

# Cookbook: Data Exchange between Student Lifecycle Management and CRM



## Applies to:

SAP CRM 2007 and SAP Student Lifecycle Management EHP 4.

For more information, visit the [Business Process Expert homepage](#).

## Summary

This document gives an overview on data exchange between Business Partners in CRM and SLCM and describes the basic customizing settings that are required for it.

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## 1. Glossary

### **Student Record Holder** (*Besitzer eines Studentenstammsatzes*)

Student Record Holder is a Business Partner role which is defined in CRM.

The Business Partner with this role is used for the data exchange with the student Business Partner in the Student Lifecycle Management (SLCM) system.

A role category with the same name has to be created too. This role category contains the role as the standard role.

## 2. Introduction

This document gives an overview on data exchange between Business Partner in CRM and SLCM.

SAP CRM is completely detached from a SAP ERP backend system and can be used as a stand-alone solution. Basically this paradigm shift has changed along with the data exchange scenarios, since SAP CRM assumes the role of central distribution through the CRM server, which informs the connected systems (as long as they have subscribed to them) about changes in other systems. CRM Middleware controls this distribution process.

Data exchange between Business Partner (Student Record Holder) in CRM and a SLCM student Business Partner as a rule occurs according to a fixed procedure. Starting with the case that the SLCM system has already been used before the provision of the CRM system, an initial data exchange is carried out from the SLCM system to the CRM system (Initial Load). To provide that this initial download can run correctly, the CRM system requires certain settings from the ERP system. Customizing objects must first be downloaded for the business objects that are to be exchanged through the so-called customizing load. After a successful customizing load and initial data exchange, both systems can then continuously exchange data with each other (Delta Load).

This document introduces all necessary steps for setting up a data exchange scenario for student Business Partner. For more detailed information, please refer to the "Setup and Load Guide (SLG)", which you can find on the SAP Service Marketplace. You can also find out how the customizing load is done within the SLG document. We only introduce a manual check in this document, because our scenario requires few customizing object synchronization.

### 2.1 Data Exchange Scenario

The Business Partner data for student and general Business Partner should be able to be transferred between CRM and SLCM.

#### 2.1.1 Student

In SLCM, the Business Partner exists as a student Business Partner and contains the role 'Contract Partner' and 'Student' and is related to student with mapping table CMACBPST.

In CRM, the role 'Student Record Holder' and a role category with the same key has been created which represent an applicant or a student. Customers can decide what kind of data 'Student Record Holder' should include.

If a student is created in SLCM, the student Business Partner will be automatically created in SLCM and transferred to the CRM system. It is stored in the CRM system as 'Student Record Holder'. If a Business Partner is created in CRM as 'Student Record Holder', it will be transferred to the SLCM system, and stored as a student.

Any changes to the Business Partner will be transferred to the partner system.

**Note:** If the Business Partner is deleted in SLCM, the relevant Business Partner in CRM will not be deleted from the partner system. For example, if the student is deleted in the SLCM system, the relevant Business Partner still exists in CRM.

### 2.1.2 Business Partner Created in SLCM (not as student)

In SLCM, a Business Partner can be created, but not as a student, but for example, as a general BP or related person. The standard Business Partner data transfer functionality is used in this scenario. To enable this standard scenario, the same role must exist in both systems.

Any changes to the Business Partner will be transferred to the partner system.

**Note:** If the Business Partner is deleted in SLCM, the relevant Business Partner in CRM will not be deleted from the partner system.

## 2.2 Initial Load

The initial load downloads or uploads existing student Business Partners with batch mode. It is a mandatory step for the data exchange scenario:

- The student is initially loaded from SLCM into the CRM system if the SLCM system has already been used before the data exchange scenario is setup.
- The 'Student Record Holder' is initially loaded from the CRM system to SLCM if the CRM system has already been used before the data exchange scenario is setup.
- Initial load also initializes delta load. The delta load won't work without successful initial load.

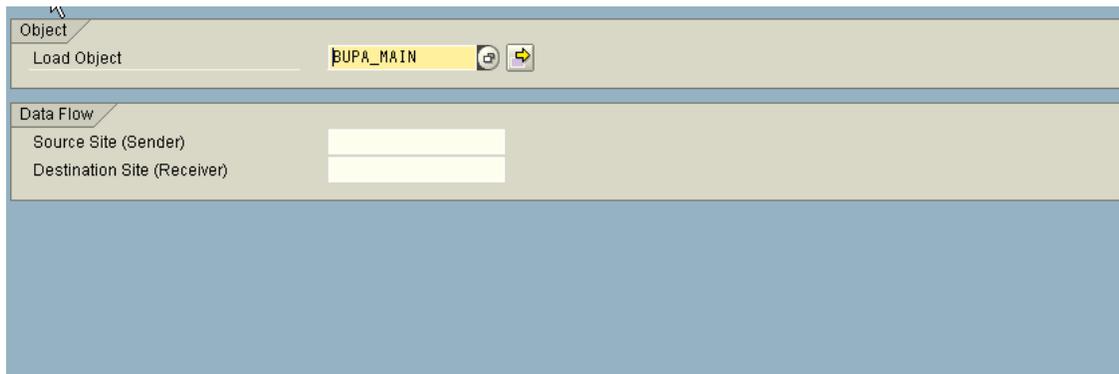
As preparation for the initial load, all necessary customizing must be finished. Please refer to chapter "Customizing Activities".

Before the initial load, object BUPA\_MAIN must be maintained in that way, that the filter can be set for both systems (refer to section "Set filter for delta load"). With that, only those Business Partners with special attributes will be transferred.

Transaction R3AS does the initial load. Or you can access via SAP menu:

SAP Menu -> Architecture and Technology -> Middleware -> Data Exchange -> Initial Load -> Start

In the selection screen, type BUPA\_MAIN in the 'Load Object' field. The data flow section determines the direction of initial load. For example, if you want to load data from SLCM to CRM, the site for the SLCM system is specified as the source site, and the site for CRM system is specified as the destination site.



The screenshot shows the SAP selection screen for the initial load. It is divided into two main sections: 'Object' and 'Data Flow'. In the 'Object' section, the 'Load Object' field is populated with 'BUPA\_MAIN'. In the 'Data Flow' section, there are two empty input fields: 'Source Site (Sender)' and 'Destination Site (Receiver)'. The background of the screenshot is a solid blue color.

You can use F4 to select a value from an existing list for source site and destination site. The list is determined by the sites you defined with Administration Console (Transaction SMOEAC).

After the initial load, you can use transaction R3AM1 to monitor the status of the initial load and call transaction SMW01 to analyze the data exchange if necessary.

Please refer to chapter "Data Exchange Analysis" for monitoring and analysis.

Initial load is performed only in the CRM system, which means in CRM you can load data from the Student Lifecycle Management system into CRM or transfer data from CRM to SLCM.

## 2.3 Delta Load

After the initial load, delta load is activated for delta exchange between SLCM and CRM.

The delta load doesn't need manual interference. If the student is created or changed in the SLCM system, the changes will automatically be transferred to the CRM system; and if a 'Student Record Holder' is created or changed in CRM, it'll be transferred to SLCM and stored as a student Business Partner.

This delta load process is only possible after initial load has been successfully finished.

To reduce or control the Business Partners to be transferred from SLCM to CRM, you can setup a filter in the CRM system. Please refer to section "Set filter for data load".

**Note:** For delta load, the filter is only valid for the direction from SLCM to the CRM system. For the delta load from CRM to SLCM, the filter does not take effect.

As preparation for delta load, all necessary customizing must be finished. Please refer to chapter "Customizing Activities".

Please refer chapter "Data Exchange Analysis" for monitoring and analysis.

## 2.4 Use Cases

Operation	Result of Data Transfer	Status
<b>CRM:</b> A Business Partner with role 'Student Record Holder' is created	<b>SLCM:</b> A student is created with the same data. No account data at the moment	Y
<b>SLCM:</b> Add new role (Not 'Student Record Holder') to student Business Partner in BP transaction	<b>CRM:</b> The role is transferred to CRM according to the standard logic	Y
<b>CRM:</b> Add role 'Student Record Holder' to an existing Business Partner.	<b>SLCM:</b> The Business Partner should have been saved in SLCM before, now it's converted as a student.	Y
<b>CRM:</b> Change personal data and address data for the existing Business Partner	<b>SLCM:</b> The changes will be transferred to SLCM accordingly	Y
<b>SLCM:</b> Create a new student in Student Master Data Maintenance transaction	<b>CRM:</b> A new Business Partner with role 'Student Record Holder' is created with the same personal data and address, etc	Y
<b>SLCM:</b> Change an existing student in Student Master Data Maintenance transactions or BP transaction	<b>CRM:</b> The changes are copied to the Business Partner in CRM	Y
<b>SLCM:</b> Create a new Business Partner (not a student Business Partner)	<b>CRM:</b> The Business Partner is transferred to CRM and stored as a Business Partner with the same role	Y
<b>SLCM:</b> Change the Business Partner (not a student Business Partner)	<b>CRM:</b> The changes is transferred to CRM	Y
<b>SLCM:</b> Call 'Create for Business Partner' from Student File to create student from an existing Business Partner (not a student Business Partner)	<b>CRM:</b> New role 'Student Record Holder' is added to the Business Partner	Y
<b>SLCM:</b> Student is deleted	<b>CRM:</b> the relevant Business Partner still exists	Y
Initial Load from SLCM to CRM		Y
Initial Load from CRM to SLCM		Y

## 3. General Comments for This Cookbook

### 3.1 Naming Convention

In this cookbook we use the two systems CRM and SLCM. In order to make the examples in this document more general, we use the following conventions:

- CRM system: The RFC destination for CRM system in this document is called CRMCLNT800; you can adjust it during setting up a real data transfer scenario. For example, the system is named DTP with client 100, then you can create RFC destination as DTPCLNT100.
- SLCM system: We use ERPCLNT800 to represent the Student Lifecycle Management system in this document. You can adjust it for your data transfer scenario. For example, if the system is named DTR with client 100, you can use RFC destination as DTRCLNT100.
- For the customizing of number range, concrete numbers are given as an example for each number range in this document. But they are used just to give you the clues on how to set up number ranges. Please determine your real number ranges for your systems.

### 3.2 Useful Transactions

#### **CRM:**

- SMOEAC – Administration console
- SMW01 – Display Bdoc messages
- SMW02A – BDoc message error analysis – sum of errors
- SMW02 – Display Bdoc message summary
- R3AC1 – Business Objects (Define filter for data load)
- R3AC3 – Define customizing objects (if you want to synchronize customizing with R3AS)
- R3AS – Initial load
- R3AM1 – Monitor initial load status

#### **Both systems:**

- SMQ1 – QRFC Monitor (Outbound Queue)
- SMQ2 – QRFC Monitor (Inbound Queue)
- SM59, DB97 – Define logic system and RFC destination

## 4. Activities for CRM Business Partner Role

You need a new Business Partner role in the CRM system to be used as 'Student Record Holder'. It has to be defined manually. Additionally a role category with the same technical key has to be defined. This role category has to contain the role as the standard role. Of course, it's also possible that the existing Business Partner role meets your requirement; in this case, you can use this role.

In order to make SLCM know which Business Partner role is used during the data exchange, customizing must be done in SLCM. Please access the following IMG activity in the SLCM system and specify this default Business Partner role.

IMG -> Student Lifecycle Management -> Master Data in Student Lifecycle Management -> Students -> Students as Business Partners -> Data Exchange with the CRM System-> Define Standard Business Partner Role for CRM System

The next section shows the basic procedure on how the Business Partner role is created.

**Note:** If you want to include your specific data into this Business Partner, you have to do some own development. One possible alternative is the CRM tool Easy Enhancement Workbench. Please refer to CRM guidelines on this topic.

In general, it's sufficient to use existing assignment blocks and fields for the role 'Student Record Holder'.

### 4.1 Create CRM Business Partner Role 'Student Record Holder'

#### 4.1.1 Definition of Business Partner Role in CRM

You have to define Business Partner role 'Student Record Holder' in CRM.

The role is defined in customizing. You have to access the following IMG activity:

IMG -> Cross-Application Components -> SAP Business Partner -> Business Partner -> Basic Settings -> Business Partner Roles -> Define BP Roles

The screenshot displays the SAP IMG 'Define BP Roles' transaction. The main window is titled 'Change View "BP Roles": Details'. The left pane shows the 'Dialog Structure' with 'BP Roles' selected. The main area is divided into several sections:

- General Data:** Title: Student Record Holder, Description: Student Record Holder, Hide:
- BP Role Category:** BP Role Cat.: PSCM10, Student Record Holder, Std Assignment BP Role -> BP Role Cat.:
- Additional BP Roles for BP Role Category PSCM10:** A table with columns BP Role, Title, Standard, and a button. The first row shows PSCMIN, Inquirer, and a radio button.
- Interface Control:** BP View: 000000, Business Partner (Gen.), Position:

The status bar at the bottom indicates 'Data was saved'.

- Define Role Category
  - Specify the description and the name as Student Record Holder.
- Define BP Role
  - Shown in the screenshot, you have to
    - specify the title and description as 'Student Record Holder'.
    - specify the BP Role Category as the one you defined in the last step.
    - assign the screen sequence to this role 'Student Record Holder'

If extensions on the BP and the BP Role are required please refer to the following notes. These extensions are not done via BDT but with the CRM Easy Enhancement Workbench and the configuration tools of the CRM Web Client UI.

- 1069791 CRM WebClient UI for EEW enhancements
- 999092 CRM WebClient: Field & screen modification

Additionally note 1097651 How to use the Account Life Cycle could be of interest.

## 5. Customizing Activities

### 5.1 Number Ranges

The reason why the number range issue is described in a separate section is that the customizing for number range and Business Partner grouping is very critical. It must follow a special rule to make sure that the Business Partner number in both systems is consistent.

The customizing for number range (BP) and Business Partner grouping must be done in both systems.

**Note:** Some uppercase characters will follow the 'Number Range' which is described here. This is used to identify the number range object and system, so that it's clear to you which number range it refers to:

- BP/The number range for Business Partner in both systems.
- BP\_ERP/The number range for Business Partner in the SLCM system.
- BP\_CRM/The number range for Business Partner in CRM.
- STN/The number range for student number.

#### 5.1.1 Basic Principle

Business Partners shall have the same numbers in both systems. To ensure the consistency between two systems, the customizing for Business Partner grouping and number range (BP) must follow a special rule.

For general Business Partner, any number range (BP) being internal in one system has to be external in the other system and vice versa. The same groupings must exist in both systems with the same name and refer to the same number ranges.

For example, in CRM, the internal number range (BP\_CRM) is 01 and the external number range (BP\_CRM) is 02. There must be two relevant number ranges in SLCM: 01 – external number range (BP\_ERP), and 02 – internal number range (BP\_ERP). The range must be the same in both systems for 01 and 02.

In the source system (where you create your Business Partners) it makes no difference if you use internal or external number assignment. However, in the target system, you must use external number assignment.

If you use external number assignment in the source system, the number ranges (BP) in both systems have to be identical.

As SLCM is using BADI PSCM\_PARTNER to changing the numbering logic for student Business Partner and student number, a different rule is used comparing to this basic principle. The following sections introduce how the number range can be customized for Student Lifecycle Management.

### 5.1.2 IMG Activities

- Set number range for Business Partner in **both CRM and SLCM**.  
Cross-Application Components -> SAP Business Partner -> Business Partner -> Basic Settings -> Number Ranges and Groupings -> Define Number Ranges
- Set BP grouping in CRM and SLCM  
Cross-Application Components -> SAP Business Partner -> Business Partner -> Basic Settings -> Number Ranges and Groupings -> Define Groupings and Assign Number Ranges
- Set number range for student number in SLCM  
Student Lifecycle Management -> Student Lifecycle Management Master Data -> Students -> Student Numbers and Object IDs -> Standard Functions for Assignment of Student Numbers -> Define Number Range Intervals for Student Numbers
- Specify default number range for student number in SLCM  
Student Lifecycle Management -> Student Lifecycle Management Master Data -> Students -> Student Numbers and Object IDs -> Standard Functions for Assignment of Student Numbers -> Define Internal and External Number Ranges
- Specify default number range for Student Number Determined from BP Number in SLCM  
Student Lifecycle Management -> Student Lifecycle Management Master Data -> Students -> Student Numbers and Object IDs -> Standard Functions for Assignment of Student Numbers -> Define Internal and External Number Ranges
- Specify default BP grouping for student in SLCM  
Student Lifecycle Management -> Student Lifecycle Management Master Data -> Students -> Student as Business Partners -> The Business Partner in Student Administration -> Define Standard Business Partner Grouping for Students
- Specify default BP grouping for related person in SLCM  
Student Lifecycle Management -> Student Lifecycle Management Master Data -> Students -> Related Persons -> Define Standard Business Partner Grouping for Related Persons
- Implement BADI PSCM\_PARTNER to synchronize student number and Business Partner number in SLCM  
Student Lifecycle Management -> Student Lifecycle Management Master Data -> Students -> Student as Business Partners -> The Business Partner in Student Administration -> Student Business Partner Numbers -> BAdI: Business Partner in Student Lifecycle Management

### 5.1.3 Number Range Settings

Data exchange uses Business Partner grouping to identify the number range (BP), so both systems must have two identical Business Partner groupings. One is used for data exchange from CRM to SLCM and the other for data exchange from SLCM to CRM. For example:

- SLCM uses Business Partner grouping 0001 to create student Business Partner, then CRM system must have 0001 for receiving student Business Partner.
- CRM system uses Business Partner grouping 0002 to create 'Student Record Holder', then the SLCM system must have 0002 to receive it and create a student.

In addition, number range (BP) assigned to Business Partner grouping should be the same for both systems.

**Note:** The BADI PSCM\_PARTNER for synchronizing student number and Business Partner number has been implemented. We will use a special rule. The section "Examples for Numbering Synchronization" provides examples.

Scenario	BADI Implemented	Number Range
<p>The 'Student Record Holder' is created in CRM and transferred to SLCM (CRM =&gt; SLCM)</p>	No	<ul style="list-style-type: none"> <li>Number range (BP_CRM) in CRM can be either internal or external. Internal is recommended.</li> <li>Number range (BP_ERP) in SLCM must be external. The range (low range ~ high range) must be able to cover the range for the number range(BP_CRM) in CRM</li> </ul>
	Yes	<ul style="list-style-type: none"> <li>Number range (BP_CRM) in CRM can be either internal or external. Internal is recommended.</li> <li>Number range (BP_ERP) in SLCM must be external. The range (low range ~ high range) must be able to cover the range for the number range(BP_CRM) in CRM</li> <li>The number range (STN) for student number will use the default value by customizing 'Specify default number range for Student Number Determined from BP Number in SLCM'. So additional number range (STN) for student number should be setup in SLCM.</li> </ul>
<p>The student BP is created in SLCM and transferred to CRM (SLCM =&gt; CRM)</p>	No	<ul style="list-style-type: none"> <li>The number range (BP_CRM) in CRM must be external.</li> <li>If number range(BP_ERP) in SLCM for student BP is external  The BP number is <i>[prefix + student object id]</i>. The range for the number range (BP_CRM) in CRM must be able to cover this range (BP_ERP), e.g. must start with the prefix.</li> <li>If number range (BP_ERP) in SLCM for student BP is internal  The range for the number range (BP_CRM) in CRM must be able to cover the range for this internal number range (BP_ERP).</li> </ul>
	Yes	<ul style="list-style-type: none"> <li>The number range (BP_CRM) in CRM must be external.</li> <li>If number range (BP_ERP) in SLCM for student BP is external  The range for the number range (BP_CRM) in CRM must be able to cover the number generated by the BADI PSCM_PARTNER. For example, it must be able to cover the range for student number if student BP number is assigned as the same as the student number.</li> <li>If number range (BP_ERP) in SLCM for student BP is internal  The range for the number range (BP_CRM) in CRM must be able to cover the range for this internal number range (BP_ERP).</li> </ul>

**Note:**

- In this table, BADI Implemented means that the customer implements the BADI PSCM\_PARTNER to synchronize student Business Partner number and student number.
- A description that range A is able to cover range B means: the low value for range A is lower or equal to the low value for range B; the high value for range A is greater or equal to the high value for range B.

### 5.1.4 Examples for Numbering Synchronization

Most customers are implementing the synchronization of student number and student Business Partner number. This is implemented by the BADI PSCM\_PARTNER as the following:

- When the student is created with Student Master Data Maintenance transaction or student BAPI, a student Business Partner is created automatically; the Business Partner number is assigned same as student number.
- The Business Partner already exists in SLCM, for example a related person. The customer calls 'Create for Business Partner' from Student File, Student Master Data Maintenance transactions or student BAPI to convert this existing Business Partner to a student. In this way, the student number is assigned as the same as the Business Partner number.
- The 'Student Record Holder' in CRM is created and is transferred to SLCM. As a result, a student is created accordingly in SLCM. This scenario is the same as 'Create for Business Partner': The student number is assigned by BADI PSCM\_PARTNER as the Business Partner number.

In order to keep the numbering synchronization functional and to enable that the SLCM and CRM data transfer works properly, the customizing for number range must be done in a special way. The following examples give some hints on how to solve the special cases.

**Note:** You might not use the numbers and names cited in the following examples, please refer to section "Naming Convention" for detail.

#### 5.1.4.1 Example for Number Range Customization

Number range 01 (BP\_ERP) is used in SLCM. As shown in the following table, number range 01 in SLCM should be set as external.

Number Range	Low	High	Int./Ext.
01	0100000000	0199999999	Ext.
02	0200000000	0259999999	Ext.
03	0260000000	0299999999	Int.

Accordingly, the BP grouping in SLCM should be:

BP Grouping	Short	Long Description	Number Range	Hide
0001	Ext.No.Assgnmnt	External Number Assignment	01	X
0002	Ext.No.Assgnmnt	External Number Assignment	02	X
0003	Non-Student BP	Non-Student BP	03	

- 0001/01: Used for creating student Business Partner in SLCM.
- 0002/02: Used for receiving student Business Partner from CRM.
- 0003/03: Used for creating Non-Student Business Partner in SLCM.

### 5.1.4.2 Additional information

See also the following two sections in OSS note 436843: 'Arrangement of the number assignment' and 'BP groupings in the CRM and in the OLTP'. The note is released for another industry solution but the general information on Business Partner groupings and number ranges may provide further background insights.

## 5.2 Customizing in SLCM

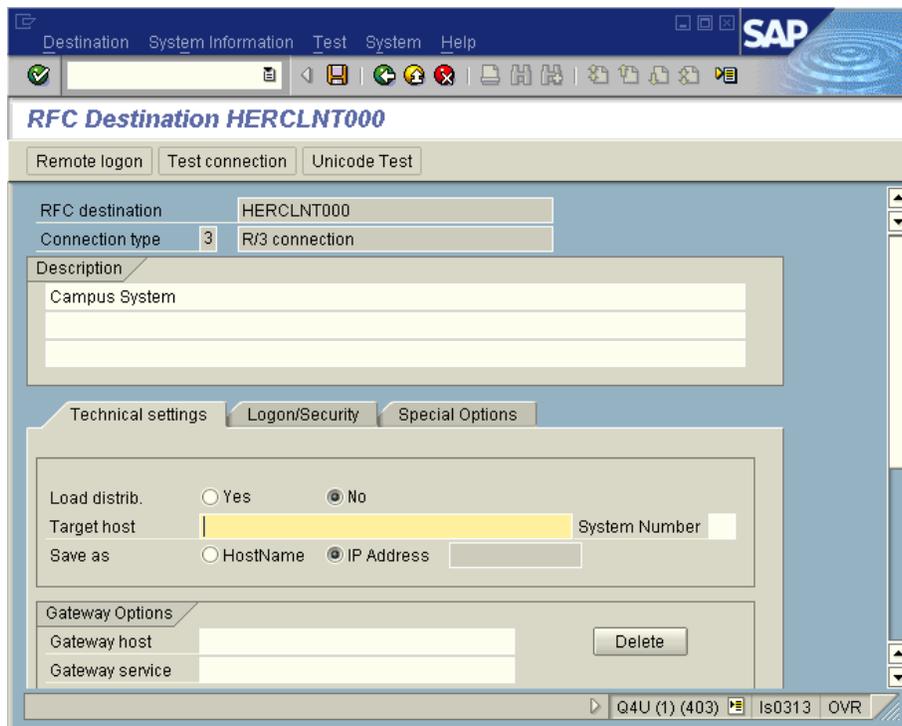
### 5.2.1 RFC Destination

The logical systems are setup in both systems with transaction SM59 so that they can be connected physically. Logical system and RFC destination are maintained as same as ALE.

In this document, we use CRMCLNT800 for the CRM system and ERPCLNT800 for the SLCM system. You should use other names when you setup real data transfer scenario, please refer "Naming Convention".

To create a RFC destination, execute transaction SM59 in SLCM (or CRM system):

- Click 'Create' to create a new RFC destination.
- Enter the name and description for RFC destination and specify the type as R/3 system.
- In tab page 'Technical Settings', specify the IP address for message server or application server.
- In tab page 'Logon/Security', specify the user account that is used for remote logon.
- Save the RFC destination.
- Click 'Remote logon' and 'Test connection' to test whether the setting is correct.



## 5.2.2 Customizing for Business Partner Attributes

In order to ensure the Business Partner can be transferred successfully, the customizing for Business Partner attributes must be exactly the same in both systems, including the description. For example:

- Form-of-address
- Field grouping attributes
- Business Partner type
- Marital status

The IMG activities are under:

- Cross-Application Components -> SAP Business Partner -> Basic Settings
- Cross-Application Components -> SAP Business Partner -> Natural Persons

## 5.2.3 CRMCONSUM

Use transaction SM30 to check or maintain CRMCONSUM for 'Possible Users of R/3 Adapter Functionality'.

User	Active	Description	Queue Prefix
CRM	X	CRM	R3A
MDM	X	MASTER DATA MANAGEMENT	MDM

SAP delivers these entries, so normally you don't have to change anything.

## 5.2.4 CRMRFPCPAR

Use transaction SM30 to maintain CRMRFPCPAR for 'Definitions for RFC Connections'. The following entry must be inserted into the table.

User	Object Name	Destination	Load Type	InQueue Flag	Send XML	all others
CRM	*	CRMCLNT800	*(All Load Types)	X	M (Mixed Mode (Optimized))	SPACE

**Note:** you can replace destination 'CRMCLTN800' with your specified name.

## 5.2.5 CRMPAROLTP

Use transaction SM30 to maintain CRMPAROLTP for 'CRM OLTP Parameters'.

Parameter Name	Parameter Name 2	Parameter Name 3	User	Parameter Value	Parameter Value2
CRM_EXIT_BEF_DATA_TRANSFER	CONDITIONS	CONDITIONS	CRM	CRS_PRICES_BEF_DATA_TRANSFER	
CRM_EXIT_CRM_GET_QNAME	BUPA_REL		CRM	COM_BUPA_GET_QNAME	
CRM_FILTERING_ACTIVE	BUPA	BUPA_MAIN	CRM	X	
CRM_FILTERING_ACTIVE	BUPA	BUPA_REL	CRM	X	
CRM_FILTERING_ACTIVE	BUPA	CUSTOMER_MAIN	CRM	X	

CRM_FILTERING_ACTIVE	BUPA	CUSTOMER_REL	CRM	X	
CRM_FILTERING_ACTIVE	CONDITIONS		CRM	X	
CRM_NO_BEFORE_IMAGES	SALESDOCUMENT		CRM	X	

SAP delivers these entries, so normally you don't have to change anything.

### 5.2.7 COM\_BUPA\_CALL\_FU

This is transaction that sets the program objects to be called during the data exchange. See note 864560 for information about changes affect upgrades to ERP 6.0.

Timepoint	Object	Position	Function name	Call
R3IN	BUAG	100000	COM_BUAG_MWX_MAP_MAIN_CENTRAL	X
R3IN	BUPA	1000	FMCA_BUPA_MWX_FILTER_MAIN	X
R3IN	BUPA	1100	HRIQ_BUPA_MWX_FILTER_MAIN	X
R3IN	BUPA	10000	COM_BUPA_MWX_FILTER_MAIN	X
R3IN	BUPA	50000	COM_BUPA_MWX_MAP_NUMRANGE	X
R3IN	BUPA	100000	COM_BUPA_MWX_MAP_MAIN_CENTRAL	X
R3IN	BUPA	110000	HRIQ_BUPA_MWX_MAP_STUDENT	X
R3IN	BUPR	10000	COM_BUPA_MWX_FILTER_REL	X
R3IN	BUPR	100000	COM_BUPA_MWX_MAP_REL_CENTRAL	X
R3OBI	BUPA	1000000	PI_BP_PROXY_BAPI_CUSTOMER	
R3OBI	BUPA	2000000	COM_BUPA_MAIN_BP_INBOUND	X
R3OBI	BUPR	1000000	PI_BP_PROXY_BAPI_CUSTOMER	
R3OBI	BUPR	2000000	COM_BUPA_REL_BP_INBOUND	X
R3OBO	BUPA	1000000	COM_BUPA_MWX_CREATE_MAIN	
R3OBO	BUPA	2000000	COM_BUPA_SEND_TO_SERVER	
R3OBO	BUPR	1000000	COM_BUPA_MWX_CREATE_REL	
R3OBO	BUPR	2000000	COM_BUPR_SEND_TO_SERVER	
R3OUT	BUAG	100000	COM_BUAG_MWX_BPS_FILL_CENTRAL	X
R3OUT	BUAG	101000	FMCA_BUAG_MWX_BPS_FILL_CENTRAL	X
R3OUT	BUPA	100000	COM_BUPA_MWX_BPS_FILL_CENTRAL	X
R3OUT	BUPA	101000	FMCA_BUPA_MWX_BPS_FILL_CENTRAL	X
R3OUT	BUPA	101100	HRIQ_BUPA_MWX_BPS_FILL_CENTRAL	X
R3OUT	BUPR	100000	COM_BUPA_MWX_BPR_FILL_CENTRAL	X

SAP delivers these entries, so normally you don't have to change anything. But you must ensure that these settings are correct.

The settings for object BUAG are relevant for the distribution of contract objects.

## 5.2.8 CRMC\_BUT\_CALL\_FU

Use transaction SM30 to maintain the table. This table contains some function calls that must be activated as well. See here only those function names were Call = 'X' must be set. The other entries are not relevant for this scenario.

Timepoint	Object	Position	Function name	Call
BPOUT	BUPA	100000	COM_BUPA_MWX_CREATE_MAIN	X
BPOUT	BUPR	100000	COM_BUPA_MWX_CREATE_REL	X
BPOUT	BUPX	1000000	MDS_BUPA_OUTBOUND	X
CLEAR	BUPA	100000	COM_BUPA_MWX_CLEAR_FLAGS	X
CLEAR	BUPA	1000000	BUPA_OUTBOUND_CLEAR_FLAGS	X
CLEAR	BUPA	2000000	ABA_FSBP_OUTBOUND_CLEAR_FLAGS	X
CLEAR	BUPR	100000	COM_BUPA_MWX_CLEAR_FLAGS	X
CRMIN	BUPA	1000000	BUPA_INBOUND_MAIN_CENTRAL	X
CRMIN	BUPA	2000000	ABA_FSBP_INBOUND_MAIN	X
CRMIN	BUPR	1000000	BUPA_INBOUND_REL_CENTRAL	X
CRMOU	BUPA	1000000	BUPA_OUTBOUND_BPS_FILL_CENTRAL	X
CRMOU	BUPA	1000010	ABA_FSBP_OUTBOUND_BPS_FILL	X
CRMOU	BUPA	2000000	ABA_FSBP_OUTBOUND_BPS_FILL	X
CRMOU	BUPR	1000000	BUPA_OUTBOUND_BPR_FILL_CENTRAL	X
MERGE	BUPA	1000000	MERGE_BUPA_CENTRAL	X
MERGE	BUPA	2000000	MERGE_BUPA_FINSERV	X
MERGE	BUPR	1000000	MERGE_BUPR_CENTRAL	X
XIIN	BUPA	1000000	ABA_BUPA_MAP_PROXY_TO_DDIC	X
XIIN	BUPA	2000000	ABA_FSBP_MAP_PROXY_TO_DDIC	X
XIIN	BUPA	3000000	ABA_FSBP_MAP_PROXY_TO_DDIC_1	X
XIIN	BUPR	1000000	ABA_BUPR_MAP_PROXY_TO_DDIC	X
XIOUT	BUPA	9000000	ABA_FSBP_MAP_DDIC_TO_PROXY	X
XIOUT	BUPA	9000010	ABA_FSBP_MAP_DDIC_TO_PROXY_1	X

## 5.3 Customizing in CRM System

### 5.3.1 RFC Destination

The logical systems are setup in both systems with transaction SM59 so that they can be connected physically. Logical system and RFC destination are maintained as same as ALE.

In this document, we use CRMCLNT800 for CRM system and ERPCLNT800 for SLCM. You should use other names when you setup real data transfer scenario, please refer to section "Naming Convention".

Please refer to section "RFC destination" for how to create RFC destination.

### 5.3.2 Customizing for Business Partner Attributes

Please refer to section "Customizing for Business Partner attributes".

### 5.3.3 CRMCONSUM

Use transaction SM30 to check or maintain CRMCONSUM for 'Possible Users of R/3 Adapter Functionality'.

User	Active	Description	Queue Prefix
CDB	X	CRM -> CDB	CDB
CRM	X	OLTP R/3 ADAPTER FOR CRM&CDB	R3A
EXT	X	EXTERNAL INTERFACES	EXT
ONL	X	CDB -> ONL	ONL

SAP delivers these entries, so normally you don't have to change anything.

### 5.3.4 Register Queues

You can access it by using the following path or the direct transaction:

- IMG : Customer Relationship Management -> CRM Middleware and Related Components -> Queue Setup -> Register CSA Queues
- Transaction SMQR.

Maintain the following values:

SAP

qRFC Monitor (QIN Scheduler)

Registration | Register without activation | Deregistration | qRFC Monitor

Scheduler status : **INACTIV**  
 Last update (every 2 minutes) : 16.09.2004 10:19:45  
 Name of AS group (DEFAULT = all): DEFAULT  
 Number of Entries Displayed : 3  
 Host ID : 1s0001\_Q4U\_57  
 Number of Active Connections : 0

Cl.	Queue name	Type	Mode	Max. Runtime	Attempts	Pause	Destination with LOGON Data
<input type="checkbox"/>	403 CRI*	R	D	60	30	300	
<input type="checkbox"/>	403 CSA*	R	D	60	30	300	
<input type="checkbox"/>	403 R3A*	R	D	60	30	300	

Q4U (1) (403) | Is0313 | OVR

### 5.3.5 Sites and Subscriptions in CRM

To build a data exchange scenario between CRM and SLCM, a data distribution model must be setup in the CRM system. With this model, the CRM system knows what kind of data will be sent out, and to which system(s) the data will be sent to.

SLCM has to be defined as a site, like the other systems of the distribution model. CRM sites are already predefined, so you only need to create the site for SLCM.

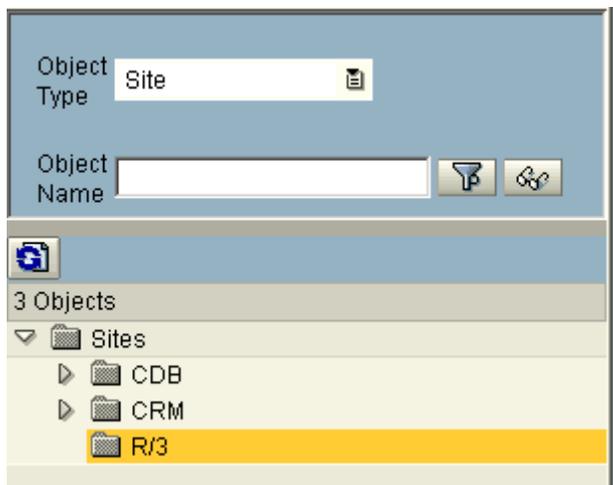
Once the site has been created, you have to define the distribution rules (subscriptions), which determine which data a site has to receive.

You access to the site definition via SAP menu -> Architecture and Technology -> Middleware -> Administration -> Administration Console (Transaction code: SMOAC).

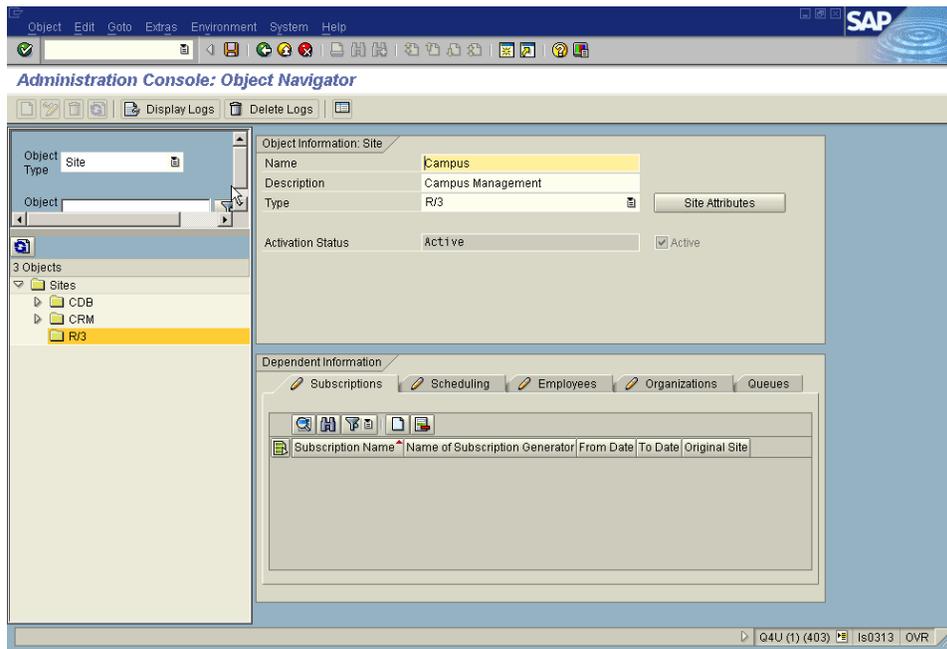
#### 5.3.5.1 Site definition for Student Lifecycle Management

Please note that a RFC Destination for the connection to SLCM has to be defined before performing Site definition.

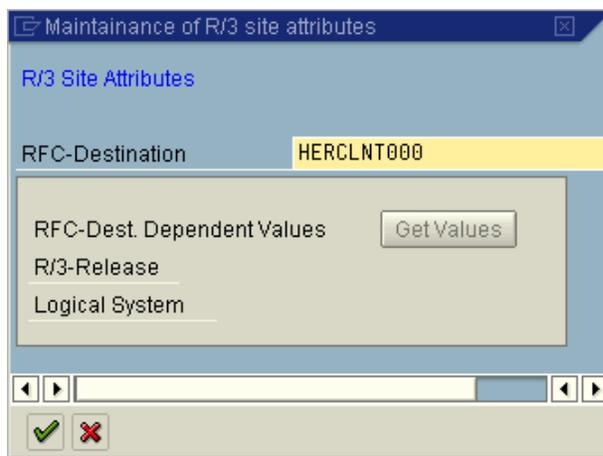
- Choose object type in left screen as Sites



- Choose Create icon 
- Type the name of the site and the description and choose the site type R/3.



- Choose 'site attributes' next to site type.
- Enter the RFC destination for the site.



- Press Button 'Get values' and the R/3-Release and Logical System fields should be automatically filled.
- Save the new created site.

### 5.3.5.2 Subscription

After the definition of the SLCM system site you need to create subscriptions with the subscription wizard. It should be done in the same screen as the site definition. Choose the object type as Subscriptions and follow the subscription wizard instructions, which will pop up when you click on the 'Create' icon. This is necessary to enable loading the data from CRM to the SLCM system.

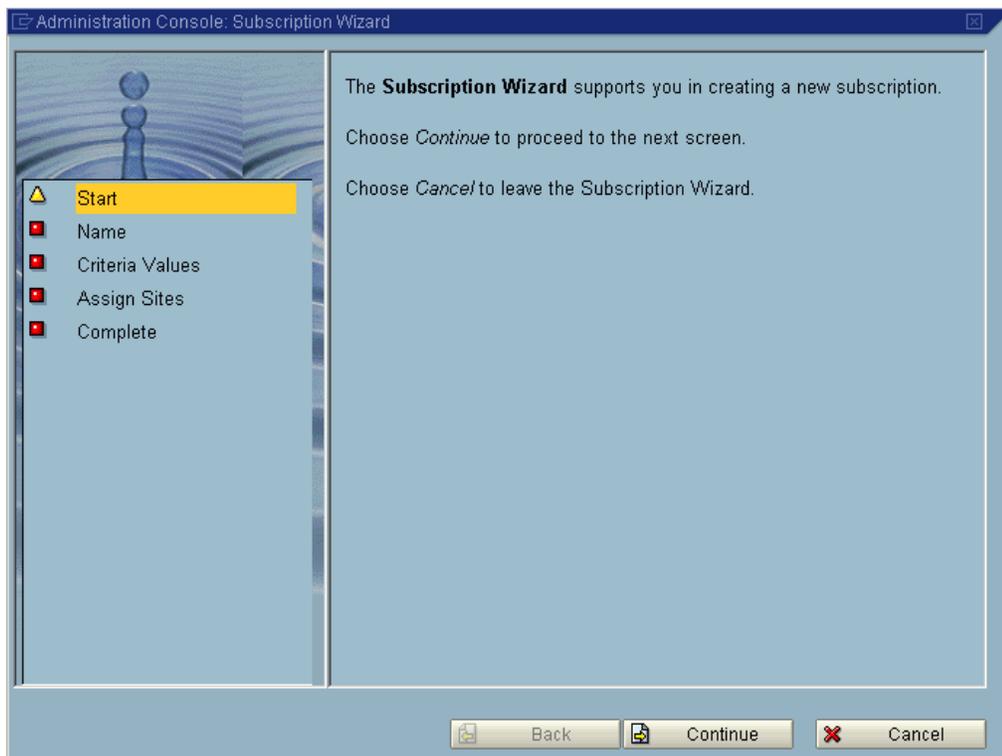
Creating new subscription is optional because the required subscriptions for our data exchange scenario might already exist in CRM system.

We need two subscriptions:

- Business Partner
- Business Partner Relationship (Optional. It's included only if you want to synchronize Business Partner relationship data)

### **If the subscriptions don't exist**

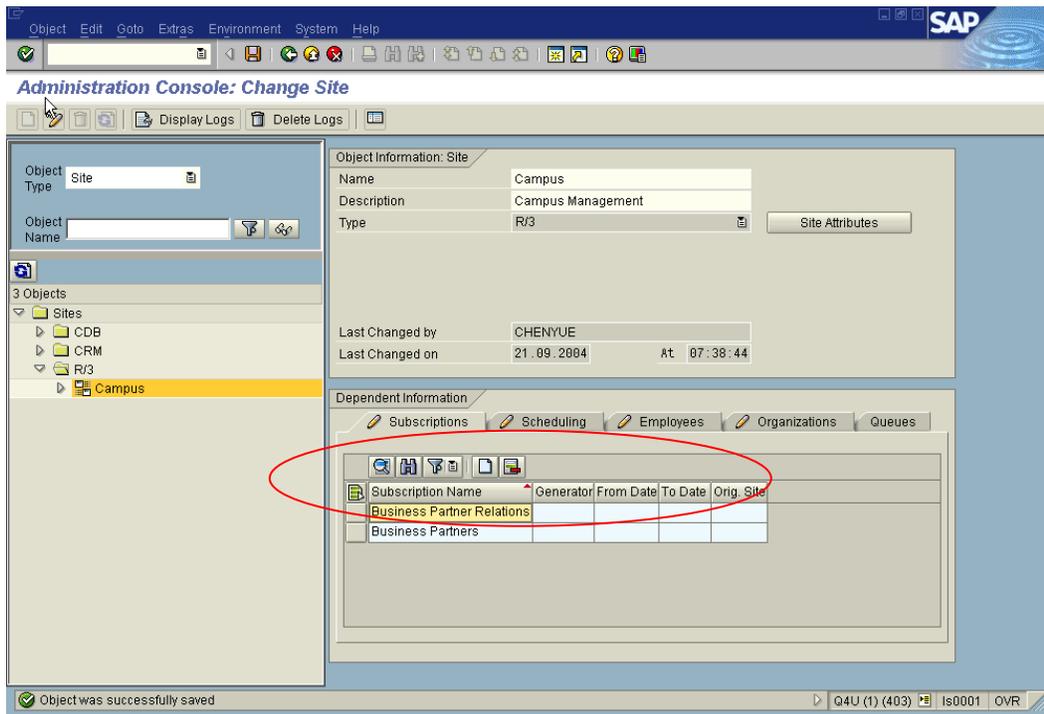
With the Administration Console, create subscriptions for the publication 'All Business Partners (MESG)' and 'All Business Partner Relationships (MESG)' (Optional) and assign it to your SLCM system site.



Please refer to the Administration Console documentation for further information on how to create subscriptions.

### **If the subscriptions already exist**

In the site definition screen, change the SLCM system site and add a new subscriptions to the site.



### 5.3.6 Set Filter for Data Load

Business Partner might already exist before the data exchange scenario is setup. When the initial load is processed, we don't want to synchronize all the Business Partners between CRM and SLCM. Only the Business Partners that are related to students will be processed.

To synchronize only specific Business Partners, filter must be set before the initial load.

**Note:** This step is valid for initial load, e.g. initial load from CRM to SLCM or from SLCM to CRM uses the filter. For delta load, the filter takes only effect for the direction from SLCM to CRM. When also during delta load only student Business Partner should be processed some additional settings have to be done. For details please have a look at chapter "Synchronize only student Business Partner".

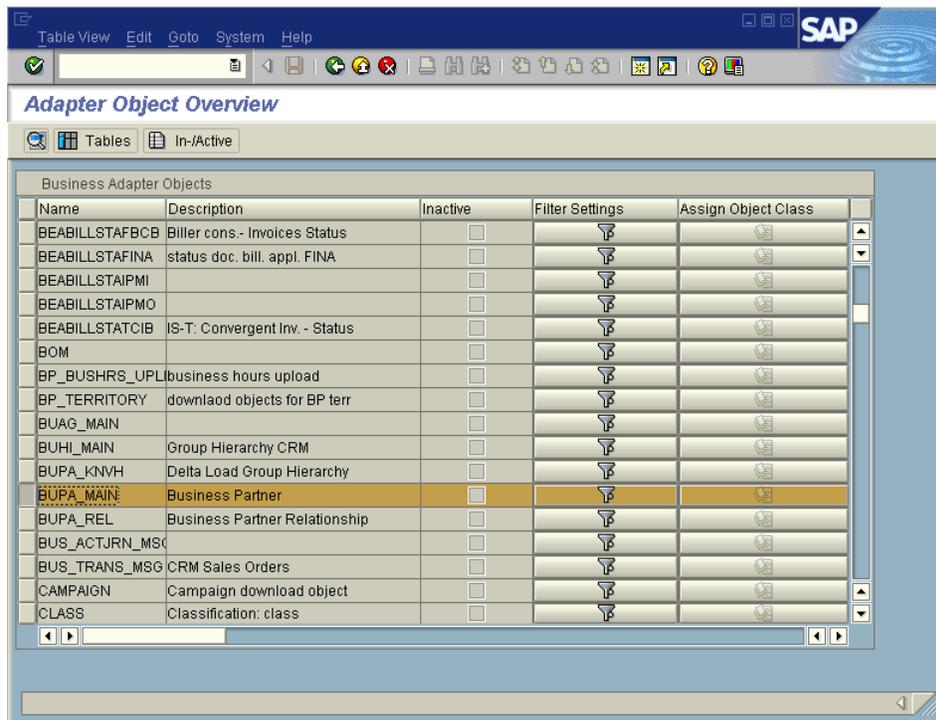
The filter can only be set in the CRM system and could be sent to SLCM afterwards. So you must set the filter for both directions: From CRM to SLCM and from SLCM to CRM.

You access to the site definition via SAP menu -> Architecture and Technology -> Middleware -> Data Exchange -> Object Management -> Business Objects (Transaction code: R3AC1).

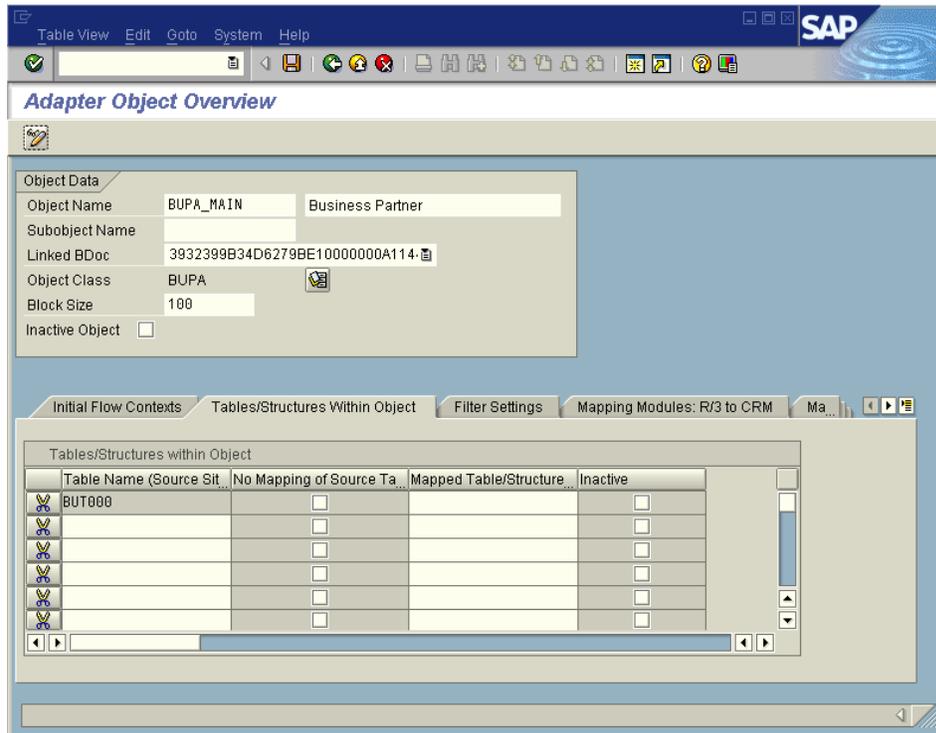
Below it shows the example for subscription 'Business Partners'. For the Business Partner relationship, you can refer to this example if it is necessary to set filter.

For our data exchange scenario, we use fixed Business Partner grouping for student Business Partner. As we want to synchronize only student Business Partner, in this example, we set the filter with Business Partner grouping, means only the Business Partner with these specified Business Partner groupings can be transferred.

- Access the menu or transaction code R3AC1.
- Mark object 'BUPA\_MAIN' and click button  (Details).



- Click button  to edit the filter.
- Go to tab page 'Tables/Structures Within Object' and enter table name BUT000.



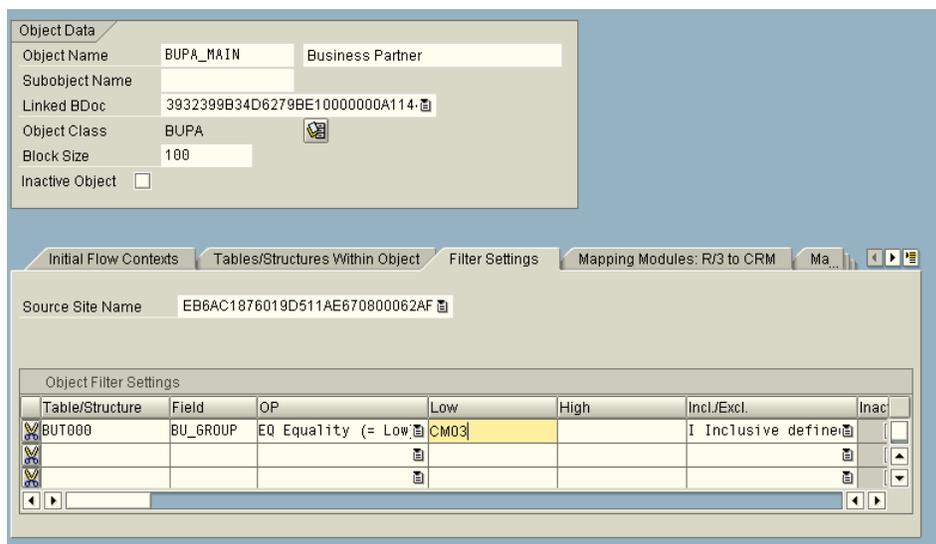
- Go to tab page 'Filter Settings' and select CRM as the source site name. This means the filter is used when the data is exchanged from CRM system to SLCM.
- Enter the following values in 'Object Filter Settings' and save.

Table/Structure = BUT000

Field = BU\_GROUP

OP = EQ

Low = CM03 (**Note:** This value is the Business Partner grouping in CRM used for 'Student Record Holder', you can adjust this value by your real scenario. Don't use single quotes for this field)



- Again in tab page 'Filter Settings', select SLCM as the source site name. The filter option would be 'Filter in source and target database'.

Table/Structure	Field	OP	Low	High	Incl/Excl.	Inac:
BUT000	BU_GROUP	EQ Equality (= Low	CM01		I Inclusive define	<input type="checkbox"/>

- Enter the following values in 'Object Filter Settings' and save.
  - Table/Structure = BUT000
  - Field = BU\_GROUP
  - OP = EQ
  - Low = CM01 (**Note:** This value is the default Business Partner grouping in SLCM used for student Business Partner, you can adjust this value by your real scenario. Don't use single quotes for this field)
- Click button 'Filter Sync (R/3)' and 'Regenerate Filter' in order to ensure the filter is transferred to the Student Lifecycle Management system.

### 5.3.7 CRMC\_BUT\_CALL\_FU

Use transaction SM30 to check or maintain this table. This is the table that sets the program objects to be called during the data exchange.

SAP delivers these entries, so normally you don't have to change anything or you only have to set or delete the flags. You must ensure that the settings are correct. Only those function modules are shown for which the flag 'Call' must be set.

Please, observe also OSS note 757955!

Timepoint	Object	Position	Function name	Call
BPOUT	BUPA	100000	CRM_BUPA_OUTB_RENTED_ADDRESS	X
BPOUT	BUPA	200000	BUPA_MWX_BDOC_CREATE_MAIN	X
BPOUT	BUPA	300000	CRM_BUPA_OUTB_MARKETING_ATTR	X
BPOUT	BUPR	100000	BUPA_MWX_BDOC_CREATE_REL	X
BPOUT	BUPX	1000000	MDS_BUPA_OUTBOUND	X
CLEAR	BUPA	1000000	BUPA_OUTBOUND_CLEAR_FLAGS	X
CRMIN	BUAG	50000	CRM_BUAG_BDOC_MAP_NUMRANGE	X
CRMIN	BUAG	100000	CRM_BUAG_MWX_PROCESS_EXT_STRUC	X
CRMIN	BUPA	50000	CRM_BUPA_BDOC_MAP_NUMRANGE	X
CRMIN	BUPA	100000	BUPA_MWX_BDOC_MAP_MAIN_CENTRAL	X
CRMIN	BUPA	200000	CRM_BUPA_BDOC_MAP_MAIN	X
CRMIN	BUPR	1000000	BUPA_INBOUND_REL_CENTRAL	X

CRMIN	BUPR	1200000	CRM_BUPA_BDOC_MAP_REL	X
CRMOU	BUAG	100000	CRM_BUAG_MWX_FILL_EXT_FROM_MEM	X
CRMOU	BUAG	200000	CRM_BUAG_MWX_FILL_EXT_FROM_DB	X
CRMOU	BUPA	100000	BUPA_OUTBOUND_BPS_FILL_CENTRAL	X
CRMOU	BUPA	200000	CRM_BUPA_BDOC_BPS_FILL_DATA	X
CRMOU	BUPR	100000	BUPA_MWX_BDOC_BPR_FILL_CENTRAL	X
CRMOU	BUPR	200000	CRM_BUPA_BDOC_BPR_FILL_DATA	X
EXTR	BUAG	100000	CRM_BUAG_MAIN_GET_ID_LIST	X
PXYIN	BUPA	1000000	BUPA_INBOUND	X
XIIN	BUPA	1000000	ABA_BUPA_MAP_PROXY_TO_DDIC	X
XIIN	BUPA	2000000	ABA_FSBP_MAP_PROXY_TO_DDIC	X
XIIN	BUPA	2100000	ABA_FSBP_MAP_PROXY_TO_DDIC_1	X
XIIN	BUPR	1000000	ABA_BUPR_MAP_PROXY_TO_DDIC	X
XIOUT	BUPA	1000000	ABA_BUPA_MAP_DDIC_TO_PROXY	X
XIOUT	BUPR	1000000	ABA_BUPR_MAP_DDIC_TO_PROXY	X

#### 5.4 Synchronize Only Student Business Partner

When only business partner with role 'student record holder' should be synchronized between SLCM and the CRM system there are two different possibilities. The filtering could be done already in the CRM system. This means that it would be checked in the CRM system whether the business partner has the role 'student record holder' and only when the business partner has the role the data transfer would take place.

The second possibility is to do the filtering in the SLCM system. Then the check whether the business partner has the role 'student record holder' or not would be done in the SLCM system and only for business partner who have this role the inbound process in the SLCM system would be executed. This possibility has the disadvantage that unnecessary data would be sent from CRM to SLCM.

It depends on the detailed requirements which possibility has to be used. When the business partner should be sent to various systems and not only to the SLCM system from CRM then probably the second possibility has to be used as the decision whether the business partner should be synchronized or not could depend on the target system. Therefore both possibilities are described.

##### 5.4.1 Filtering in CRM System

Table CRMC\_BUT\_CALL\_FU contains function modules which are processed during the in- and outbound process in the CRM system. It's possible for customers to add additional function modules. This could be used to check whether the Business Partner has the relevant role and to prevent the outbound process for him when he doesn't have the role.

In CRM it's necessary to create an entry for 'Timepoint' BPOUT and 'Object' BUPA in the table CRMC\_BUT\_CALL\_FU. The new function module has to be called before the standard function module is called. Therefore you have to choose a lower value for 'Position' than the highest value that is used in the standard delivery. The flag 'Call' has to be set so that the function module is called. In the following table there is an example how the entry could look like.

Timepoint	Object	Position	Function name	Call
BPOUT	BUPA	9	Z_FILTER_STUDENTS_5_0	X

Furthermore it's necessary to create a customer function module which could be used within this table entry. The following function module is an example how the customer function module could look like. You could take this as template and adjust it to your needs.

```

function z_filter_students_50.
* "-----
* " "Local Interface:
* "   CHANGING
* "   REFERENCE(CT_BP_EXTERN) TYPE   BUS_EI_EXTERN_T
* "-----

data: ls_bp_extern type bus_ei_extern.

loop at ct_bp_extern into ls_bp_extern.

*   first check if role 'Student Record Holder' is in the structure
read table ls_bp_extern-central_data-role-roles
  with key data_key = 'PSCM10' transporting no fields.
if sy-subrc <> 0.
*   When the role isn't in the structure check if the BP has the
*   role already
call function 'BUPA_ROLE_EXISTENCE_READ'
  exporting
    iv_partner      = ls_bp_extern-header-object_instance-bpartner
    iv_partnerrole  = 'PSCM10'
  exceptions
    no_valid_record_found = 1
    no_partner_specified = 2
    others                = 3.
if sy-subrc <> 0.
*   When the BP doesn't have the role, delete the entry for this BP
delete ct_bp_extern.
endif.
endif.
endloop.
endfunction.

```

**Note:** Requirement for the above entry is that PSCM10

- has been defined in CRM as Business Partner role (see section 5.1)
- has been maintained in SLCM as CRM Student Record Holder role

#### 5.4.2. Filtering in SLCM System

Table COM\_BUPA\_CALL\_FU contains function modules which are processed during the in- and outbound process in the SLCM system. It's possible for customers to add additional function modules. This could be used to check whether the business partner has the relevant role and to prevent the inbound process for him when he doesn't have the role.

It's necessary to create an entry for 'Timepoint' R3IN and 'Object' BUPA. The function module called because of this entry has to be called before the standard function modules. Therefore please make sure to choose a value for 'Position' which is lower than the highest value used in the standard delivery. Of course the flag 'Call' has to be set so that the function module is called. In the following table there is an example how the entry could look like.

Timepoint	Object	Position	Function name	Call
R3IN	BUPA	9	Z_BUPA_FILTER_STUDENTS	X

Furthermore it's necessary to create a customer function module which could be used within this table entry. The following function module is an example how the customer function module could look like. You could take this as template and adjust it to your needs.

```

FUNCTION z_bupa_filter_students.
*-----
* * * "Local Interface:
* " EXPORTING
* " REFERENCE(E_STATUS) TYPE UPLOADSTAT
* " TABLES
* " ET_RETURN STRUCTURE BAPIRET2
* " CHANGING
* " REFERENCE(C_BP_STRUCT) TYPE BUS_EI_COM_EXTERN
*-----

DATA: lv_guid TYPE bu_partner_guid,
      lv_partner TYPE bu_partner,
      lv_partnerguid TYPE bu_partner_guid,
      lt_return TYPE TABLE OF bapiret2.

DATA: lv_role_studt TYPE bu_partnerrole.
DATA: lv_roles TYPE bus_ei_com_bupa_roles.

DATA: lv_message TYPE c.

* Partner that are already exist are updated without any further
* check. Existence Check
lv_guid = c_bp_struct-header-object-instance-bpartnerguid.

CALL FUNCTION 'BUPA_NUMBERS_GET'
EXPORTING
  iv_partner_guid = lv_guid
IMPORTING
  ev_partner = lv_partner
  ev_partnerguid = lv_partnerguid
TABLES
  et_return = lt_return.

LOOP AT lt_return TRANSPORTING NO FIELDS
      WHERE type = 'E' OR
      type = 'A'.

ENDLOOP.
IF sy-subrc <> 0.
  EXIT.
ENDIF.

* Read default student role in CRM system.
CALL FUNCTION 'HRIQ_BUPA_MWX_READ_DEF_ROLE'
IMPORTING
  ev_role = lv_role_studt
EXCEPTIONS
  customizing_error = 1
  OTHERS = 2.
IF sy-subrc <> 0.
  CALL FUNCTION 'HRIQ_APPEND_SYS_MESSAGE_TABLE'
  CHANGING
    ct_return = et_return[].
  EXIT.
ENDIF.

* Check if BP has student role
LOOP AT c_bp_struct-central_data-role-roles INTO lv_roles.
  IF lv_roles-data_key = lv_role_studt.
* When the student has the role exit the function module
  RETURN.
  ENDIF.
ENDLOOP.

```

```
* Otherwise send an error message...
MESSAGE e001(zcustomer_message) INTO lv_message.
CALL FUNCTION 'HRIQ_APPEND_SYS_MESSAGE_TABLE'
  CHANGING
    ct_return = et_return[].

* ...and set the status to error
  e_status = 'A'.

ENDFUNCTION.
```

## 6. Data Exchange Analysis

Data exchange might fail if the data has errors or the RFC connection between CRM and SLCM is corrupted. CRM provides the functionality to monitor the data flow and reprocess the data exchange.

You access to the site definition via SAP menu -> Architecture and Technology -> Middleware -> Monitoring -> Message Flow -> Display BDoc Messages (Transaction code: SMW01).

In the selection screen, BUPA\_MAIN is specified as 'BDoc Type (Generation Name)' so that only the data exchange for student Business Partner will be monitored.

The screenshot shows the 'Display BDoc Messages' selection screen in SAP. The interface includes several sections for filtering and selection:

- BDoc Message Instance:** Fields for BDoc Type (Generation Name), BDoc Message ID, and User (Creator).
- BDoc State:** Checkboxes for Errors, Rejected, Non Final, Processed, and Intermediate State.
- Send Date and Time:** Radio buttons for No Limitation, Yesterday, Today, 1 Hour, and 5 Minutes. Includes fields for Date (From/To) and Time (From/To).
- Update Date and Time:** Similar radio buttons and date/time fields as the Send section.
- Flow Context:** Checkboxes for Inbound and Outbound.

For other selection criteria, you can specify the values by your requirements, for example, display the BDoc with errors.

When you execute this transaction after specifying the selection criteria, it shows the result of the data exchange.

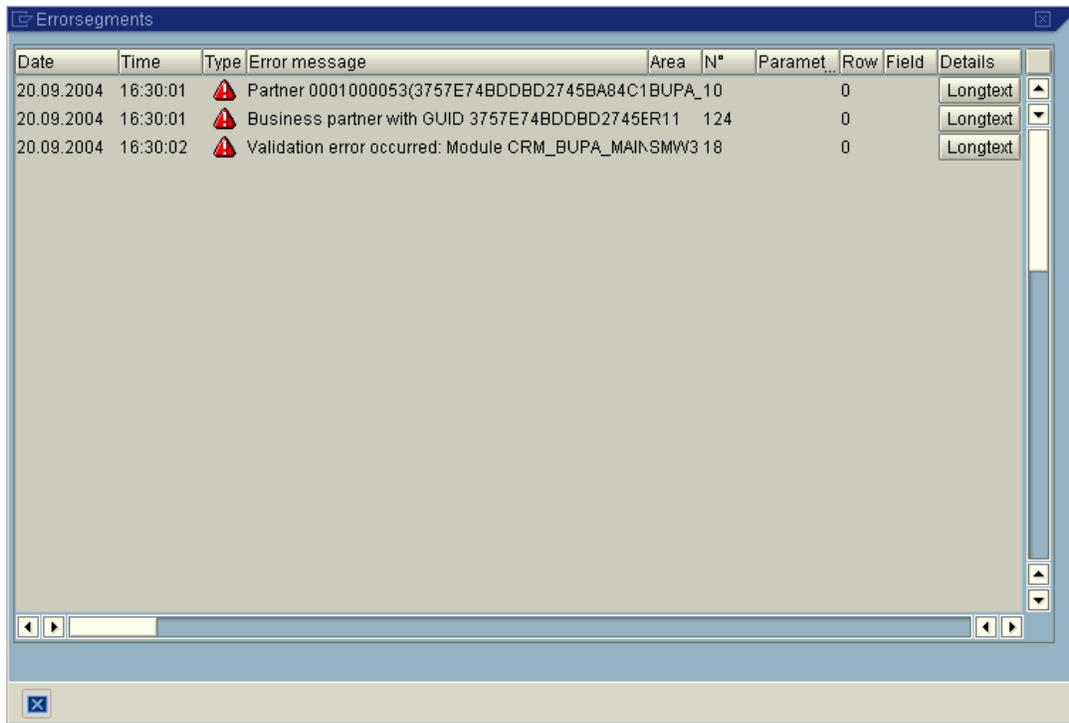
The screenshot shows the 'Selection Result: 719 records found.' screen in SAP. The table below displays the results of the data exchange monitoring.

State	BDoc State Description	BDoc Type	Flow Context Description	Send date	Send time	Sender Site Name	Queue name
BDoc validation error	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:31:19	QK&CLNT826	R3AD_BUPA000
BDoc validation error	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:30:01	QK&CLNT826	R3AD_BUPA000
BDoc validation error	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:17:58	QK&CLNT826	R3AD_BUPA000
BDoc validation error	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:16:53	QK&CLNT826	R3AD_BUPA000
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Notification Multiple	16.09.2004	10:19:43	QK&CLNT826	SEE_TABLE_SM
BDoc validation error	BDoc validation error	BUPA_MAIN	mBDoc Validate	16.09.2004	10:19:41	QK&CLNT826	R3AI_BUPA_MAI
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Validate	16.09.2004	10:19:41	QK&CLNT826	R3AI_BUPA_MAI
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Notification	16.09.2004	10:17:51	QK&CLNT826	CSABUPA05200
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Notification Multiple	16.09.2004	10:17:22	QK&CLNT826	SEE_TABLE_SM
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Validate	16.09.2004	10:17:15	QK&CLNT826	R3AI_BUPA_MAI
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Direct Send	16.09.2004	10:10:04	QK&CLNT826	R3AI_BUPA_MAI
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Notification	16.09.2004	10:08:32	QK&CLNT826	CSABUPA08200
Confirmed (fully processed)	Confirmed (fully processed)	BUPA_MAIN	mBDoc Notification	16.09.2004	10:05:14	QK&CLNT826	CSABUPA08200

Column 'Status' shows whether the data exchange (represented by BDoc) has been successfully processed or not.

## 6.1 Analyze the Problem

For the data exchange with problems, mark the relevant line and press button . A popup dialogue will appear with a list of error messages.



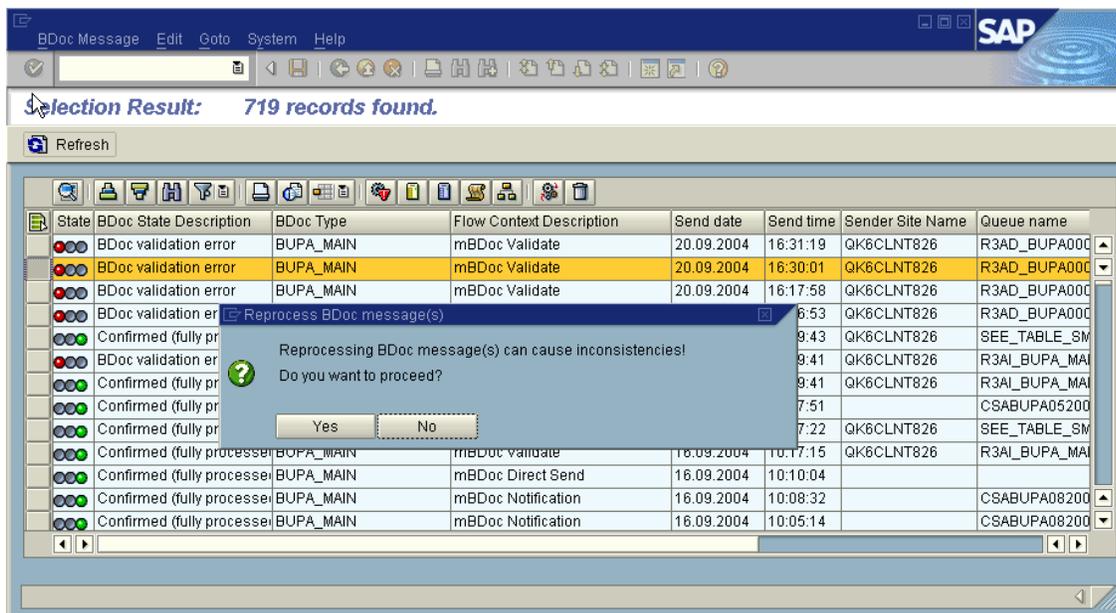
Date	Time	Type	Error message	Area	N*	Paramet...	Row	Field	Details
20.09.2004	16:30:01	⚠	Partner 0001000053(3757E74BDDBD2745BA84C1BUPA_10				0		Longtext
20.09.2004	16:30:01	⚠	Business partner with GUID 3757E74BDDBD2745ER11 124				0		Longtext
20.09.2004	16:30:02	⚠	Validation error occurred: Module CRM_BUPA_MAINSMW3 18				0		Longtext

You can find out where the error comes from by checking the error message and long text. With this information you can go to the system and correct the error.

## 6.2 Correct Problem

After the error has been corrected, you should send the data again. What you have to do is to re-process the BDoc.

- Mark the line with the error, and press button .



State	BDoc State Description	BDoc Type	Flow Context Description	Send date	Send time	Sender Site Name	Queue name
⚠	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:31:19	QK6CLNT826	R3AD_BUPA000
⚠	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:30:01	QK6CLNT826	R3AD_BUPA000
⚠	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:17:58	QK6CLNT826	R3AD_BUPA000
⚠	BDoc validation error	BUPA_MAIN	mBDoc Validate	20.09.2004	16:53	QK6CLNT826	R3AD_BUPA000
✅	Confirmed (fully processed)	BUPA_MAIN	mBDoc Validate	16.09.2004	10:17:15	QK6CLNT826	SEE_TABLE_SM
✅	Confirmed (fully processed)	BUPA_MAIN	mBDoc Direct Send	16.09.2004	10:10:04		R3AI_BUPA_MA
✅	Confirmed (fully processed)	BUPA_MAIN	mBDoc Notification	16.09.2004	10:08:32		CSABUPA08200
✅	Confirmed (fully processed)	BUPA_MAIN	mBDoc Notification	16.09.2004	10:05:14		CSABUPA08200

- Click 'Yes' to reprocess the BDoc.

This operation will repeat the data exchange. If all errors have been corrected, the lights for this line will turn to green.

You can access other menu items under SAP Menu -> Architecture and Technology -> Monitoring -> Message Flow. These functions can show you the data exchange result with different view or level.

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