    N/C    N/C    ASSOCIATE LOCATORS   0.00    0.00    N/C    N/C
  NUMBER OF ROWS    0.00    0.00    N/C    N/C    ALLOCATE CURSOR     0.00    0.00    N/C    N/C
TOTAL DML           0.00    0.00    N/C    N/C    HOLD LOCATOR         0.00    0.00    N/C    N/C
                                     FREE LOCATOR         0.00    0.00    N/C    N/C
                                     TOTAL                0.00    0.00    N/C    N/C

STORED PROCEDURES   QUANTITY /SECOND /THREAD /COMMIT  TRIGGERS              QUANTITY /SECOND /THREAD /COMMIT
-----
CALL STATEMENT EXECUTED 0.00    0.00    N/C    N/C    STATEMENT TRIGGER ACTIVATED 0.00    0.00    N/C    N/C
PROCEDURE ABENDED      0.00    0.00    N/C    N/C    ROW TRIGGER ACTIVATED     0.00    0.00    N/C    N/C
CALL STATEMENT TIMED OUT 0.00    0.00    N/C    N/C    SQL ERROR OCCURRED        0.00    0.00    N/C    N/C
CALL STATEMENT REJECTED 0.00    0.00    N/C    N/C

USER DEFINED FUNCTIONS  QUANTITY /SECOND /THREAD /COMMIT  ROW ID              QUANTITY /SECOND /THREAD /COMMIT
-----
EXECUTED              0.00    0.00    N/C    N/C    DIRECT ACCESS         0.00    0.00    N/C    N/C
ABENDED               0.00    0.00    N/C    N/C    INDEX USED            0.00    0.00    N/C    N/C
TIMED OUT             0.00    0.00    N/C    N/C    TABLE SPACE SCAN USED 0.00    0.00    N/C    N/C
REJECTED              0.00    0.00    N/C    N/C

USE CURRENTLY COMMITTED  QUANTITY /SECOND /THREAD /COMMIT
-----
INSERT ROWS SKIPPED    0.00    0.00    N/C    N/C
DELETE ROWS ACCESSED  0.00    0.00    N/C    N/C
UPDATE ROWS ACCESSED  0.00    0.00    N/C    N/C
N/C

```

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-2  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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	N/C	DROP TABLE		0.00	0.00	N/C	N/C
CREATE GLOBAL TEMP TABLE	0.00	0.00	N/C	N/C	DROP INDEX		0.00	0.00	N/C	N/C
DECLARE GLOBAL TEMP TABLE	0.00	0.00	N/C	N/C	DROP VIEW		0.00	0.00	N/C	N/C
CREATE AUXILIARY TABLE	0.00	0.00	N/C	N/C	DROP SYNONYM		0.00	0.00	N/C	N/C
CREATE INDEX	0.00	0.00	N/C	N/C	DROP TABLESPACE		0.00	0.00	N/C	N/C
CREATE VIEW	0.00	0.00	N/C	N/C	DROP DATABASE		0.00	0.00	N/C	N/C
CREATE SYNONYM	0.00	0.00	N/C	N/C	DROP STOGROUP		0.00	0.00	N/C	N/C
CREATE TABLESPACE	0.00	0.00	N/C	N/C	DROP ALIAS		0.00	0.00	N/C	N/C
CREATE DATABASE	0.00	0.00	N/C	N/C	DROP PACKAGE		0.00	0.00	N/C	N/C
CREATE STOGROUP	0.00	0.00	N/C	N/C	DROP DISTINCT TYPE		0.00	0.00	N/C	N/C
CREATE ALIAS	0.00	0.00	N/C	N/C	DROP FUNCTION		0.00	0.00	N/C	N/C
CREATE DISTINCT TYPE	0.00	0.00	N/C	N/C	DROP PROCEDURE		0.00	0.00	N/C	N/C
CREATE FUNCTION	0.00	0.00	N/C	N/C	DROP TRIGGER		0.00	0.00	N/C	N/C
CREATE PROCEDURE	0.00	0.00	N/C	N/C	DROP SEQUENCE		0.00	0.00	N/C	N/C
CREATE TRIGGER	0.00	0.00	N/C	N/C	DROP ROLE		0.00	0.00	N/C	N/C
CREATE SEQUENCE	0.00	0.00	N/C	N/C	DROP TRUSTED CONTEXT		0.00	0.00	N/C	N/C
CREATE ROLE	0.00	0.00	N/C	N/C	DROP MASK / PERMISSION		0.00	0.00	N/C	N/C
CREATE TRUSTED CONTEXT	0.00	0.00	N/C	N/C	DROP VARIABLE		0.00	0.00	N/C	N/C
CREATE MASK / PERMISSION	0.00	0.00	N/C	N/C	RENAME TABLE		0.00	0.00	N/C	N/C
CREATE VARIABLE	0.00	0.00	N/C	N/C	RENAME INDEX		0.00	0.00	N/C	N/C
ALTER TABLE	0.00	0.00	N/C	N/C	TRUNCATE TABLE		0.00	0.00	N/C	N/C
ALTER INDEX	0.00	0.00	N/C	N/C						
ALTER VIEW	0.00	0.00	N/C	N/C						
ALTER TABLESPACE	0.00	0.00	N/C	N/C	COMMENT ON		0.00	0.00	N/C	N/C
ALTER DATABASE	0.00	0.00	N/C	N/C	LABEL ON		0.00	0.00	N/C	N/C
ALTER STOGROUP	0.00	0.00	N/C	N/C	TOTAL		0.00	0.00	N/C	N/C
ALTER FUNCTION	0.00	0.00	N/C	N/C						
ALTER PROCEDURE	0.00	0.00	N/C	N/C						
ALTER SEQUENCE	0.00	0.00	N/C	N/C						
ALTER JAR	0.00	0.00	N/C	N/C						
ALTER TRUSTED CONTEXT	0.00	0.00	N/C	N/C						
ALTER MASK / PERMISSION	0.00	0.00	N/C	N/C						

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-3  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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	138.00	N/A	N/A	N/A
STEALABLE PAGES	3.00	N/A	N/A	N/A
FREE PAGES	N/A	N/A	N/A	N/A
% PAGES IN USE	4.62	N/A	N/A	N/A
FAILS DUE TO DBD POOL FULL	0.00	0.00	N/C	N/C
PAGES IN STMT POOL (ABOVE)	14173.00	N/A	N/A	N/A
HELD BY STATEMENTS	0.00	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	N/C
PAGES IN SKEL POOL (ABOVE)	20480.00	N/A	N/A	N/A
HELD BY SKCT	2.00	N/A	N/A	N/A
HELD BY SKPT	34.00	N/A	N/A	N/A
STEALABLE PAGES	36.00	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	N/C
DBD REQUESTS	2.00	0.03	N/C	N/C
DBD NOT FOUND	0.00	0.00	N/C	N/C
DBD HIT RATIO (%)	100.00	N/A	N/A	N/A
CT REQUESTS	0.00	0.00	N/C	N/C
CT NOT FOUND	0.00	0.00	N/C	N/C
CT HIT RATIO (%)	N/C	N/A	N/A	N/A
PT REQUESTS	0.00	0.00	N/C	N/C
PT NOT FOUND	0.00	0.00	N/C	N/C
PT HIT RATIO (%)	N/C	N/A	N/A	N/A
PKG SEARCH NOT FOUND	0.00	0.00	N/C	N/C
PKG SEARCH NOT FOUND INSERT	0.00	0.00	N/C	N/C
PKG SEARCH NOT FOUND DELETE	0.00	0.00	N/C	N/C
STATEMENTS IN GLOBAL CACHE	0.00	N/A	N/A	N/A

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-4  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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	N/C	IDENTIFY	0.00	0.00	N/C	N/C
FULL PREPARES	0.00	0.00	N/C	N/C	CREATE THREAD	0.00	0.00	N/C	N/C
SHORT PREPARES	0.00	0.00	N/C	N/C	SIGNON	0.00	0.00	N/C	N/C
SHORT PREPARES	0.00	0.00	N/C	N/C	TERMINATE	3.00	0.05	N/C	N/C
BASED ON CACHE	0.00	0.00	N/C	N/C	ROLLBACK	0.00	0.00	N/C	N/C
BASED ON CATALOG	0.00	0.00	N/C	N/C	COMMIT PHASE 1	0.00	0.00	N/C	N/C
LOOK-UP IN CATALOG	0.00	0.00	N/C	N/C	COMMIT PHASE 2	0.00	0.00	N/C	N/C
CACHE HIT RATIO (%)	N/C	N/A	N/A	N/A	READ ONLY COMMIT	0.00	0.00	N/C	N/C
CACHE-CATALOG HIT RATIO (%)	N/C	N/A	N/A	N/A	UNITS OF RECOVERY INDOUBT	0.00	0.00	N/C	N/C
TOTAL PREPARES	0.00	0.00	N/C	N/C	UNITS OF REC.INDBT RESOLVED	0.00	0.00	N/C	N/C
EXPLICIT PREPARES	0.00	0.00	N/C	N/C	SYNCHS(SINGLE PHASE COMMIT)	0.00	0.00	N/C	N/C
IMPLICIT PREPARES	0.00	0.00	N/C	N/C	QUEUED AT CREATE THREAD	0.00	0.00	N/C	N/C
STABILIZED PREPARES	0.00	0.00	N/C	N/C	SUBSYSTEM ALLIED MEMORY EOT	0.00	0.00	N/C	N/C
PREPARES AVOIDED	0.00	0.00	N/C	N/C	SUBSYSTEM ALLIED MEMORY EOM	0.00	0.00	N/C	N/C
CACHE LIMIT EXCEEDED	0.00	0.00	N/C	N/C	SYSTEM EVENT CHECKPOINT	0.00	0.00	N/C	N/C
PREP STMT PURGED	0.00	0.00	N/C	N/C	HIGH WATER MARK IDBACK	5.00	0.08	N/C	N/C
LOCAL CACHE HIT RATIO (%)	N/C	N/A	N/A	N/A	HIGH WATER MARK IDFORE	0.00	0.00	N/C	N/C
CSWL - STMTS PARSED	0.00	0.00	N/C	N/C	HIGH WATER MARK CTHREAD	3.00	0.05	N/C	N/C
CSWL - LITS REPLACED	0.00	0.00	N/C	N/C					
CSWL - MATCHES FOUND	0.00	0.00	N/C	N/C					
CSWL - DUPLS CREATED	0.00	0.00	N/C	N/C					

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-5  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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	59.00	N/A	N/A	N/A	READS SATISFIED-OUTPUT BUFF	0.00	0.00	N/C	N/C
OPEN DATASETS	59.00	N/A	N/A	N/A	READS SATISFIED-OUTP.BUF(%)	N/C			
DS NOT IN USE,NOT CLOSE-HWM	59.00	N/A	N/A	N/A	READS SATISFIED-ACTIVE LOG	0.00	0.00	N/C	N/C
DS NOT IN USE,NOT CLOSED	59.00	N/A	N/A	N/A	READS SATISFIED-ACTV.LOG(%)	N/C			
IN USE DATA SETS	0.00	N/A	N/A	N/A	READS SATISFIED-ARCHIVE LOG	0.00	0.00	N/C	N/C
DSETS CLOSED-THRESH.REACHED	0.00	0.00	N/C	N/C	READS SATISFIED-ARCH.LOG(%)	N/C			
DSETS CLOSED-INFREQ ACCESS	0.00	0.00	N/C	N/C	TAPE VOLUME CONTENTION WAIT	0.00	0.00	N/C	N/C
DSETS CLOSED-UTIL ACC ONLY	0.00	0.00	N/C	N/C	READ DELAYED-UNAVAIL.RESOUR	0.00	0.00	N/C	N/C
DSETS CONVERTED R/W -> R/O	0.00	0.00	N/C	N/C	ARCHIVE LOG READ ALLOCATION	0.00	0.00	N/C	N/C
					ARCHIVE LOG WRITE ALLOCAT.	0.00	0.00	N/C	N/C
					CONTR.INTERV.OFFLOADED-ARCH	0.00	0.00	N/C	N/C
					LOOK-AHEAD MOUNT ATTEMPTED	0.00	0.00	N/C	N/C
					LOOK-AHEAD MOUNT SUCCESSFUL	0.00	0.00	N/C	N/C
					UNAVAILABLE OUTPUT LOG BUFF	0.00	0.00	N/C	N/C
					OUTPUT LOG BUFFER PAGED IN	0.00	0.00	N/C	N/C
					LOG RECORDS CREATED	0.00	0.00	N/C	N/C
					LOG CI CREATED	1.00	0.02	N/C	N/C
					LOG WRITE I/O REQ (LOG1&2)	4.00	0.06	N/C	N/C
					LOG CI WRITTEN (LOG1&2)	4.00	0.06	N/C	N/C
					LOG RATE FOR 1 LOG (MB)	N/A			
					LOG SUSPENDS ASYNC DUPLEX	0.00	0.00	N/C	N/C
					LOG SUSP TIME ASYNC DUPLEX	0.000000	N/A	N/A	N/A
					CDDS ACCESS REQUESTS	0.00	0.00	N/C	N/C
					ZHYPERLINKLOG WRITES	0.00	0.00	N/C	N/C
					ZHYPERLINKLOG WRT FAIL SYNC	0.00	0.00	N/C	N/C



1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-6  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 OUTAGE ELAPSED: 0.000000 DATA SHARING MEMBER: N/A

PLAN/PACKAGE PROCESSING	QUANTITY	/SECOND	/THREAD	/COMMIT
INCREMENTAL BINDS	0.00	0.00	N/C	N/C
PLAN ALLOCATION ATTEMPTS	0.00	0.00	N/C	N/C
PLAN ALLOCATION SUCCESSFUL	0.00	0.00	N/C	N/C
PACKAGE ALLOCATION ATTEMPT	0.00	0.00	N/C	N/C
PACKAGE ALLOCATION SUCCESS	0.00	0.00	N/C	N/C
PLANS BOUND	0.00	0.00	N/C	N/C
BIND ADD SUBCOMMANDS	0.00	0.00	N/C	N/C
BIND REPLACE SUBCOMMANDS	0.00	0.00	N/C	N/C
TEST BINDS NO PLAN-ID	0.00	0.00	N/C	N/C
PACKAGES BOUND	0.00	0.00	N/C	N/C
BIND ADD PACKAGE SUBCOMMAND	0.00	0.00	N/C	N/C
BIND REPLACE PACKAGE SUBCOM	0.00	0.00	N/C	N/C
AUTOMATIC BIND ATTEMPTS	0.00	0.00	N/C	N/C
AUTOMATIC BINDS SUCCESSFUL	0.00	0.00	N/C	N/C
AUTO.BIND INVALID RES. IDS	0.00	0.00	N/C	N/C
AUTO.BIND PACKAGE ATTEMPTS	0.00	0.00	N/C	N/C
AUTO.BIND PACKAGES SUCCESS	0.00	0.00	N/C	N/C
REBIND SUBCOMMANDS	0.00	0.00	N/C	N/C
ATTEMPTS TO REBIND A PLAN	0.00	0.00	N/C	N/C
PLANS REBOUND	0.00	0.00	N/C	N/C
REBIND PACKAGE SUBCOMMANDS	0.00	0.00	N/C	N/C
ATTEMPTS TO REBIND PACKAGE	0.00	0.00	N/C	N/C
PACKAGES REBOUND	0.00	0.00	N/C	N/C
FREE PLAN SUBCOMMANDS	0.00	0.00	N/C	N/C
ATTEMPTS TO FREE A PLAN	0.00	0.00	N/C	N/C
PLANS FREED	0.00	0.00	N/C	N/C
FREE PACKAGE SUBCOMMANDS	0.00	0.00	N/C	N/C
ATTEMPTS TO FREE A PACKAGE	0.00	0.00	N/C	N/C
PACKAGES FREED	0.00	0.00	N/C	N/C

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-7  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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	RUN MLUTIL		0.00	0.00
DISPLAY LOCATION	0.00	0.00				
DISPLAY ARCHIVE	0.00	0.00	RECOVER BSDS		0.00	0.00
DISPLAY BUFFERPOOL	0.00	0.00	RECOVER INDOUBT		0.00	0.00
DISPLAY GROUPBUFFERPOOL	0.00	0.00	RESET INDOUBT		0.00	0.00
DISPLAY GROUP	0.00	0.00	RESET GENERICLU		0.00	0.00
DISPLAY PROCEDURE	0.00	0.00	ARCHIVE LOG		0.00	0.00
DISPLAY FUNCTION	0.00	0.00				
DISPLAY LOG	0.00	0.00	SET ARCHIVE		0.00	0.00
DISPLAY DDF	0.00	0.00	SET LOG		0.00	0.00
DISPLAY PROFILE	0.00	0.00	SET SYSPARM		0.00	0.00
DISPLAY ACCEL	0.00	0.00				
DISPLAY DYNQUERYCAPTURE	0.00	0.00	ACCESS DATABASE		0.00	0.00
DISPLAY ML	0.00	0.00	ACTIVATE FUNCTION LEV		0.00	0.00
DISPLAY RESTSVC	0.00	0.00				
DISPLAY BLOCKERS	0.00	0.00	UNRECOGNIZED COMMANDS		0.00	0.00
DISPLA STATS	0.00	0.00				
			TOTAL		1.00	0.02
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	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				
START ML	0.00	0.00				
START RESTSVC	0.00	0.00				
START CDDS	0.00	0.00				
STOP DATABASE	0.00	0.00				
STOP TRACE	1.00	0.02				
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				
STOP ML	0.00	0.00				
STOP RESTSVC	0.00	0.00				
STOP CDDS	0.00	0.00				

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-8  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START	11/06/23 08:36:55.96	SAMPLING START	11/06/23 08:36:55.96	TOTAL THREADS	:	0.00
INTERVAL END	11/06/23 08:38:00.80	SAMPLING END	11/06/23 08:38:00.80	TOTAL COMMITS	:	0.00
INTERVAL ELAPSED:	1:04.846084	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	N/C	TOTAL AUTH ATTEMPTS	2.00	0.03	N/C	N/C
NOT USED-NO STORAGE	0.00	0.00	N/C	N/C	TOTAL AUTH SUCC	2.00	0.03	N/C	N/C
NOT USED-MAX LIMIT	0.00	0.00	N/C	N/C	PLAN-AUTH SUCC-W/O CATALOG	0.00	0.00	N/C	N/C
NOT USED-NOT CONSTRUCTED	0.00	0.00	N/C	N/C	PLAN-AUTH SUCC-PUB-W/O CAT	0.00	0.00	N/C	N/C
					PLAN-AUTH UNSUCC-CACHE	0.00	0.00	N/C	N/C
					PLAN-AUTH OVERWRT - AUTH ID	0.00	0.00	N/C	N/C
MAX RID BLOCKS ALLOCATED	0.00	N/A	N/A	N/A					
CURRENT RID BLOCKS ALLOCAT.	0.00	N/A	N/A	N/A					
					PKG-AUTH SUCC-W/O CATALOG	0.00	0.00	N/C	N/C
MAX RID BLOCKS OVERFLOWED	0.00	N/A	N/A	N/A	PKG-AUTH SUCC-PUB-W/O CAT	0.00	0.00	N/C	N/C
CURRENT RID BLOCKS OVERFL.	0.00	N/A	N/A	N/A	PKG-AUTH UNSUCC-CACHE	0.00	0.00	N/C	N/C
					PKG CACHE OVERWRT - AUTH ID	0.00	0.00	N/C	N/C
STORAGE LIMIT EXCEEDED	0.00	0.00	N/C	N/C	PKG CACHE OVERWRT - ENTRY	0.00	0.00	N/C	N/C
RDS LIMIT EXCEEDED	0.00	0.00	N/C	N/C					
DM LIMIT EXCEEDED	0.00	0.00	N/C	N/C	RTN-AUTH SUCC-W/O CATALOG	0.00	0.00	N/C	N/C
PROC. LIMIT EXCEEDED	0.00	0.00	N/C	N/C	RTN-AUTH SUCC-PUB-W/O CAT	0.00	0.00	N/C	N/C
OVERFLOWED-NO STORAGE	0.00	0.00	N/C	N/C	RTN-AUTH UNSUCC-CACHE	0.00	0.00	N/C	N/C
OVERFLOWED-MAX LIMIT	0.00	0.00	N/C	N/C	RTN CACHE OVERWRT - AUTH ID	0.00	0.00	N/C	N/C
INTERRUPTED (HJ)-NO STORAGE	0.00	0.00	N/C	N/C	RTN CACHE OVERWRT - ENTRY	0.00	0.00	N/C	N/C
INTERRUPTED (HJ)-MAX LIMIT	0.00	0.00	N/C	N/C	RTN CACHE - ENTRY NOT ADDED	0.00	0.00	N/C	N/C
SKIPPED-INDEX KNOWN	0.00	0.00	N/C	N/C					

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-9  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START	11/06/23 08:36:55.96	SAMPLING START	11/06/23 08:36:55.96	TOTAL THREADS	:	0.00
INTERVAL END	11/06/23 08:38:00.80	SAMPLING END	11/06/23 08:38:00.80	TOTAL COMMITS	:	0.00
INTERVAL ELAPSED:	1:04.846084	OUTAGE ELAPSED:	0.000000	DATA SHARING MEMBER:	:	N/A

LOCKING ACTIVITY	QUANTITY	/SECOND	/THREAD	/COMMIT	DATA SHARING LOCKING	QUANTITY	/SECOND	/THREAD	/COMMIT
SUSPENSIONS (ALL)	0.00	0.00	N/C	N/C	GLOBAL CONTENTION RATE (%)	N/C			
SUSPENSIONS (LOCK ONLY)	0.00	0.00	N/C	N/C	FALSE CONTENTION RATE (%)	N/C			
SUSPENSIONS (IRLM LATCH)	0.00	0.00	N/C	N/C	P/L-LOCKS XES RATE (%)	0.00			
SUSPENSIONS (OTHER)	0.00	0.00	N/C	N/C					
					LOCK REQUESTS (P-LOCKS)	0.00	0.00	N/C	N/C
TIMEOUTS	0.00	0.00	N/C	N/C	UNLOCK REQUESTS (P-LOCKS)	0.00	0.00	N/C	N/C
DEADLOCKS	0.00	0.00	N/C	N/C	CHANGE REQUESTS (P-LOCKS)	0.00	0.00	N/C	N/C
LOCK REQUESTS	5.00	0.08	N/C	N/C	SYNCH.XES - LOCK REQUESTS	0.00	0.00	N/C	N/C
UNLOCK REQUESTS	13.00	0.20	N/C	N/C	SYNCH.XES - CHANGE REQUESTS	0.00	0.00	N/C	N/C
QUERY REQUESTS	0.00	0.00	N/C	N/C	SYNCH.XES - UNLOCK REQUESTS	0.00	0.00	N/C	N/C
CHANGE REQUESTS	0.00	0.00	N/C	N/C	BACKGROUND.XES -CHILD LOCKS	0.00	0.00	N/C	N/C
OTHER REQUESTS	0.00	0.00	N/C	N/C	ASYNCH.XES -CONVERTED LOCKS	0.00	0.00	N/C	N/C
LOCK ESCALATION (SHARED)	0.00	0.00	N/C	N/C	SUSPENDS - IRLM GLOBAL CONT	0.00	0.00	N/C	N/C
LOCK ESCALATION (EXCLUSIVE)	0.00	0.00	N/C	N/C	SUSPENDS - XES GLOBAL CONT.	0.00	0.00	N/C	N/C
					SUSPENDS - FALSE CONT. MBR	N/A	N/A	N/A	N/A
DRAIN REQUESTS	0.00	0.00	N/C	N/C	SUSPENDS - FALSE CONT. LPAR	0.00	0.00	N/C	N/C
DRAIN REQUESTS FAILED	0.00	0.00	N/C	N/C	NO DELAY LOCK REQ REJECTS	0.00	0.00	N/C	N/C
CLAIM REQUESTS	4.00	0.06	N/C	N/C	INCOMPATIBLE RETAINED LOCK	0.00	0.00	N/C	N/C
CLAIM REQUESTS FAILED	0.00	0.00	N/C	N/C					
CONDITIONAL LOCK FAILURES	0.00	0.00	N/C	N/C	NOTIFY MESSAGES SENT	0.00	0.00	N/C	N/C
UNCONDITIONAL LOCK RETIRES	0.00	0.00	N/C	N/C	NOTIFY MESSAGES RECEIVED	0.00	0.00	N/C	N/C
					P-LOCK/NOTIFY EXITS ENGINES	0.00	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	0.00	0.00	N/C	N/C
					PAGE P-LOCK NEGOTIATION	0.00	0.00	N/C	N/C
					OTHER P-LOCK NEGOTIATION	0.00	0.00	N/C	N/C
					P-LOCK CHANGE DURING NEG.	0.00	0.00	N/C	N/C

IRLM LATCH CONTENTIONS	QUANTITY	/SECOND	/THREAD	/COMMIT	IRLM SYSTEM ACTIVITY	QUANTITY	/SECOND	/THREAD	/COMMIT
MAIN CONT - MAIN LATCH HELD	0.00	0.00	N/C	N/C	LOCAL RESOURCE CONTENTIONS	0.00	0.00	N/C	N/C
MAIN CONT - USE COUNT NOT 0	0.00	0.00	N/C	N/C	GLOBAL DEADLOCKS	0.00	0.00	N/C	N/C
SEC CONT - MAIN LATCH HELD	0.00	0.00	N/C	N/C	LOCAL DEADLOCKS	0.00	0.00	N/C	N/C
GENERIC LATCH CONTENTIONS	0.00	0.00	N/C	N/C	SUSPEND EXITS	0.00	0.00	N/C	N/C
RESOURCE LATCH CONTENTIONS	0.00	0.00	N/C	N/C	RESUME EXITS	0.00	0.00	N/C	N/C
NOTIFY CB LATCH CONT-NOTIFY	0.00	0.00	N/C	N/C	STATUS EXITS	0.00	0.00	N/C	N/C
ACTIVE IRLM CB CONTENTIONS	0.00	0.00	N/C	N/C	DEADLOCK EXITS	0.00	0.00	N/C	N/C
					TIMEOUT EXITS	0.00	0.00	N/C	N/C
					P-LOCK EXITS	0.00	0.00	N/C	N/C
					NOTIFY EXITS	0.00	0.00	N/C	N/C
					CQE USE COUNT	0.00	0.00	N/C	N/C
					CQE GENERATED	0.00	0.00	N/C	N/C
					IRLM PURGED - TIMEOUT	0.00	0.00	N/C	N/C
					IRLM ABENDS RETRYABLE	0.00	0.00	N/C	N/C
					IRLM ABENDS NON RETRYABLE	0.00	0.00	N/C	N/C

1 LOCATION: RS250C1A  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: OC1A  
 DB2 VERSION: V13

IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0)  
 STATISTICS REPORT - LONG  
 SCOPE: MEMBER

PAGE: 1-10  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 11/06/23 08:36:55.96  
 TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96    SAMPLING START: 11/06/23 08:36:55.96    TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80    SAMPLING END : 11/06/23 08:38:00.80    TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084    OUTAGE ELAPSED: 0.000000    DATA SHARING MEMBER: N/A

RESOURCE HASH TBL LTCH CONT	QUANTITY	/SECOND	/THREAD	/COMMIT	WORKUNIT HASH TBL LTCH CONT	QUANTITY	/SECOND	/THREAD	/COMMIT
LOCK	0.00	0.00	N/C	N/C	LOCK	0.00	0.00	N/C	N/C
UNLOCK	0.00	0.00	N/C	N/C	UNLOCK	0.00	0.00	N/C	N/C
CHANGE	0.00	0.00	N/C	N/C	CHANGE	0.00	0.00	N/C	N/C
COMPAT	0.00	0.00	N/C	N/C	COMPAT	0.00	0.00	N/C	N/C
ASYNC LOCK	0.00	0.00	N/C	N/C	ASYNC LOCK	0.00	0.00	N/C	N/C
QUERY FAST	0.00	0.00	N/C	N/C	QUERY FAST	0.00	0.00	N/C	N/C
NOTIFY	0.00	0.00	N/C	N/C	SYNC	0.00	0.00	N/C	N/C
GLOBAL DDF ACTIVITY					QUERY PARALLELISM				
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	N/C
COLD START CONNECTIONS	0.00	0.00	N/C	N/C	RAN AS PLANNED	0.00	0.00	N/C	N/C
WARM START CONNECTIONS	0.00	0.00	N/C	N/C	RAN REDUCED-STORAGE	0.00	0.00	N/C	N/C
RESYNCHRONIZATION ATTEMPTED	0.00	0.00	N/C	N/C	RAN REDUCED-NEGOTIATION	0.00	0.00	N/C	N/C
RESYNCHRONIZATION SUCCEEDED	0.00	0.00	N/C	N/C	SEQUENTIAL-CURSOR	0.00	0.00	N/C	N/C
CUR TYPE 1 INACTIVE DBATS	0.00	N/A	N/A	N/A	SEQUENTIAL-NO ESA	0.00	0.00	N/C	N/C
HWM TYPE 1 INACTIVE DBATS	1.00	N/A	N/A	N/A	SEQUENTIAL-NO BUFFER	0.00	0.00	N/C	N/C
TYPE 1 CONNECTIONS TERMINAT	0.00	0.00	N/A	N/A	SEQUENTIAL-AUTONOMOUS PROC	0.00	0.00	N/C	N/C
CUR INACTIVE CONNS (TYPE 2)	0.00	N/A	N/A	N/A	SEQUENTIAL-NEGOTIATION	0.00	0.00	N/C	N/C
HWM INACTIVE CONNS (TYPE 2)	0.00	N/A	N/A	N/A	ONE DB2 - COORDINATOR = NO	0.00	0.00	N/C	N/C
ACC QU INACT CONNS (TYPE 2)	0.00	0.00	N/A	N/A	ONE DB2 - ISOLATION LEVEL	0.00	0.00	N/C	N/C
CUR QU INACT CONNS (TYPE 2)	0.00	N/A	N/A	N/A	ONE DB2 - DCL TTABLE	0.00	0.00	N/C	N/C
MIN QUEUE TIME	0.000000	N/A	N/A	N/A	MEMBER SKIPPED (%)	N/C			
MAX QUEUE TIME	0.000000	N/A	N/A	N/A	REFORM PARAL-CONFIG CHANGED	0.00	0.00	N/C	N/C
AVG QUEUE TIME	0.000000	N/A	N/A	N/A	REFORM PARAL-NO BUFFER	0.00	0.00	N/C	N/C
HWM QU INACT CONNS (TYPE 2)	0.00	N/A	N/A	N/A					
CUR ACTIVE AND DISCON DBATS	0.00	N/A	N/A	N/A					
HWM ACTIVE AND DISCON DBATS	1.00	N/A	N/A	N/A					
HWM TOTL REMOTE CONNECTIONS	1.00	N/A	N/A	N/A					
CUR DISCON DBATS NOT IN USE	0.00	N/A	N/A	N/A					
HWM DISCON DBATS NOT IN USE	0.00	N/A	N/A	N/A					
DBATS CREATED	0.00	N/A	N/A	N/A					
DISCON (POOL) DBATS REUSED	0.00	N/A	N/A	N/A					
DBATS TERM SINCE DDF START	0.00	N/A	N/A	N/A					
DBATS TERM-POOLINAC	0.00	N/A	N/A	N/A					
DBATS TERM-REUSE LIMIT	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					
CUR DBATS SUSPND PROF EXCEP	0.00	N/A	N/A	N/A					
HWM DBATS SUSPND PROF EXCEP	0.00	N/A	N/A	N/A					

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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	0.009466	0.000006	0.001086	0.010558	0.000047	N/C
DATABASE SERVICES ADDRESS SPACE	0.002305	0.000683	0.000983	0.003970	0.001562	N/C
IRLM	0.000001	0.000000	0.014954	0.014955	0.000000	N/C
DDF ADDRESS SPACE	0.000836	0.000004	0.000216	0.001056	0.000000	N/C
TOTAL	0.012608	0.000693	0.017239	0.030540	0.001608	N/C

CPU TIMES 2	CPU FOR I/O	INTEGRATED SYNCHRONIZATION (INSYNC) STATISTICS	VALUE
SYSTEM SERVICES ADDRESS SPACE	0.000016	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	0.000000		
TOTAL	0.000016		

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	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P	0.00
IMS	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P	0.00
RRSAF	2:00.008076	0.002213	0.000000	0.005737	0.000890	0.000000	0.003911	0.000936	1.00
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	N/C	LOG RECORDS CAPTURED	0.00	0.00	N/C	N/C
UNRECOGNIZED	0.00	0.00	N/C	N/C	LOG READS PERFORMED	0.00	0.00	N/C	N/C
COMMAND REQUESTS	1.00	0.02	N/C	N/C	LOG RECORDS RETURNED	0.00	0.00	N/C	N/C
READA REQUESTS	10.00	0.15	N/C	N/C	DATA ROWS RETURNED	0.00	0.00	N/C	N/C
READS REQUESTS	0.00	0.00	N/C	N/C	DESCRIBES PERFORMED	0.00	0.00	N/C	N/C
WRITE REQUESTS	0.00	0.00	N/C	N/C	DATA DESCRIPTIONS RETURNED	0.00	0.00	N/C	N/C
TOTAL	11.00	0.17	N/C	N/C	TABLES RETURNED	0.00	0.00	N/C	N/C

IFC DEST.	WRITTEN	NOT WRTN	BUF.OVER	NOT ACCP	WRT.FAIL	IFC RECORD COUNTS	WRITTEN	NOT WRTN
SMF	6.00	0.00	0.00	0.00	0.00	SYSTEM RELATED	3.00	0.00
GF1	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	0.00	ACCOUNTING	0.00	0.00
OP2	1.00	0.00	N/A	0.00	0.00	START TRACE	0.00	0.00
OP3	12.00	0.00	N/A	0.00	0.00	STOP TRACE	1.00	0.00
OP4	0.00	0.00	N/A	0.00	0.00	SYSTEM PARAMETERS	1.00	0.00
OP5	0.00	0.00	N/A	0.00	0.00	SYS. PARAMS-BPOOLS	3.00	0.00
OP6	0.00	0.00	N/A	0.00	0.00	AUDIT	0.00	0.00
OP7	0.00	0.00	N/A	0.00	0.00			
OP8	0.00	0.00	N/A	0.00	0.00	TOTAL	11.00	0.00
RES	0.00	N/A	N/A	N/A	N/A			
TOTAL	19.00	0.00		0.00	0.00			

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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	N/C	LC01-LC04	0.00	0.00	0.00	0.00
STORAGE THRESH RECS WRITTEN	0.00	0.00	N/C	N/C	LC05-LC08	0.00	0.00	0.00	0.00
STALEN THRESH RECS WRITTEN	0.00	0.00	N/C	N/C	LC09-LC12	0.00	0.00	0.00	0.00
RECS UNQUALIFIED FOR ROLLUP	0.00	0.00	N/C	N/C	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	0.59	0.00
					LC25-LC28	0.00	0.00	0.00	0.00
					LC29-LC32	0.00	0.00	0.00	0.00
					LC33-LC36	0.00	0.00	0.00	0.00
					LC37-LC40	0.00	0.00	0.00	0.00
					LC41-LC44	0.00	0.00	0.00	0.00
					LC45-LC48	0.00	0.00	0.00	0.00
					LC49-LC52	0.00	0.00	0.00	0.00
					LC53-LC56	0.00	0.00	0.00	0.00
					LC57-LC60	0.00	0.00	0.00	0.00
					LC61-LC64	0.00	0.00	0.00	0.00
					LC254	0.00			

MISCELLANEOUS	VALUE
HIGH LOG RBA	000000000932FE6512E
BYPASS COL	0.00
MAX SQL CASCAIDING 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	0.00
RDS SORTL USED	0.00
ZAI STABILIZED PREPARE	0.00
ZAI SORT FEEDBACK USED	0.00
FTB THRESHOLD	0.00
FTB CRITERIA MEET	0.00
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
HISTORY LOST FOR ZAI	0.00
HV RECORDING LOST FOR ZAI	0.00

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-13  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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)	4.91	24 BIT LOW PRIVATE	(MB)		0.17
TOTAL GETMAINED STORAGE	(MB)	0.11	24 BIT HIGH PRIVATE	(MB)		1.14
TOTAL VARIABLE STORAGE	(MB)	0.36	24 BIT PRIVATE CURRENT HIGH ADDRESS		000000000034000	
TOTAL AGENT LOCAL STORAGE	(MB)	0.20	31 BIT EXTENDED LOW PRIVATE	(MB)		91.12
TOTAL AGENT SYSTEM STORAGE	(MB)	0.18	31 BIT EXTENDED HIGH PRIVATE	(MB)		24.30
NUMBER OF PREFETCH ENGINES		5.00	31 BIT PRIVATE CURRENT HIGH ADDRESS		0000000041500000	
NUMBER OF DEFERRED WRITE ENGINES		3.00	EXTENDED REGION SIZE (MAX)	(MB)		1095.00
NUMBER OF CASTOUT ENGINES		0.00	EXTENDED CSA SIZE	(MB)		742.45
NUMBER OF GBP WRITE ENGINES		0.00	AVERAGE THREAD FOOTPRINT	(MB)		0.43
NUMBER OF P-LOCK/NOTIFY EXIT ENGINES		0.00	MAX NUMBER OF POSSIBLE THREADS			1791
TOTAL AGENT NON-SYSTEM STORAGE (MB)		0.02	AVERAGE THREAD FOOTPRINT (TYPE II)	(MB)		N/A
TOTAL NUMBER OF ACTIVE USER THREADS		1.07	MAX NUMBER OF POSSIBLE THREADS (TYPE II)			N/A
NUMBER OF ALLIED THREADS		1.07				
NUMBER OF ACTIVE DBATS		0.00				
NUMBER OF POOLED DBATS		0.00				
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)		0.10				
TOTAL FIXED STORAGE (MB)		0.08				
TOTAL GETMAINED STACK STORAGE (MB)		4.36				
TOTAL STACK STORAGE IN USE (MB)		4.21				
SYSTEM AGENT STACK STORAGE IN USE (MB)		4.08				
STORAGE CUSHION (MB)						
109.54						

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-14  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 OUTAGE ELAPSED: 0.000000 DATA SHARING MEMBER: N/A

DBM1 STORAGE ABOVE 2 GB		QUANTITY
GETMAINED STORAGE (MB)		97.88
COMPRESSION DICTIONARY (MB)		0.06
IN USE EDM DBD POOL (MB)		N/A
IN USE EDM STATEMENT POOL (MB)		N/A
IN USE EDM SKELETON POOL (MB)		N/A
FIXED STORAGE POOL (MB)		5.14
VARIABLE STORAGE POOL (MB)		48.00
IN USE EDM DBD POOL (MB)		0.54
IN USE EDM STATEMENT POOL (MB)		0.00
IN USE EDM SKELETON POOL (MB)		0.14
STORAGE MANAGER CONTROL BLOCKS (MB)		1.65
VIRTUAL BUFFER POOLS (MB)		101.56
VIRTUAL POOL CONTROL BLOCKS (MB)		1.78
CASTOUT BUFFERS (MB)		0.00
SHARED GETMAINED STORAGE (MB)		5.60
STORAGE FOR STMT DEPENDENCIES (MB)		0.00
SHARED FIXED STORAGE (MB)		3.10
RID POOL (MB)		0.00
SHARED VARIABLE STORAGE (MB)		5.12
TOTAL AGENT LOCAL STORAGE (MB)		3.94
TOTAL AGENT SYSTEM STORAGE (MB)		3.35
TOTAL AGENT NON-SYSTEM STORAGE (MB)		0.59
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		08:36:55.96
DYNAMIC STMT CACHE CNTL BLKS (MB)		0.67
SYSTEM COPIES OF CACHED SQL STMTS (MB)		0.00
IN USE STORAGE (MB)		0.00
INTVL HWM FOR ALLOCATED STATEMENTS (MB)		0.00
SYSTEM COPIES OF STATIC SQL (MB)		0.10
IN USE STORAGE (MB)		0.02
THREAD PLAN AND PACKAGE STORAGE (MB)		0.00
ARRAY VARIABLE STORAGE (MB)		0.00
SHARED STORAGE MANAGER CNTL BLKS (MB)		1.65
SHARED SYSTEM AGENT STACK STORAGE (MB)		129.00
STACK STORAGE IN USE (MB)		26.52
SHARED NON-SYSTEM AGENT STACK STORAGE (MB)		384.00
STACK STORAGE IN USE (MB)		
0.54		

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-15  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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)	1.25	FIXED STORAGE	(MB)	0.09
TOTAL GETMAINED STORAGE	(MB)	0.00	GETMAINED STORAGE	(MB)	0.00
TOTAL VARIABLE STORAGE	(MB)	0.27	VARIABLE STORAGE	(MB)	0.06
NUMBER OF ACTIVE CONNECTIONS		0.00	STORAGE MANAGER CONTROL BLOCKS	(MB)	1.65
NUMBER OF INACTIVE CONNECTIONS		0.00			
TOTAL FIXED STORAGE	(MB)	0.08			
TOTAL GETMAINED STACK STORAGE	(MB)	0.89			
TOTAL STACK STORAGE IN USE	(MB)	0.75			
SYSTEM AGENT STACK STORAGE IN USE	(MB)	0.66			
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		000000000043000			
31 BIT EXTENDED LOW PRIVATE	(MB)	14.46			
31 BIT EXTENDED HIGH PRIVATE	(MB)	11.74			
31 BIT PRIVATE CURRENT HIGH ADDRESS		00000003C776000			
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)	262.64	REAL STORAGE IN USE	(MB)	18.99
31 BIT IN USE	(MB)	100.52	31 BIT IN USE	(MB)	17.30
64 BIT IN USE	(MB)	162.12	64 BIT IN USE	(MB)	1.69
64 BIT THREAD AND SYSTEM ONLY	(MB)	133.43	64 BIT THREAD AND SYSTEM ONLY	(MB)	1.52
HWM 64 BIT REAL STORAGE IN USE	(MB)	162.12	HWM 64 BIT REAL STORAGE IN USE	(MB)	1.69
AVERAGE THREAD FOOTPRINT	(MB)	217.68	AVERAGE DBAT FOOTPRINT	(MB)	N/C
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
64-BIT REAL 2G FRAMES IN USE	(MB)	0.00	64-BIT REAL 2G FRAMES IN USE	(MB)	0.00

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-16  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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)	25.59
FIXED POOL BELOW	(MB)	0.85	SHARED THREAD AND SYSTEM	(MB)	18.04
VARIABLE POOL BELOW	(MB)	0.62	SHARED STACK STORAGE	(MB)	7.55
GETMAINED BELOW	(MB)	0.10	AVERAGE THREAD FOOTPRINT	(MB)	23.81
FIXED POOL ABOVE	(MB)	2.40	AUXILIARY STORAGE IN USE	(MB)	0.00
VARIABLE POOL ABOVE	(MB)	10.06	SHARED THREAD AND SYSTEM	(MB)	0.00
GETMAINED ABOVE	(MB)	0.23	SHARED STACK STORAGE	(MB)	0.00
STORAGE MANAGER CONTROL BLOCKS ABOVE	(MB)	1.65	DISCARDED STORAGE ELIGIBLE FOR STEAL	(MB)	0.00
REAL LOG MANAGER WRITE BUFFERS ABOVE	(MB)	2.00	SHARED THREAD AND SYSTEM	(MB)	0.00
REAL LOG MANAGER CONTROL BLOCKS ABOVE	(MB)	0.00	SHARED STACK STORAGE	(MB)	0.00
AUX LOG MANAGER CONTROL BLOCKS ABOVE	(MB)	0.00			
REAL STORAGE IN USE	(MB)	3.37			
AVERAGE THREAD FOOTPRINT	(MB)	3.13			
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)	262.64
64 BIT SHARED STORAGE	(MB)	24118458.98	31/64-BIT PRIVATE (DIST)	(MB)	18.99
HWM FOR 64 BIT SHARED STORAGE	(MB)	24118666.00	64-BIT SHARED THREAD AND SYSTEM	(MB)	18.04
64 BIT SHARED STORAGE BACKED IN REAL	(MB)	1606.93	64-BIT SHARED STACK	(MB)	7.55
AUX STORAGE USED FOR 64 BIT SHARED	(MB)	0.00	64-BIT COMMON	(MB)	3.37
64 BIT SHARED STORAGE PAGED IN FROM AUX	(MB)	0.00	TOTAL REAL STORAGE IN USE	(MB)	310.59
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)	0.43			
HWM EXTENDED CSA SIZE IN USE	(MB)	0.43			
31 BIT PRIVATE IN USE	(MB)	5.49			
HWM 31 BIT PRIVATE IN USE	(MB)	5.49			
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: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-17  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 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 DGTG 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)	0.00	N/A	N/A	N/A	UNREFERENCED INTERVAL COUNT	N/A
MAX DGTG STOR USED (KB)	0.00	N/A	N/A	N/A	REAL STORAGE LPAR (MB)	N/A
MAX WF STOR USED (KB)	0.00	N/A	N/A	N/A	FREE REAL STORAGE LPAR (MB)	N/A
CUR TOTAL STORAGE USED (KB)	0.00	N/A	N/A	N/A	USED REAL STORAGE DB2 (MB)	N/A
CUR DGTG STOR USED (KB)	0.00	N/A	N/A	N/A	VIRTUAL STORAGE LPAR (MB)	N/A
CUR WF STOR USED (KB)	0.00	N/A	N/A	N/A	FREE VIRTUAL STOR LPAR (MB)	N/A
STORAGE IN 4K TS (KB)	0.00	N/A	N/A	N/A	USED VIRTUAL STOR DB2 (MB)	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	N/C		
32K USED INSTEAD OF 4K TS	0.00	0.00	N/C	N/C		
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	N/C		
IN-MEM WORKF NOT CREATED	0.00	0.00	N/C	N/C		
AGENT STORAGE CONFIG (KB)	0.00	N/A	N/A	N/A		
NUMBER OF LIMIT EXCEEDED	0.00	0.00	N/C	N/C		
AGENT STORAGE THRESHOLD (%)	0.00	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		
SHORT-ON-STORAGE METRICS	QUANTITY	/SECOND	/THREAD	/COMMIT		
FULL SYSTEM CONTRACTIONS	0.00	0.00	N/C	N/C		
CRITICAL SHORTAGES	0.00	0.00	N/C	N/C		
ABENDS DUE TO SHORTAGES	0.00	0.00	N/C	N/C		

1 LOCATION: RS250C1A IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0) PAGE: 1-18  
 GROUP: N/P STATISTICS REPORT - LONG REQUESTED FROM: NOT SPECIFIED  
 MEMBER: N/P TO: NOT SPECIFIED  
 SUBSYSTEM: OC1A INTERVAL FROM: 11/06/23 08:36:55.96  
 DB2 VERSION: V13 SCOPE: MEMBER TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 OUTAGE ELAPSED: 0.000000 DATA SHARING MEMBER: N/A

BPO GENERAL	QUANTITY	/SECOND	/THREAD	/COMMIT	BPO READ OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT
CURRENT ACTIVE BUFFERS	26.00	N/A	N/A	N/A	BPOOL HIT RATIO (%)	100.00			
UNAVAIL. BUFFER-VPOOL FULL	0.00	0.00	N/C	N/C	BPOOL HIT RATIO (%) SEQU	100.00			
NUMBER OF DATASET OPENS	0.00	0.00	N/C	N/C	BPOOL HIT RATIO (%) RANDOM	100.00			
BUFFERS ALLOCATED - VPOOL	2000.00	N/A	N/A	N/A	GETPAGE REQUEST	50.00	0.77	N/C	N/C
DFHSM MIGRATED DATASET	0.00	0.00	N/C	N/C	GETPAGE REQS-SEQUENTIAL	22.00	0.34	N/C	N/C
DFHSM RECALL TIMEOUTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ REQS	0.00	0.00	N/C	N/C
VPOOL EXPANS. OR CONTRACT.	0.00	0.00	N/C	N/C	GETPAGE REQS-RANDOM	28.00	0.43	N/C	N/C
VPOOL EXPANS. FAILURES	0.00	0.00	N/C	N/C	IN-MEM OVFL RND REQS	0.00	0.00	N/C	N/C
CONCUR.PREF.I/O STREAMS-HWM	0.00	N/A	N/A	N/A	SYNCHRONOUS READS	0.00	0.00	N/C	N/C
PREF.I/O STREAMS REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-SEQUENTIAL	0.00	0.00	N/C	N/C
PARALLEL QUERY REQUESTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ READS	0.00	0.00	N/C	N/C
PARALL.QUERY REQ. REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-RANDOM	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/2	0.00	0.00	N/C	N/C	IN-MEM OVFL RND READS	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/4	0.00	0.00	N/C	N/C	GETPAGE PER SYN.READ-RANDOM	N/C			
NUMBER OF LPL INSERTS	0.00	0.00	N/C	N/C	SEQUENTIAL PREFETCH REQUEST	0.00	0.00	N/C	N/C
MIN BUFFERS ON SLRU	1678.00	N/A	N/A	N/A	SEQUENTIAL PREFETCH READS	0.00	0.00	N/C	N/C
MAX BUFFERS ON SLRU	1678.00	N/A	N/A	N/A	PAGES READ VIA SEQ.PREFETCH	0.00	0.00	N/C	N/C
SLRU LENGTH EQUALS VPSEQT	0.00	0.00	N/C	N/C	S.PRF.PAGES READ/S.PRF.READ	N/C			
GETPAGE REQU RANDOM ON SLRU	0.00	0.00	N/C	N/C	LIST PREFETCH REQUESTS	0.00	0.00	N/C	N/C
					LIST PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA LIST PREFETCH	0.00	0.00	N/C	N/C
					L.PRF.PAGES READ/L.PRF.READ	N/C			
					DYNAMIC PREFETCH REQUESTED	2.00	0.03	N/C	N/C
					PAGES READ VIA DYN.PREFETCH	0.00	0.00	N/C	N/C
					D.PRF.PAGES READ/D.PRF.READ	N/C			
					PREF.DISABLED-NO BUFFER	0.00	0.00	N/C	N/C
					PREF.DISABLED-NO READ ENG	0.00	0.00	N/C	N/C
					PAGE-INS REQUIRED FOR READ	0.00	0.00	N/C	N/C
					ZHYPERLINK READ I/O	0.00	0.00	N/C	N/C
					READ I/O - DASD CACHE HIT	0.00	0.00	N/C	N/C
BPO WRITE OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT	BPO SORT/MERGE	QUANTITY	/SECOND	/THREAD	/COMMIT
BUFFER UPDATES	0.00	0.00	N/C	N/C	MAX WORKFILES CONCURR. USED	0.00	N/A	N/A	N/A
PAGES WRITTEN	0.00	0.00	N/C	N/C	MERGE PASSES REQUESTED	0.00	0.00	N/C	N/C
BUFF.UPDATES/PAGES WRITTEN	N/C				MERGE PASS DEGRADED-LOW BUF	0.00	0.00	N/C	N/C
SYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ.REJECTD-LOW BUF	0.00	0.00	N/C	N/C
ASYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ-ALL MERGE PASS	0.00	0.00	N/C	N/C
PAGES WRITTEN PER WRITE I/O	N/C				WORKFILE NOT CREATED-NO BUF	0.00	0.00	N/C	N/C
PAGES WRTN FOR CASTOUT I/O	0.00	0.00	N/C	N/C	WORKFILE PRF NOT SCHEDULED	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					

1 LOCATION: RS250C1A  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: OC1A  
 DB2 VERSION: V13

IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0)  
 STATISTICS REPORT - LONG  
 SCOPE: MEMBER

PAGE: 1-19  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 11/06/23 08:36:55.96  
 TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96    SAMPLING START: 11/06/23 08:36:55.96    TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80    SAMPLING END : 11/06/23 08:38:00.80    TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084    OUTAGE ELAPSED: 0.000000    DATA SHARING MEMBER: N/A

BP32K GENERAL	QUANTITY	/SECOND	/THREAD	/COMMIT	BP32K READ OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT
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	N/C	BPOOL HIT RATIO (%) SEQU	N/C			
NUMBER OF DATASET OPENS	0.00	0.00	N/C	N/C	BPOOL HIT RATIO (%) RANDOM	N/C			
BUFFERS ALLOCATED - VPOOL	250.00	N/A	N/A	N/A	GETPAGE REQUEST	0.00	0.00	N/C	N/C
DFHSM MIGRATED DATASET	0.00	0.00	N/C	N/C	GETPAGE REQS-SEQUENTIAL	0.00	0.00	N/C	N/C
DFHSM RECALL TIMEOUTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ REQS	0.00	0.00	N/C	N/C
VPOOL EXPANS. OR CONTRACT.	0.00	0.00	N/C	N/C	GETPAGE REQS-RANDOM	0.00	0.00	N/C	N/C
VPOOL EXPANS. FAILURES	0.00	0.00	N/C	N/C	IN-MEM OVFL RND REQS	0.00	0.00	N/C	N/C
CONCUR.PRF.I/O STREAMS-HWM	0.00	N/A	N/A	N/A	SYNCHRONOUS READS	0.00	0.00	N/C	N/C
PREF.I/O STREAMS REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-SEQUENTIAL	0.00	0.00	N/C	N/C
PARALLEL QUERY REQUESTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ READS	0.00	0.00	N/C	N/C
PARALL. QUERY REQ. REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-RANDOM	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/2	0.00	0.00	N/C	N/C	IN-MEM OVFL RND READS	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/4	0.00	0.00	N/C	N/C	GETPAGE PER SYN.READ-RANDOM	N/C			
NUMBER OF LPL INSERTS	0.00	0.00	N/C	N/C	SEQUENTIAL PREFETCH REQUEST	0.00	0.00	N/C	N/C
MIN BUFFERS ON SLRU	0.00	N/A	N/A	N/A	SEQUENTIAL PREFETCH READS	0.00	0.00	N/C	N/C
MAX BUFFERS ON SLRU	0.00	N/A	N/A	N/A	PAGES READ VIA SEQ.PREFETCH	0.00	0.00	N/C	N/C
SLRU LENGTH EQUALS VPSEQT	0.00	0.00	N/C	N/C	S.PRF.PAGES READ/S.PRF.READ	N/C			
GETPAGE REQU RANDOM ON SLRU	0.00	0.00	N/C	N/C	LIST PREFETCH REQUESTS	0.00	0.00	N/C	N/C
					LIST PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA LIST PREFETCH	0.00	0.00	N/C	N/C
					L.PRF.PAGES READ/L.PRF.READ	N/C			
					DYNAMIC PREFETCH REQUESTED	0.00	0.00	N/C	N/C
					DYNAMIC PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA DYN.PREFETCH	0.00	0.00	N/C	N/C
					D.PRF.PAGES READ/D.PRF.READ	N/C			
					PREF.DISABLED-NO BUFFER	0.00	0.00	N/C	N/C
					PREF.DISABLED-NO READ ENG	0.00	0.00	N/C	N/C
					PAGE-INS REQUIRED FOR READ	0.00	0.00	N/C	N/C
					ZHYPERLINK READ I/O	0.00	0.00	N/C	N/C
					READ I/O - DASD CACHE HIT	0.00	0.00	N/C	N/C
BP32K WRITE OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT	BP32K SORT/MERGE	QUANTITY	/SECOND	/THREAD	/COMMIT
BUFFER UPDATES	0.00	0.00	N/C	N/C	MAX WORKFILES CONCURR. USED	0.00	N/A	N/A	N/A
PAGES WRITTEN	0.00	0.00	N/C	N/C	MERGE PASSES REQUESTED	0.00	0.00	N/C	N/C
BUFF.UPDATES/PAGES WRITTEN	N/C				MERGE PASS DEGRADED-LOW BUF	0.00	0.00	N/C	N/C
SYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ.REJECTD-LOW BUF	0.00	0.00	N/C	N/C
ASYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ-ALL MERGE PASS	0.00	0.00	N/C	N/C
PAGES WRITTEN PER WRITE I/O	N/C				WORKFILE NOT CREATED-NO BUF	0.00	0.00	N/C	N/C
PAGES WRITN FOR CASTOUT I/O	0.00	0.00	N/C	N/C	WORKFILE PRF NOT SCHEDULED	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					



1 LOCATION: RS250C1A  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: OC1A  
 DB2 VERSION: V13

IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0)  
 STATISTICS REPORT - LONG  
 SCOPE: MEMBER

PAGE: 1-20  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 11/06/23 08:36:55.96  
 TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96    SAMPLING START: 11/06/23 08:36:55.96    TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80    SAMPLING END : 11/06/23 08:38:00.80    TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084    OUTAGE ELAPSED: 0.000000    DATA SHARING MEMBER: N/A

BP8K GENERAL	QUANTITY	/SECOND	/THREAD	/COMMIT	BP8K READ OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT
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	N/C	BPOOL HIT RATIO (%) SEQU	N/C			
NUMBER OF DATASET OPENS	0.00	0.00	N/C	N/C	BPOOL HIT RATIO (%) RANDOM	N/C			
BUFFERS ALLOCATED - VPOOL	10000.00	N/A	N/A	N/A	GETPAGE REQUEST	0.00	0.00	N/C	N/C
DFHSM MIGRATED DATASET	0.00	0.00	N/C	N/C	GETPAGE REQS-SEQUENTIAL	0.00	0.00	N/C	N/C
DFHSM RECALL TIMEOUTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ REQS	0.00	0.00	N/C	N/C
VPOOL EXPANS. OR CONTRACT.	0.00	0.00	N/C	N/C	GETPAGE REQS-RANDOM	0.00	0.00	N/C	N/C
VPOOL EXPANS. FAILURES	0.00	0.00	N/C	N/C	IN-MEM OVFL RND REQS	0.00	0.00	N/C	N/C
CONCUR.PREF.I/O STREAMS-HWM	0.00	N/A	N/A	N/A	SYNCHRONOUS READS	0.00	0.00	N/C	N/C
PREF.I/O STREAMS REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-SEQUENTIAL	0.00	0.00	N/C	N/C
PARALLEL QUERY REQUESTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ READS	0.00	0.00	N/C	N/C
PARALL. QUERY REQ. REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-RANDOM	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/2	0.00	0.00	N/C	N/C	IN-MEM OVFL RND READS	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/4	0.00	0.00	N/C	N/C	GETPAGE PER SYN.READ-RANDOM	N/C			
NUMBER OF LPL INSERTS	0.00	0.00	N/C	N/C	SEQUENTIAL PREFETCH REQUEST	0.00	0.00	N/C	N/C
MIN BUFFERS ON SLRU	0.00	N/A	N/A	N/A	SEQUENTIAL PREFETCH READS	0.00	0.00	N/C	N/C
MAX BUFFERS ON SLRU	0.00	N/A	N/A	N/A	PAGES READ VIA SEQ.PREFETCH	0.00	0.00	N/C	N/C
SLRU LENGTH EQUALS VPSEQT	0.00	0.00	N/C	N/C	S.PRF.PAGES READ/S.PRF.READ	N/C			
GETPAGE REQU RANDOM ON SLRU	0.00	0.00	N/C	N/C	LIST PREFETCH REQUESTS	0.00	0.00	N/C	N/C
					LIST PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA LIST PREFETCH	0.00	0.00	N/C	N/C
					L.PRF.PAGES READ/L.PRF.READ	N/C			
					DYNAMIC PREFETCH REQUESTED	0.00	0.00	N/C	N/C
					DYNAMIC PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA DYN.PREFETCH	0.00	0.00	N/C	N/C
					D.PRF.PAGES READ/D.PRF.READ	N/C			
					PREF.DISABLED-NO BUFFER	0.00	0.00	N/C	N/C
					PREF.DISABLED-NO READ ENG	0.00	0.00	N/C	N/C
					PAGE-INS REQUIRED FOR READ	0.00	0.00	N/C	N/C
					ZHYPERLINK READ I/O	0.00	0.00	N/C	N/C
					READ I/O - DASD CACHE HIT	0.00	0.00	N/C	N/C
BP8K WRITE OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT	BP8K SORT/MERGE	QUANTITY	/SECOND	/THREAD	/COMMIT
BUFFER UPDATES	0.00	0.00	N/C	N/C	MAX WORKFILES CONCURR. USED	0.00	N/A	N/A	N/A
PAGES WRITTEN	0.00	0.00	N/C	N/C	MERGE PASSES REQUESTED	0.00	0.00	N/C	N/C
BUFF.UPDATES/PAGES WRITTEN	N/C				MERGE PASS DEGRADED-LOW BUF	0.00	0.00	N/C	N/C
SYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ.REJECTD-LOW BUF	0.00	0.00	N/C	N/C
ASYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ-ALL MERGE PASS	0.00	0.00	N/C	N/C
PAGES WRITTEN PER WRITE I/O	N/C				WORKFILE NOT CREATED-NO BUF	0.00	0.00	N/C	N/C
PAGES WRITN FOR CASTOUT I/O	0.00	0.00	N/C	N/C	WORKFILE PRF NOT SCHEDULED	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					

1 LOCATION: RS250C1A  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: OC1A  
 DB2 VERSION: V13

IBM OMEGAMON FOR DB2 PERFORMANCE EXPERT (V5R5M0)  
 STATISTICS REPORT - LONG  
 SCOPE: MEMBER

PAGE: 1-21  
 REQUESTED FROM: NOT SPECIFIED  
 TO: NOT SPECIFIED  
 INTERVAL FROM: 11/06/23 08:36:55.96  
 TO: 11/06/23 08:38:00.80

----- HIGHLIGHTS -----

INTERVAL START : 11/06/23 08:36:55.96    SAMPLING START: 11/06/23 08:36:55.96    TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80    SAMPLING END : 11/06/23 08:38:00.80    TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084    OUTAGE ELAPSED: 0.000000    DATA SHARING MEMBER: N/A

BP16K GENERAL	QUANTITY	/SECOND	/THREAD	/COMMIT	BP16K READ OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT
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	N/C	BPOOL HIT RATIO (%) SEQU	N/C			
NUMBER OF DATASET OPENS	0.00	0.00	N/C	N/C	BPOOL HIT RATIO (%) RANDOM	N/C			
BUFFERS ALLOCATED - VPOOL	500.00	N/A	N/A	N/A	GETPAGE REQUEST	0.00	0.00	N/C	N/C
DFHSM MIGRATED DATASET	0.00	0.00	N/C	N/C	GETPAGE REQS-SEQUENTIAL	0.00	0.00	N/C	N/C
DFHSM RECALL TIMEOUTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ REQS	0.00	0.00	N/C	N/C
VPOOL EXPANS. OR CONTRACT.	0.00	0.00	N/C	N/C	GETPAGE REQS-RANDOM	0.00	0.00	N/C	N/C
VPOOL EXPANS. FAILURES	0.00	0.00	N/C	N/C	IN-MEM OVFL RND REQS	0.00	0.00	N/C	N/C
CONCUR.PREF.I/O STREAMS-HWM	0.00	N/A	N/A	N/A	SYNCHRONOUS READS	0.00	0.00	N/C	N/C
PREF.I/O STREAMS REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-SEQUENTIAL	0.00	0.00	N/C	N/C
PARALLEL QUERY REQUESTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ READS	0.00	0.00	N/C	N/C
PARALL. QUERY REQ. REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-RANDOM	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/2	0.00	0.00	N/C	N/C	IN-MEM OVFL RND READS	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/4	0.00	0.00	N/C	N/C	GETPAGE PER SYN.READ-RANDOM	N/C			
NUMBER OF LPL INSERTS	0.00	0.00	N/C	N/C	SEQUENTIAL PREFETCH REQUEST	0.00	0.00	N/C	N/C
MIN BUFFERS ON SLRU	2.00	N/A	N/A	N/A	SEQUENTIAL PREFETCH READS	0.00	0.00	N/C	N/C
MAX BUFFERS ON SLRU	2.00	N/A	N/A	N/A	PAGES READ VIA SEQ.PREFETCH	0.00	0.00	N/C	N/C
SLRU LENGTH EQUALS VPSEQT	0.00	0.00	N/C	N/C	S.PRF.PAGES READ/S.PRF.READ	N/C			
GETPAGE REQU RANDOM ON SLRU	0.00	0.00	N/C	N/C	LIST PREFETCH REQUESTS	0.00	0.00	N/C	N/C
					LIST PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA LIST PREFETCH	0.00	0.00	N/C	N/C
					L.PRF.PAGES READ/L.PRF.READ	N/C			
					DYNAMIC PREFETCH REQUESTED	0.00	0.00	N/C	N/C
					DYNAMIC PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA DYN.PREFETCH	0.00	0.00	N/C	N/C
					D.PRF.PAGES READ/D.PRF.READ	N/C			
					PREF.DISABLED-NO BUFFER	0.00	0.00	N/C	N/C
					PREF.DISABLED-NO READ ENG	0.00	0.00	N/C	N/C
					PAGE-INS REQUIRED FOR READ	0.00	0.00	N/C	N/C
					ZHYPERLINK READ I/O	0.00	0.00	N/C	N/C
					READ I/O - DASD CACHE HIT	0.00	0.00	N/C	N/C
BP16K WRITE OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT	BP16K SORT/MERGE	QUANTITY	/SECOND	/THREAD	/COMMIT
BUFFER UPDATES	0.00	0.00	N/C	N/C	MAX WORKFILES CONCURR. USED	0.00	N/A	N/A	N/A
PAGES WRITTEN	0.00	0.00	N/C	N/C	MERGE PASSES REQUESTED	0.00	0.00	N/C	N/C
BUFF.UPDATES/PAGES WRITTEN	N/C				MERGE PASS DEGRADED-LOW BUF	0.00	0.00	N/C	N/C
SYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ.REJCTD-LOW BUF	0.00	0.00	N/C	N/C
ASYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ-ALL MERGE PASS	0.00	0.00	N/C	N/C
PAGES WRITTEN PER WRITE I/O	N/C				WORKFILE NOT CREATED-NO BUF	0.00	0.00	N/C	N/C
PAGES WRTN FOR CASTOUT I/O	0.00	0.00	N/C	N/C	WORKFILE PRF NOT SCHEDULED	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					

----- HIGHLIGHTS -----  
 INTERVAL START : 11/06/23 08:36:55.96 SAMPLING START: 11/06/23 08:36:55.96 TOTAL THREADS : 0.00  
 INTERVAL END : 11/06/23 08:38:00.80 SAMPLING END : 11/06/23 08:38:00.80 TOTAL COMMITS : 0.00  
 INTERVAL ELAPSED: 1:04.846084 OUTAGE ELAPSED: 0.000000 DATA SHARING MEMBER: N/A

TOTAL GENERAL	QUANTITY	/SECOND	/THREAD	/COMMIT	TOTAL READ OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT
CURRENT ACTIVE BUFFERS	26.00	N/A	N/A	N/A	BPOOL HIT RATIO (%)	100.00			
UNAVAIL. BUFFER-VPOOL FULL	0.00	0.00	N/C	N/C	BPOOL HIT RATIO (%) SEQU	100.00			
NUMBER OF DATASET OPENS	0.00	0.00	N/C	N/C	BPOOL HIT RATIO (%) RANDOM	100.00			
BUFFERS ALLOCATED - VPOOL	12750.00	N/A	N/A	N/A	GETPAGE REQUEST	50.00	0.77	N/C	N/C
DFHSM MIGRATED DATASET	0.00	0.00	N/C	N/C	GETPAGE REQS-SEQUENTIAL	22.00	0.34	N/C	N/C
DFHSM RECALL TIMEOUTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ REQS	0.00	0.00	N/C	N/C
VPOOL EXPANS. OR CONTRACT.	0.00	0.00	N/C	N/C	GETPAGE REQS-RANDOM	28.00	0.43	N/C	N/C
VPOOL EXPANS. FAILURES	0.00	0.00	N/C	N/C	IN-MEM OVFL RND REQS	0.00	0.00	N/C	N/C
CONCUR.PREF.I/O STREAMS-HWM	0.00	N/A	N/A	N/A	SYNCHRONOUS READS	0.00	0.00	N/C	N/C
PREF.I/O STREAMS REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-SEQUENTIAL	0.00	0.00	N/C	N/C
PARALLEL QUERY REQUESTS	0.00	0.00	N/C	N/C	IN-MEM OVFL SEQ READS	0.00	0.00	N/C	N/C
PARALL. QUERY REQ. REDUCTION	0.00	0.00	N/C	N/C	SYNC READS-RANDOM	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/2	0.00	0.00	N/C	N/C	IN-MEM OVFL RND READS	0.00	0.00	N/C	N/C
PREF.QUANT.REDUCED TO 1/4	0.00	0.00	N/C	N/C	GETPAGE PER SYN.READ-RANDOM	N/C			
NUMBER OF LPL INSERTS	0.00	0.00	N/C	N/C	SEQUENTIAL PREFETCH REQUEST	0.00	0.00	N/C	N/C
MIN BUFFERS ON SLRU	1680.00	N/A	N/A	N/A	SEQUENTIAL PREFETCH READS	0.00	0.00	N/C	N/C
MAX BUFFERS ON SLRU	1680.00	N/A	N/A	N/A	PAGES READ VIA SEQ.PREFETCH	0.00	0.00	N/C	N/C
SLRU LENGTH EQUALS VPSEQT	0.00	0.00	N/C	N/C	S.PR.F.PAGES READ/S.PR.F.READ	N/C			
GETPAGE REQU RANDOM ON SLRU	0.00	0.00	N/C	N/C	LIST PREFETCH REQUESTS	0.00	0.00	N/C	N/C
					LIST PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA LIST PREFETCH	0.00	0.00	N/C	N/C
					L.PR.F.PAGES READ/L.PR.F.READ	N/C			
					DYNAMIC PREFETCH REQUESTED	2.00	0.03	N/C	N/C
					DYNAMIC PREFETCH READS	0.00	0.00	N/C	N/C
					PAGES READ VIA DYN.PREFETCH	0.00	0.00	N/C	N/C
					D.PR.F.PAGES READ/D.PR.F.READ	N/C			
					PREF.DISABLED-NO BUFFER	0.00	0.00	N/C	N/C
					PREF.DISABLED-NO READ ENG	0.00	0.00	N/C	N/C
					PAGE-INS REQUIRED FOR READ	0.00	0.00	N/C	N/C
					ZHYPERLINK READ I/O	0.00	0.00	N/C	N/C
					READ I/O - DASD CACHE HIT	0.00	0.00	N/C	N/C

TOTAL WRITE OPERATIONS	QUANTITY	/SECOND	/THREAD	/COMMIT	TOTAL SORT/MERGE	QUANTITY	/SECOND	/THREAD	/COMMIT
BUFFER UPDATES	0.00	0.00	N/C	N/C	MAX WORKFILES CONCURR. USED	0.00	N/A	N/A	N/A
PAGES WRITTEN	0.00	0.00	N/C	N/C	MERGE PASSES REQUESTED	0.00	0.00	N/C	N/C
BUFF.UPDATES/PAGES WRITTEN	N/C				MERGE PASS DEGRADED-LOW BUF	0.00	0.00	N/C	N/C
SYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ.REJECTD-LOW BUF	0.00	0.00	N/C	N/C
ASYNCHRONOUS WRITES	0.00	0.00	N/C	N/C	WORKFILE REQ-ALL MERGE PASS	0.00	0.00	N/C	N/C
PAGES WRITTEN PER WRITE I/O	N/C				WORKFILE NOT CREATED-NO BUF	0.00	0.00	N/C	N/C
PAGES WRITN FOR CASTOUT I/O	0.00	0.00	N/C	N/C	WORKFILE PRF NOT SCHEDULED	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					

STATISTICS REPORT COMPLETE

## Statistics Report and Trace Blocks

This section shows the individual blocks presented by OMEGAMON for Db2 Performance Expert 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:

## Accelerator Data - Prior to Version 4

- 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  $((\text{maximum data slice size} - \text{minimum data slice size}) / \text{median data slice size})$ .

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		WORKER NODES	3.00
	BLOCKS RECEIVED FROM ACCELERATOR	12250.00		WORKER NODES DISK UTILIZATION (%)	0.00
	ROWS SENT TO ACCELERATOR	0.00		WORKER NODES AVG CPU UTILIZATION (%)	2.09
	ROWS RECEIVED FROM ACCELERATOR	0.00		COORDINATOR CPU UTILIZATION (%)	11.59
				PROCESSORS	48.00
	TCP/IP SERVICES ELAPSED TIME	12.937895		DATA SLICES	22.00
	ELAPSED TIME IN ACCELERATOR	0.000000		CPU TIME FOR REPLICATION	0.148773
	WAIT TIME IN ACCELERATOR	0.000000		LOG RECORDS READ	137055.00
				LOG RECORDS FOR ACCEL TABLES	1456.00
	CPU TIME FOR REPLICATION	0.085255		LOG RECORD BYTES PROCESSED	97265.00
	LOG RECORDS READ	945.00		INSERT ROWS FOR ACCEL TABLES	0.00
	LOG RECORDS FOR ACCEL TABLES	940.00		UPDATE ROWS FOR ACCEL TABLES	0.00
				DELETE ROWS FOR ACCEL TABLES	0.00
	LOG RECORD BYTES PROCESSED	63209.00		REPLICATION LATENCY	0.000000
	INSERT ROWS FOR ACCEL TABLES	0.00		REPLICATION VELOCITY	0.405754
	UPDATE ROWS FOR ACCEL TABLES	0.00		REPLICATION STATUS CHANGE	12/16/13 09:38:49.79
	DELETE ROWS FOR ACCEL TABLES	0.00		REPLICATION STATUS	UNKNOWN
	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 [Q8STMSG]**

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 [Q8STVLC]**

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 [Q8STLSC]**

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 'AQ04010', 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:

- [“Aggregated Accounting Statistics ” on page 1152](#)
- [“ Times - Class 2 - DB2 Time ” on page 226](#)

### 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 ZPARAM 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
PLAN-AUTH UNSUCC-CACHE	0.00	0.00	0.00	0.00
PLAN-AUTH OVERWRT - AUTH ID	0.00	0.00	0.00	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

#### PLAN-AUTH UNSUCC-CACHE

The number of unsuccessful checks for plan EXECUTE privilege made using the plan authorization cache because an applicable entry was not found in the cache.

**Field Name:** QTAUCNOT

#### PLAN-AUTH OVERWRT - AUTH ID

The number of times Db2 overwrote an authorization ID in the plan authorization cache.

**Field Name:** QTAUCOW1

**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.

## Buffer Pool General

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.

BPO	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

BPO	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 PREFETCH	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:** SBRGPRI0

**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 (QBSTSP).

**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**

## Buffer Pool Read

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:** QBSTSP

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:** QBSTLPP

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 (QBSTLPPF).

**Field Name:** QBSTLIO

This is an *exception* field.

### PAGES READ VIA LIST PREFETCH

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:** SDLPPPPIO

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:** SDDPPPPIO

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.

BPO	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.

BPO	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:** QBSTWS

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 (QBSTWS) 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 (QBSTWS) 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 ZPARAM 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 WRN 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

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 GEIR AFC, 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

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	0.000943	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.

## Data Capture

**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 PART      GBP      I/O END TIME      ASYNC I/O AVG      ZHL I/O MAX DELAY  ASYN I/O MAX DELAY  CHANGED PAGES (VP)
          SHDW                                ASY I/O PGS AVG      ZHL I/O AVG DELAY  ASYN I/O MAX DELAY  NUMBER OF GETPAGES
          N                                ZHL I/O AVG
-----
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             0.04233             30782.2K
          N                                3.28                0.10000
          N                                2.54                0.04955             0.01756             352.35
BP0    DB2HYP22  TSP      02/09/19 08:51:48.20      794.39             0.51400             1.33100             0.00
      TSHYP22  N        02/09/19 09:30:00.09      15.99              0.04913             0.04913             30783.9K
      2        N                                2.54                0.08800
          N                                1.65                0.17300             0.01800             1787.00
BP0    DB2PYH22  TSP      02/09/19 08:14:50.88      381.80             1.79200             2.21600             0.00
      TSPYH22  N        02/09/19 09:30:00.09      15.99              0.00000             0.00000             57725.2K
      1        N                                0.00                0.00000
          N                                1.64                0.17400             0.01800             18.00
BP0    DB2PYH22  TSP      02/09/19 08:14:50.89      381.78             6.77500             0.96200             0.00
      TSPYH22  N        02/09/19 09:30:00.09      15.96              0.00000             0.00000             57719.2K
      2        N
  
```

**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

**ASYNCH 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

## Data Sharing Locking

### 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:** SLLOCRAAT

**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

## DBM1 and MVS Storage Below 2 GB

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	00000003CA95000
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
- Getmaind 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

## DBM1 Storage Above 2 GB

### 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)	N/A
IN USE EDM STATEMENT POOL	(MB)	N/A
IN USE EDM SKELETON POOL	(MB)	N/A
FIXED STORAGE POOL	(MB)	7.65
VARIABLE STORAGE POOL	(MB)	30.68
IN USE EDM DBD POOL	(MB)	1.28
IN USE EDM STATEMENT POOL	(MB)	13.02
IN USE EDM SKELETON POOL	(MB)	1.05
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

## **DBM1 Storage Above 2 GB**

### **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

### **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 SKELETON POOL (MB)**

The amount of storage used by objects in the EDM Skeleton pool above the 2 GB bar.

**Field Name:** SISESKCP

### **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 Statement

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:** QISED SG

### 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 KEEP DYNAMIC 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.

## Dynamic SQL Statement

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 KEEP DYNAMIC 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.

## DB2 Commands

**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
DISPLAY ML	0.00	0.00
DISPLAY SERVICE	0.00	0.00
DISPLAY BLOCKERS	0.00	0.00
DISPLAY STATS	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
START ML	0.00	0.00
START SERVICE	0.00	0.00
START CDDS	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
STOP ML	0.00	0.00
STOP SERVICE	0.00	0.00
STOP CDDS	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
RUN MLUTIL		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
ACTIVATE FUNCTION LEV		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 DB2 "-DISPLAY DYNQUERYCAPTURE" commands.

**Field Name:** Q9STCTDQ

### **DISPLAY ML**

The number of DB2 "-DISPLAY ML" commands.

**Field Name:** Q9STCTDM

**DISPLAY SERVICE**

The number of DB2 "-DISPLAY RESTSVC" commands.

**Field Name:** Q9STCTDR

**DISPLAY BLOCKERS**

The number of DB2 "-DISPLAY BLOCKERS" commands.

**Field Name:** Q9STCTBL

**DISPLAY STATS**

The number of DB2 "-DISPLAY STATS" commands.

**Field Name:** Q9STCTX7

**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 DB2 "-START DYNQUERYCAPTURE" commands.

**Field Name:** Q9STCTSQ

### START ML

The number of DB2 "-START ML" commands.

**Field Name:** Q9STCTSM

### START SERVICE

The number of DB2 "-START RESTSVC" commands.

**Field Name:** Q9STCTSR

### START CDDS

The number of DB2 "-START CDDS" commands.

**Field Name:** Q9STCTS1

### 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

**STOP ML**

The number of DB2 "-STOP ML" commands

**Field Name:** Q9STCTPM

**STOP SERVICE**

The number of DB2 "-STOP RESTSVC" commands.

**Field Name:** Q9STCTPR

**STOP CDDS**

The number of DB2 "-STOP CDDS" commands

**Field Name:** Q9STCTS2

**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

### RUN MLUTIL

The number of DB2 "-RUN MLUTIL" commands.

**Field Name:** Q9STCTX6

### 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

**ACTIVATE FUNCTION LEV**

The number of DB2 "-ACTIVATE FUNCTION LEVEL" commands.

**Field Name:** Q9STCTEN

**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

## DIST and MVS Storage Below 2 GB

### 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
- Getmaind 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

## **DIST and MVS Storage Below 2 GB**

### **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".

This block 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.

REMOTE LOCATION STATISTICS		VALUE			
LOCATION NAME	::FFFF:10.32.248.183				
PRODUCT ID	JCC04310				
PRODUCT LEVEL	10				
INTERVAL START	01/31/23 15:30:00.68				
INTERVAL END	01/31/23 17:00:00.64				
INTERVAL ELAPSED	1:29:59.959740				
REMOTE LOCATION STATISTICS	SENT	RECEIVED	QUANTITY		
CONNECTIONS	0.00	6.00	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 0.00		
SQL STATEMENTS	0.00	6.00	REST SERVICE REQUESTS 0.00		
COMMITTS	0.00	6.00	PROFILE SET SPECIAL REGS 0.00		
ROLLBACKS	0.00	0.00	PROFILE SET GLOBAL VARS 0.00		
ROWS	18.00	0.00	SYSPLEX WKLD BAL. USED 0.00		
MESSAGES	36.00	36.00	TLS/SSL USED 0.00		
BYTES	19556.00	4734.00	TRUSTED CONTEXT USED 0.00		
BLOCKS	24.00	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 6.00		
			KERBEROS USED 0.00		
			MFA USED 0.00		
			CLIENT CERTIFICATE USED 0.00		
			FAILED SECURITY AUTH 0.00		
REMOTE LOCATION STATISTICS	QUANTITY	REMOTE LOCATION STATISTICS	QUANTITY	REMOTE LOCATION STATISTICS	QUANTITY
WITH HOLD CURSOR NOT CLOSED	0.00	REQ TERM - CONDBAT REACHED	0.00	THRD QUEUED - PROFILE EXCEPTION	0.00
DGTT NOT DROPPED	0.00	REQ TERM - PROFILE EXCEPTION	0.00	THRD TERM - PROFILE EXCEPTION	0.00
KEEPDYNAMIC PACKAGES USED	0.00	REQ TERM - MAXCONQW REACHED	0.00	THRD TERM - ABENDED	0.00
HIGH PERF DBATS USED	0.00	REQ TERM - MAXCONQW REACHED	0.00	THRD TERM - CANCELED	0.00
HELD LOB LOCATORS EXIST	0.00			THRD TERM - POOLINAC TIME	N/P
SP COMMIT PERFORMED	0.00			THRD TERM - SOCKET CLOSED	N/P

**LOCATION NAME**

The name of the remote location.

**Field Name:** QLSTLOCN

**PRODUCT ID**

The product ID and version of the remote location.

**Field Name:** QLSTPRID

**PRODUCT LEVEL**

Product level of the remote location, if reported.

**Field Name:** QLSTPRLV

**INTERVAL START**

Timestamp of the start of the reporting interval for this remote location record.

**Field Name:** S365BEGN

**INTERVAL END**

Timestamp of the end of the reporting interval for this remote location record.

**Field Name:** S365END

**INTERVAL ELAPSED**

Elapsed time of the reporting interval for this remote location record.

**Field Name:** S365ELPS

**GENERAL - SENT - CONNECTIONS**

The number of connections that were initiated from the requester site to the remote site. This value is maintained at the requester site.

A connection is a specific instance of using TCP/IP or SNA LU 6.2 to transfer information between a requester and a server. It is a logical connection between a requester and a server.

**Db2 Field Name:** QLSTCNVS

**GENERAL - SENT - CONNECTIONS QUEUED**

The number of connection requests queued by the distributed data facility that were waiting for allocation or waiting for a DBAT because MAXDBAT was exceeded. This value is maintained at the requester location.

**Note:** When this value is high, increase the limit for the number of connections.

**Db2 Field Name:** QLSTCNVQ

**GENERAL - SENT - CONNECTIONS DEALLOCATED**

The number of connections that were deallocated from this site to the remote site if Db2 was requester. Otherwise, the number of connections received by Db2 from the remote site which were terminated as incomplete.

**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.

**Db2 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).

**Db2 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).

**Db2 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.

**Db2 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.

**Db2 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.

**Db2 Field Name:** QLSTBYTS

**GENERAL - SENT - BLOCKS**

The number of blocks transmitted using block fetch. This value is maintained at the server location.

**Db2 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.

**Db2 Field Name:** QLSTINDT

**GENERAL - RECEIVED - CONNECTIONS**

The number of connections that were initiated from the requester to the server location. This value is updated at the server location.

**Db2 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.

**Db2 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).

**Db2 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).

**Db2 Field Name:** QLSTABRR

**GENERAL - RECEIVED - ROWS**

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

- 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.

**Db2 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.

**Db2 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.

**Db2 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.

**Db2 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:** QLSTNREST

**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:** QLSTHCRSR

**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 - KEEPYNAMIC PACKAGES USED**

Number of times where the usage of keepdynamic packages prevented thread pooling.

**Field Name:** QLSTKPDYN

**CLIENT CONDITIONS - HIGH PERF DBATS USED**

Number of times where the usage of high performance DBATs prevented thread pooling.

**Field Name:** QLSTHIPRF

**CLIENT CONDITIONS - HELD LOB LOCATORS EXIST**

Number of times where the existence of active held lob locators prevented thread pooling.

**Field Name:** QLSTHLOBLOC

**CLIENT CONDITIONS - SP COMMIT PERFORMED**

Number of times where a stored procedure issued commit prevented thread pooling.

**Field Name:** QLSTSPCMT

**REQ TERM - CONDBAT REACHED**

Number of connections from the remote site that were terminated due to CONDBAT being reached.

## EDM Pool Activity

**Field Name:** QLSTCNVTC

### REQ TERM - PROFILE EXCEPTION

Number of connections from the remote site that were terminated due to system monitoring profile exception.

**Field Name:** QLSTCNVTP

### REQ TERM - MAXCONQN REACHED

Number of connections from the remote site that were terminated due to MAXCONQN being reached.

**Field Name:** QLSTCNVTQN

### REQ TERM - MAXCONQW REACHED

Number of connections from the remote site that were terminated due to MAXCONQW being reached.

**Field Name:** QLSTCNVTQW

### THRD 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:** QLSTNTHDPQ

### THRD TERM - PROFILE EXCPTION

Number of times where threads used by connections from the remote site were terminated due to a system monitoring profile exception.

**Field Name:** QLSTNTHDPT

### THRD TERM - ABENDED

Number of times where threads used by connections from the remote site abended.

**Field Name:** QLSTNTHDA

### THRD TERM - CANCELLED

Number of times where threads used by connections from the remote site were canceled.

**Field Name:** QLSTNTHDC

### THRD TERM - POOLINAC TIME

The number of times that threads used by connections from the remote site were terminated after remaining in pool longer than POOLINAC.

**Field Name:** QLSTNTPLH

### THRD TERM- SOCKET CLOSED

Number of times that threads used by connections from the remote site were terminated after TCP socket closed due to connection loss. This value is meaningful only at the server.

**Field Name:** QLSTNTILS

## 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:** QISEDDBD

### 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.

## Global DDF Activity

**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
DBATS TERM-POOLINAC	1.00	N/A	N/A	N/A
DBATS TERM-REUSE LIMIT	1.00	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
CUR DBATS SUSPND PROF EXCEP	0.00	N/A	N/A	N/A
HWM DBATS SUSPND PROF EXCEP	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 MAXCONQN 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

**DBATS TERM-POOLINAC**

The number of times that threads used by connections from the remote site were terminated after remaining in pool longer than POOLINAC.

**Field Name:** QDSTNTPL

**DBATS TERM-REUSE LIMIT**

The number of times that threads used by connections from the remote site were terminated after exceeding the number of times the thread can be reused.

**Field Name:** QDSTNTRU

**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 KEEPYNAMIC(YES).

**Field Name:** QDSTNAKD

**HWM ACTIVE DBATS-BND KEEPDY**

The maximum number of DBATS that are active due to usage of packages bound with KEEPYNAMIC(YES).

**Field Name:** QDSTMAKD

**ILOS CANCELS DECLINED**

The number of ILOS cancels declined due to CPU contention.

**Field Name:** QDSTNLSC

**CUR DBATS SUSPND PROF EXCEP**

Current number of DBATs suspended due to system profile exception was reached.

**Field Name:** QDSTDBPQ

**HWM DBATS SUSPND PROF EXCEP**

Maximum number of DBATs suspended due to system profile exception was reached since DDF started.

**Field Name:** QDSTMDPQ

## 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 Buffer Pool Activity

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.

## Group Buffer Pool Activity

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.

## Group Buffer Pool Activity

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.

## Group Buffer Pool Activity

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.

## Highlights

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 (QBSTWS) 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

## IFC Destinations

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

## IFC Destinations

### 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

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 latch contentions**

This topic shows detailed information about "Statistics - IRLM latch contentions".

**Statistics - IRLM latch contentions**

The field labels shown in the following sample layout of "Statistics - IRLM latch contentions" are described in the following section.

IRLM LATCH CONTENTIONS	QUANTITY	/SECOND	/THREAD	/COMMIT
MAIN CONT - MAIN LATCH HELD	1373.00	5.64	3.24	1.09
MAIN CONT - USE COUNT NOT 0	20.00	0.08	0.05	0.02
SEC CONT - MAIN LATCH HELD	1355.00	5.57	3.19	1.08
GENERIC LATCH CONTENTIONS	1355.00	5.57	3.19	1.08
RESOURCE LATCH CONTENTION	1.00	0.00	0.00	0.00
NOTIFY CB LTCH CONT-NOTIFY	0.00	0.00	0.00	0.00
ACTIVE IRLM CB LTCH CONTN	0.00	0.00	0.00	0.00

**MAIN CONT - MAIN LATCH HELD**

Main latch contention due to Main latch held.

## IRLM Storage Below and Above 2 GB

**Field Name:** QTXALCMM

### MAIN CONT - USE COUNT NOT 0

Main latch contention due to Use Count not being 0.

**Field Name:** QTXALCMU

### SEC CONT - MAIN LATCH HELD

Secondary latch contention due to Main latch held.

**Field Name:** QTXALCSM

### GENERIC LATCH CONTENTIONS

Generic latch contentions.

**Field Name:** QTXACGEN

### RESOURCE LATCH CONTENTION

Resource latch contention counter.

**Field Name:** QTXASRCL

### NOTIFY CB LATCH CONT - NOTIFY

Notify Control Block latch contention for NOTIFY.

**Field Name:** QTXACNNT

### ACTIVE IRLM CB LATCH CONTN

Active IRLM Control Block latch contention counter.

**Field Name:** QTGSLCAI

## 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\_BBESAH).

**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

**IRLM system activity**

This topic shows detailed information about "Statistics - IRLM system activity".

**Statistics - IRLM system activity**

The field labels shown in the following sample layout of "Statistics - IRLM system activity" are described in the following section.

## IRLM Storage Below and Above 2 GB

IRLM SYSTEM ACTIVITY	QUANTITY	/SECOND	/THREAD	/COMMIT
LOCAL RESOURCE CONTENTIONS	0.00	0.00	0.00	0.00
GLOBAL DEADLOCKS	0.00	0.00	0.00	0.00
LOCAL DEADLOCKS	0.00	0.00	0.00	0.00
SUSPEND EXITS	0.00	0.00	0.00	0.00
RESUME EXITS	0.00	0.00	0.00	0.00
STATUS EXITS	1.00	0.00	0.00	0.00
DEADLOCK EXITS	1.00	0.00	0.00	0.00
TIMEOUT EXITS	1.00	0.00	0.00	0.00
P-LOCK EXITS	0.00	0.00	0.00	0.00
NOTIFY EXITS	0.00	0.00	0.00	0.00
CQE USE COUNT	0.00	0.00	0.00	0.00
CQE GENERATED	0.00	0.00	0.00	0.00
IRLM PURGED - TIMEOUT	0.00	0.00	0.00	0.00
IRLM ABENDS RETRYABLE	0.00	0.00	0.00	0.00
IRLM ABENDS NON RETRYABLE	0.00	0.00	0.00	0.00

### LOCAL RESOURCE CONTENTIONS

Local resource contentions.

**Field Name:** QTGSLICN

### GLOBAL DEADLOCKS

Total number of global deadlocks.

**Field Name:** QTGSDGBL

### LOCAL DEADLOCKS

Total number of local deadlocks.

**Field Name:** QTXADLCL

### SUSPEND EXITS

Suspend Exit counter.

**Field Name:** QTXASUSP

### RESUME EXITS

Resume Exit counter.

**Field Name:** QTXARSUM

### STATUS EXITS

Status Exit counter.

**Field Name:** QTXASTAT

### DEADLOCK EXITS

Deadlock Exit counter.

**Field Name:** QTXADEAD

### TIMEOUT EXITS

Timeout Exit counter.

**Field Name:** QTXATIME

### P-LOCK EXITS

P-lock Exit counter.

**Field Name:** QTGSCPLO

### NOTIFY EXITS

Notify Exit counter.

**Field Name:** QTGSCNOT

**CQE USE COUNT**

Use Count counter for Compat Queue Elements.

**Field Name:** QTXAUCNT

**CQE GENERATED**

Number of Compat QEs generated.

**Field Name:** QTXALCCP

**IRLM PURGED - TIMEOUT**

Timeout RLBs purged by IRLM.

**Field Name:** QTXATOUT

**IRLM ABENDS RETRYABLE**

Re-tryable ABENDS in IRLM.

**Field Name:** QTXARTRY

**IRLM ABENDS NON RETRYABLE**

Non re-tryable ABENDS in IRLM.

**Field Name:** QTXANRTY

## 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 Counters from 33 to 64 are available only starting from Db2 v13 onwards.

LATCH CNT	/SECOND	/SECOND	/SECOND	/SECOND
LC01-LC04	0.00	0.00	0.00	0.00
LC05-LC08	0.00	20.59	0.00	0.00
LC09-LC12	0.00	0.00	5.84	27.28
LC13-LC16	0.01	10.63	0.00	0.00
LC17-LC20	0.00	0.00	17.40	95.03
LC21-LC24	0.00	0.00	19.72	3.72
LC25-LC28	5.69	0.30	2.07	50.06
LC29-LC32	66.71	0.79	0.08	0.00
LC33-LC36	0.00	0.00	0.00	0.00
LC37-LC40	0.00	0.00	0.00	0.00
LC41-LC44	0.00	0.00	0.00	0.00
LC45-LC48	0.00	0.00	0.00	0.00
LC49-LC52	0.00	0.00	0.00	0.00
LC53-LC56	0.00	0.00	0.00	0.00
LC57-LC60	0.00	0.00	0.00	0.00
LC61-LC64	0.00	0.05	13.40	0.00
LC254	8.95			

### LC01

This field is infrequently used.

## Latch Counters

**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 latch 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

## Latch Counters

### 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

Package authorization cache or DPS common.

**Field Name:** QVLSLC31

### LC32

TCPACE serialization.

**Field Name:** QVLSLC32

### LC33

Reserved.

**Field Name:** QVLSLC33

### LC34

This field is for IBM service use.

**Field Name:** QVLSLC34

### LC35

This field is for IBM service use.

**Field Name:** QVLSLC35

### LC36

This field is for IBM service use.

**Field Name:** QVLSLC36

### LC37

This field is for IBM service use.

**Field Name:** QVLSLC37

**LC38**

This field is for IBM service use.

**Field Name:** QVLSLC38

**LC39**

This field is for IBM service use.

**Field Name:** QVLSLC39

**LC40**

This field is for IBM service use.

**Field Name:** QVLSLC40

**LC41**

This field is for IBM service use.

**Field Name:** QVLSLC41

**LC42**

This field is for IBM service use.

**Field Name:** QVLSLC42

**LC43**

This field is for IBM service use.

**Field Name:** QVLSLC43

**LC44**

This field is for IBM service use.

**Field Name:** QVLSLC44

**LC45**

This field is for IBM service use.

**Field Name:** QVLSLC45

**LC46**

This field is for IBM service use.

**Field Name:** QVLSLC46

**LC47**

This field is for IBM service use.

**Field Name:** QVLSLC47

**LC48**

This field is for IBM service use.

**Field Name:** QVLSLC48

**LC49**

This field is for IBM service use.

**Field Name:** QVLSLC49

**LC50**

This field is for IBM service use.

**Field Name:** QVLSLC50

## Latch Counters

### LC51

This field is for IBM service use.

**Field Name:** QVLSLC51

### LC52

This field is for IBM service use.

**Field Name:** QVLSLC52

### LC53

This field is for IBM service use.

**Field Name:** QVLSLC53

### LC54

This field is for IBM service use.

**Field Name:** QVLSLC54

### LC55

This field is for IBM service use.

**Field Name:** QVLSLC55

### LC56

This field is for IBM service use.

**Field Name:** QVLSLC56

### LC57

This field is for IBM service use.

**Field Name:** QVLSLC57

### LC58

This field is for IBM service use.

**Field Name:** QVLSLC58

### LC59

This field is for IBM service use.

**Field Name:** QVLSLC59

### LC60

This field is for IBM service use.

**Field Name:** QVLSLC60

### LC61

This field is for IBM service use.

**Field Name:** QVLSLC61

### LC62

The predominant latch usage is: Storage manager.

**Field Name:** QVLSLC62

### LC63

The predominant latch usage is: Storage manager.

**Field Name:** QVLSLC63



**LC64**

This field is for IBM service use.

**Field Name:** QVLSLC64

**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

## Locking Activity

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.

## Log Activity

**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 WRTTHRS 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

## Miscellaneous

### 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  $1024 * 1024 * \text{statistics-interval-seconds} * 2$ . 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

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	00000000001698125C05
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	5.00
FETCH 1 BLOCK ONLY	1519.00
RDS SORT PERFORMED	0.00
RDS SORTL USED	0.00
ZAI STABILIZED PREPARE	0.00
SORT FEEDBACK USED	0.00
FTB THRESHOLD	1000.00
FTB CRITERIA MEET	245.00
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

#### 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:** QXR1BOARD

**RDS SORT PERFORMED**

Number of times RDS Sort was performed.

**Field Name:** QXSTSRT

**RDS SORTL USED**

Number of times RDS Sort used the IBM Integrated Accelerator for Z Sort.

**Field Name:** QXSTSRTL

**ZAI STABILIZED PREPARE**

The number of times when a PREPARE request was satisfied because db2zai stabilized the statement.

**Field Name:** QXSTMLSFND

**SORT FEEDBACK USED**

The number of times when sort feedback was used.

**Field Name:** QXSTMLSRT

**FTB THRESHOLD**

FTB threshold: minimum number of index traversals.

**Field Name:** QISTTRAVMIN

**FTB CRITERIA MEET**

Total number of indexes which meet FTB criteria.

**Field Name:** QISTFTBCANT

## MVS LPAR Shared Storage Above 2 GB

### 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

## 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: QW0225SHRBYTES).

**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.

## Plan/Package Activity

### **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.

## Plan/Package Activity

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:** QTPKGFDR

## Profile Monitoring Data

This topic shows detailed information about "Statistics - Profile Monitoring Data".

System profile statistics from IFCID 402 trace data, about profile warnings or exception conditions, which occurred during the statistics interval.

### Statistics - Profile Monitoring Data

The field labels shown in the following sample layout of "Statistics - Profile Monitoring Data" are described in the following section.

```

PROFILE MON. STATISTICS  VALUE
-----
PROFILE ID              66
TOKEN 1                 ::FFFF:10.15.60.170
TOKEN 2                 N/P
INTERVAL NUMBER        0
INTERVAL START         10/27/23 07:54:01.81
INTERVAL END           10/27/23 08:04:00.83
INTERVAL ELAPSED       9:59.016024

PROFILE MON. STATISTICS  QUANTITY  PROFILE MON. STATISTICS  QUANTITY
-----
THREAD EXCEPTION THRESHOLD EXCEEDED  108.8K  THREAD WARNING THRESHOLD EXCEEDED  0.00
REQUEST FAILED                      0.00  CONNECTION WARNING THRESHOLD EXCEEDED  0.00
QUEUED/SUSPENDED                     0.00  IDLE THREAD WARNING THRESHOLD EXCEEDED  0.00
CONNECTION EXCEPTION THRESHOLD EXCEEDED  0.00
IDLE THREAD EXCEPTION THRESHOLD EXCEEDED  0.00

PROFILE MON. STATISTICS  WARNINGS  EXCEPTIONS  PROFILE MON. STATISTICS  QUANTITY
-----
MONITOR REST CONNECTIONS FOR SECURITY  0.00  0.00  HWM THREADS SINCE DDF STARTED  21.00
MONITOR JDBC CONNECTIONS FOR SECURITY  0.00  0.00  HWM CONNECTIONS SINCE DDF STARTED  74.00
MONITOR CLI CONNECTIONS FOR SECURITY  0.00  0.00  CURRENT ACTIVE THREADS  8.31
MONITOR DSN CONNECTIONS FOR SECURITY  0.00  0.00  CURRENT SUSPENDED THREADS  0.00
MONITOR DB2CONNECT CONNECTIONS FOR SECURITY  0.00  0.00  CURRENT NUMBER OF CONNECTIONS  19.03
MONITOR OTHER CONNECTIONS FOR SECURITY  0.00  0.00

```

### PROFILE ID

The profile ID.

**Field Name:** QW0402PI

### TOKEN 1

First token value. When the keywords value for a profile entry is monitor all threads or monitor all connections, this value is '::0'.

**Field Name:** QW0402TN1

### TOKEN 2

Second token value.

**Field Name:** QW0402TN2

### INTERVAL NUMBER

This counter shows how many times during statistic interval IFCID 402 warning and exception counters were reset when a new profile is enabled, or a threshold changed.

**Field Name:** SINTNUM

### 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

### THREAD EXCEPTION THRESHOLD EXCEEDED

Number of times that a thread exception threshold was exceeded.

**Field Name:** QW0402TE

### REQUEST FAILED

Number of requests that failed because a thread exception threshold was exceeded.

**Field Name:** QW0402TF

### QUEUED/SUSPENDED

Number of threads that were queued or suspended when a thread exception threshold was exceeded. When the keywords value for a profile entry is monitor all threads, this value is 0.

**Field Name:** QW0402TQ

### CONNECTION EXCEPTION THRESHOLD EXCEEDED

Number of times that a connection exception threshold was exceeded.

**Field Name:** QW0402CE

**IDLE THREAD EXCEPTION THRESHOLD EXCEEDED**

Number of times that an idle thread exception threshold was exceeded. When the keywords value for a profile entry is monitor all threads or monitor all connections, this value is 0.

**Field Name:** QW0402OE

**THREAD WARNING THRESHOLD EXCEEDED**

Number of times that a thread exception warning was exceeded.

**Field Name:** QW0402TW

**CONNECTION WARNING THRESHOLD EXCEEDED**

Number of times that a connection warning threshold was exceeded.

**Field Name:** QW0402CW

**IDLE THREAD WARNING THRESHOLD EXCEEDED**

Number of times that an idle thread warning threshold was exceeded. When the keywords value for a profile entry is monitor all threads or monitor all connections, this value is 0.

**Field Name:** QW0402OW

**MONITOR REST CONNECTIONS FOR SECURITY - WARNING**

Accumulated counter of MONITOR REST CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_REST\_W

**MONITOR REST CONNECTIONS FOR SECURITY - EXCEPTION**

Accumulated counter of MONITOR REST CONNECTIONS FOR SECURITY exceptions.

**Field Name:** QW0402MCS\_REST\_E

**MONITOR JDBC CONNECTIONS FOR SECURITY - WARNING**

Accumulated counter of MONITOR CLI CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_CLI\_W

**MONITOR JDBC CONNECTIONS FOR SECURITY - EXCEPTION**

Accumulated counter of MONITOR CLI CONNECTIONS FOR SECURITY exceptions..

**Field Name:** QW0402MCS\_CLI\_E

**MONITOR DSN CONNECTIONS FOR SECURITY - WARNING**

Accumulated counter of MONITOR DSN CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_DSN\_W

**MONITOR DSN CONNECTIONS FOR SECURITY - EXCEPTION**

Accumulated counter of MONITOR DSN CONNECTIONS FOR SECURITY exceptions.

**Field Name:** QW0402MCS\_DSN\_E

**MONITOR DB2CONNECT CONNECTIONS FOR SECURITY - WARNING**

Accumulated counter of MONITOR DB2CONNECT CONNECTIONS SECURITY warnings.

**Field Name:** QW0402MCS\_DB2C\_W

**MONITOR DB2CONNECT CONNECTIONS FOR SECURITY - EXCEPTION**

Accumulated counter of MONITOR DB2CONNECT CONNECTIONS SECURITY exceptions.

**Field Name:** QW0402MCS\_DB2C\_E

## Query Parallelism

### **MONITOR OTHER CONNECTIONS FOR SECURITY - WARNING**

Accumulated counter of other MONITOR CONNECTIONS FOR SECURITY warnings.

**Field Name:** QW0402MCS\_DFT\_W

### **MONITOR OTHER CONNECTIONS FOR SECURITY - EXCEPTION**

Accumulated counter of other MONITOR CONNECTIONS FOR SECURITY exceptions.

**Field Name:** QW0402MCS\_DFT\_E

### **HWM THREADS SINCE DDF STARTED**

Highest number of threads since DDF start.

**Field Name:** QW0402TH

### **HWM CONNECTIONS SINCE DDF STARTED**

Highest number of connections since DDF start.

**Field Name:** QW0402CH

### **CURRENT ACTIVE THREADS**

Current number of active threads.

**Field Name:** QW0402TC

### **CURRENT SUSPENDED THREADS**

Current number of suspended threads.

**Field Name:** QW0402TS

### **CURRENT NUMBER OF CONNECTIONS**

Current number of connections.

**Field Name:** QW0402CC

## 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:** QXDEGCR

### **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:** QXSTODGNR

### **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
64-BIT REAL 2G FRAMES IN USE	(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.

## Real and Auxiliary Storage for DBM1

**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 frames which are still charged to DB2, minus this count, is the true REAL Storage usage at this time.



**Field Name:** S225PSD

### 64-BIT REAL 2G FRAMES IN USE (MB)

Number of Private discarded storage eligible for Page Steal. Currently backed frames which are still charged to DB2, minus this count, is the true REAL Storage usage at this time.

**Field Name:** S225PR2G

## 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
64-BIT REAL 2G FRAMES IN USE	(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.

## Real Storage in Use - Summary

**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 frames which are still charged to DB2, minus this count, is the true REAL Storage usage at this time.

**Field Name:** S225PSD2

### 64-BIT REAL 2G FRAMES IN USE (MB)

Number of Private discarded storage eligible for Page Steal. Currently backed frames which are still charged to DB2, minus this count, is the true REAL Storage usage at this time.

**Field Name:** S225PR2G

## 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

## Remote Application Statistics

This topic shows detailed information about "Statistics - Remote Application Statistics".

IFCID 0411 records detailed statistics about the remote applications that connect to a local Db2 subsystem using the DRDA protocol. This record is written when Statistics trace class 10 is on. The REMOTE APPLICATION STATISTICS section is shown for each application connected to the Db2 subsystem remotely.

### Statistics - Remote Application Statistics

The field labels shown in the following sample layout of "Statistics - Remote Application Statistics" are described in the following section.

## Real Storage in Use - Summary

REMOTE APPL. STATISTICS		VALUE	REMOTE APPL. STATISTICS		QUANTITY
APPLICATION NAME	REMOTEFLSAPPLICATION		REQUESTS		
PRODUCT ID	SQL00095		COMMIT		0.00
PRODUCT LEVEL	N/P		ABORT		0.00
			REST SERVICE		0.00
			PROFILE SET SPECIAL REGISTERS		0.00
			PROFILE SET GLOBAL VARIABLES		0.00
REMOTE APPL. STATISTICS		QUANTITY	REMOTE APPL. STATISTICS		QUANTITY
DBAT NOT POOLED			SERVER THREADS		
WITH HOLD CURSOR NOT CLOSED	0.00		ACTIVE		0.00
DGTT NOT DROPPED	0.00		INTERVAL HWM		0.00
KEEPDYNAMIC PACKAGES USED	0.00		QUEUED(MAXBAT)		0.00
HIGH-PERF DBAT USED	0.00		TERMINATED		0.00
HELD LOB LOCATOR EXIST	0.00		IDTHTOIN EXCEEDED		0.00
STORED PROCEDURE COMMIT	0.00		CANCELED		0.00
			IDLE THD PROF		0.00
			KEEP DYNAMIC REFRESH IDLE		0.00
			KEEP DYNAMIC REFRESH USE		0.00
			NETWORK		0.00

### APPLICATION NAME

The name of the application that is running at the remote site. This field contains the value of the CURRENT CLIENT\_APPLNAME special register at the time of the initial connection, converted to uppercase. See the CURRENT CLIENT\_APPLNAME topic in IBM documentation for more information.

**Field Name:** QLAPAPPN

### PRODUCT ID

The product ID of the remote location from which the application connects. See QLAPPRLV for the product level.

**Field Name:** QLAPPRID

### PRODUCT LEVEL

Product level, if known.

**Field Name:** QLAPPRLV

### REQUESTS - COMMIT

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:** QLAPCOMR

### REQUESTS - ABORT

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:** QLAPABRR

### REQUESTS - REST SERVICE

The number of times that the application reported a connection or application condition from a REST service request.

**Field Name:** QLAPNREST

### REQUESTS - PROFILE SET SPECIAL REGISTERS

The number of times that the application reported a connection or application condition from setting a special register through a profile.

**Field Name:** QLAPNSSR

### REQUESTS - PROFILE SET GLOBAL VARIABLES

The number of times that the application reported a connection or application condition from setting a global variable through a profile.

**Field Name:** QLAPNSGV

**DBAT NOT POOLED - WITH HOLD CURSOR NOT CLOSED**

The number of times that the application used a cursor that was defined as WITH HOLD, and was not closed. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPHCRSR

**DBAT NOT POOLED - DGTT NOT DROPPED**

The number of times that the application did not drop a declared temporary table. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPDGTT

**DBAT NOT POOLED - KEEP DYNAMIC PACKAGES USED**

The number of times that the application used a KEEP DYNAMIC package. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPKPDYN

**DBAT NOT POOLED - HIGH-PERF DBAT USED**

The number of times that the application used a high-performance DBAT. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPHIPRF

**DBAT NOT POOLED - HELD LOB LOCATOR EXIST**

The number of times that the application had a held LOB locator. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPHLOBLOC

**DBAT NOT POOLED - STORED PROCEDURE COMMIT**

The number of times that a commit was issued in a stored procedure. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAPSPCMT

**THREADS - QUEUED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application was queued because a profile exception threshold was exceeded.

**Field Name:** QLAPNTHDPQ

**THREADS - TERMINATED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application was terminated because a profile exception threshold was exceeded.

**Field Name:** QLAPNTHDPT

**THREADS - ABENDED**

The number of times that a thread that was used by a connection from the application abended.

**Field Name:** QLAPNTHDA

**THREADS - CANCELED**

The number of times that a thread that was used by a connection from the application was canceled.

**Field Name:** QLAPNTHDC

**SERVER THREADS - ACTIVE**

The current number of active threads for the application.

**Field Name:** QLAPNTHD

### SERVER THREADS - INTERVAL HWM

For a statistics trace, this is the highest number of active threads during the current statistics interval. For a READS request, this is the highest number of active threads since DDF was started.

**Field Name:** QLAPHTHD

### SERVER THREADS - QUEUED(MAXDBAT)

The number of threads that were queued because the MAXDBAT subsystem parameter value was exceeded.

**Field Name:** QLAPTHDTM

### SERVER THREADS - TERMINATED

Sum of all terminated SERVER THREADS

**Field Name:** SQLAPTOT

### SERVER THREADS - TERMINATED - IDTHTOIN EXCEEDED

the number of threads that were terminated because the IDTHTOIN subsystem parameter value was exceeded.

**Field Name:** QLAPTHDTI

### SERVER THREADS - TERMINATED - CANCELED

The number of threads that were terminated because the CANCEL THREAD command was issued.

**Field Name:** QLAPTHDTC

### SERVER THREADS - TERMINATED - IDLE THD PROF

The number of threads that were terminated because a profile exception condition for idle threads was exceeded.

**Field Name:** QLAPTHDTR

### SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH IDLE

The number of threads that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the idle time exceeded the idle time limit.

**Field Name:** QLAPTHDTK

### SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH USE

the number of threads that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the time that the threads were in use exceeded the in-use time limit.

**Field Name:** QLAPTHDTF

### SERVER THREADS - TERMINATED - NETWORK

The number of threads that were terminated due to network termination.

**Field Name:** QLAPTHDTN

## Remote User Statistics

This topic shows detailed information about "Statistics - Remote User Statistics".

IFCID 0412 records detailed statistics about the remote user IDs that connect to a local Db2 subsystem using the DRDA protocol. This record is written when Statistics trace class 11 is on. The REMOTE USER STATISTICS section is shown for each user ID that has connected to the Db2 subsystem remotely.

## Statistics - Remote User Statistics

The field labels shown in the following sample layout of "Statistics - Remote User Statistics" are described in the following section.

REMOTE USER STATISTICS		VALUE	REMOTE USER STATISTICS		QUANTITY
USER NAME	LPUSR1ST001		REQUESTS		
PRODUCT ID	DSN12099		COMMIT		0.00
PRODUCT LEVEL	V12R1M509		ABORT		0.00
			REST SERVICE		0.00
			PROFILE SET SPECIAL REGISTERS		0.00
			PROFILE SET GLOBAL VARIABLES		0.00
REMOTE USER STATISTICS		QUANTITY	REMOTE USER STATISTICS		QUANTITY
DBAT NOT POOLED			SERVER THREADS		
WITH HOLD CURSOR NOT CLOSED	0.00		ACTIVE		0.00
DGTT NOT DROPPED	0.00		INTERVAL HWM		0.00
KEEPDYNAMIC PACKAGES USED	0.00		QUEUED (MAXDBAT)		0.00
HIGH-PERF DBAT USED	0.00		TERMINATED		0.00
HELD LOB LOCATOR EXIST	0.00		IDTHTOIN EXCEEDED		0.00
STORED PROCEDURE COMMIT	0.00		CANCELED		0.00
			IDLE THD PROF		0.00
			KEEP DYNAMIC REFRESH IDLE		0.00
			KEEP DYNAMIC REFRESH USE		0.00
			NETWORK		0.00

### USER NAME

The name of the client user ID under which the connection from the remote application to the local site is established. This field contains the value of the CURRENT\_CLIENT\_USERID special register at the time of the initial connection, converted to uppercase. See the CURRENT\_CLIENT\_USERID topic in IBM documentation for more information.

**Field Name:** QLAUUSRI

### PRODUCT ID

The product ID of the remote location from which the application connects. See QLAUPRLV for the product level.

**Field Name:** QLAUPRID

### PRODUCT LEVEL

Product level, if known.

**Field Name:** QLAUPRLV

### REQUESTS - COMMIT

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:** QLAUCOMR

### REQUESTS - ABORT

Number of abort requests received from the requester (single-phase commit protocol) and number of backout requests received from the coordinator (two-phase commit protocol).

**Field Name:** QLAUABRR

### REQUESTS - REST SERVICE

The number of times that the application reported a connection or application condition from a REST service request.

**Field Name:** QLAUNREST

### REQUESTS - PROFILE SET SPECIAL REGISTERS

The number of times that an application run by the specified client user ID reported a connection or application condition from setting a special register through a profile.

**Field Name:** QLAUNSSR

### **REQUESTS - PROFILE SET GLOBAL VARIABLES**

The number of times that an application run by the specified client user ID reported a connection or application condition from setting a global variable through a profile.

**Field Name:** QLAUNSGV

### **DBAT NOT POOLED - WITH HOLD CURSOR NOT CLOSED**

The number of times that an application run by the specified client user ID used a cursor that was defined as WITH HOLD, and was not closed. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUHCRSR

### **DBAT NOT POOLED - DGTT NOT DROPPED**

The number of times that an application run by the specified client user ID did not drop a declared temporary table. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUDGTT

### **DBAT NOT POOLED - KEEP DYNAMIC PACKAGES USED**

The number of times that an application run by the specified client user ID used KEEP DYNAMIC packages. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUKPDYN

### **DBAT NOT POOLED - HIGH-PERF DBAT USED**

The number of times that an application run by the specified client user ID used a high-performance DBAT. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUHIPRF

### **DBAT NOT POOLED - HELD LOB LOCATOR EXIST**

The number of times that an application run by the specified client user ID used a held LOB locator. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUHLOBLOC

### **DBAT NOT POOLED - STORED PROCEDURE COMMIT**

The number of times that a commit was issued in a stored procedure that was called by the specified client user ID. That condition prevented Db2 from pooling DBATs.

**Field Name:** QLAUSPCMT

### **THREADS - QUEUED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application run by the specified client user ID was queued because a profile exception threshold was exceeded.

**Field Name:** QLAUNTHDPQ

### **THREADS - TERMINATED (PROFILE EXC)**

The number of times that a thread that was used by a connection from the application run by the specified client user ID terminated because a profile exception threshold was exceeded.

**Field Name:** QLAUNTHDPT

### **THREADS - ABENDED**

The number of times that a thread that was used by a connection from an application run by the specified client user ID abended.

**Field Name:** QLAUNTHDA



**THREADS - CANCELED**

The number of times that a thread that was used by a connection from an application run by the specified client user ID was canceled.

**Field Name:** QLAUNTHDC

**SERVER THREADS - ACTIVE**

The current number of active threads for the application run by the specified client user ID.

**Field Name:** QLAUNTHD

**SERVER THREADS - INTERVAL HWM**

For a statistics trace, this is the highest number of active threads during the current statistics interval. For a READS request, this is the highest number of active threads since DDF was started.

**Field Name:** QLAUHTHD

**SERVER THREADS - QUEUED(MAXDBAT)**

The number of threads associated with the specified client user ID that were queued because the MAXDBAT subsystem parameter value was exceeded.

**Field Name:** QLAUTHDTM

**SERVER THREADS - TERMINATED**

Sum of all terminated SERVER THREADS.

**Field Name:** SQLAUTOT

**SERVER THREADS - TERMINATED - IDTHTOIN EXCEEDED**

The number of threads associated with the specified client user ID that were terminated because the IDTHTOIN subsystem parameter value was exceeded.

**Field Name:** QLAUTHDTI

**SERVER THREADS - TERMINATED - CANCELED**

The number of threads associated with the specified client user ID that were terminated because the CANCEL THREAD command was issued.

**Field Name:** QLAUTHDTC

**SERVER THREADS - TERMINATED - IDLE THD PROF**

The number of threads associated with the specified client user ID that were terminated because a profile exception condition for idle threads was exceeded.

**Field Name:** QLAUTHDTR

**SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH IDLE**

The number of threads associated with the specified client user ID that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the idle time exceeded the idle time limit.

**Field Name:** QLAUTHDTK

**SERVER THREADS - TERMINATED - KEEP DYNAMIC REFRESH USE**

The number of threads associated with the specified client user ID that were terminated because the threads were running under KEEP DYNAMIC refresh rules, and the time that they were in use exceeded the in-use time limit.

**Field Name:** QLAUTHDTF

### SERVER THREADS - TERMINATED - NETWORK

The number of threads associated with the specified client user ID that were terminated due to network termination.

**Field Name:** QLAUTHDTN

## Resource hash table latch contentions

This topic shows detailed information about "Statistics - Resource hash table latch contentions".

### Statistics - Resource hash table latch contentions

The field labels shown in the following sample layout of "Statistics - Resource hash table latch contentions" are described in the following section.

RESOURCE HASH TABLE LATCH CONT	QUANTITY	/SECOND	/THREAD	/COMMIT
LOCK	1.00	0.00	0.00	0.00
UNLOCK	1.00	0.00	0.00	0.00
CHANGE	0.00	0.00	0.00	0.00
COMPAT	0.00	0.00	0.00	0.00
ASYNC LOCK	0.00	0.00	0.00	0.00
QUERY FAST	0.00	0.00	0.00	0.00
NOTIFY	0.00	0.00	0.00	0.00

#### RESOURCE LATCH CONTENTIONS - LOCK

Resource Hash Table latch contention for LOCK.

**Field Name:** QTXACRLK

#### RESOURCE LATCH CONTENTIONS - UNLOCK

Resource Hash Table latch contention for UNLOCK.

**Field Name:** QTXACRUK

#### RESOURCE LATCH CONTENTIONS - CHANGE

Resource Hash Table latch contention for CHANGE.

**Field Name:** QTXACRCH

#### RESOURCE LATCH CONTENTIONS - COMPAT

Resource Hash Table latch contention for COMPAT.

**Field Name:** QTXACRCP

#### RESOURCE LATCH CONTENTIONS - ASYNC LOCK

Resource Hash Table latch contention for ASYNC LOCK.

**Field Name:** QTXACRAL

#### RESOURCE LATCH CONTENTIONS - QUERY FAST

Resource Hash Table latch contention for QUERY FAST.

**Field Name:** QTXACRQF

#### RESOURCE LATCH CONTENTIONS - NOTIFY

Resource Hash Table latch contention for NOTIFY.

**Field Name:** QTXACRNT

## 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
DW 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.

## ROWID

### 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.

# Simulated Buffer Pool Statistics

```

----- 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 MAX PAGES IN USE	CUR SEQ PAGES IN USE MAX SEQ PAGES IN USE	SYNC READ I/O (R) SYNC READ I/O (S) ASYNC READ I/O	SYNC GBP READS (R) SYNC GBP READS (S) ASYNC GBP READS	PAGES MOVED INTO SIM BP TOTAL SYNC I/O DELAY
BP8	2077148.09 2077152.00	108280.75 113140.00	25602267.00 303521.00 3471925.00	0.00 0.00 0.00	33399137.00 2:53:53.887488
BP19	9999.83 10000.00	2091.49 2304.00	444527.00 0.00 31990.00	0.00 0.00 0.00	8181054.00 2:48.717001
BP21	2087151.56 2087152.00	14232.85 15309.00	3557658.00 29.00 514.00	0.00 0.00 0.00	7269201.00 1:33:27.140580
BP23	2087151.47 2087152.00	428373.09 455354.00	3746564.00 839.00 71096.00	0.00 0.00 0.00	9301079.00 1:04:06.941451
BP26	2000.00 2000.00	0.00 35.00	182189.00 0.00 4.00	0.00 0.00 0.00	3311185.00 1:18.368918

## 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:** QBSPUIUS

## 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 programabend
- Application rollback request

## Subsystem Services

- 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).

## Subsystem Shared Storage Above 2 GB

**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:** QXSETPH

**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

## SQL DDL

### 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.

## SQL DML

**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:** QXRWSINSRTDA1g1



**INSERT - TYPE 2 INSERT ALGORITHM**

The number of rows inserted (DB2 field: QXRWSINSRTD).

**Field Name:** QXRWSINSRTDAI2

**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

## Triggers

### 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.

## Workfile Database

**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:** QISTSIAAC

**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

**Workunit hash table latch contentions**

This topic shows detailed information about "Statistics - Workunit hash table latch contentions".

**Statistics - Workunit hash table latch contentions**

The field labels shown in the following sample layout of "Statistics - Workunit hash table latch contentions" are described in the following section.

WORKUNIT HASH TABLE LATCH CONT	QUANTITY	/SECOND	/THREAD	/COMMIT
LOCK	0.00	0.00	0.00	0.00
UNLOCK	0.00	0.00	0.00	0.00
CHANGE	0.00	0.00	0.00	0.00
COMPAT	1.00	0.00	0.00	0.00
ASYNC LOCK	0.00	0.00	0.00	0.00
QUERY FAST	0.00	0.00	0.00	0.00
SYNC	0.00	0.00	0.00	0.00

**WORKUNIT LATCH CONTENTIONS - LOCK**

Workunit Hash Table latch contention for LOCK.

**Field Name:** QTXACWLK

**WORKUNIT LATCH CONTENTIONS - UNLOCK**

Workunit Hash Table latch contention for UNLOCK.

**Field Name:** QTXACWUK

**WORKUNIT LATCH CONTENTIONS - CHANGE**

Workunit Hash Table latch contention for CHANGE.

**Field Name:** QTXACWCH

**WORKUNIT LATCH CONTENTIONS - COMPAT**

Workunit Hash Table latch contention for COMPAT.

**Field Name:** QTXACWCP

**WORKUNIT LATCH CONTENTIONS - ASYNC LOCK**

Workunit Hash Table latch contention for ASYNC LOCK.

**Field Name:** QTXACWAL

**WORKUNIT LATCH CONTENTIONS - QUERY FAST**

Workunit Hash Table latch contention for QUERY FAST.

**Field Name:** QTXACWQF

**WORKUNIT LATCH CONTENTIONS - SYNC**

Workunit Hash Table latch contention for SYNC.

**Field Name:** QTXACWSY

## 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 Performance Expert 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:

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 <i>delta record</i> .	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 <i>delta record</i> . Each OMEGAMON for Db2 Performance Expert 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 <i>delta record</i> . Each OMEGAMON for Db2 Performance Expert 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, RRSAP, 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
Location statistics details	Records contain data derived from IFCID 365 records (QLST section). One row is written for each remote location being reported on.	DGOSDLOC
Remote Application Statistics	Records contain data derived from IFCID 411 (QLAP section). One row is written for each remote application connected to Db2 subsystem.	DGOSDRAP
Remote User Statistics	Records contain data derived from IFCID 412 (QLAU section). One row is written for each remote userid connected to Db2 subsystem.	DGOSDRUS

<i>Table 29. Record Type and Description for Statistics File Data Sets and Output Records (continued)</i>		
<b>Record type</b>	<b>Description</b>	<b>Layout description in the RK02SAMP library</b>
Profile Monitoring Statistics	Records contain data derived from IFCID 402 record which is written at most once during a statistics interval, whose length is defined by subsystem parameter STATIME. For a specific profile, IFCID 402 tracks any profile warning or exception that occurred during a statistics interval.	DGOSDPRO

## 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
DB2 VERSION: V10                ACTUAL FROM: 01/30/15 22:50:03.98

```

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 Performance Expert 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.

**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: RS220DS5                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)        PAGE: 1-1
   GROUP:   ODS5
   MEMBER:  OCA5
   SUBSYSTEM: OCA5
   DB2 VERSION: V12
                                     SYSTEM PARAMETERS REPORT
                                     ACTUAL FROM: 02/06/19 09:53:14.72

-----
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 (EDMSTMC).....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 (CONTSOR).....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 (SMFACT).....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 (SYNVCV).....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/DLT TIMEOUT FACTOR (DLTOUT).....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 (UNIT1).....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 (ARCRTN).....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: RS220DSS5          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)      PAGE: 1-2
    GROUP: 0D55
    MEMBER: 0CA5
    SUBSYSTEM: 0CA5
    DB2 VERSION: V12
                                     ACTUAL FROM: 02/06/19 09:53:14.72

-----
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
SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM).....DB2SYSVP
SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2).....CSMARK
SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1).....PKKURT
SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2).....TSSAL
DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID).....IBMUSER
RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH).....SYSIBM
BIND NEW PACKAGE (BINDNV).....BINDADD
DBA CREATE VIEW (DBACRVW).....YES

DATA DEFINITION CONTROL SUPPORT (DSNTIPZ)
INSTALL DD CONTROL (RGFINSTL).....NO
CONTROL ALL APPLICATIONS (RGFDEDPL).....NO
REQUIRE FULL NAMES (RGFFULLQ).....YES
UNREGISTERED DDL DEFAULT (RGDFEFLT).....ACCEPT
REGISTER TABLE OWNER (RGFCOLID).....DSNRGCOL
DDL REGISTRATION DATABASE NAME (RGFDBNAM).....DSNRGDFB
APPL REGISTRATION TABLE NAME (RGFNMPRT).....DSN_REGISTER_APPL
OBJECT REGISTRATION TABLE NAME (RGFNMORT).....DSN_REGISTER_OBJT
ESCAPE CHARACTER (RGFESCP).....X'40'

DB2 VERSION INSTALL (DSNTIPAL)
-----

```

```

DEFINE GROUP OR MEMBER (DSNTIPK)
GROUP NAME (GRPNAME).....0D55
MEMBER NAME (MEMBNAME).....0CA5
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 (DDFO).....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
PRIVATE PROTOCOL (PRIVATE_PROTOCOL).....NO

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

LOG INSTALLATION PARAMETERS (DSNTIPL,DSNTIPH)
OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF).....400
CHECKPOINT TYPE (CHKTYPE).....SINGLE
RECORDS/CHECKPOINT (CHKLOGR).....N/P
MINUTES/CHECKPOINT (CHKMINS).....N/P
CHECKPOINT FREQUENCY (CHKFREQ).....1,000,000
UR CHECK FREQUENCY (URCHKTH).....5
UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH)......5
LIMIT BACKOUT (LBACKOUT).....AUTO
BACKOUT DURATION (BACKODUR).....5
PSEUDO-CLOSE FREQUENCY (PCLOSEN).....5
PSEUDO-CLOSE TIMER (PCLOSET).....60
CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ)......5
NUMBER OF ACTIVE LOG COPIES (TWOACTV).....2
NUMBER OF ARCHIVE LOG COPIES (TWOARCH).....1

```

```

DATA SHARING ENABLED (DSHARE).....YES
CURRENT DB2 RELEASE (NEWFUN).....N/A
CURRENT DB2 RELEASE - 1.....N/A
CURRENT DB2 RELEASE - 2.....N/A
COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB).....NO

1  LOCATION: RS220DSS5          OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)      PAGE: 1-3
    GROUP: 0D55
    MEMBER: 0CA5
    SUBSYSTEM: 0CA5
    DB2 VERSION: V12
                                     ACTUAL FROM: 02/06/19 09:53:14.72

APPLICATION PROGRAMMING DEFAULTS PANEL 1 (DSNTIPF)
DEFAULT HOST LANGUAGE (DEFLANG).....IBMC0B
DECIMAL POINT OPTION (DECIMAL).....PERIOD
DEFAULT DELIMITER (DELM).....DEFAULT
DEFAULT SQL DELIMITER (SQLELTI).....DEFAULT
DIST SQL STRING DELIMITER (DSQLELTI).....APOST
DEFAULT MIXED GRAPHIC (MIXED).....NO
EBCDIC SBCS CCSID (SCCSID).....37
EBCDIC MBCS CCSID (MCSSID).....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).....1,209
DEFAULT ENCODING SCHEME (ENSCHEME).....EBCDIC
APPLICATION ENCODING (APPNSCH).....EBCDIC
LOCAL 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 (IMPDSEFP).....YES
USE DATA COMPRESSION (IMPDSCMP).....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

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).....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.....
    ODS5.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).....ODSSWLM1
MAX OPEN CURSORS (MAX_NUM_CUR).....500
MAX STORED PROCS (MAX_ST_PROC).....2,000
MAXIMUM NUMBER OF LE TOKENS (LEMAX).....N/A

```

# System Parameters - Report

```

RENAME TABLE (RENAMETABLE).....NO
PREVENT ALTER LIMITKEY (PREVENT_ALTERTB_LIMITKEY).....NO
PREVENT INDEX PART CREATE (PREVENT_NEW_IDXCTRL_PART).....NO
DDL MATERIALIZATION (DDL_MATERIALIZATION).....ALWAYS_IMMEDIATE
DEFAULT INSERT ALGORITHM (DEFAULT_INSERT_ALGORITHM).....2
1  LOCATION: RS220D55                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
   DB2 VERSION: V12

PERFORMANCE AND OPTIMIZATION (DSNTIP8,DSNTIP81)
CACHE DYNAMIC SQL (CACHEEDYN).....YES
CACHE DYN STABILITY (CACHEEDYN_STABILIZATION).....BOTH
OPTIMIZATION HINTS ALLOWED (OPHTHINTS).....NO
EVALUATE UNCOMMITTED (EVALUNC).....NO
SKIP UNCOMM INSERTS (SKIPUNCI).....NO
IMMEDIATE OVERRIDE FLAG (IMMEDOVRT).....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 (NPGTHRS).....0
OFFLOAD OPTION (OFFLOAD).....YES
SU CONVERSION FACTOR.....200
MINIMUM DIVIDE SCALE (MINDVSC).....NONE
STAR JOIN THRESHOLD (SJTABLS).....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

BUFFER POOL PARAMETERS (DSNTIP1)
DEFAULT 4-KB BUFFER POOL FOR USER DATA (TBSBP00L).....BP0
DEFAULT 8-KB BUFFER POOL FOR USER DATA (TBSBP8K).....BP8K
DEFAULT 16-KB BUFFER POOL FOR USER DATA (TBSBP16K).....BP16K
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).....BP16K
DEFAULT BUFFER POOL FOR USER INDEXES (IDXBP00L).....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

```

```

ADMIN SCHEDULER JCL PROC NAME (ADMTPROC).....N/P
FREE LOCAL CACHED STATEMENTS (CACHEEDYN_FREELCAL).....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
1  LOCATION: RS220D55                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
   DB2 VERSION: V12

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).....1
MAX 'NOT FOUND' HASH RECORDS.....100
MAX EXTEND SERVICE TASKS.....20
PROJECT Z INSERTION THRESHOLD.....2
MAX ZIVLEMPPEL DICTIONARY ENTRIES.....4,096
REORG KEEPDICTIONARY IN BRP 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).....N/P

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
REORG IGNORE FREESPACE (REORG_IGNORE_FREESPACE).....N/A
ALTERNATE COPYPOOL (ALTERNATE_CP).....N/P
DB BACKUP STG GROUP (UTIL_DBSBG).....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
ODS5

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

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PARAMETER MODULE.....OCA5PARM
ACCESS CONTROL (ACCESS_CNTL_MODULE).....DSNX@XAC
IDENTIFY/AUTH (IDAUTH_MODULE).....DSN3@ATH
SIGNON (SIGNON_MODULE).....DSN3@GNH

INSTALL DB2 - RESOURCE LIMIT FACILITY (DSNTIP04)
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 (DSNTIPAP3)
ZHYPERLINKS SCOPE (ZHYPERLINK).....DATABASE

1 LOCATION: RS250C1A 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
  DB2 VERSION: V12
  
```

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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 (EDMSTMT).....56,693
EDM BDD CACHE SIZE IN KB (EDMDBDC).....11,709
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 (MAXOILR).....100
MANAGE REAL STORAGE (REALSTORAGE_MANAGEMENT).....AUTO

IRLM INSTALLATION PARAMETERS (DSNTIPI)
IRLM SUBSYSTEM NAME (IRLSID).....IR1C
IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT).....30
IRLM AUTOMATIC START (IRLMAUT).....YES
IRLM START PROCEDURE NAME (IRLMRPC).....OC1AIRLM
SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT).....300
U LOCK FOR REPEATABLE READ OR READ STABILITY (RRLOCK).....YES
X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT).....NO
IMS/BMP TIMEOUT FACTOR (BMPFOUT).....4
IMS/DLI TIMEOUT FACTOR (DLIFOUT).....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
  
```

```

MAXIMUM REAL STORAGE (REALSTORAGE_MAX).....0
CONTRACT THREAD STORAGE (CONSTOR).....N/A
MANAGE THREAD STORAGE (MINSTOR).....N/A
LONG-RUNNING READER IN MINUTES (LRORHLD).....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 (TRACFTBL).....16
LOCAL TRACE TABLE SIZE IN 4K BYTES (TRACLOC).....16
START SMF ACCOUNTING (SMFACT).....1,2,3
START SMF STATISTICS (SMFSTAT).....1,3,4
STATISTICS TIME INTERVAL IN MINUTES (STATIME).....30
SYNCHRONIZATION INTERVAL WITHIN THE HOUR (SYNCVAL).....5
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 (PRIORITY).....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 (ARCRTN).....0
ISSUE WTOR BEFORE MOUNT FOR ARCHIVE VOLUME (ARCWTOR).....YES
COMPACT DATA (COMPACT).....NO
QUIESCE PERIOD (QUIESCE).....5
SINGLE VOLUME (SVOLARC).....YES
  
```

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1 LOCATION: RS250C1A 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
  DB2 VERSION: V12

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

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).....100
EXTENDED SECURITY (EXTSEC).....YES
USER ID AND PASSWORD REQUIRED.....N/A
SQL INTERRUPT PROCESSING DISABLED (SQLINTRP).....NO
  
```

# System Parameters - Report

```
SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM).....DB2SYSYP
SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2).....CSMARK
SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1).....CSMARK
SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2).....TSSAL
DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID).....IBMUSER
RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH).....SYSIBM
BIND NEW PACKAGE (BINDNV).....BINDADD
DBA CREATE VIEW (DBACRVW).....YES

DATA DEFINITION CONTROL SUPPORT (DSNTIPZ)
-----
INSTALL DD CONTROL (RGFINSTL).....NO
CONTROL ALL APPLICATIONS (RGFDEPL).....NO
REQUIRE FULL NAMES (RGFFULLQ).....YES
UNREGISTERED DDL DEFAULT (RGFDEFLT).....ACCEPT
REGISTER TABLE OWNER (RGFCOLID).....DSNRGCOL
DDL REGISTRATION DATABASE NAME (RGFDBNAM).....DSNRGFDB
APPL REGISTRATION TABLE NAME (RGFNMPRT).....DSN_REGISTER_APPL
OBJECT REGISTRATION TABLE NAME (RGFNMPRT).....DSN_REGISTER_OBJT
ESCAPE CHARACTER (RGFESCP).....X'40'

DB2 VERSION INSTALL (DSNTIPAI)
-----
DATA SHARING ENABLED (DSHARE).....NO
CURRENT DB2 RELEASE (NSHARE).....N/A
CURRENT DB2 RELEASE - 1.....N/A
CURRENT DB2 RELEASE - 2.....N/A
COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB).....NO
1 LOCATION: RS250C1A 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
DB2 VERSION: V12

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 (DSQDEL).....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 (ASCSID).....437
ASCII MBCS CCSID (AMCCSID).....N/P
ASCII GBCS CCSID (AGCCSID).....N/P
UNICODE SBCS CCSID (USCCSID).....367
UNICODE MBCS CCSID (UMCCSID).....1,208

PRIVATE PROTOCOL (PRIVATE_PROTOCOL).....NO
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

LOG INSTALLATION PARAMETERS (DSNTIPL,DSNTIPH)
-----
OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF).....400
CHECKPOINT TYPE (CHKTYPE).....SINGLE
RECORDS/CHECKPOINT (CHKLOGR).....N/P
MINUTES/CHECKPOINT (CHKMINS).....N/P
CHECKPOINT FREQUENCY (CHKFREQ).....1,000,000
UR CHECK FREQUENCY (URCHKTH)......5
UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH)......5
LIMIT BACKOUT (LBACKOUT).....AUTO
BACKOUT DURATION (BACKODUR)......5
PSEUDO-CLOSE FREQUENCY (PCLOSEN)......5
PSEUDO-CLOSE TIMER (PCLOSET)......60
CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ)......5
NUMBER OF ACTIVE LOG COPIES (TWOACTV)......2
NUMBER OF ARCHIVE LOG COPIES (TWOARCH)......1
COPY 1 PREFIX (ARCPFX1).....OC1A.ARCHLOG1
COPY 2 PREFIX (ARCPFX2).....DSNARC2
TIMESTAMP ARCHIVE LOG DATA SETS (TSTAMP).....YES
```

```
MINIMUM DIVIDE SCALE (DECDIV3).....NO
DECIMAL ARITHMETIC (DECARTH).....DEC15
USE FOR DYNAMIC RULES (DYNRULS).....YES
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 (PADNTRSTR).....YES
APPL COMPAT LEVEL (APPLCOMPAT).....V12R1M500
LIKE BLANK INSIGNIFICANT (LIKE BLANK INSIGNIFICANT).....NO
FULLY QUALIFIED NAME OF DSNHDECP LOAD MODULE.....

UNICODE GBCS CCSID (UGCCSID).....1,200
DEFAULT ENCODING SCHEME (ENSCHHEME).....EBCDIC
APPLICATION ENCODING (APPENSCH).....EBCDIC
LOCAL LC TYPE (LC CTYP).....'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 (IMPDSCHP).....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

OC1A.SDSNEXIT(DSNHDECP)
-----
OPERATOR FUNCTIONS INSTALLATION PARAMETERS (DSNTIPO)
-----
WTO ROUTE CODES (ROUTCODE).....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).....OC1A.WLM1
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

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).....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 (PADNTRSTR).....YES
APPL COMPAT LEVEL (APPLCOMPAT).....V12R1M500
LIKE BLANK INSIGNIFICANT (LIKE BLANK INSIGNIFICANT).....NO
FULLY QUALIFIED NAME OF DSNHDECP LOAD MODULE.....

1 LOCATION: RS250C1A 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)
-----
CACHE DYNAMIC SQL (CACHEDYN).....YES
CACHE DYN STABILITY (CACHEDYN_STABILIZATION).....BOTH
OPTIMIZATION HINTS ALLOWED (OPHTINTS).....NO
EVALUATE UNCOMMITTED (EVALUNC).....NO
SKIP UNCOMM INSERTS (SKIPUNCI).....NO
IMMEDIATE 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

BUFFER POOL PARAMETERS (DSNTIP1)
-----
DEFAULT 4-KB BUFFER POOL FOR USER DATA (TBSBP00L).....BP0
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).....BP32K0
DEFAULT BUFFER POOL FOR USER LOB DATA (TBSBPLOB).....BP0
DEFAULT BUFFER POOL FOR USER XML DATA (TBSBPXML).....BP16K0
DEFAULT BUFFER POOL FOR USER INDEXES (IDXBP00L).....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)
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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 (NPGTHRS).....0
OFFLOAD OPTION (OFFLOAD).....YES
SU CONVERSION FACTOR.....200
MINIMUM DIVIDE SCALE (MINDVSL).....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 (IMPOSSIZE).....4
ENABLE MULTIPLE INDEX ACCESS (SUBO_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

1 LOCATION: RS250C1A                                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
  DB2 VERSION: V12

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.....5
FIELD PROCS FOR DESCRIBE TABLE BLOCK.....2
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).....2
MAX 'NOT FOUND' HASH RECORDS.....100
MAX EXTEND SERVICE TASKS.....20
PROJECT Z INSERTION THRESHOLD.....2
MAX ZIVLEMPER DICTIONARY ENTRIES.....4,096
REORG KEEDICTIONARY 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).....NO
DB2SYS.KEY01

DEFAULT STARTUP MODULES (DSNTIP03)
-----
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 (DSNTIP04)
-----
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 (DSNTIP3)
-----
ZHYPERLINKS SCOPE (ZHYPERLINK).....DISABLE

1 LOCATION: RS250C1A                                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

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..&NDS..&DJU..&TII.
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
REORG IGNORE FREESPACE (REORG_IGNORE_FREESPACE).....N/A
ALTERNATE COPYPOOL (ALTERNATE_CP).....N/P
DB BACKUP STG GROUP (UTIL_DBSBG).....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

```

# System Parameters - Report

## 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

1 LOCATION: RS250C1A  
 GROUP: N/P  
 MEMBER: N/P  
 SUBSYSTEM: OC1A  
 DB2 VERSION: V12

OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)  
 SYSTEM PARAMETERS REPORT

PAGE: 2-7

ACTUAL FROM: 02/27/19 13:50:03.58

## 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

```

FRAMESIZE                                4K
VPOOL SIZE MIN                           0
VPOOL SIZE MAX                           0
SIM POOL SIZE                             0
SIM POOL SEQ THRESH                      0
1  LOCATION: RS250C1A                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)   PAGE: 2-8
   GROUP: N/P
   MEMBER: N/P
   SUBSYSTEM: OC1A                         ACTUAL FROM: 02/27/19 13:50:03.58
   DB2 VERSION: V12

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BUFFER POOL PARAMETERS

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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: RS250C1A                     OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)   PAGE: 2-9
   GROUP: N/P
   MEMBER: N/P
   SUBSYSTEM: OC1A                         ACTUAL FROM: 02/27/19 13:50:03.58
   DB2 VERSION: V12

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BUFFER POOL PARAMETERS

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-----
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

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# System Parameters - Report

			SIM POOL SEQ THRESH	0
TIMESTAMP	02/27/19 13:50:03.58		VPOOL SIZE (PAGES)	1000
GROUP:	N/P		VPOOL SEQ THRESH	80
MEMBER:	N/P		HORIZ DEFER WRITE THRESH	30
SUBSYSTEM:	OC1A		VERT DEFER WRITE THRESH (%)	5
DB2 VERSION:	V12		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: RS250C1A OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) PAGE: 2-10  
 GROUP: N/P MEMBER: N/P SUBSYSTEM: OC1A DB2 VERSION: V12 SYSTEM PARAMETERS REPORT ACTUAL FROM: 02/27/19 13:50:03.58

-----  
 BUFFER POOL PARAMETERS

TIMESTAMP	02/27/19 13:50:03.58		VPOOL SIZE (PAGES)	1000
GROUP:	N/P		VPOOL SEQ THRESH	80
MEMBER:	N/P		HORIZ DEFER WRITE THRESH	30
SUBSYSTEM:	OC1A		VERT DEFER WRITE THRESH (%)	5
DB2 VERSION:	V12		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
GROUP:	N/P		VPOOL SEQ THRESH	80
MEMBER:	N/P		HORIZ DEFER WRITE THRESH	30
SUBSYSTEM:	OC1A		VERT DEFER WRITE THRESH (%)	5
DB2 VERSION:	V12		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
GROUP:	N/P		VPOOL SEQ THRESH	80
MEMBER:	N/P		HORIZ DEFER WRITE THRESH	30
SUBSYSTEM:	OC1A		VERT DEFER WRITE THRESH (%)	5
DB2 VERSION:	V12		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: RS250C1A OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0) PAGE: 2-11  
 GROUP: N/P MEMBER: N/P SUBSYSTEM: OC1A DB2 VERSION: V12 SYSTEM PARAMETERS REPORT ACTUAL FROM: 02/27/19 13:50:03.58

-----  
 BUFFER POOL PARAMETERS

TIMESTAMP	02/27/19 13:50:03.58		VPOOL SIZE (PAGES)	1000
GROUP:	N/P		VPOOL SEQ THRESH	80
MEMBER:	N/P		HORIZ DEFER WRITE THRESH	30
SUBSYSTEM:	OC1A		VERT DEFER WRITE THRESH (%)	5
DB2 VERSION:	V12		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
GROUP:	N/P		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: RS250C1A 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: RS250C1A 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	

# System Parameters - Report

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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: RS250C1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)      PAGE: 2-14
   GROUP: N/P
   MEMBER: N/P
   SUBSYSTEM: OC1A
   DB2 VERSION: V12
                                     SYSTEM PARAMETERS REPORT
                                     ACTUAL FROM: 02/27/19 13:50:03.58

BUFFER POOL PARAMETERS
-----

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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: RS250C1A                    OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)      PAGE: 2-15
   GROUP: N/P
   MEMBER: N/P
   SUBSYSTEM: OC1A
   DB2 VERSION: V12
                                     SYSTEM PARAMETERS REPORT
                                     ACTUAL FROM: 02/27/19 14:00:00.36

-----
MVS PARMLIB UPDATE PARAMETERS (DSNTIPI)
-----
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 (EDMSTMT).....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

-----
IRLM INSTALLATION PARAMETERS (DSNTIPI)
-----
IRLM SUBSYSTEM NAME (IRLMSID).....IR1C
IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWIT).....30
IRLM AUTOMATIC START (IRLMAUT).....YES
IRLM START PROCEDURE NAME (IRLMRPC).....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

```

```

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 (MAXOFILE).....100
MANAGE REAL STORAGE (REALSTORAGE_MANAGEMENT).....AUTO
MAXIMUM REAL STORAGE (REALSTORAGE_MAX).....0
CONTRACT THREAD STORAGE (CONSTSTOR).....N/A
MANAGE THREAD STORAGE (MINSTOR).....N/A
LONG-RUNNING READER IN MINUTES (LDRDTHLD).....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 (SMFACT).....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/RRSACF ACCUM (ACCUMACC).....10
AGGREGATION FIELDS (ACCUMUD).....0
COMPRESS SMF RECS (SMFCOMP).....OFF
    
```

```

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
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.....NONE1
SECOND ARCHIVE COPY MASS STG GROUP NAME.....NONE1
DAYS TO RETAIN ARCHIVE LOG DATA SETS (ARCRTN).....0
ISSUE WTOR BEFORE MOUNT FOR ARCHIVE VOLUME (ARCWTOR).....YES
COMPACT DATA (COMPACT).....NO
QUIESCE PERIOD (QUIESCE).....5
SINGLE VOLUME (SVOLARC).....YES
    
```

```

1 LOCATION: RS250C1A 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)
-----
TCP/IP ALREADY VERIFIED (TCPALVER).....YES
EXTRA BLOCKS REC (EXTRAREQ).....100
EXTRA BLOCKS SRV (EXTRASRV).....100
TCP/IP KEEPALIVE (TCPKPALV).....120
CONNECTION QUEUE MAX DEPTH (MAXCONQN).....0
CONNECTION QUEUE MAX WAIT (MAXCONQW).....0
    
```

```

DEFINE GROUP OR MEMBER (DSNTIPK)
-----
GROUP NAME (GRPNAME).....N/P
MEMBER NAME (MEMNAME).....N/P
MAX NUMBER OF MEMBERS.....248
RANDOM ATTACH (RANDOMATT).....YES
DEL CF STRUCTS (DEL_CFSTRUCTS_ON_RESTART).....NO
    
```

```

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
SYSTEM ADMINISTRATOR 1 AUTHORIZATION ID (SYSADM).....DB2SYSOP
SYSTEM ADMINISTRATOR 2 AUTHORIZATION ID (SYSADM2).....CSMARK
SYSTEM OPERATOR 1 AUTHORIZATION ID (SYSOPR1).....CSMARK
SYSTEM OPERATOR 2 AUTHORIZATION ID (SYSOPR2).....TSSAL
DEFAULT (UNKNOWN) USER AUTHORIZATION ID (DEFLTID).....IBMUSER
RESOURCE LIMIT TABLE CREATOR AUTH ID (RLFAUTH).....SYSIBM
BIND NEW PACKAGE (BINDNV).....NO
DBA CREATE VIEW (DBACRVW).....YES
    
```

```

DISTRIBUTED DATA FACILITY PANEL 1 (DSNTIPR)
-----
FACILITY NAME.....DF
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
PRIVATE PROTOCOL (PRIVATE_PROTOCOL).....NO
-----
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
-----
LOG INSTALLATION PARAMETERS (DSNTIPL,DSNTIPIH)
-----
OUTPUT BUFFER SIZE IN K BYTES (OUTBUFF).....400
CHECKPOINT TYPE (CHKTYPE).....SINGLE
RECORDS/CHECKPOINT (CHKLOGR).....N/P
MINUTES/CHECKPOINT (CHKMINS).....N/P
CHECKPOINT FREQUENCY (CHKFREQ).....1,000,000
UR CHECK FREQUENCY (URCHKTH).....5
UR LOG RECORD WRITTEN THRESHOLD IN KB (URLGWTH).....5
LIMIT BACKOUT (LBACKOUT).....AUTO
BACKOUT DURATION (BACKOUR).....5
PSEUDO-CLOSE FREQUENCY (PCLOSEN).....5
PSEUDO-CLOSE TIMER (PCLOSET).....60
CHECKPOINTS BETWEEN LEVEL ID UPDATES (DLDFREQ).....5
NUMBER OF ACTIVE LOG COPIES (TWOACTV).....2
NUMBER OF ARCHIVE LOG COPIES (TWOARCH).....1
COPY 1 PREFIX (ARCPFX1).....OC1A.ARCHLOG1
COPY 2 PREFIX (ARCPFX2).....DSNARC2
TIMESTAMP ARCHIVE LOG DATA SETS (TSTAMP).....YES
    
```

```

DATA DEFINITION CONTROL SUPPORT (DSNTIPZ)
-----
INSTALL DD CONTROL (RGFINSTL).....NO
CONTROL ALL APPLICATIONS (RGFDEDPL).....NO
REQUIRE FULL NAMES (RGFFULLQ).....YES
UNREGISTERED DDL DEFAULT (RGDFEFLT).....ACCEPT
REGISTER TABLE OWNER (RGFCOLID).....DSNRGCOL
DDL REGISTRATION DATABASE NAME (RGDFBNAM).....DSNRGFDB
APPL REGISTRATION TABLE NAME (RGFNMPRT).....DSN_REGISTER_APPL
OBJECT REGISTRATION TABLE NAME (RGFNMORT).....DSN_REGISTER_OBJT
ESCAPE CHARACTER (RGFESCP).....X'40'
    
```

```

DB2 VERSION INSTALL (DSNTIPAL)
-----
DATA SHARING ENABLED (DSHARE).....NO
CURRENT DB2 RELEASE (NEWFUN).....N/A
CURRENT DB2 RELEASE - 1.....N/A
CURRENT DB2 RELEASE - 2.....N/A
COMPRESS LOB TS FOR DIRECTORY (COMPRESS_DIRLOB).....NO
    
```

```

1 LOCATION: RS250C1A 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)
-----
DEFAULT HOST LANGUAGE (DEFLANG).....IBMC0B
DECIMAL POINT OPTION (DECIMAL).....PERIOD
DEFAULT DELIMITER (DELIM).....DEFAULT
    
```

```

APPLICATION PROGRAMMING DEFAULTS PANEL 2 (DSNTIP4,DSNTIP41)
-----
MINIMUM DIVIDE SCALE (DECDIV3).....NO
DECIMAL ARITHMETIC (DECARTH).....DEC15
USE FOR DYNAMIC RULES (DYNRULS).....YES
    
```

# System Parameters - Report

```

DEFAULT SQL DELIMITER (SQLDELT).....DEFAULT
DIST SQL STRING DELIMITER (DSQLELTI).....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).....1,209
DEFAULT ENCODING SCHEME (ENSCHEME).....EBCDIC
APPLICATION ENCODING (APPNSCH).....EBCDIC
LOCALE LC TYPE (LC_CTTYPE).....'BLANK'
DECFLOAT ROUND MODE (DEF_DECFLAOT_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_IDXCTRL_PART).....NO
DDL MATERIALIZATION (DDL_MATERIALIZATION).....ALWAYS_IMMEDIATE
DEFAULT INSERT ALGORITHM (DEFAULT_INSERT_ALGORITHM).....2

1 LOCATION: RS250C1A 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

OPTIMIZATION HINTS ALLOWED (OPHTINTS).....NO
EVALUATE UNCOMMITTED (EVALUNC).....NO
SKIP UNCOMM INSERTS (SKIPUNCI).....NO
IMMEDIATE OVERRIDE FLAG (IMMEDWRIT).....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 (CDSRDEF).....ANY
MAX DEGREE OF PARALLELISM (PARAMDEG).....0
MAX DEGREE FOR PARALLELISM (PARAMDEG_OPSI).....0
PARALLELISM EFFICIENCY (PARA_EFF).....50
STAR JOIN ENABLING (STARJOIN).....DISABLE
MAX DATA CACHING IN MB (MXDTACACH).....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 (MINDVSL).....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.....YES
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

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.DSNHDECP

OPERATOR FUNCTIONS INSTALLATION PARAMETERS (DSNTIPO)
-----
WTO ROUTE CODES (ROUTCODE).....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).....OC1ANL1M1
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

BUFFER POOL PARAMETERS (DSNTIP1)
-----
DEFAULT 4-KB BUFFER POOL FOR USER DATA (TBSBP00L).....BP0
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 (IDXBP00L).....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_SECHKP).....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).....REQUIRED
OC1A.&DB..&SN..&NS..&DJU..&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

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1  LOCATION: RS250C1A                OMEGAMON XE FOR DB2 PERFORMANCE EXPERT (V5R4M0)    PAGE: 2-19
   GROUP: N/P                        SYSTEM PARAMETERS REPORT
   MEMBER: N/P
   SUBSYSTEM: OC1A
   DB2 VERSION: V12
                                     ACTUAL FROM: 02/27/19 14:00:00.36

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).....3
MAX 'NOT FOUND' HASH RECORDS.....100
MAX EXTEND SERVICE TASKS.....20
PROJECT Z INSERTION THRESHOLD.....2
MAX ZIVLEMPPEL DICTIONARY ENTRIES.....4,096
REORG KEEPDICTIONARY IN BRP 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 (DSNTIP03)
-----
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 (DSNTIP04)
-----
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 (DSNTIP03)
-----
ZHYPERLINKS SCOPE (ZHYPERLINK).....DISABLE

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
REORG IGNORE FREESPACE (REORG_IGNORE_FREESPACE).....N/A
ALTERNATE COPYPOOL (ALTERNATE_CP).....N/P
DB BACKUP STG GROUP (UTIL_DBSBG).....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 (DSNTIP02)
-----
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 (CATXDAACL).....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

```

## 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 (ENSCH).....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 ZPARAM 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 ZPARAM 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 ZPARAM DELIM in DSNHDECP.

**Field Name:** QWPBDL

### DEFAULT SQL DELIMITER (SQLDELI)

The string delimiter for SQL.

Install parameter SQL STRING DELIMITER on panel DSNTIPF, or ZPARAM SQLDELI in DSNHDECP.

*Derivation:* DB2 field QWPBSDL

**Field Name:** QWPBSDL

### **DIST SQL STRING DELIMITER (DSQLELI)**

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 ZPARAM DSQLELI 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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.

## Application Programming Defaults Panel 1 (DSNTIPF)

Install parameter ASCII CCSID on panel DSNTIPF, or ZPARAM 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 ZPARAM 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 ZPARAM AGCCSID in DSNHDECP.

**Field Name:** QWPBAGID

### UNICODE SBCS CCSID (USCCSID)

Unicode Single Byte Character Set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARAM USCCSID in macro DSNHDECP.

**Field Name:** QWPBUSID

### UNICODE MBCS CCSID (UMCCSID)

Unicode Mixed Character Set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARAM UMCCSID in macro DSNHDECP.

**Field Name:** QWPBUMID

### UNICODE GBCS CCSID (UGCCSID)

Unicode graphics character set identification.

Parameter UNICODE CCSID in installation panel DSNTIPF, or ZPARAM UGCCSID in macro DSNHDECP.

**Field Name:** QWPBUGID

### DEFAULT ENCODING SCHEME (ENSCHHEME)

The default encoding scheme, which can be ASCII or EBCDIC, or UNICODE.

Install parameter DEF ENCODING SCHEME on panel DSNTIPF, or ZPARAM ENSCHHEME in DSNHDECP.

*Derivation:* DB2 field QWPBENS

**Field Name:** QWPBENS

### APPLICATION ENCODING (APPENSCH)

Application encoding scheme.

Install parameter APPLICATION ENCODING on installation panel DSNTIPF, or ZPARAM 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 ZPARAM 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'.

ZPARAM DEF\_DECFLOAT\_ROUND\_MODE in DSNHDECP.

**Field Name:** QWPBDDRM

**DEFAULT CHARSET (CHARSET)**

Shows the default character set, ALPHANUM or KATAKANA.

ZPARAM 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.

## Application Programming Defaults Panel 2 (DSNTIP4, DSNTIP41)

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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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.

## Application Programming Defaults Panel 2 (DSNTIP4, DSNTIP41)

The default (0) indicates an IBM-supplied format (ISO, JIS, USA, or EUR).

Install parameter LOCAL TIME LENGTH on panel DSNTIP4, or ZPARAM 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 ZPARAM 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 ZPARAM PADNTSTR in DSNHDECP.

**Field Name:** QWPBPAD

### APPL COMPAT LEVEL (APPLCOMPAT)

Specifies the DB2 level for downward compatibility with applications. The ZPARAM 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 ZPARAM 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.

## Archive Log Installation Parameters (DSNTIPA)

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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM COMPACT in DSN6ARVP.

## Buffer Pool Parameters (DSNTIP1)

**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 ZPARAM 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 ZPARAM 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 (IDXBP00L).....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 ZPARAM 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 ZPARAM 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)

```
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).....DSNRGADB
APPL REGISTRATION TABLE NAME (RGFNMPRT).....DSNZPARMRGFMNMPRTD
OBJECT REGISTRATION TABLE NAME (RGFMORT).....DSNZPARMRGFMNORTD
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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 7. 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.

#### 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.

**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 ZPARAM 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 ZPARAM 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 ZPARAM 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.

ZPARAM name DEL\_CFSTRUCTS\_ON\_RESTART in DSN6SYSP.



**Field Name:** QWP1DCF5

### 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 ZPARAM 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 ZPARAM COORDNTR in DSN6GRP.

**Field Name:** QWPACOR

## 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. ZPARAM 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.

## Distributed Data Facility Panel 1 (DSNTIPR)

```
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 ZPARAM 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 ZPARAM 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 ZPARAM 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 (IDHTTOIN)

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 IDHTTOIN 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 ZPARAM 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, ZPARAM 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, ZPARAM 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, ZPARAM 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.

## DB2 Utilities Parameters (DSNTIP6, DSNTIP61, DSNTIP62)

**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
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
LOAD IMPL. SCALE (LOAD_DEL_IMPLICIT_SCALE).....NO
UTILITIES USE ZSORT (UTILS_USE_ZSORT).....NO
BLOCK UTILITIES FOR CDC (UTILS_BLOCK_FOR_CDC).....NO
REORG INDEX NOSYSUT1 (REORG_INDEX_NOSYSUT1).....NO
REORG IC LIMIT DASD (REORG_IC_LIMIT_DASD)......0
REORG IC LIMIT TAPE (REORG_IC_LIMIT_TAPE)......0

```

### 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 ZPARAM 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 are defined in the same storage class as the production page set. This field corresponds to field "UTIL TEMP STORCLAS" on installation panel DSNTIP6. The ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM name is UTSORTAL in DSN6SPRM.

**Field Name:** QWP4SRAL

### **IGNORE SORTNUM STMT (IGNSORTN)**

Ignores SORTNUM clause in utility control statements. The ZPARAM 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 ZPARAM 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 (FCOPYDDN)**

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 FCAUXOBS 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 FCAUXOBS 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM name is REORG\_DROP\_PBG\_PARTS in DSN6SPRM.

**Field Name:** QWP4RPBG

**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 ZPARAM 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.

## DB2 Utilities Parameters (DSNTIP6, DSNTIP61, DSNTIP62)

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

### LOAD IMPL. SCALE (LOAD\_DEL\_IMPLICIT\_SCALE)

Specifies how the load utility with the format delimit option processes decimal data that does not contain an explicit decimal point.

#### YES

The decimal point is determined from the scale that is specified in the field specification in the load utility control statement.

#### NO

The decimal point is placed to the right of the rightmost digit of the number.

This value corresponds to field load format delimited implicit dec scale on installation panel DSNTIP63. Zparm name: LOAD\_DEL\_IMPLICIT\_SCALE in DSN6SPRM.

**Field Name:** QWP4LDISCALE

### UTILITIES USE ZSORT (UTILS\_USE\_ZSORT)

Specifies whether Db2 utilities attempt to use the IBM integrated accelerator for z sort interface when the utilities invoke DFSORT for their processing.

#### YES

Db2 utilities attempt to use the IBM integrated accelerator for z sort interface.

#### NO

Db2 utilities do not attempt to use the IBM integrated accelerator for z sort interface.

This value corresponds to field UTILS USE ZSORT on installation panel DSNTIP63. Zparm name: UTILS\_USE\_ZSORT in DSN6SPRM.

**Field Name:** QWP4UZS

### BLOCK UTILITIES FOR CDC (UTILS\_BLOCK\_FOR\_CDC)

Specifies whether certain Db2 utilities are blocked from running on tables with replication enabled, or on table spaces that contain those tables.

#### YES

Utilities are blocked.

#### NO

Utilities are not blocked.

This value corresponds to field UTILS BLOCK FOR CDC on installation panel DSNTIP6. Zparm name: UTILS\_BLOCK\_FOR\_CDC in DSN6SPRM.

**Field Name:** QWP4UBCDC

### REORG INDEX NOSYSUT1 (REORG\_INDEX\_NOSYSUT1)

Specifies whether the reorg index utility avoids using the sysut1 data set or a specified work data set to hold unloaded index keys.

#### YES

Reorg index avoids using the sysut1 data set or a specified work data set to hold unloaded index keys.

#### NO

Reorg index uses the sysut1 data set or a specified work data set to hold unloaded index keys.

This value corresponds to field REORG INDEX NOSYSUT1 on installation panel DSNTIP63. Zparm name: REORG\_INDEX\_NOSYSUT1 in DSN6SPRM.

**Field Name:** QWP4RINSU

### REORG IC LIMIT DASD (REORG\_IC\_LIMIT\_DASD)

Specifies the maximum number of sequential DASD image copies that the reorg tablespace utility can allocate. This value corresponds to field REORG IC LIMIT DASD on installation panel DSNTIP63. Zparm name: REORG\_IC\_LIMIT\_DASD in DSN6SPRM.

**Field Name:** QWP4RICLD

### REORG IC LIMIT TAPE (REORG\_IC\_LIMIT\_TAPE)

Specifies the maximum number of sequential tape image copies that the reorg tablespace utility can allocate. This value corresponds to field REORG IC LIMIT TAPE on installation panel DSNTIP63. Zparm name: REORG\_IC\_LIMIT\_TAPE in DSN6SPRM.

**Field Name:** QWP4RICLT

## 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 ZPARAM 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 ZPARAM NEWFUN in DSNHDECP.

**Field Name:** QWPBNEWF

## Install DB2 - Resource Limit Facility (DSNTIPO4)

### 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 ZPARAM RLFERR in DSN6SYSP.

**Prior to DB2 12:** Install parameter RLST ACCESS ERROR on panel DSNTIPO, or ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM RLFERRDSTC in DSN6FAC (DB2 field QWP9RLER).

**Field Name:** RLFERRDSTC

**RLF SCOPE (RLFENABLE)**

The level of RLF governing:

**DYNAMIC**

Dynamic SQL only

## IRLM Installation Parameters (DSNTIPI)

### STATIC

Static SQL only

### ALL

Both, dynamic and static SQL

Install parameter RLF SCOPE on panel DSNTIPO4, or ZPARAM 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 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).....DJPO
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
LOCK TIMEOUT MAXIMUM (SPREG_LOCK_TIMEOUT_MAX).....ANY
```

### 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 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 ZPARAM 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 ZPARAM 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 ZPARAM IRLMAUT in DSN6SPRM.

**Field Name:** QWP4IAUT

**IRLM START PROCEDURE NAME (IRLMPROC)**

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 ZPARAM IRLMPROC 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM RETLWAIT in DSN6SPRM.

**Field Name:** QWP4WAIT

### ENABLE DB CHECKING

Enable database checking.

**Field Name:** QWP4DBCK

### IRLM INITIALIZATION TIME

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 ZPARAM IRLMSWT in DSN6SPRM.

**Field Name:** QWP4ISWT

### LOCK TIMEOUT MAXIMUM (SPREG\_LOCK\_TIMEOUT\_MAX)

Specifies valid values for the CURRENT LOCK TIMEOUT statement. Possible values are:

**-1**

Any supported value can be specified.

**0 to 32767**

The maximum value that can be specified.

This value corresponds to field LOCK TIMEOUT MAX on installation panel DSNTIPI. Zparm name: SPREG\_LOCK\_TIMEOUT\_MAX in DSN6SPRM.

**Field Name:** QWP4LTMX

## 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.

## Lock Escalation Parameters (DSNTIPJ)

**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 ZPARAM 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 ZPARAM 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 ZPARAM 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, ZPARAM 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 ZPARAM 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, ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 DFSS 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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: *DyydddThhmmssst*, 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 ZPARAM **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).

ZPARAM **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 ZPARAM 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.

## Operator Functions Installation Parameters (DSNTIPO)

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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM RLFTBL in DSN6SYSP.

**Prior to DB2 12:** Install parameter RLST NAME SUFFIX on panel DSNTIPO4, or ZPARAM 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 ZPARAM RLFERR in DSN6SYSP.

**Prior to DB2 12:** Install parameter RLST ACCESS ERROR on panel DSNTIPO, or ZPARAM 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 ZPARAM 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 ZPARAM 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.

## Operator Functions Installation Parameters (DSNTIPO)

**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 ZPARAM 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 ZPARAM 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 ZPARAM 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. ZPARAM name: PROFILE\_AUTOSTART in DSN6SYSP.

**Field Name:** QWP1PFASY

**Other System Parameters**

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**

The field labels shown in the following sample layout of "System Parameters - Other System Parameters" are described in the following section.

```

OTHER SYSTEM PARAMETERS
-----
DUAL BSDS MODE (TWOBSDS).....YES
ROLL UP PARALLEL TASK ACCOUNTING (PTASKROL).....YES
NO. PAGES SMALL TABLE THRESHOLD (NPGTHRS).....0
OFFLOAD OPTION (OFFLOAD).....YES
SU CONVERSION FACTOR.....224
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).....1
INDEX I/O PARALLELISM (INDEX_IO_PARALLELISM).....YES
ZOSMETRICS.....YES
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).....YES
DDF COMP PRIOR VERSION (DDF_COMPATIBILITY).....121
DYN STMT CACHE STOR (CACHE_DEP_TRACK_STOR_LIM).....2
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.....39,387,136
SPACE RESERVED ON TOP OF Z/OS AND CRITICAL SPACE.....39,387,136
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 ZIVLEMPPEL DICTIONARY ENTRIES.....4,096
REORG KEEPDICTIONARY IN BRP TO RRF CONVERSION.....NO
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).....YES
SUPPRESS_HINT_SQLCODE_DYN (SUPPRESS_HINT_SQLCODE_DYN).....ALL
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
ALLOW UPD/DEL/INS WITH UR (ALLOW_UPD_DEL_INS_WITH_UR).....NO
DISALLOW SSAR AUTHORIZATION (DISALLOW_SSARAUTH).....YES
USE LONG COLUMN NAMES (TABLE_COL_NAME_EXPANSION).....YES
UTILITY HISTORY (UTILITY_HISTORY).....UTILITY
LOCK AVOIDANCE FOR SINGLETON SEL (LA_SINGLESEL_ISOCS_CDY)...YES

```

### 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 KEEP DYNAMIC(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 ZPARAM.

**Field Name:** QWP4IIOP

**ZOSMETRICS**

YES indicates that gathering of z/OS metrics using the RMF interface is enabled. ZPARAM 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 ZPARAM 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 DSN6SPRM.

**Field Name:** QWP4MDDN

### FIELD PROCS FOR DESCRIBE TABLE BLOCK

The number of field procedures for the DESCRIBE TABLE block.

ZPARAM 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 ZPARAM 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

### CPU FOR EXPLAIN STATEMENTS (CPU\_FOR\_EXPLAIN)

Specifies the microseconds of task or service request block (SRB) execution time per service unit for the simulated CPU. Use this field only for DB2 optimization modeling. A value of 0 represents

OFF, which is the default. OFF indicates that DB2 optimizes for the actual CPU that it runs on and is recommended for DB2 production environments.

Before DB2 10, this field indicated the number of TCB or SRB CPU microseconds per service unit (SRU).

### **Background and Tuning Information**

Specifies the microseconds of task or service request block (SRB) execution time per service unit for the simulated CPU. Use this field only for DB2 optimization modeling. A value of 0 represents OFF, which is the default. OFF indicates that DB2 optimizes for the actual CPU that it runs on and is recommended for DB2 production environments.

Before DB2 10, this field indicated the number of TCB or SRB CPU microseconds per service unit (SRU).

**Field Name:** QWP4CPUM

### **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 ZIVLEMPPEL DICTIONARY ENTRIES**

The maximum number of ZIVLEMPPEL 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.

ZPARAM 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.

## Other System Parameters

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.

ZPARAM name is OPT1ROWBLOCKSORT in DSN6SPRM.

**Field Name:** QWP4O1RBS

**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.

ZPARAM 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 ZPARAM 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 ZPARAM name is INDEX\_MEMORY\_CONTROL in DSN6SPRM.

**Field Name:** QWP4IXMC

### **SELECT FOR UNLOAD (AUTH\_COMPATIBILITY)**

Shows the AUTH\_COMPATIBILITY ZPARAM 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

### **MATERIALIZED NODET SQLTUDF (MATERIALIZED\_NODET\_SQLTUDF)**

DB2 materializes the result of a user-defined SQL table function that is defined as not deterministic.

- 0=NO
- 1=YES

ZPARAM name is MATERIALIZED\_NODET\_SQLTUDF in DSN6SPRM.

**Field Name:** QWP4MNSU

### **ENCRYPTION\_KEYLABEL (ENCRYPTION\_KEYLBL)**

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/A in the report.

#### **Background and Tuning Information**

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/A in the report.

**Field Name:** QWP4ENKL

### **ALLOW UPD/DEL/INS WITH UR (ALLOW\_UPD\_DEL\_INS\_WITH\_UR)**

Specifies if db2 executes a PREPARE of an INSERT, UPDATE, or DELETE statement, Db2 allows the isolation clause of the INSERT, UPDATE, or DELETE statement to include the WITH UR clause. ZPARAM name: ALLOW\_UPD\_DEL\_INS\_WITH\_UR in DSN6SPRM.

**Field Name:** QWP4AUDIWU

### **DISALLOW SSAR AUTHORIZATION (DISALLOW\_SSARAUTH)**

Disallow SSAR authorization.

**Field Name:** QWP4DSSAR

### **USE LONG COLUMN NAMES (TABLE\_COL\_NAME\_EXPANSION)**

Use long column names.

**Field Name:** QWP4TCNE

### **UTILITY HISTORY (UTILITY\_HISTORY)**

Utility history.

**Field Name:** QWP4UTHIST

### **LOCK AVOIDANCE FOR SINGLETON SEL (LA\_SINGLESEL\_ISOCS\_CDY)**

Specifies whether Db2 enables lock avoidance for singleton SELECT with ISOLATION(CS) CURRENTDATA(YES). NO : Db2 disables lock avoidance for singleton SELECT with ISOLATION(CS) CURRENTDATA (YES). This is the default setting. YES: Db2 enables lock avoidance for singleton SELECT with ISOLATION(CS) CURRENTDATA (YES).

**Field Name:** QWP4LSSIC

## 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 ZPARAM 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:** QWP4SKU I

### **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 ZPARAM 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 (ZPARAM 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 ZPARAM 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

ZPARAM 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.  $2 < N \leq 32768$ .

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 ZPARAM 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 ZPARAM REFRESHAGE 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 ZPARAM 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.

## Protection Installation Parameters (DSNTIPP)

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 ZPARAM 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. ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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. ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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
ACCEL OPTIONS (QUERY_ACCEL_OPTIONS)..(1,2,3,4,5,6,8,9,10,12,13)
CURRENT QUERY ACCEL (QUERY_ACCELERATION).....NONE
ACCELERATION MODELING (ACCELMODEL).....YES
REMOTE COPY SW ACCEL (REMOTE_COPY_SW_ACCEL).....YES
HTAP WAIT INTERVAL (QUERY_ACCEL_WAITFORDATA).....0.0

```

#### 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

#### ACCEL 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.
- 8** Favor new ACCELERATOR\_TYPE.
- 9** Enable uncertainty cost estimation.
- 10** Balance workload between versions.
- 11** Use only new ACCELERATOR\_TYPE.
- 12** In predicate with more than 32K elements
- 13** Enable accelerator specific results.  
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

**HTAP WAIT INTERVAL**

Beginning with IDAA V5 PTF 6, a query can optionally wait for replication to complete instead of failing if the necessary data is not available in the accelerator. The default value for the SET CURRENT QUERY ACCELERATION WAITFORDATA special register is controlled by the QUERY\_ACCEL\_WAITFORDATA system parameter. The value range is 0.0 to 3600.0 seconds.

**Field Name:** QWP4QAWFD

**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
SUBSTRING COMPAT. (SUBSTRING_COMPATIBILITY).....N/P
MAXIMUM UDF ALLOWED FOR A THREAD (MAX_UDF).....99,999
```

#### 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 ZPARAM 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 ZPARAM STORTIME in DSN6SYSP.

**Field Name:** QWP1SPTO

#### WLM ENVIRONMENT (WLMENV)

Workload manager environment.

Install parameter WLM ENVIRONMENT on panel DSNTIPX, or ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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.

ZPARAM name BIF\_COMPATIBILITY in DSN6SPRM.

**Field Name:** QWP4\_BIF\_COMPAT

**SUBSTRING COMPAT. (SUBSTRING\_COMPATIBILITY)**

Specifies whether the SUBSTR built-in function returns error when the length argument of the function violat this documented rule: the value must be greater than or equal to 0 and less than or equal to n, where n is the length attribute of string-expression - start + 1. The values are:

**PREVIOUS**

An error is not returned.

**CURRENT**

An error is returned.

This value corresponds to field SUBSTR COMPATIBILITY on installation panel DSNTIPX. ZPARAM name: SUBSTR\_COMPATIBILITY in DSN6SPRM.

**Field Name:** QWP4SUBSTRCP

**MAXIMUM UDF ALLOWED FOR A THREAD (MAX\_UDF)**

Determines the maximum number of external user-defined functions that are allowed for each thread to help minimize potential storage shortages. Valid entry is an integer between 0 and 99999 inclusive. The default is 2000.

**Field Name:** QWP4MXUDF

**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 (IMPSDEF).....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).....S_IMMEDIATE
FTB NON UNIQUE INDEX (FTB_NON_UNIQUE_INDEX).....YES

```

### 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 (QWP4UTO1=0 and QWP4UTO2=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 (QWP4UTO1=1 and QWP4UTO2=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 (QWP4UTO1=0 and QWP4UTO2=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 (QWP4UTO1=1 and QWP4UTO2=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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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:** QWP4DDL M

### 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

### FTB NON UNIQUE INDEX (FTB\_NON\_UNIQUE\_INDEX)

Fast index traversal for non-unique indexes is enabled when index\_memory\_control is enabled. Valid values are YES and NO. This value corresponds to field FTB NON UNIQUE INDEX installation panel DSNTIP71. ZPARM name: FTB\_NON\_UNIQUE\_INDEX in DSN6SPRM.

**Field Name:** QWP4FTBUO

## 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 (CONTSOR).....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 ZPARAM 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 ZPARAM 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

## Storage Sizes Installation Parms (DSNTIPC, DSNTIPE, DSNTIPE1)

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.

## Storage Sizes Installation Parms (DSNTIPC, DSNTIPE, DSNTIPE1)

- 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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.

ZPARAM 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 ZPARAM 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 ZPARAM 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
STATISTICS MAIN TIME INTERVAL IN SECONDS (STATIME_MAIN).....60
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 ZPARAM 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 ZPARAM 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 ZPARAM STATIME in DSN6SYSP.

**Field Name:** QWP1STIM

### **STATISTICS MAIN TIME INTERVAL IN SECONDS (STATIME\_MAIN)**

The time interval in seconds, for collection of interval-driven statistics not collected at the interval specified by the STATIME subsystem parameter. This value corresponds to field MAIN STATS TIME on installation panel DSNTIPN. ZPARAM name: STATIME\_MAIN in DSN6SYSP

**Field Name:** QWP1STIMM

### **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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM 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 ZPARAM UIFCIDS in DSN6SYSP.

**Field Name:** QWP1\_UNICODE

### DDF/RRSAF ACCUM (ACCUMACC)

Shows whether Db2 accounting data for DDF and RRSF 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 RRSF 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 RRSF threads using the RRSF 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 RRSF 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 RRSF 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 ZPARAM ACCUMACC in DSN6SYSP.

**Field Name:** QWP1ACCU

### AGGREGATION FIELDS (ACCUMUID)

Shows the aggregation fields used for DDF and RRSF 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 RRSF 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

## Alter Buffer Pool Command Issued

### 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
                   VPOOL SEQ THRESH            30         30
                   HORIZ DEFER WRITE THRESH          5          5
                   VERT DEFER WRITE THRESH (%)      0          0
                   VERT DEFER WRITE THRESH (BUF)    50         50
                   VPOOL PARALLEL SEQ THRESH       0          0
                   ASSISTING PARALLEL SEQ THRESH    NO         NO
                   PGFIX ATTRIBUTE                 LRU        LRU
                   PAGE STEAL METHOD                NO         NO
                   AUTOSIZE                         4K         4K
                   FRAMESIZE                        0          0
                   VPOOL SIZE MIN                   0          0
                   VPOOL SIZE MAX                   200        300
                   SIM POOL SIZE                     50         75
                   SIM POOL SEQ THRESH
```

### 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:

## Alter Buffer Pool Command Issued

### **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	GBPO	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.

## Buffer Pool Parameters

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:** QDBVPMA

**SIM POOL SIZE**

The number of simulated buffers allocated in the simulated buffer pool.

**Field Name:** QDBSPSZ

**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.

## Group Buffer Pool Parameters

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

## Group Buffer Pool Parameters

## 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 Performance Expert 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 Performance Expert identifiers by which lock events are grouped are shown here.

## Utility Activity - Report

### 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                 ORDER:  PRIMAUTH-PLANNAME          TO: NOT SPECIFIED
SUBSYSTEM: SSDQ              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                 IDENTIFIED BY PRIMAUTH/PLANNAME/INSTANCE          TO: NOT SPECIFIED
SUBSYSTEM: DA22              WITH ALL WORKLOAD          ACTUAL FROM: 01/30/15 23:50:43.70
DB2 VERSION: V10            PAGE DATE: 01/30/15
```

## 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 1436](#):

```
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              ORDER:  PRIMAUTH-PLANNAME          TO: NOT SPECIFIED
SUBSYSTEM: DA22          ACTUAL FROM: 05/31/15 09:01:18.84
DB2 VERSION: V10            TO: 05/31/15 00:00:00.00
```

PRIMAUTH PLANNAME	OCCURRENCES	TOT. ELAPSED AVG. ELAPSED	TOT. CP AVG. CP	CPU CPU	ACTIVITY TYPE	COUNT	TOT. ELAPSED AVG. ELAPSED	TOT. CP AVG. CP	CPU CPU	TOT. ZIIP AVG. ZIIP
BBE										
DSNUTIL	5	1.605797 0.321159	0.194854 0.038971	UTILITY LOAD		2	0.906060 0.453030	0.080978 0.040489	0.000967 0.000000	0.001934 0.000967
				REORG		3	0.699737 0.233246	0.111058 0.113876	0.000000 0.000331	0.000110 0.000110

```
UTILITY ACTIVITY REPORT COMPLETE
```

## Field description

The report contains the following fields:

### OMEGAMON for Db2 Performance Expert identifiers

Up to three OMEGAMON for Db2 Performance Expert 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 PRMAUTH 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 Performance Expert 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.

**MERSECOP**

Identifies the utility as MERSECOPY.

**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 (PRMAUTH-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)
GROUP: N/P                      UTILITY ACTIVITY TRACE
MEMBER: N/P                      REQUESTED FROM: NOT SPECIFIED
SUBSYSTEM: DB51                 TO: NOT SPECIFIED
DB2 VERSION: V11                ACTUAL FROM: 06/07/15 09:14:49.15
                                PAGE DATE: 06/07/15
                                PAGE: 1-1
                                WORKLOAD(NONE)
                                IDENTIFIED BY PRMAUTH/PLANNAME/INSTANCE
PRMAUTH PLANNAME ELAPSED TIME
INSTANCE START TIME CPU TIME ACTIVITY TYPE OBJECT(S)
-----
KZS DSNBIND
X'CB79D266C962' 09:15:02.92 0.000280 BIND
0.000000 BIND PLAN PLANNAME: DSNREXX
KZS 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)
GROUP: N/P                      UTILITY ACTIVITY TRACE
MEMBER: N/P                      REQUESTED FROM: NOT SPECIFIED
SUBSYSTEM: DB61                 TO: NOT SPECIFIED
DB2 VERSION: V11                ACTUAL FROM: 07/29/15 12:33:31.62
                                PAGE DATE: 07/29/15
                                PAGE: 2-1
                                WORKLOAD(NONE)
                                IDENTIFIED BY PRMAUTH/PLANNAME/INSTANCE
PRMAUTH PLANNAME ELAPSED TIME UTILITY-ID JOB NAME SHRLEVEL
INSTANCE START TIME SUBTASKS CPU TIME DATABASE.PAGESET STEP TOT. ZIIP
SORT: DF DB2 DATA INDEX OTHER SORT CPU SORT ZIIP
-----
KZS DSNUTIL
X'CB5B5FFB101E' 12:33:31.62 0.732401 UTILITY
0 1 0 0.008799 REORG KZS.KOZUNLUT KZUNLUT CHANGE
Y N 0 0 UNLD1 0.001200
0 1 0 DB2PE .TSPAFDF UNLD1 0.002311 0.000900
UTILITY TRACE COMPLETE

```

## Field description

The trace contains the following fields:

### OMEGAMON for Db2 Performance Expert identifiers

The OMEGAMON for Db2 Performance Expert 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 1437](#).

### 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  KEEPYNAMIC: YES        EXPLAIN   : YES
DYNAMICRULES: BIND      DISCONNECT  : CONDITIONAL PREPARE   : NODEFER     QUALIFIER  : HUGOPAU    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  KEEPYNAMIC: 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      : CCCCCC8      DS NAME : CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC44  TEMPLATE NAME : CCCCCC8
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.

## Utility Activity - Trace

```

--- 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 : CCCCCCCCCCCCCCCC18 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 -----
RESOURCE MEMBER NAME          TYPE      REQUEST  LOCAL  LATCH  IRLM  GROUP  NOTIF  OTHER  NORML  RESUME  TIMEO  RESUME  DEADL  RESUME
NAME          TYPE      REQUEST  LOCAL  LATCH  IRLM  GROUP  NOTIF  OTHER  COUNT  AET    COUNT  AET    AET    AET
DBPARALL     TSPARALL DATAPAGE NOTIFY    0      0      0      24     24     0      24  0.74382  0      N/C     0      N/C
SE11         TSPARALL DATAPAGE LOCK       0      3      0      0      0      0      3  0.04096  0      N/C     0      N/C
DBPARALL     TSPARALL DATAPAGE LOCK       0      5      0      0      0      0      5  0.06957  0      N/C     0      N/C
SE12         TSPARALL DATAPAGE UNLOCK    0      1      0      2      2      0      3  0.59058  0      N/C     0      N/C
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 331](#).

#### 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 -----
MEMBER      DATABASE  PAGESET  COUNT  LOCK  MAXIMUM PAGE  # LOCK  HIGHEST  TS  LOCK AVOID
SE11        DBPARALL  TSPARALL  1      SIZE  OR ROW LOCKS  ESCAL   LOCK    TYPE  SUCCESSFUL
SUMMARY :  MAX PAGE OR  ROW LOCKS HELD  PAGE  1  LOCK ESCALATIONS : SHARED  0  SPL     YES
                                                0
SE12        DBPARALL  TSPARALL  2      PAGE  5  LOCK ESCALATIONS : SHARED  0  SPL     YES
SUMMARY :  MAX PAGE OR  ROW LOCKS HELD  5
SE21        DBPARALL  TSPARALL  1      PAGE  2  LOCK ESCALATIONS : SHARED  0  SPL     YES
SUMMARY :  MAX PAGE OR  ROW LOCKS HELD  2
TOTAL      4
  
```

#### 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

## Utility Activity - Trace

### 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 1452.](#)

PRIMAUTH PLANNAME	START TIME SUBTASKS SORT: DF DB2	ELAPSED TIME CPU TIME DATA INDEX	ACTIVITY TYPE	WORKLOAD(PHASE) IDENTIFIED BY PRIMAUTH/PLANNAME UTILITY-ID DATABASE.PAGESET	JOB NAME STEP SORT CPU	SHRLEVEL TOT. ZIIP SORT ZIIP
WER DSNUTIL	23:59:28.26 N/A N/A	8.369076 0.761910	UTILITY LOAD	FUA8U114.STEP2 DSNDB04 .TSA81401 DSNDB04 .IUA81401 DSNDB04 .IUA81403 DSNDB04 .IUA81402 DSNDB04 .IUA81404	LOAD_THE_FIRST	
--- 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 PLANNAME	START TIME	ELAPSED TIME	UTILITY-ID	JOB NAME	SHRLEVEL				
	SORT: DF DB2	CPU TIME	DATABASE.PAGESET	STEP	TOT. ZIIP				
		DATA	INDEX	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								
RELOAD	DSNDB04	TSA81401	0	R	16	0.119844	0.036723		
SORT	DSNDB04	TSA81401	0	IF	42	3.253289	0.137179		
BUILD	DSNDB04	IUA81401	0	I	42	0.776951	0.105233		
	DSNDB04	IUA81403	0	I	42	0.820962	0.047176		
	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	DSNDB04	TSA81401	0	FK	6	0.000386	0.000316		
COPY	** SUBTASK TOTAL **								
					2.125070	0.000864			
SUBTASK	** SUBTASK TOTAL **								
RUNSTATS	DSNDB04	TSA81401	0	R	12	2.271970	0.033347		
	** SUBTASK TOTAL **								
					2.275380	0.033736			
SUBTASK	DSNDB04	TSA81401	0	R	10	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 1437](#).

### 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

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

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 Performance Expert VSAM Data Sets

This section explains the VSAM Data Sets of OMEGAMON for Db2 Performance Expert.

OMEGAMON for Db2 Performance Expert 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 Performance Expert job must exist before OMEGAMON for Db2 Performance Expert is executed. Preallocate the data sets using the IDCAMS command. You can run IDCAMS as an initial step in the OMEGAMON for Db2 Performance Expert job. The required attributes for VSAM data sets are shown in Table 38 on page 1462. An example of the required IDCAMS commands is shown in “IDCAMS Commands” on page 1463.

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 Performance Expert 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	6900	4000	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.

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.

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

<b>Offset</b>	<b>Length</b>	<b>Data Type</b>	<b>Field Description</b>
0	16	CHAR	Requester location
16	8	CHAR	Connection ID
24	8	CHAR	Plan name
32	1	CHAR	Code



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IFCID 016 - Insert Scan Begin  
report and trace blocks  
Record Trace [580](#)

IFCID 017 - Sequential Scan Begin  
report and trace blocks  
Record Trace [582](#)

IFCID 018 - Scan End  
report and trace blocks  
Record Trace [584](#)

IFCID 019 - Edit Exit to Decode  
report and trace blocks  
Record Trace [586](#)

IFCID 020 - Lock Summary  
report and trace blocks  
Record Trace [586](#)

IFCID 021 - Lock Detail  
report and trace blocks  
Record Trace [588](#)

IFCID 022 - Minibind  
report and trace blocks  
Record Trace [593](#)

IFCID 023 - Utility Start  
report and trace blocks  
Record Trace [601](#)

IFCID 024 - Utility Change  
report and trace blocks  
Record Trace [605](#)

IFCID 025 - Utility End  
report and trace blocks  
Record Trace [606](#)

IFCID 026 - IBM Service Record  
report and trace blocks  
Record Trace [608](#)

IFCID 027 - Sort Workfile Records  
report and trace blocks  
Record Trace [608](#)

IFCID 028 - Sort Phase Detail  
report and trace blocks  
Record Trace [610](#)

IFCID 029 - EDM Request Start  
report and trace blocks  
Record Trace [612](#)

IFCID 030 - EDM Request End  
report and trace blocks  
Record Trace [614](#)

IFCID 031 - EDM Full  
report and trace blocks  
Record Trace [616](#)

IFCID 032 - Log Wait Start  
report and trace blocks  
Record Trace [619](#)

IFCID 033 - Log Wait End  
report and trace blocks  
Record Trace [619](#)

IFCID 034 - Log Read Start  
report and trace blocks  
Record Trace [619](#)

IFCID 035 - Log Read End

IFCID 035 - Log Read End *(continued)*  
report and trace blocks  
Record Trace [620](#)

IFCID 036 - Log Non I/O  
Start  
report and trace blocks  
Record Trace [620](#)

IFCID 037 - Log Non I/O  
End  
report and trace blocks  
Record Trace [622](#)

IFCID 038 - Active Write Start  
report and trace blocks  
Record Trace [622](#)

IFCID 039 - Active Write End  
report and trace blocks  
Record Trace [623](#)

IFCID 040 - Archive Write Start  
report and trace blocks  
Record Trace [623](#)

IFCID 041 - Archive Write End  
report and trace blocks  
Record Trace [623](#)

IFCID 042 - Checkpoint Start  
report and trace blocks  
Record Trace [624](#)

IFCID 043 - Checkpoint End  
report and trace blocks  
Record Trace [624](#)

IFCID 044 - Lock Suspend  
report and trace blocks  
Record Trace [624](#)

IFCID 045 - Lock Resume  
report and trace blocks  
Record Trace [628](#)

IFCID 046 - IBM Service Record  
report and trace blocks  
Record Trace [629](#)

IFCID 047 - IBM Service Record  
report and trace blocks  
Record Trace [629](#)

IFCID 048 - IBM Service Record  
report and trace blocks  
Record Trace [629](#)

IFCID 049 - IBM Service Record  
report and trace blocks  
Record Trace [629](#)

IFCID 050 - IBM Service Record  
report and trace blocks  
Record Trace [630](#)

IFCID 051 - IBM Service Record  
report and trace blocks  
Record Trace [630](#)

IFCID 052 - IBM Service Record  
report and trace blocks  
Record Trace [630](#)

IFCID 053 - SQL Describe/Commit/Rollback/Remote  
Statement  
report and trace blocks  
Record Trace [630](#)

IFCID 055 - Set SQLID  
report and trace blocks  
Record Trace [632](#)

IFCID 056 - IBM Service Record

IFCID 056 - IBM Service Record (*continued*)

report and trace blocks

Record Trace [633](#)

IFCID 057 - IBM Service Record

report and trace blocks

Record Trace [634](#)

IFCID 058 - End SQL

report and trace blocks

Record Trace [634](#)

IFCID 059 - Fetch Start

report and trace blocks

Record Trace [639](#)

IFCID 060 - Select Start

report and trace blocks

Record Trace [640](#)

IFCID 061 - Insert/Update/Delete Start

report and trace blocks

Record Trace [641](#)

IFCID 062 - DDL Start

report and trace blocks

Record Trace [643](#)

IFCID 063 - SQL Statement

report and trace blocks

Record Trace [645](#)

IFCID 064 - Prepare Start

report and trace blocks

Record Trace [647](#)

IFCID 065 - Open Cursor

report and trace blocks

Record Trace [648](#)

IFCID 066 - Close Cursor

report and trace blocks

Record Trace [651](#)

IFCID 067 - Accounting

report and trace blocks

Record Trace [652](#)

IFCID 068 - Rollback Start

report and trace blocks

Record Trace [652](#)

IFCID 069 - IBM Service Record

report and trace blocks

Record Trace [652](#)

IFCID 070 - Commit Phase 2 Start

report and trace blocks

Record Trace [652](#)

IFCID 071 - Commit Phase 2 End

report and trace blocks

Record Trace [653](#)

IFCID 072 - Create Thread Start

report and trace blocks

Record Trace [653](#)

IFCID 073 - Create Thread End

report and trace blocks

Record Trace [653](#)

IFCID 074 - Terminate Thread Start

report and trace blocks

Record Trace [654](#)

IFCID 075 - Terminate Thread End

report and trace blocks

Record Trace [654](#)

IFCID 076 - End of Memory Start

report and trace blocks

Record Trace [654](#)

IFCID 077 - End of Memory End

IFCID 077 - End of Memory End (*continued*)

report and trace blocks

Record Trace [655](#)

IFCID 078 - End of Task Start

report and trace blocks

Record Trace [655](#)

IFCID 079 - End of Task End

report and trace blocks

Record Trace [655](#)

IFCID 080 - IBM Service Record

report and trace blocks

Record Trace [655](#)

IFCID 081 - IBM Service Record

report and trace blocks

Record Trace [655](#)

IFCID 082 - Identify Start

report and trace blocks

Record Trace [656](#)

IFCID 083 - Identify End

report and trace blocks

Record Trace [656](#)

IFCID 084 - Prepare Start

report and trace blocks

Record Trace [657](#)

IFCID 085 - Prepare End

report and trace blocks

Record Trace [657](#)

IFCID 086 - Signon Start

report and trace blocks

Record Trace [658](#)

IFCID 087 - Signon End

report and trace blocks

Record Trace [658](#)

IFCID 088 - Synch Start

report and trace blocks

Record Trace [659](#)

IFCID 089 - Synch End

report and trace blocks

Record Trace [659](#)

IFCID 090 - DB2 Command Start

report and trace blocks

Record Trace [659](#)

IFCID 091 - Command End

report and trace blocks

Record Trace [660](#)

IFCID 092 - AMS Command Start

report and trace blocks

Record Trace [660](#)

IFCID 093 - IBM Service Record

report and trace blocks

Record Trace [660](#)

IFCID 094 - IBM Service Record

report and trace blocks

Record Trace [660](#)

IFCID 095 - Sort Start

report and trace blocks

Record Trace [660](#)

IFCID 096 - Sort End

report and trace blocks

Record Trace [660](#)

IFCID 097 - AMS Command End

report and trace blocks

Record Trace [663](#)

IFCID 098 - IBM Service Record

IFCID 098 - IBM Service Record (*continued*)  
report and trace blocks  
Record Trace [664](#)

IFCID 099 - IBM Service Record  
report and trace blocks  
Record Trace [664](#)

IFCID 100 - IBM Service Record  
report and trace blocks  
Record Trace [664](#)

IFCID 101 - IBM Service Record  
report and trace blocks  
Record Trace [664](#)

IFCID 102 - IBM Service Record  
report and trace blocks  
Record Trace [664](#)

IFCID 103 - SOS Off  
report and trace blocks  
Record Trace [664](#)

IFCID 104 - Log Data Set  
report and trace blocks  
Record Trace [664](#)

IFCID 105 - DBID/OBID  
Translation  
report and trace blocks  
Record Trace [665](#)

IFCID 106 - Application Programming Defaults  
report and trace blocks  
Record Trace [665](#)

IFCID 106 - Data Sharing Parameters  
report and trace blocks  
Record Trace [673](#)

IFCID 106 - Databases/Spaces Automatically  
Deferred  
report and trace blocks  
Record Trace [675](#)

IFCID 106 - Databases/Spaces Automatically  
Restarted  
report and trace blocks  
Record Trace [676](#)

IFCID 106 - Databases/Spaces Automatically  
Started  
report and trace blocks  
Record Trace [676](#)

IFCID 106 - Distributed Data Facility Parameters  
report and trace blocks  
Record Trace [676](#)

IFCID 106 - IRLM Processing Parameters  
report and trace blocks  
Record Trace [681](#)

IFCID 106 - Log Initialization Parameters (Part 1)  
report and trace blocks  
Record Trace [683](#)

IFCID 106 - Log Initialization Parameters (Part 2)  
report and trace blocks  
Record Trace [685](#)

IFCID 106 - Miscellaneous Installation Parameters  
report and trace blocks  
Record Trace [689](#)

IFCID 106 - Stored Procedures Parameters  
report and trace blocks  
Record Trace [730](#)

IFCID 106 - System Initialization Parameters  
report and trace blocks  
Record Trace [730](#)

IFCID 106 - System Parameters  
report and trace blocks  
Record Trace [665](#)

IFCID 106 - VSAM Catalog Name Qualifier  
report and trace blocks  
Record Trace [744](#)

IFCID 107 - Open/Close  
report and trace blocks  
Record Trace [744](#)

IFCID 108 - Bind Start  
report and trace blocks  
Record Trace [745](#)

IFCID 109 - Bind End  
report and trace blocks  
Record Trace [749](#)

IFCID 110 - Bind Free Start  
report and trace blocks  
Record Trace [750](#)

IFCID 111 - Bind Free End  
report and trace blocks  
Record Trace [751](#)

IFCID 112 - Thread Allocate  
report and trace blocks  
Record Trace [751](#)

IFCID 113 - Agent Allocate  
report and trace blocks  
Record Trace [753](#)

IFCID 114 - Archive Wait Start  
report and trace blocks  
Record Trace [756](#)

IFCID 115 - Archive Wait End DASD  
report and trace blocks  
Record Trace [756](#)

IFCID 116 - Archive Wait End Tape  
report and trace blocks  
Record Trace [756](#)

IFCID 117 - Archive Read Start  
report and trace blocks  
Record Trace [757](#)

IFCID 118 - Archive Read End  
report and trace blocks  
Record Trace [757](#)

IFCID 119 - BSDS Write Start  
report and trace blocks  
Record Trace [758](#)

IFCID 120 - BSDS Write End  
report and trace blocks  
Record Trace [758](#)

IFCID 121 - IBM Service Record  
report and trace blocks  
Record Trace [758](#)

IFCID 122 - IBM Service Record  
report and trace blocks  
Record Trace [758](#)

IFCID 123 - SRV Record  
report and trace blocks  
Record Trace [759](#)

IFCID 124 - SQL Statement Record  
report and trace blocks  
Record Trace [759](#)

IFCID 125 - RID Pool Processing  
report and trace blocks  
Record Trace [761](#)

IFCID 126 - Log Buffer Write

IFCID 126 - Log Buffer Write (*continued*)  
report and trace blocks  
Record Trace [765](#)

IFCID 127 - Page Wait I/O In Prog  
(Start)  
report and trace blocks  
Record Trace [765](#)

IFCID 128 - Page Wait I/O In Prog  
(End)  
report and trace blocks  
Record Trace [766](#)

IFCID 129 - CI-S Obtained via IFI  
Reads  
report and trace blocks  
Record Trace [768](#)

IFCID 140 - Audit Auth Failures  
report and trace blocks  
Record Trace [768](#)

IFCID 141 - Audit DDL Grant/Revoke  
report and trace blocks  
Record Trace [772](#)

IFCID 142 - Audit DDL Create/Alter/  
Drop  
report and trace blocks  
Record Trace [777](#)

IFCID 143 - Audit First Write  
report and trace blocks  
Record Trace [781](#)

IFCID 144 - Audit First Read  
report and trace blocks  
Record Trace [782](#)

IFCID 145 - Audit DML Statement  
report and trace blocks  
Record Trace [782](#)

IFCID 146 - User Record  
report and trace blocks  
Record Trace [787](#)

IFCID 147 - Data Sharing Accounting Data  
report and trace blocks  
Record Trace [787](#)

IFCID 147 - Distributed Header Data  
report and trace blocks  
Record Trace [787](#)

IFCID 147 - Instrumentation Accounting Data  
report and trace blocks  
Record Trace [788](#)

IFCID 147 - Instrumentation Accounting Data Overflow  
report and trace blocks  
Record Trace [788](#)

IFCID 147 - Logging  
report and trace blocks  
Record Trace [791](#)

IFCID 147 - Monitor Detail Data  
report and trace blocks  
Record Trace [792](#)

IFCID 147 - Thread Correlation Data  
report and trace blocks  
Record Trace [797](#)

IFCID 147 - Thread Summary  
report and trace blocks  
Record Trace [787](#)

IFCID 149 - Resource Locking  
report and trace blocks  
Record Trace [800](#)

IFCID 150 - Global Interest Data  
report and trace blocks  
Record Trace [801](#)

IFCID 150 - Held Lock Data  
report and trace blocks  
Record Trace [802](#)

IFCID 150 - Lock Resource Data  
report and trace blocks  
Record Trace [803](#)

IFCID 150 - Retained Lock Data  
report and trace blocks  
Record Trace [804](#)

IFCID 150 - Suspend Lock Data  
report and trace blocks  
Record Trace [805](#)

IFCID 150 - Thread Locking  
report and trace blocks  
Record Trace [801](#)

IFCID 151 - User Record  
report and trace blocks  
Record Trace [806](#)

IFCID 152 - User Record  
report and trace blocks  
Record Trace [806](#)

IFCID 153 - User Record  
report and trace blocks  
Record Trace [806](#)

IFCID 154 - User Record  
report and trace blocks  
Record Trace [806](#)

IFCID 155 - User Record  
report and trace blocks  
Record Trace [806](#)

IFCID 156 - User Record  
report and trace blocks  
Record Trace [806](#)

IFCID 157 - DRDS RDS Interface  
report and trace blocks  
Record Trace [806](#)

IFCID 158 - DRDS CNV Interface  
report and trace blocks  
Record Trace [807](#)

IFCID 159 - DRDS Req Site Data  
report and trace blocks  
Record Trace [808](#)

IFCID 160 - DC Requester  
report and trace blocks  
Record Trace [808](#)

IFCID 161 - DC Server  
report and trace blocks  
Record Trace [809](#)

IFCID 162 - DTM Request  
report and trace blocks  
Record Trace [810](#)

IFCID 163 - DTM Respond  
report and trace blocks  
Record Trace [810](#)

IFCID 164 - IBM Service Record  
report and trace blocks  
Record Trace [811](#)

IFCID 165 - IBM Service Record  
report and trace blocks  
Record Trace [811](#)

IFCID 166 - IBM Service Record

IFCID 166 - IBM Service Record (*continued*)  
report and trace blocks  
Record Trace [812](#)

IFCID 167 - Conv Alloc Req Queued  
report and trace blocks  
Record Trace [812](#)

IFCID 168 - IBM Service Record  
report and trace blocks  
Record Trace [813](#)

IFCID 169 - DIST Authid Translation  
report and trace blocks  
Record Trace [813](#)

IFCID 170 - Suspend of Agent  
report and trace blocks  
Record Trace [814](#)

IFCID 171 - IBM Service Record  
report and trace blocks  
Record Trace [814](#)

IFCID 172 - Deadlock Data  
report and trace blocks  
Record Trace [814](#)

IFCID 172 - Deadlock Header  
report and trace blocks  
Record Trace [814](#)

IFCID 172 - Unit of Work - Blocker  
report and trace blocks  
Record Trace [817](#)

IFCID 172 - Unit of Work - Resource  
report and trace blocks  
Record Trace [815](#)

IFCID 172 - Unit of Work - Waiter  
report and trace blocks  
Record Trace [819](#)

IFCID 173 - Class 2 Time  
report and trace blocks  
Record Trace [823](#)

IFCID 174 - Arch Log CMD Sus Start  
report and trace blocks  
Record Trace [824](#)

IFCID 175 - Arch Log CMD Sus End  
report and trace blocks  
Record Trace [824](#)

IFCID 177 - Package Allocation  
report and trace blocks  
Record Trace [824](#)

IFCID 178 - IBM Service Record  
report and trace blocks  
Record Trace [827](#)

IFCID 179 - IBM Service Record  
report and trace blocks  
Record Trace [827](#)

IFCID 180 - DC Communication Buffers  
report and trace blocks  
Record Trace [827](#)

IFCID 181 - IBM Service Record  
report and trace blocks  
Record Trace [829](#)

IFCID 182 - IBM Service Record  
report and trace blocks  
Record Trace [829](#)

IFCID 183 - DRDS RDS/SCC  
Interface  
report and trace blocks  
Record Trace [829](#)

IFCID 184 - DC Communication Buffers  
report and trace blocks  
Record Trace [833](#)

IFCID 185 - READs Data Capture Start  
report and trace blocks  
Record Trace [834](#)

IFCID 186 - IBM Service Record  
report and trace blocks  
Record Trace [834](#)

IFCID 188 - READs Data Capture End  
report and trace blocks  
Record Trace [834](#)

IFCID 190 - IBM Service Record  
report and trace blocks  
Record Trace [835](#)

IFCID 191 - 6B DSS Section  
report and trace blocks  
Record Trace [840](#)

IFCID 191 - Command and/or Reply  
Section  
report and trace blocks  
Record Trace [836](#)

IFCID 191 - DB2 ZEDA  
report and trace blocks  
Record Trace [837](#)

IFCID 191 - DDM Level 6B Objects  
report and trace blocks  
Record Trace [835](#)

IFCID 191 - Header Section  
report and trace blocks  
Record Trace [838](#)

IFCID 191 - Late Descriptor Section  
report and trace blocks  
Record Trace [839](#)

IFCID 192 - Current 6A Header  
report and trace blocks  
Record Trace [841](#)

IFCID 192 - DDM Level 6A Header Errors  
report and trace blocks  
Record Trace [841](#)

IFCID 192 - Previous 6A Header  
report and trace blocks  
Record Trace [842](#)

IFCID 193 - UOW/SQLCODE  
Mismatch  
report and trace blocks  
Record Trace [842](#)

IFCID 194 - Invalid SNA FMH-5 Received  
report and trace blocks  
Record Trace [843](#)

IFCID 195 - SQLDA Discrepancy  
report and trace blocks  
Record Trace [844](#)

IFCID 196 - Holder  
report and trace blocks  
Record Trace [845](#)

IFCID 196 - Timeout Data  
report and trace blocks  
Record Trace [845](#)

IFCID 196 - Timeout Header  
report and trace blocks  
Record Trace [847](#)

IFCID 197 - DB2 Messages  
report and trace blocks

IFCID 197 - DB2 Messages (*continued*)  
report and trace blocks (*continued*)  
Record Trace [849](#)

IFCID 198 - Buffer Manager Page Access  
report and trace blocks  
Record Trace [849](#)

IFCID 199 - Buffer Pool Statistics at Data Set Level  
report and trace blocks  
Record Trace [851](#)

IFCID 201 - Alter Buffer Pool  
report and trace blocks  
Record Trace [853](#)

IFCID 202 - Buffer Pool Attributes  
report and trace blocks  
Record Trace [857](#)

IFCID 203 - DDF Heuristic COMMIT/ROLLBK  
report and trace blocks  
Record Trace [859](#)

IFCID 204 - DDF Partner Cold Start  
report and trace blocks  
Record Trace [860](#)

IFCID 205 - As Remembered by DB2  
report and trace blocks  
Record Trace [862](#)

IFCID 205 - As Remembered by Partner  
report and trace blocks  
Record Trace [862](#)

IFCID 205 - DDF Warm Start Log Name Error  
report and trace blocks  
Record Trace [863](#)

IFCID 205 - DDF Warm Start Log Name Error information  
report and trace blocks  
Record Trace [862](#)

IFCID 206 - DDF Protocol Error  
report and trace blocks  
Record Trace [863](#)

IFCID 207 - DDF Heuristic Damage  
report and trace blocks  
Record Trace [865](#)

IFCID 208 - DDF Syncpoint Protocol Error  
report and trace blocks  
Record Trace [867](#)

IFCID 209 - DDF Syncpoint Comm Failure  
report and trace blocks  
Record Trace [868](#)

IFCID 210 - Warm Start Log Name Change  
report and trace blocks  
Record Trace [869](#)

IFCID 211 - Claim Data  
report and trace blocks  
Record Trace [870](#)

IFCID 212 - Drain Data  
report and trace blocks  
Record Trace [871](#)

IFCID 213 - Drain Lock Wait Start  
report and trace blocks  
Record Trace [872](#)

IFCID 214 - Drain Lock Wait End  
report and trace blocks  
Record Trace [873](#)

IFCID 215 - Claim Count 0 Wait Start  
report and trace blocks  
Record Trace [874](#)

IFCID 216 - Claim Count 0 Wait End (*continued*)  
report and trace blocks  
Record Trace [875](#)

IFCID 217 - Agent Local Storage Pool Sizes  
report and trace blocks  
Record Trace [875](#)

IFCID 217 - DBM1 Storage Pool Sizes  
report and trace blocks  
Record Trace [878](#)

IFCID 217 - Storage Manager Pool Statistics  
report and trace blocks  
Record Trace [879](#)

IFCID 217 - Storage Pools  
report and trace blocks  
Record Trace [875](#)

IFCID 218 - Lock Avoidance Summary  
report and trace blocks  
Record Trace [879](#)

IFCID 219 - Utility LISTDEF List Information  
report and trace blocks  
Record Trace [880](#)

IFCID 220 - Utility Data Set Information  
report and trace blocks  
Record Trace [880](#)

IFCID 221 - Buffer Pool Constrained Data (Section Type C)  
report and trace blocks  
Record Trace [881](#)

IFCID 221 - Detail Buffer Pool Constrained Data (Section Type E)  
report and trace blocks  
Record Trace [882](#)

IFCID 221 - Parallel Data  
report and trace blocks  
Record Trace [883](#)

IFCID 221 - Parallel Group Execution  
report and trace blocks  
Record Trace [881](#)

IFCID 221 - Section Type D  
report and trace blocks  
Record Trace [885](#)

IFCID 222 - Parallel Group Elapsed Time  
report and trace blocks  
Record Trace [886](#)

IFCID 223 - Lock Avoidance Detail  
report and trace blocks  
Record Trace [887](#)

IFCID 224 - Select Procedure Bypassed  
report and trace blocks  
Record Trace [888](#)

IFCID 225 - Address Space Summary - DBM1  
report and trace blocks  
Record Trace [889](#)

IFCID 225 - Address Space Summary - DIST  
report and trace blocks  
Record Trace [889](#)

IFCID 225 - IRLM Pool Statistics  
report and trace blocks  
Record Trace [893](#)

IFCID 225 - Shared/Common Storage Summary  
report and trace blocks  
Record Trace [896](#)

IFCID 225 - Statement Cache / XPROC Detail  
report and trace blocks

IFCID 225 - Statement Cache / XPROC Detail (*continued*)  
report and trace blocks (*continued*)  
Record Trace [894](#)

IFCID 225 - Storage MGR Pool Summary  
report and trace blocks  
Record Trace [889](#)

IFCID 225 - Storage Pool Details  
report and trace blocks  
Record Trace [900](#)

IFCID 225 - Thread Information  
report and trace blocks  
Record Trace [901](#)

IFCID 226 - Page Latch Contention Start  
report and trace blocks  
Record Trace [902](#)

IFCID 227 - Page Latch Contention End  
report and trace blocks  
Record Trace [904](#)

IFCID 228 - Archive Deallocation Start  
report and trace blocks  
Record Trace [905](#)

IFCID 229 - Archive Deallocation End  
report and trace blocks  
Record Trace [905](#)

IFCID 230 - Group Buffer Pool Attributes  
report and trace blocks  
Record Trace [905](#)

IFCID 231 - Parallel Group Task Time  
report and trace blocks  
Record Trace [908](#)

IFCID 233 - Call User Routine  
report and trace blocks  
Record Trace [910](#)

IFCID 234 - Calling Agent Auth IDs  
report and trace blocks  
Record Trace [911](#)

IFCID 236 - DDF SNA XLN Protocol Error  
report and trace blocks  
Record Trace [912](#)

IFCID 237 - Set Current Degree  
report and trace blocks  
Record Trace [913](#)

IFCID 238 - IBM Service Record  
report and trace blocks  
Record Trace [913](#)

IFCID 239 - Buffer Manager Accounting Data  
report and trace blocks  
Record Trace [913](#)

IFCID 239 - General Package Overflow Accounting Data  
report and trace blocks  
Record Trace [916](#)

IFCID 239 - Locking Data  
report and trace blocks  
Record Trace [917](#)

IFCID 239 - Overflow Package/DBRM  
report and trace blocks  
Record Trace [913](#)

IFCID 239 - Package/DBRM Accounting Data  
report and trace blocks  
Record Trace [920](#)

IFCID 239 - RDS Package Accounting  
report and trace blocks  
Record Trace [929](#)

IFCID 239 - Resource Limit Facility  
report and trace blocks  
Record Trace [930](#)

IFCID 239 - Resource Limit Facility (*continued*)  
report and trace blocks  
Record Trace [930](#)

IFCID 247 - SQLDA Data and Input Host Variable Data  
report and trace blocks  
Record Trace [931](#)

IFCID 248 - IBM Service Record  
report and trace blocks  
Record Trace [934](#)

IFCID 249 - EDM Pool Invalidate DBD  
report and trace blocks  
Record Trace [934](#)

IFCID 250 - Connect/Rebuild Connect/Disconnect Group  
Bpool  
report and trace blocks  
Record Trace [934](#)

IFCID 251 - Buffer Manager PSET/Part P-Lock Request  
report and trace blocks  
Record Trace [937](#)

IFCID 252 - IBM Service Record  
report and trace blocks  
Record Trace [939](#)

IFCID 254 - Coupling Facility Cache Structure Statistics  
report and trace blocks  
Record Trace [939](#)

IFCID 255 - Buffer Refresh Due to XI  
report and trace blocks  
Record Trace [941](#)

IFCID 256 - Alter Group Buffer Pool  
report and trace blocks  
Record Trace [942](#)

IFCID 257 - IRLM Notify Req Detail  
report and trace blocks  
Record Trace [944](#)

IFCID 258 - Data Set Extend Activity  
report and trace blocks  
Record Trace [946](#)

IFCID 259 - Buffer Manager Pg P-Lock Req  
report and trace blocks  
Record Trace [948](#)

IFCID 260 - IBM Service Record  
report and trace blocks  
Record Trace [949](#)

IFCID 261 - Group Buffer Pool Checkpoint  
report and trace blocks  
Record Trace [949](#)

IFCID 262 - GBPOOLT Castout Threshold Processing  
report and trace blocks  
Record Trace [951](#)

IFCID 263 - Page Set and Partition Castout Detail  
report and trace blocks  
Record Trace [952](#)

IFCID 265 - IBM Service Record  
report and trace blocks  
Record Trace [954](#)

IFCID 266 - IBM Service Record  
report and trace blocks  
Record Trace [954](#)

IFCID 267 - CF Rebuild/Alter/  
Start  
report and trace blocks  
Record Trace [954](#)

IFCID 268 - CF Rebuild/Alter  
End



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