A Step-by-Step Guide on IDoc-ALE between Two SAP Servers

Applies to:
All modules of SAP where data need to transfer from one SAP System to another SAP System using ALE IDoc Methodology. For more information, visit the ABAP homepage.

Summary
This Document explains step by step procedure to transfer the Material which was created in a SAP server to another SAP server using IDoc Methodology.

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TCodes used in this Procedure

When we are working with IDocs we need to know following Tcodes.

- SALE    - This is used to Customizing IDoc Interface/Application Link Enabling (ALE)
- SM59    - Used to configure RFC connections
- WE21    - Create/Change Ports used in IDoc Processing
- WE20    - Used to define the Partner Profiles
- BD64    - Used to define Distribution Model for IDoc Processing
- BD10    - Used to send Materials
- BD87    - Used to check the status of IDoc

Major Steps Involved in IDoc Processing

- Creation of Logical Systems
- Assignment of logical System to processing Client
- Creation of RFC Destinations
- Checking the RFC Destinations
- Creation of tRFC Port
- Creation of Partner Profiles
- Creation of Distribution Model
- Sending Materials
- Checking the Success/Errors

In the following documents I am using 2 SAP application servers i.e. IDES with 800 client and RD2 with client 120 servers. My plan is the material which is created in IDES System should be moved to RD2 server using IDoc process. This is a combination of Technical and basis so make sure that you have enough permission to the above Tcodes.
Step 1: Creation of Logical System in IDES System for Client 800

To create Logical System we need use SALE tCode as showing in following figure

Display IMG

When you are creating Logical System that is cross client so confirm the alert message shown while creation.

The Next screen shows list of Logical Systems if you have in your SAP servers.

To create your own logical System click on New Entries button in the same screen you will display the following screen where you can enter the details for new logical System
While saving the Logical System SAP will prompt for Work Bench Request as shown below to create click on new button as shown in below.

Enter the Short description and save the screen, as a result it creates a new transport request and new number will be populated in Request text box. This transport number will be used for further process.

Now need to assign the client to the newly created logical System for this you need to go back to SALE tcode and click on “Assign Logical System to Client” as shown below screen.
In the next screen you will display the list of logical System assigned to different clients. If you want to do new assignment click on “New Entries” button and enter the following details.

**New Entries: Details of Added Entries**

<table>
<thead>
<tr>
<th>Client</th>
<th>308 IDoc Demo By Uma</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>Hyderabad</td>
</tr>
<tr>
<td>Logical system</td>
<td>LSIDES</td>
</tr>
<tr>
<td>Sd currency</td>
<td>USD</td>
</tr>
<tr>
<td>Client role</td>
<td>Demo</td>
</tr>
</tbody>
</table>

**Changes and Transports for Client-Specific Objects**

- Changes without automatic recording
- Automatic recording of changes
- No changes allowed
- Changes w/o automatic recording, no transports allowed

**Cross-Client Object Changes**

- Changes to Repository and cross-client Customizing allowed

**Protection: Client Copyer and Comparison Tool**

- Protection level 0: No restriction

**CATT and eCATT Restrictions**

- eCATT and CATT Not Allowed
If you are changing any existing assignment then you need to use tool for conversion of Logical Systems names using BDLS as shown below. In my case I changed Old Logical System to new Logical System for this demo purpose for 800 client. So I am executing this as following screen

**Tool: Conversion of Logical System Names**

<table>
<thead>
<tr>
<th>Conversion of logical system names</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Logical System Name: 088CLINT002</td>
</tr>
</tbody>
</table>

- Conversion of Client-Dependent and Client-Independent Tables (e.g. Renaming Original System or Following Database Copy)
- Conversion of Client-Dependent Tables (e.g. Following a Client Copy)

- [ ] Test run
- [ ] Check Existence of New Names in Tables

Number of Entries per Commit: 100,000

Tables to be Converted: [ ] to [ ]
Step 2: Creation of Logical System in RD2 System for Client 120

We need to create a logical System in RD2 server by following the same points which are used to create logical System in IDES. The logical System name is “RD2”

The following screen shot explains the same

Step 3: Creation of Another Logical System in IDES System

We need to create another Logical System in IDES with same name of logical System which was created in another server i.e. RD2 server. As we created logical System name as “RD2” in RD2 server, so I am going to create a logical System with a name of “RD2” in IDES System.

There is no need for us to assign client for this Logical System. We are creating this logical System in IDES because we are moving data (Materials) from IDES server to RD2 System. If you want move the data from RD2 to IDES then you need create logical System with a name of LSIDES in RD2 server.

The below screen shot explains the same
Step 4: Creation of RFC Destination in IDES System

We need to create RFC destination in IDES System. This destination is for RD2 System for client 120.

This can be done by the following steps:

In SM59 you need to create New ABAP connection using create Icon shown the following screen:

![Configuration of RFC Connections](image)

Select ABAP Connections and click on new button, and you need to fill details in the following screen shown in the figures:

![RFC Destination RD2](image)
After entering the required details and save RFC destination. After saving use "Connection Test" button to test the connection from IDES System to RD2. You need to get the success message to move further. Success message is shown as follows.

Note: If you get any errors at this point you need to check physical connection from IDES System to RD2 server. Because if you are connecting to SAP servers using VPN then VPN details are need to have in IDES application server i.e. where IDES System installed. If you could not figure out the error take help of basis people for the same.
Step 5: Creation of tRFC Port in IDES System

We need to a Transactional RFC using WE21 TCode.

**Ports in IDoc processing**

When you click on New button after selecting Transactional RFC you will be prompted for option to create Port name option. You can create you own name port or SAP assigns new port number if you choose Generate Port Name. In my case I am leaving SAP to generate Port number to make life easy 😊

After entering the above details, Save the Port details. I am skipping Transport request details. If SAP prompts for Work bench request you can provide the same request which was create earlier. If SAP is prompting for Customizing request create new transport request use the same customizing transport for further use.

As I am creating this document after I created all the details it is not asking for me for transport request.
Step 6: Creation of Partner Profile in IDES System

We need to create Partner Profile for the Logical System which we created. This can be done by using WE20 TCode.

Select the “Partner Type LS” and click on “New” icon to create New Partner profile. In the next screen you need to fill the require details as shown in the above figure.

As the Materials are moving from IDES System to RD2 we need to enter the Message type related to Materials in Outbound Parameter list as shown in the above figure.

To add Outbound parameter you need to click on the Create Outbound Parameter Icon as shown in the below figure.
In the next screen you need to enter the Message Type, Receiving Port and Base Type details as shown in the figure.

### Partner profiles: Outbound parameters

![Partner profiles: Outbound parameters](image)

**Message Type:** MATNR
**Logical System:** RD2
**Material master**

**Output Options:**
- **Message Type:** MATNR
- **Logical System:** RD2
- **Material master**

**To make the IDocs transfer immediately as soon as it is created**

**Basic type of Message Type**

### Step 7: Creation of Distribution Model in IDES System

We need to create Distribution model in IDES System using BD64 tCode. You need click on “Create New Model” button after changing to Change Mode as shown in figure.

![Change Distribution Model](image)

**Distribution Model**

<table>
<thead>
<tr>
<th>Distribution Model</th>
<th>Description/technical name</th>
<th>Business object</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDM_010</td>
<td>MDM_010, No short text exits</td>
<td></td>
</tr>
<tr>
<td>ODS_BUYER</td>
<td>ODS_BUYER, No short text exits</td>
<td></td>
</tr>
<tr>
<td>PPS</td>
<td>PPS, No short text exits</td>
<td></td>
</tr>
<tr>
<td>SOCE310_001</td>
<td>SOCE310_001, No short text exits</td>
<td></td>
</tr>
<tr>
<td>SUBSYSTEMS</td>
<td>SUBSYSTEMS, No short text exits</td>
<td></td>
</tr>
<tr>
<td>WMS</td>
<td>WMS, No short text exits</td>
<td></td>
</tr>
<tr>
<td>ZEB</td>
<td>ZEB, No short text exits</td>
<td></td>
</tr>
<tr>
<td>Auto ID 2.1 Model</td>
<td>AUTO ID 2.1</td>
<td></td>
</tr>
<tr>
<td>Auto ID Model</td>
<td>AUTO ID</td>
<td></td>
</tr>
<tr>
<td>Auto ID Node 2.1 N81</td>
<td>AUTO ID N81</td>
<td></td>
</tr>
<tr>
<td>B2B 2.06 to IDES 4.6B</td>
<td>B2B_IDE</td>
<td></td>
</tr>
<tr>
<td>CDIX_Demos</td>
<td>CDIX_Demos</td>
<td></td>
</tr>
<tr>
<td>DE3 - KABA BLENZING</td>
<td>DE3 - KABA BLENZING</td>
<td></td>
</tr>
</tbody>
</table>

Once the Model is created we need to Add Message Type to the model to add this you need to select the newly created model and then click on “Add Message Type” button as shown in the figure.
To add Message Type you need to enter the following details
1. Sender - Logical System Name from the data is transferring
2. Received - Logical System Name to which server data is transferring in our case it is “RD2” which was created in IDES System.
3. Message Type – Message type for Materials is MATMAS

After entering the above details and confirm the alert box you can see the following Distribution model.

**Step 8: Creation of Logical System in RD2 System**

We need to create another logical system in RD server. This logical System name should equal to the logical System what we created in IDES System (Source System) “LSIDES”.

To create logical System we need to follow the same points which were explained in step1.

**Change View "Logical Systems": Overview**

Once the Logical System is created in RD2 there is no need to assign the client for this Logical System.
Step 9: Creation of Partner Profile in RD2 System

We need to create Partner profile in RD2 System using WE20.

After creation of Partner profile we need add inbound parameter to the Partner Profile which was newly created as shown figure.

Partner profiles: Inbound parameters

After saving the Inbound Parameters you can see Partner Profile Inbound Parameter list as shown below.
Partner profiles

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Partner No. | LSIDES | Logical System for IDES
---|---|---
Path Type | LS | Logical system

Post processing: permitted agent | Classification

Ty. | US | User
Agent | INDIA | India India
Land. | EN | English

Outbound permits:

<table>
<thead>
<tr>
<th>Partner Role</th>
<th>Message Type</th>
<th>Message ID</th>
<th>Message Internal Name</th>
<th>Test</th>
</tr>
</thead>
</table>

Inbound permits:

<table>
<thead>
<tr>
<th>Partner Role</th>
<th>Message Type</th>
<th>Message ID</th>
<th>Message Internal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATMAS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Step 10: Demonstration of sending Material

Create a simple material in DEV System as shown in figure. I created simple material with Industry Sector as “Retail” and Material Type as “Finished Product” and I chosen Basic Data 1 and Basic Data 2 views while creating.

Note: make sure the material industry sector and Material type is also available in RD2 System.

After creating material you need to send this material using BD10 tCode as shown in the figure.
After entering above details you can execute. You need to get the following messages.

Now you need to know the IDoc is processed or not. All the IDoc status will be know using BD87 tCode as shown in figure
Enter the appropriate details and execute the same. These results will be displayed in the next screen as shown in the figure.

### Status Monitor for ALE Messages

<table>
<thead>
<tr>
<th>Docs</th>
<th>IDoc Status</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDoc selection</td>
<td>Time created is in the range 12:50:40 to 13:00:50</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Changed on is in the range 01/04/2011 to 01/04/2011</td>
<td>1</td>
</tr>
<tr>
<td>Logical System for IDES</td>
<td>5</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td>Data passed to IDoc OK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDoc in outbound processing</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>EM083:IDoc sent to SAP system or external program</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>IDoc in inbound processing</td>
<td>4</td>
</tr>
</tbody>
</table>

The above status tells us that IDoc was transmitted from DEV System. Now we need to check in RD2 System for Inbound IDoc status to confirm that IDoc was received successfully in RD2 System.

### Status Monitor for ALE Messages

<table>
<thead>
<tr>
<th>Docs</th>
<th>IDoc Status</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDoc selection</td>
<td>Time created is in the range 02:20:09 to 03:00:09</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Changed on is in the range 2011/10/01 to 2011/10/04</td>
<td>1</td>
</tr>
<tr>
<td>IDoc Development System</td>
<td>1</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Application document posted</td>
<td></td>
</tr>
</tbody>
</table>

Now the check the Material "UMA01042010_1" is present in RD2 System or not using MM03.
Note: While working you may get various error messages while processing IDocs few of them are shown below

In Outbound IDoc

Status Monitor for ALE Messages

This error rose because physical connection was not there while transferring materials

This error rose in Inbound processing as material Industry sector is not available in target System ( RD2 )
Related Content


Inside SDN

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