

# InfoSphere Information Server

## SAP R/3 Pack: Troubleshooting IDoc extract processing



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This presentation will discuss the IDoc extract processing details. This presentation uses screen captures from the Information Server Pack for SAP version 6.5.01. In earlier versions the screen captures may vary but the principals are still the same. This presentation is applicable for Information Server versions 7 and 8.

## Objectives

### Agenda

- SAP terminology
- Troubleshooting IDoc Extract stage configuration
  - SAP connection settings
  - IDoc server logs
  - IDoc metadata
- Troubleshooting SAP side
  - Generating IDocs
  - Partner profile and port
  - RFC connection testing

The objective of this presentation is to discuss known issues and troubleshooting techniques for IDoc extract processing. The presentation will examine the SAP side and the DataStage® side and discuss common points and how to verify existence of all necessary files and processes.

## SAP terminology

- ALE - Application Link Enabling
  - Bilateral, message-oriented form of data transfer
- IDoc - Intermediate Document
  - Standard SAP proprietary document format
- RFC - Remote Function Call
- tRFC - Transactional Remote Function Call
- CREMAS - Master Vendor IDoc
- SAP Gateway - CPIC-based program which supports RFC requests
- TID - Transfer Identification number

There is some basic SAP terminology that is important to understand. First, ALE stands for Application Link Enabling. ALE is a bilateral, message-oriented form of data transfer. ALE technology enables integration of business processes between SAP and external systems.

IDoc stands for Intermediate Document. IDoc is a standard SAP proprietary document format. An IDoc is a message that is a hierarchal package of related records generated by SAP in a SAP exchange format. IDocs allow different application systems to be linked by way of a message-based interface.

RFC stands for Remote Function Call.

tRFC stands for transactional Remote Function Call and CREMAS is the name of the master vendor IDoc.

Each instance of a SAP System has a gateway. The gateway enables communication between work processes and external programs. It carries services which support RFC requests. Each IDoc packet is assigned by SAP a Transfer Identification number or TID.

## SAP ALE configuration for IDocs overview

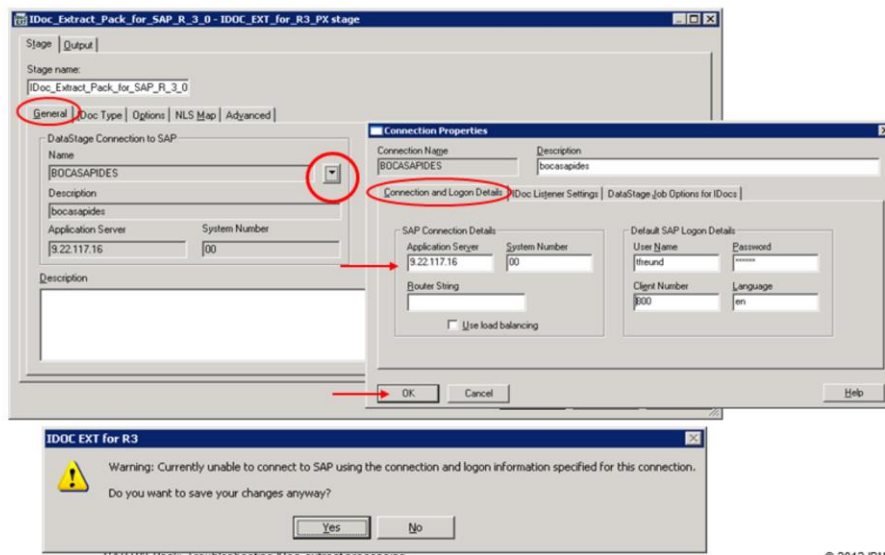
- IDoc message flows configured in “distribution model”
  - Sender
  - Recipient
- SAP connection on DataStage server represented in SAP by external “logical system” or recipient
  - Assigned to tRFC port
  - Port bound to RFC destination
    - Registered server program ID
- Standard IDoc interface configuration
  - Logical systems
  - RFC destination/program ID
  - Distribution models
  - Partner profiles
  - Message types
  - Ports

An IDoc can be generated at any point in a transaction process. For example, during a shipping transaction process, an IDoc may be generated that includes the data fields required to print a shipping manifest. After a user performs a SAP transaction, one or more IDocs are generated in the sending database and passed to the SAP Gateway. The gateway services perform a RFC using the port definition and RFC destination specified in the Partner profile.

For more details, see the SAP R/3 Pack: ALE Partner Profile configuration for IDoc extract processing IBM Education Assistant module.

## Validate SAP connection

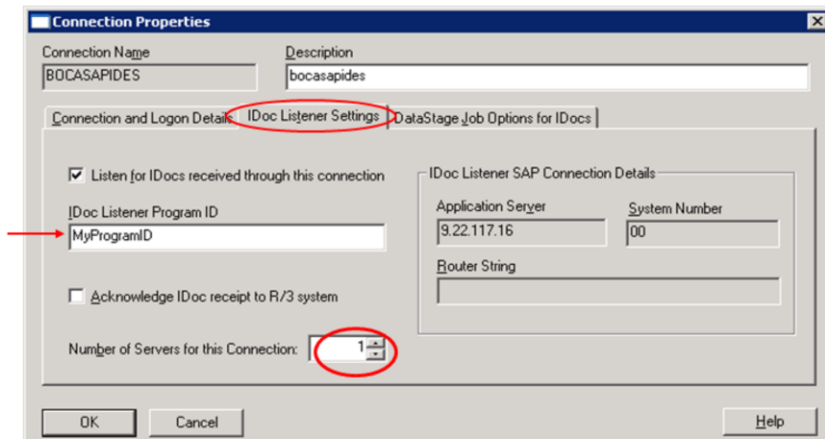
- Identify SAP connection parameters
- Open IDoc Extract stage



The first step is to identify the SAP connection parameters that are used to extract IDocs. Open an IDoc Extract stage and use the 'DataStage Connection to SAP' properties in the General tab. Click the drop down list and choose the Properties option. Verify values for the connection parameters of the SAP Application host name SAP, System Number, User Name, Client Number and Language. Click OK to save the connection. This will store connection information on the server and that information is used by the IDoc server to register on the gateway. If any values are not valid, the connection is not successful. As displayed on this slide, a warning message will be posted that the connection cannot be established.

## SAP connection properties – IDoc Listener Settings

- Identify SAP connection parameters



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Next, choose the 'IDoc Listener Settings' tab to verify the program ID this IDoc server is listening to at the SAP Gateway. Also, verify the number of IDoc servers for this connection by checking the number in the red oval displayed on this slide. It is important to note that the IDoc servers run independently of jobs.

## SAP connection properties - Job Options for IDocs (1 of 2)

- Run DataStage job automatically after receiving IDocs

The screenshot shows the 'Connection Properties' dialog box for the connection named 'BOCASAPIDES'. The 'DataStage Job Options for IDocs' tab is selected and circled in red. The checkbox 'Run appropriate DataStage jobs automatically after receiving IDocs from this SAP system' is checked. Below this, the 'Default DataStage Logon Details for Running the Jobs' section contains the following fields:

Field	Value
User Name	dsadm
Domain	VEW03SEK:9080
Password	XXXXXXXXXX
Server	VEW03SEK

There are also fields for 'DSJOB Password File Path' and 'IDoc Metadata File Path', both with 'Browse...' buttons. The dialog has 'OK', 'Cancel', and 'Help' buttons at the bottom.

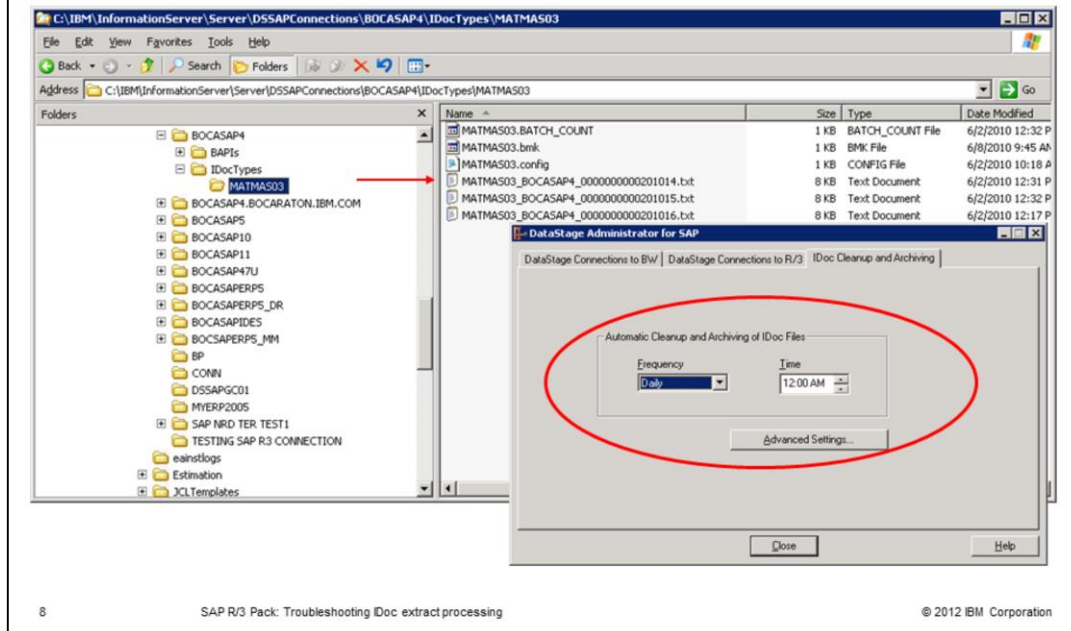
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Proceed to the 'DataStage Job Options for IDocs' tab and verify if the 'Run appropriate DataStage jobs automatically after receiving IDocs from this SAP system' check box is enabled. If enabled, the DataStage job will start automatically after receiving IDocs. If the job did not start after IDocs were received, verify the domain, server, user name and password values for connection to the DataStage server. If not enabled, the IDocs is stored in a file system and a user can manually start the job at any time to process received IDocs.

## IDoc staging area – Job Options for IDocs (2 of 2)



This slide displays an example of a file system or so called, IDoc staging area, located on a Windows server where IDocs is stored when they arrive from SAP. Note that a TID is appended to the file name. Each file represents an IDoc packet. The job will read and process the packets, archive them to prevent them from being processed twice, and then delete them based on the Automatic Cleanup settings in the DataStage Administrator for SAP client.



## Review IDoc metadata files

The screenshot shows the SAP IDoc Extract stage configuration and the resulting metadata files. The main window is titled "IDoc\_Extract\_Pack\_for\_SAP\_R\_3\_0 - IDOC\_EXT\_for\_R\_3\_PX stage". The "Stage name" is "IDoc\_Extract\_Pack\_for\_SAP\_R\_3\_0". The "IDoc Type" is "CREMAS05" with the description "Vendor master data distribution". The "IDoc Components" table is as follows:

Name	Description	Assl...	Min. / Max.	Status
CONTROL_RECORD	Control record for the IDoc			
E1LFA1M (E2LFA1M002)	Segment for general vend...		1 / 1	MANDATORY
E1LFA1B (E2LFA1B000)	Segment for CCR Vendor ...		1 / 1	OPTIONAL
E1LFA1A (E2LFA1A003)	Segment for standard ven...		1 / 1	OPTIONAL
E1LFA1H (E2LFA1H000)	Vendor Master Basic Data:...		1 / 9999	OPTIONAL
E1LFA1L (E2LFA1L000)	Vendor Master Basic Data:...		1 / 9999	OPTIONAL
E1LFB1M (E2LFB1M005)	Segment for company code..		1 / 9999	OPTIONAL
E1LFBWM (E2LFBWM...	Segment fo			
E1LFB5M (E2LFB5M)	Reminder d			
E1LFB1H (E2LFB1H00...	Vendor Mas			
E1LFB1L (E2LFB1L...	Vendor Mas			

The "IDocTypes.config" window shows the configuration for the IDoc type:

```

<IDOC_TYPES>
<BEGIN>
USE_DEFAULT_PATH=TRUE
IDOC_FILES_PATH=
NAME=MATMAS05
<END>
<BEGIN>
USE_DEFAULT_PATH=TRUE
IDOC_FILES_PATH=
NAME=CREMAS01
<END>
<BEGIN>
USE_DEFAULT_PATH=TRUE
IDOC_FILES_PATH=
NAME=FORDCR04
<END>
<END>
  
```

The "CREMAS05\_\_701.ido - Notepad" window shows the metadata file content:

```

45B01CREMAS05NOT_APPLICABLE701CREMAS05Vendor master data
distributionCREMAS04700SAPXAPE2LFA1M002
E1LFA1M
          992 TOP
          101111110192MSGFN
030MSGFNLFNR
          13150TEXT15BAHNS
          5370NUM07BBSNR
          3100LIFNRANRED
NUM05BEGRU
          6940BRSCHBUBKZ
          6540BRGRUBRSCH
          28250BAHNHBBNR
          6050
          7310NUM01DATLT
  
```

The IDoc Extract stage will save IDoc metadata in a form of a .ido text file, such as CREMAS05\_701.ido, and will create an entry into the IDocTypes.config file.

The .ido files are stored under DSSAPHOME/DSSAPConnections directory. The IDocTypes.config file is stored in DSSAPHOME/DSSAPConnections / <SAP connection name> directory. During the extract process, the IDoc server uses the .ido file to validate the IDoc type that appeared at the SAP Gateway before processing it.

## Review IDoc server log

The screenshot shows the DataStage Administrator for SAP interface. The main window is titled "DataStage Administrator for SAP" and has three tabs: "DataStage Connections to BW", "DataStage Connections to R/3", and "IDoc Cleanup and Archiving". The "DataStage Connections to R/3" tab is active, showing a table of connections:

Name	Description
4	4
BAL_BOCASAPERP5	load balanced
BOCA_QS_47_U_HBA	bocag47u.bocaraton.ibm.c
BOCASAP1	BOCASAP1
BOCASAP10	
BOCASAP11	bocasap11
BOCASAP4	bocasap4
BOCASAP4.BOCARATON.IBM.COM	BOCASAP4
BOCASAP47U	BOCASAP47U
BOCASAP5	bocasap5
BOCASAPERP5	BOCASAPERP5
BOCASAPERP5_DR	bocasaperp5
BOCASAPIDES	bocasapides
BP	POC
...	...

Below the table is an "IDoc Log" button, which is circled in red. A red arrow points from this button to the "IDoc Log" window in the foreground. The "IDoc Log" window shows the following messages:

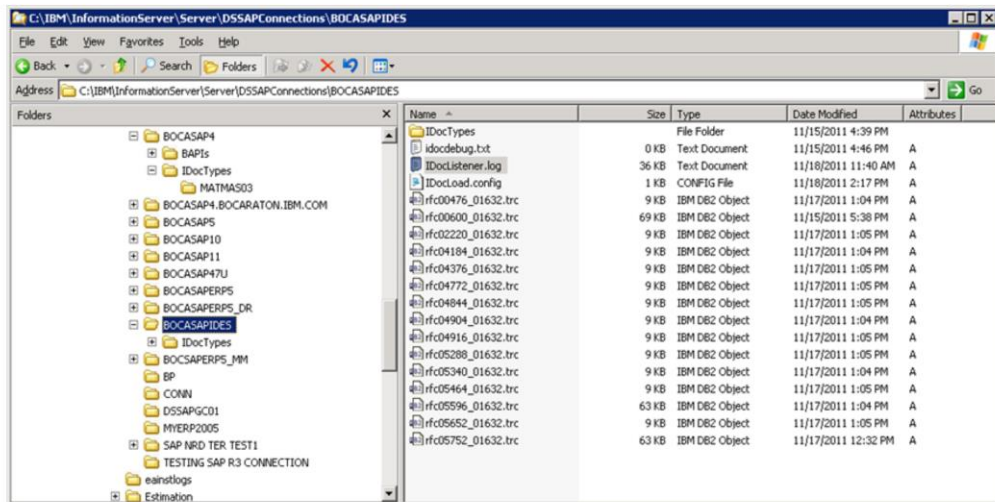
```
Fri Nov 18 11:37:50: Fatal Error #2[4] -- IDoc Class Libr
Fri Nov 18 11:37:55: .....
Fri Nov 18 11:37:55: Starting the IDOC Listener for Data
Fri Nov 18 11:37:55: .....
Fri Nov 18 11:37:55: Version info:
VERINFO_R3PRODUCTNAME=IBM InfoSphere Information Server Pack for SAP R/3
VERINFO_R3FILEVERSION=6.5.0.1
VERINFO_R3PRODUCTVERSION=6.5.0.1
VERINFO_R3PRIVATEBUILD=
VERINFO_R3SPECIALBUILD=72
VERINFO_R3COMMENTS=For IBM InfoSphere Information Server
```

The "IDoc Log" window also has "Close" and "Help" buttons. The bottom of the slide contains the following text:

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This slide displays usage of the DataStage Administrator for SAP client to further investigate SAP connection errors. Navigate to the DataStage Connections to R/3 tag in the DataStage Administrator for SAP. Click the SAP connection name in error and use the IDoc Log button to view the log for details on this SAP connection.

## Review IDoc Listener log



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You can also find the same information in the IDoc Listener.log file located in the SAP connection directory. It is important to notice that the RFC trace files, named rfc\*.trc, are created in this location by default if you receive SAP connection errors and the environment variable RFC\_TRACE =1, is set in the dsenv file.

## Enable RFC trace for IDoc Manager and restart

- Set RFC\_TRACE=1 in dsenv
  - Add following lines to \$DSHOME/dsenv

```
RFC_TRACE=1; export RFC_TRACE
RFC_TRACE_DIR=/some/valid/path; export RFC_TRACE_DIR
RFC_NO_COMPRESS=1; export RFC_NO_COMPRESS
```
- Restart IDoc Manager

```
cd /opt/IBM/InformationServer/Server/DSSAPbin
./dsidocd.rc stop
```
- Check for running processes

```
ps -ef|grep dsidocsvr
```
- Kill zombie processes
- Restart listener

```
./dsidocd.rc start
```

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As stated on the previous slide, the RFC trace is enabled by setting up the environment variable `RFC_TRACE=1` in the `dsenv` file in UNIX and Linux. The trace files are generated by default in the working folder of the process which is set to the connection folder. See slide 11 for details. The trace destination folder can be changed by setting the environment variable `RFC_TRACE_DIR=(RFC underscore trace underscore dir equals)` to some valid path. To make the table content visible, the `RFC_NO_COMPRESS` variable should be set to 1. RFC trace files can be collected to further investigate the cause of a communication error. The generated traces will have the name `rfc*.trc`, `rfc *.log`, and `dev_rfc.trc`.

It is important to note that if you add or change any of the environment variables in `dsenv`, you must stop and restart the IDoc Manager for the changes to take effect. To restart the IDoc Manager, `cd /opt/IBM/InformationServer/Server/DSSAPbin` and run `./dsidocd.rc stop`. Check for running processes by executing `ps -ef|grep dsidocsvr`. To restart the listener, run `./dsidocd.rc start`.

If the DataStage server runs on Windows, set environment variables at the system level as `RFC_TRACE=1`, `RFC_TRACE_DIR=c:\tmp\trace` and `RFC_NO_COMPRESS=1`.

To disable RFC trace on Windows, change the flag to `RFC_TRACE=0` and re-start the Windows system.

## Ensure IDoc server process running

- Run `ps -ef|grep dsidocd`
- Run `ldd`  
`cd /opt/IBM/InformationServer/Server/DSEngine`  
`. dsenv`  
`cd /opt/IBM/InformationServer/Server/DSSAPbin`  
`ldd ./dsidocd`  
`ldd ./dsidocsvr`

Next, ensure the `dsidocsvr` process is active by using the process report command `ps -ef|grep dsidocsvr` (p s space dash e f pipe grep space d s idoc s v r). The command will return the information about the IDoc server process. To ensure the environment is set up correctly, run the 'list dynamic dependency', or `ldd` command, on the `dsidocd` and `dsidocsvr` shared libraries. For this, `cd /opt/IBM/InformationServer/Server/DSEngine` and source the `dsenv`. Then, `cd /opt/IBM/InformationServer/Server/DSSAPbin` and run `ldd ./dsidocd` and `ldd ./dsidocsvr`.

## Trace IDoc server process using dsidoscd.rc file or strace

- Add entry to dsidoscd.rc file

```
nohup $DSSAPHOME/DSSAPbin/dsidoscd > /tmp/idoclog 2>&1 &
```

- Restart IDoc manager

- Trace dsidoscd

```
strace -f -p <pid_of_dsidoscd>
```

- Use 'Ctrl C' to end strace

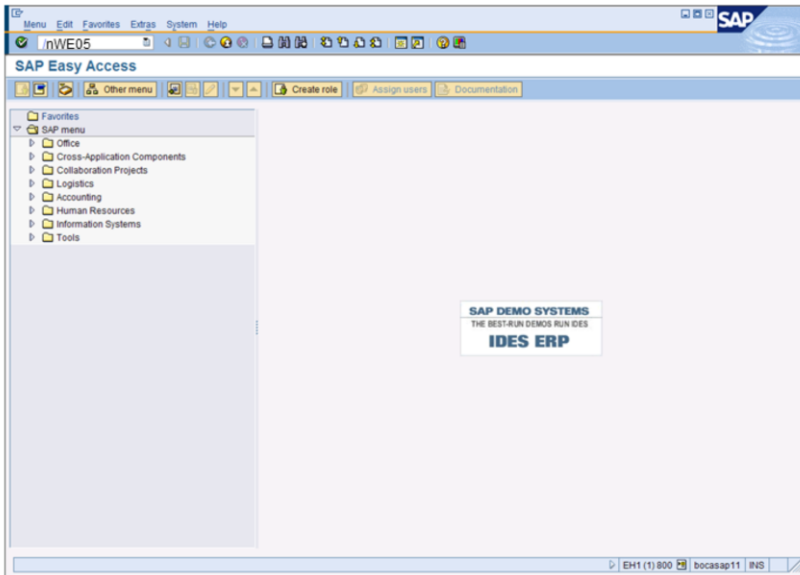
When the RFC trace does not reveal enough information or is not available, use the dsidoscd.rc file to setup an additional trace. To configure the dsidoscd.rc file, you must first stop the IDoc Manager. Next, edit the dsidoscd.rc file and find and comment out the line 'nohup \$DSSAPHOME/DSSAPbin/dsidoscd > /dev/null 2>&1 &'.

Add an entry 'nohup \$DSSAPHOME/DSSAPbin/dsidoscd > /tmp/idoclog 2>&1 &' to the dsidoscd.rc file. Then, restart the IDoc Manager. See slide 12 on how to restart the IDoc Manager. When the error occurs again, investigate the IDoc log file in /tmp/ directory. To disable the tracing, stop the IDoc Manager and remove the change from the dsidoscd.rc file.

In many cases, a program may fail because it is unable to open a file or because of insufficient memory. Tracing the output of the program will clearly show the cause of either problem. You can trace the IDoc server process by using `strace -f -p <pid_of_dsidoscd>`. Strace runs in conjunction with the program and prints out a trace of all the system calls made by the IDoc server process. Use 'Ctrl C' to end the strace.

## Initial SAP applications window

- Transaction code /nWE05



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If no IDocs have arrived in the staging area, start IDoc Extract troubleshooting on the SAP side by checking on the status of the sent IDocs. This slide displays the initial SAP applications window after connecting to a SAP client system with a dialog user. When in the SAP application system, type `/nWE05` transaction code in the navigation window and press Enter.

## IDoc List (1 of 2) – Find IDocs

- Enter time frame IDocs sent

The screenshot shows the SAP IDoc List window. The 'Created On' field is highlighted with a red arrow, and the 'Execute' icon (a play button) is circled in red. The window displays various fields for filtering IDocs, including 'Created At', 'Created On', 'Last Changed at', 'Last Changed on', 'Direction', 'IDoc Number', 'Current Status', 'Basic Type', 'Enhancement', 'Logical Message', 'Message Variant', 'Message Function', 'Partner Port', 'Partner Number', 'Partner Type', and 'Partner Role'. The 'Created On' field is set to '04.10.2011'.

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In the initial 'IDoc List' window, enter the time frame when the IDocs were sent in the 'Created On' parameter field and click the Execute icon displayed on this slide in the red oval.



## IDoc List (2 of 2) – Status review

- Verify IDoc status

The screenshot displays the SAP IDoc List interface. On the left, a tree view shows the hierarchy: IDocs > Selected IDocs > Outbound IDocs > CREMAS > Inbound IDocs. The main table, titled 'Selected IDocs', contains the following data:

IDoc Number	Segm	Stat	Stat	Partner	BasicType	Date created	Time	Messg	Direction	Port
0000000000892745	4	02	000	LS/ /MY/EXTERNAL	CREMAS05	30.05.2011	16:03:48	CREMAS	Outbox	A000000059
0000000000892746	4	03	000	LS/ /MY/EXTERNAL	CREMAS05	30.05.2011	16:19:35	CREMAS	Outbox	A000000059

At the bottom of the window, there is a section for 'Status Message for Selected IDoc' with fields for 'Status Text' and 'T100 Text'. The status bar at the bottom right shows 'EH1 (2) 800 | bocasap11 | INS'.

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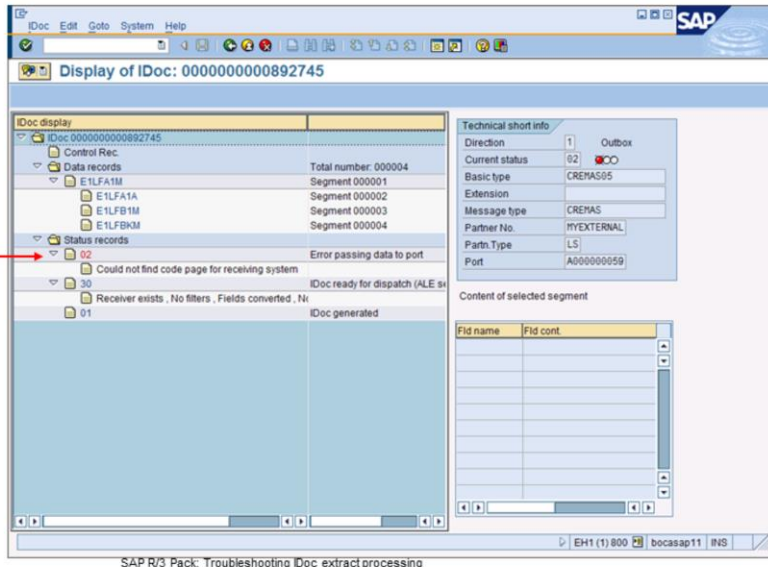
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To verify if the IDoc was transferred to the port successfully, find the IDoc and verify its status in terms of status codes and the corresponding green, yellow and red color lights. A green light is the indicator that data passed to a port successfully. A red light is the indicator of an error passing data to the port and a yellow light is an indicator of data passed with a warning. Double click an IDoc number to view its data and the error message.

## Display of IDoc (1 of 2) - Error message

- Error code 02
- RFC destination for port not set to Unicode



This slide displays an IDoc with status red. The error code is 02 with the message: Could not find code page for receiving system. This error is issued because the RFC destination for the port was not set to Unicode. To communicate properly, the RFC destination for the IDoc connection should be defined as Unicode. No IDocs are sent to the gateway port if the port is configured to use a non-Unicode RFC destination. The IDoc is not sent to the gateway until the reported issue is fixed. Note that on a customer side, a SAP basis administrator is typically fixing these types of errors. Fix the error and resend the IDoc using the transaction code BD87.

## Display of IDoc (2 of 2) - Data review

The screenshot shows the SAP IDoc display application interface. The main window title is "IDoc: 000000000892746". The interface is divided into several sections:

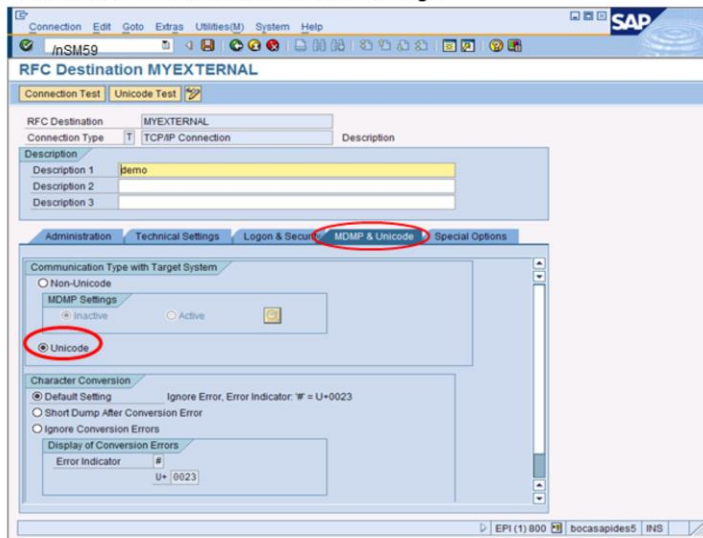
- Technical short info:** A panel on the right containing fields for Direction (1), Outbox, Current status (93), Basic type (CREHAS65), Extension, Message type (CREHAS), Partner No. (MYEXTERNAL), Parth. Type (LS), and Port (A000000059).
- IDoc display:** A tree view on the left showing the structure of the IDoc, including Control Rec., Data records (E1LFA1M, E1LFB1M, E1LFBKM), and Status records (03, 30, 01).
- Content of selected segment:** A table at the bottom right showing field names and their corresponding content.

Fid name	Fid cont.
MSGFN	005
LIFNR	0000009908
BUKRS	GL1000
ERDAT	19990302
ERNAM	BONIN
ZUAWA	015
AKONT	0000178050
VZSKZ	02
ZWELS	U
ZTERM	ZB00

In case of the data type errors, you will also want to investigate actual data records, the number of segments, and data content of the fields using the Display of IDoc application as displayed on this slide.

## RFC Destination: Unicode test

- Check Communication Type is Unicode
  - Transaction code /nSM59
  - Expand TCP/IP connections
  - Select RFC Destination and click Change



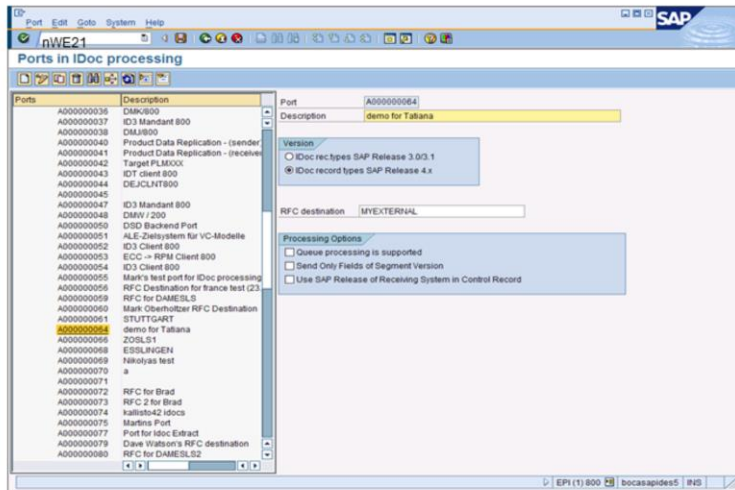
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In order to verify the IDoc connection is set to Unicode, type /nSM59 in the transaction code field in the navigation window and press Enter. Expand TCP/IP Connections, select your RFC Destination and click Change. Click the MDMP & Unicode tab and check that the Communication Type with Target System is set to Unicode.

## Verify tRFC Port in IDoc processing

- Transaction code /nWE21
- Verify port and RFC combination match
  - Port from IDoc Display (slide 18)
  - RFC Destination (slide 20)



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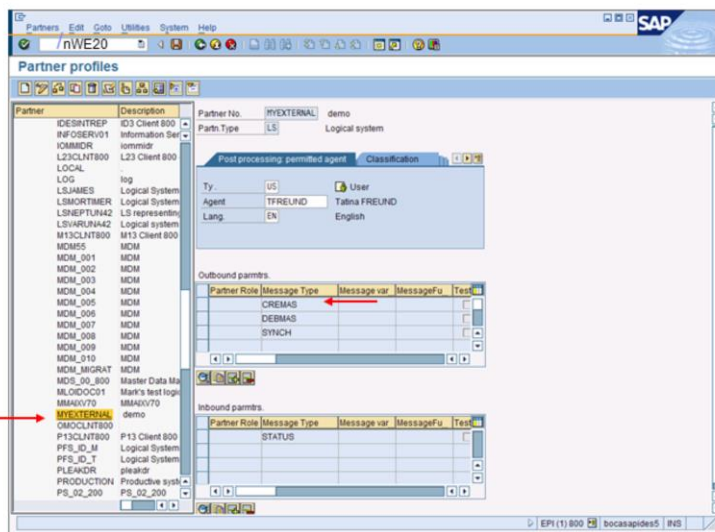
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If the IDoc is still not received, use the WE21 transaction code to verify the tRFC port configuration and the RFC destination, which is assigned to the port, match. To do this, in the SAP Application System, type /nWE21 transaction code in the navigation window and press Enter. This will open the 'Ports in IDoc processing' window. Expand TransactionRFC and find the port listed in WE05. This should list your RFC Destination name. In this example, the port number is A00000064 and the RFC destination is MYEXTERNAL.

Each SAP connection on the DataStage server is represented in SAP by an external logical system which is assigned to a tRFC port. The port is bound to an RFC destination. The IDoc server listens on tRFC port. When a communication IDoc package is collected and ready to be transferred by the SAP Gateway to the DataStage server, an IDoc listener will check if the program ID it is listening with is matching the program ID carried by the IDoc packet. If there is no match then there is no transfer.

## Verify Partner profiles: Message type (1 of 2)

- Transaction code /nWE20



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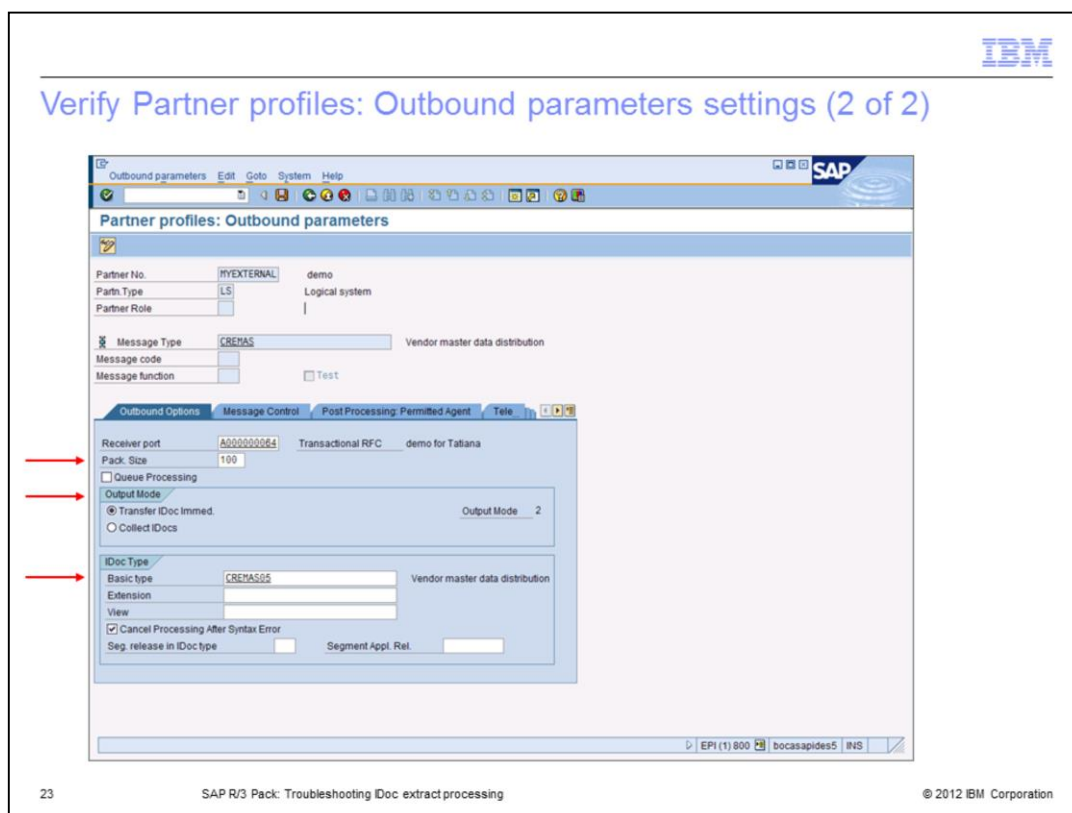
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The next area to check if the IDoc is not being received, is the Partner profiles. Use the WE20 transaction code to verify the Partner profiles configuration and the configuration of the IDoc message types to be transferred by this Partner or the port.

When in the SAP Application System, type /nWE20 transaction code in the navigation window and press Enter. This will open the 'Partner profiles' window. On this slide, the partner MYEXTERNAL is configured to send outbound IDocs of CREMAS and DEBMAS message types.

During troubleshooting, make sure the IDoc message type in question has been configured in the Partner profile. To view or edit settings for the CREMAS message type, double click the CREMAS record in the Outbound parameter window.

## Verify Partner profiles: Outbound parameters settings (2 of 2)



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This will open the Partner profiles Outbound parameters window. Review or change the receiver port and settings such as the Pack Size and the Output Mode. If the 'Collect IDocs' output mode is selected, IDocs are collected first and then transferred as a packet of the specified pack size. Each packet will have a TID assigned by SAP.

If the 'Transfer IDoc Immediately' mode is selected, IDocs will be transferred one by one and the pack size value, if set, will be ignored. In this case, each IDoc will have an assigned TID.

There are some key points to check when troubleshooting. First, if the setting is the 'Collect IDocs' with the pack size defined as 100, but 99 IDocs were sent, no IDocs will be transferred to the SAP Gateway until 100 IDocs are collected. Second, verify that CREMAS05 IDoc type has been sent. IDoc type CREMAS01, if sent, is not transferred by this port.

# Gateway monitoring

The screenshot displays the SAP Gateway Monitor interface for 'bocasapides5 / Active Connections'. The main window shows a table of active connections with columns for No., Local LU name, Local TP name, LU Name, TP Name, Users, and Status. The 'Goto' menu item is circled in red. The 'Detailed Connection Information' pane on the right shows various parameters and their values for the selected connection.

No.	Local LU name	Local TP name	LU Name	TP Name	Users	Status
18	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
19	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
20	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
21	killingt	dsidocsv	bocasapides5	sapgw00	killington	Connected
22	james	dsidocsv	bocasapides5	sapgw00	james	Connected
23	ganymed4	dsidocsv	bocasapides5	sapgw00	ganymed42	Connected
24	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
25	morfimer	dsidocsv	bocasapides5	sapgw00	MORTIMERS	Connected
26	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
27	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
28	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
29	cloud8 b	dsidocsv	bocasapides5	sapgw00	root	Connected
30	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
31	Nlx42	dsidocsv	bocasapides5	sapgw00	Nlx42	Connected
32	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
33	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
34	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
35	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
36	cloud8 b	dsidocsv	bocasapides5	sapgw00	root	Connected
37	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
38	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
39	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
40	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected
41	vev03sek	DSDesign	bocasapides5	sapgw00	Administrato	Connected

Name	Value
sideinfo USER	sideinfo USER
sideinfo PWD	not displayed
sideinfo SEC TYPE	0
sideinfo CONV TYPE	0
conv state	SEND / RECEIVE_WAIT_FOR_DATA
req length	16000 / 28000
rexec socket	-1
ncv info	0
frag write	0 / 0
frag overflow adr	(nil) / (nil)
frag wait for end	0 / 0
frag req block: no	-1 / -1
frag req block:	(nil) / (nil)
send rc	0
act keep block	0 / 0
act req block:	-1 / -1
act req block:	(nil) / (nil)
act request	NO_REQUEST / SAP_SEND
act sync req	0 / 0
act is terminal output	0
act send ping	0 / 0
uid	-1 / 4579
mode	0 / 0
local lu	cloud8 b
remote lu	bocasapides5
local tp	dsidocsv
remote tp	sapgw00
user	root
client info	1
version	6 / 6
hostaddr	9.22.116.116 / 9.22.117.16

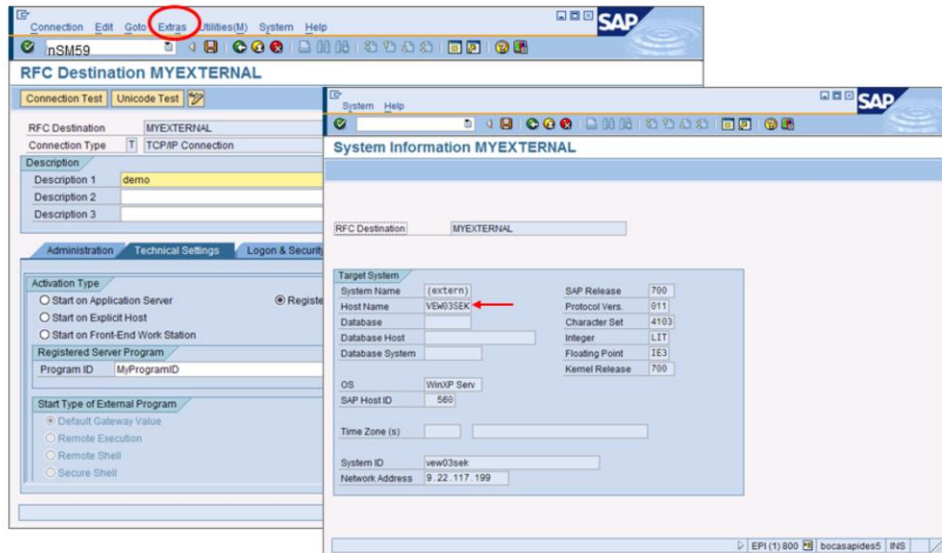
Next, verify the IDoc server is listening on the gateway using the SMGW transaction code. SMGW is a monitoring gateway tool. From 'Goto' found on the menu as displayed on this slide in the red oval, select 'Logged on Clients' to view all the SAP clients connected to the gateway.

The IDoc server connects as a client with a Local Transaction Program named 'dsidocsv'. The DataStage Designer client is connected with a 'DSDesign' name. Review status and connection details. To review client connection details, highlight the client and from Goto, select 'Active connections' and then 'Details'.



## DataStage system information in RFC destination

- Transaction code /nSM59
- Validate HostName = DataStage server using RFC destination



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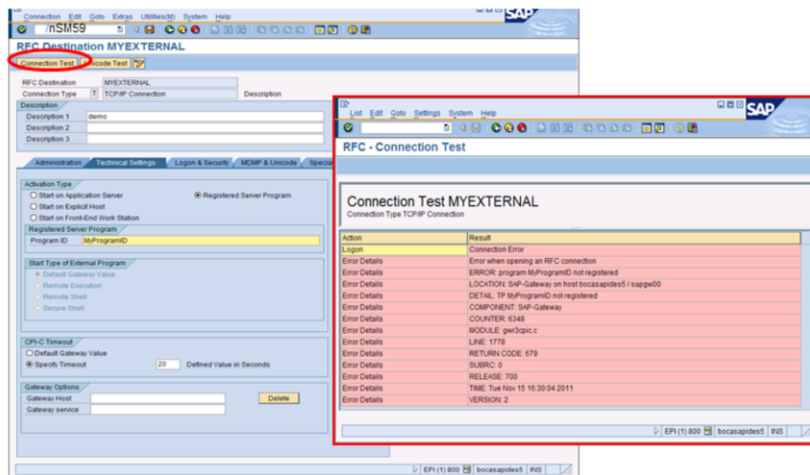
SAP R/3 Pack: Troubleshooting IDoc extract processing

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Once you know that there is in fact an IDoc server listening, the next thing to check is to find out which DataStage server is using the RFC destination or where the IDoc server originates. To do this, use the SM59 transaction code. Click Extras as displayed on this slide in the red oval. Select 'System Information' and then 'Target System'. Validate the HostName value is the DataStage server that is using this RFC destination.

## Testing RFC destination (1 of 2)

- Failed test connection => Investigate on DataStage side
  - Verify program ID in job and SM59 match
  - Ping SAP host
  - Restart IDoc Manager and test again
- Verify gateway in RFC destination = Gateway the IDoc server is listening on



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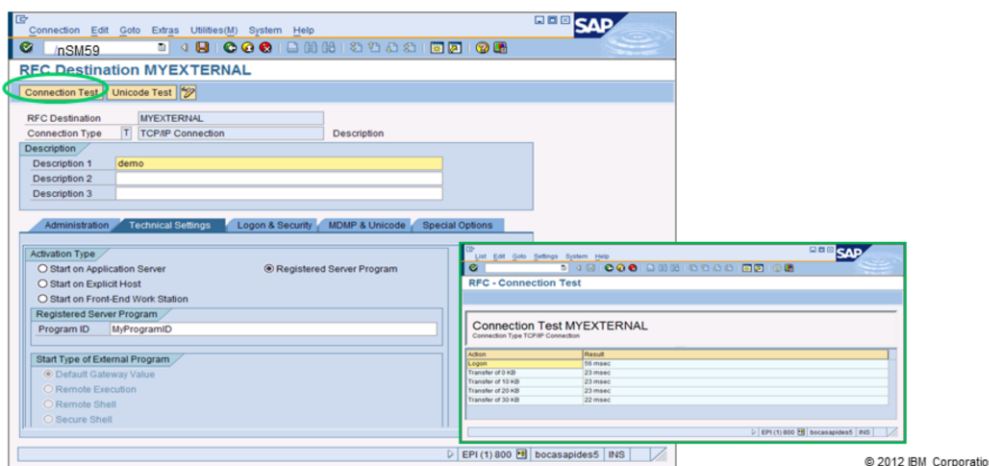
Transaction SM59 can also be used to test the RFC destination by clicking the 'Connection Test' button, as displayed on this slide in the red oval. To check that the IDoc server is listening on the correct RFC destination, stop the IDoc server, navigate to the RFC destination and perform a connection test. The connection test should fail. Start the IDoc server again and do the connection test again. This time it should be successful.

If the connection test fails, investigate the issue on the DataStage server side. First, verify the program ID in the job and in the SM59 match. Refer to slide six to locate the program ID in the job. Then, ping the SAP host to eliminate networking issues. Make sure the IDoc Manager is running. Restart IDoc Manager and try the connection test again. Refer to slide 12 for details on how to restart an IDoc Manager.

It is important to note that SAP Applications host system runs a RFC gateway server and typically that is a default gateway. The gateway host is specified as the RFC destination parameter. Verify the gateway in RFC destination and the gateway the IDoc server is listening on, match.

## Testing RFC destination (2 of 2)

- Program ID must be unique
  - No two IDoc servers can share same program ID
    - Number one cause of errors
- Job hang or abort
  - Run RFC connection test in /nSM59
    - Successful connection test means possible IDoc servers sharing program ID



It is important to understand that the program ID needs to be unique; no two IDoc servers can share the same program ID. This is the single most often cause of errors.

The IDoc Manager has many IDoc servers running at the same time. Each IDoc server is bound with its own program ID. When communication IDoc package is collected and ready to be transferred by the SAP Gateway to the DS server, an IDoc server will check if the program ID it is listening with matches the program ID carried by the IDoc packet. If there is no match, there is no transfer. But, if two IDoc listeners have the same ID, the data is accepted, the data's integrity will be compromised and the data will be lost.

When a job is hanging or aborting with a timeout issue, start investigating by running the RFC connection test in SM59. If the connection test succeeds but the job is hanging or aborting, there might be another IDoc server sharing the program ID. To verify, stop the IDoc listener and test the connection in SM59 again. The RFC connection test should fail. If it does not, another IDoc server is listening with the same program ID.

To confirm that there is no other listener, when the IDoc server is stopped, the sm59 test connection should fail. If the connection test succeeds and there is no other IDoc server listening with the same program ID but a job is hanging or aborting, verify if IDocs have reached the gateway by using the troubleshooting details described on slides 17, 23, 24, and 25.

If the IDocs have reached the gateway, verify if the IDoc types are matching and a .ido file exists for the IDoc type using the troubleshooting technique described on slide 9. For connection issues, see slides 10 through 14.

NOTE: For IDoc extract processing details, see the SAP R/3 Pack: IDoc extract processing IBM Education Assistant module.

For IDoc extract configuration details on the SAP side, see the SAP R/3 Pack: ALE Partner Profile configuration for IDoc extract processing IBM Education Assistant module.

## References

- Additional technical materials
  - Environment variable reference
    - <https://www-304.ibm.com/support/docview.wss?uid=swg21424455>
- Known problems
  - <https://www-304.ibm.com/support/docview.wss?uid=swg21395447>
- Technotes and troubleshooting documentation

[http://www-01.ibm.com/support/search.wss?word=aw&wfield=sap&nw=download&apar=include&tc=SSZJPZ&tc1=SSC2NNZ&tc1=SSCMKC3&atrn=&atrv=&atrn1=&atrv1=&atrwcs=on&lang=all&dr=all&r=40&ibm-submit=Submit&cc=us&from=advs&loc=en\\_US&rs=14&cs=utf-8](http://www-01.ibm.com/support/search.wss?word=aw&wfield=sap&nw=download&apar=include&tc=SSZJPZ&tc1=SSC2NNZ&tc1=SSCMKC3&atrn=&atrv=&atrn1=&atrv1=&atrwcs=on&lang=all&dr=all&r=40&ibm-submit=Submit&cc=us&from=advs&loc=en_US&rs=14&cs=utf-8)

This slide displays links to additional information.

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