IBM Maximo Enterprise Adapter for SAP Applications
Version 7 Release 6

Configuration Guide

Note
Before using this information and the product it supports, read the information in "Notices" on page 31.

This edition applies to version 7, release 6, modification 1 of IBM Maximo Enterprise Adapter and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Configuring Maximo Enterprise Adapter for SAP Applications

As part of installing Maximo® Enterprise Adapter for SAP Applications, you must complete configuration tasks in Maximo Asset Management. Maximo Asset Management configuration tasks require system administrator rights and privileges.

Configuring the adapter

Before you can complete the configuration steps, you must haveIBM® Maximo Enterprise Adapter for SAP Applications installed on your system. For information about installing Maximo Enterprise Adapter for SAP Applications, see the Installation Guide for Maximo Enterprise Adapter for SAP Applications.

Specifying the end point for the adapter

The endpoint defines where and how you send outbound transactions to SAP.

About this task

Configure SAP NetWeaver Process Integration (PI) or SAP NetWeaver Process Orchestration (PO) as the end point for the adapter. The end point that you configure uses an HTTP Post handler. The handler that the end point uses describes how the adapter sends transactions to SAP.

Procedure

1. Open the End Points application.
2. On the **List** tab, select the SAP2005XI end point.
3. On the **End Point** tab, specify the following values for the properties of the SAP2005XI end point:

Table 1. SAP2005XI end-point properties

Property	Value
HTTPEXIT	Use the default value.
PASSWORD	The password of the SAP NetWeaver PI/PO user (in the **Encrypted Value** field)
USERNAME	The SAP NetWeaver PI/PO user name
URL	The SAP NetWeaver PI/PO host and, if necessary, port

4. Click **Save**.

Multitenancy: Creating and configuring JMS queues

About this task

In Maximo Asset Management Multitenancy, the multitenancy manager must create and configure inbound and outbound JMS queues to exchange data with the SAP external system.

Procedure

1. In the External Systems application, select the SAP2005XI system.
2. Select the **Add/Modify Queues** action.

3. Click **New Row**.
4. Add and configure the following inbound and outbound JMS queues:

Table 2. Inbound continuous JMS queue configuration

Field	Value
Queue JNDI Name	`jms/maximo/int/queues/cqin_<tenantcode>`
Queue Connection Factory	`jms/maximo/int/cf/intcf`
Tenant	*<tenantcode>*
Sequential check box	Clear
Inbound check box	Select
Maximum Try Count	*<count>*

Table 3. Inbound sequential JMS queue configuration

Field	Value
Queue JNDI Name	`jms/maximo/int/queues/sqin_<tenantcode>`
Queue Connection Factory	`jms/maximo/int/cf/intcf`
Tenant	*<tenantcode>*
Sequential check box	Select
Inbound check box	Select
Maximum Try Count	*<count>*

Table 4. Outbound sequential JMS queue configuration

Field	Value
Queue JNDI Name	`jms/maximo/int/queues/sqout_<tenantcode>`
Queue Connection Factory	`jms/maximo/int/cf/intcf`
Tenant	*<tenantcode>*
Sequential check box	Select
Inbound check box	Clear
Maximum Try Count	*<count>*

5. On the **System** tab, enter the JMS queue names in the following fields:
   - Outbound Sequential Queue
   - Inbound Sequential Queue
   - Inbound Continuous Queue
6. Click **Save**.

Enabling the SAP2005 external system

About this task

After you install the adapter, you must enable the SAP2005 external system.

Procedure

1. On the **List** tab of the External Systems application, select the SAP2005 external system.
2. On the **System** tab, select the **Enabled** check box.

Activating cron tasks for sequential queues

About this task

After you install the adapter, you must activate the JMS sequential queues in Maximo Asset Management.

Procedure

1. In the Cron Task Setup application, select JMSQSEQCONSUMER from the list of cron tasks.
2. On the **Cron Task** tab, select the **Active** check box for the SEQQIN and SEQQOUT cron task instances.
3. Click **Save**.

Multitenancy: Specifying the JMS queue names for cron tasks

About this task

In Maximo Asset Management Multitenancy, you must specify the JMS queue names for the inbound and outbound cron task instances.

Procedure

1. In the Cron Task Setup application, select JMSQSEQCONSUMER from the list of cron tasks.
2. On the **Cron Task** tab, select the SEQQIN cron task instance and update the value field of the QUEUENAME cron task parameter to `jms/maximo/int/queues/sqin_<tenantcode>`.
3. On the **Cron Task** tab, select the SEQQOUT cron task instance and update the value field of the QUEUENAME cron task parameter to `jms/maximo/int/queues/sqout_<tenantcode>`.
4. Click **Save**.

Activating the SAPMASTERDATAUPDATE cron task

You must configure the SAPMASTERDATAUPDATE cron task. This cron task sets any Maximo records that were archived or deleted in SAP to inactive.

About this task

The archived or deleted statuses of these records in SAP are included in the following bulk loads:

- Chart of Accounts
- Vendors
- Craft
- GL Components
- Inventory Vendors

Immediately after a bulk load is completed, run the SAPMASTERDATAUPDATE cron task. This cron task sets to inactive any Maximo records that correspond to bulk⌂loaded SAP records that were archived or deleted in SAP.

If you are running more than one bulk load program, you can run the SAPMASTERDATAUPDATE cron task after you run the last bulk load.

Procedure

1. On the **List** tab of the Cron Task Setup application, select the SAPMASTERDATAUPDATE cron task.
2. On the **Cron Task** tab, select the **Active?** check box for the following required instances of the SAPMASTERDATAUPDATE cron task:
   - CHARTOFACCOUNTS
   - COMPANIES
   - CRAFT
   - GLCOMPONENTS
   - INVVENDOR
3. Click **Save**.

What to do next

For more configuration information, including bulk loads and setting Interface Controls, see the *IBM Maximo Enterprise Adapter for SAP Applications 7.6.1 System Administrator Guide*.

Configuring the SAP application server

You must adapt your SAP system to integrate it with Maximo Asset Management. You must perform installation tasks in the application server that SAP uses.

Installing and configuring the adapter requires system administrator rights and privileges.

Importation of ABAP transport programs

You must import the external files of the integration to your SAP client development system. These files contain all ABAP programs and dictionary objects that are needed for the integration.

To complete the installation of Maximo Enterprise Adapter for SAP Applications, use the K900254.D05 transport file. To upgrade your product from a previous version, use the K900256.D05 transport file.

The base installation transport files are in the `\Maximo\SAP⌂side\transports\cofiles` folder and the `\Maximo\SAP⌂side\transports\data` folder in the Maximo application server directory. If you downloaded a fix pack during your installation of the adapter, the fix pack transport files are in the same folders. Import the fix pack transport files after you import the files from the base installation. Sequential numbers are used for the transport files, so transport files that are part of a fix pack have higher numbers than the base installation transport files.

IDoc configuration

Intermediate Document (IDoc) customization activates the IDocs you need for your business transactions.

An IDoc is a container for exchanging data between SAP and non⌂SAP systems. IDocs are created when message types and object methods are distributed. The message type is the format in which the data for a business process is transferred.

The procedures for configuring IDocs for the integration between SAP and Maximo include the following tasks:

- Maintaining the customer distribution model
- Generating partner profiles
- Maintaining partner profiles
- Activating change pointers
- Defining variants for replication of modified master data

The IDocs that you activate in your system depend on the data that you want to send from SAP. The following table shows the IDoc types and the corresponding business processes.

IDoc Types

Table 5. IDoc types and corresponding processes

IDoc	**Business process**
MATMAS	Material Master changes
HRMD_A	Labor Master changes
INVCON	Goods Receipts Goods Issues Material Stock changes
EKSEKS	Purchase Orders Logistical Invoices Contracts
CREMAS	Vendor Master changes
INFREC	Purchasing Info Record changes

Accessing the Display IMG window

You must complete configuration tasks for the application server that SAP uses.

About this task

You use SAP Customizing Implementation Guide (IMG) to adjust the SAP system to meet the installation requirements. You start the tasks from the Display IMG window.

Procedure

1. In the **SAP Easy Access** menu, select: **Tools** > **Customizing** > **IMG** > **Execute Project**.
2. In the **Customizing: Execute Project** window, click **SAP Reference IMG**.

Maintaining the IDoc distribution model

The IDoc distribution model describes the Application Link Enabling (ALE) message flows between logical systems. You specify the messages that are sent to a logical system.

To create and configure (maintain) the distribution model, complete the following tasks:

- Create model views
- Define message types in model views
- Set up filters for message types

Creating a model view:

Procedure

1. Expand the IMG Structure to the following path: **SAP Netweaver** > **Application Server** > **IDoc Interface / Application Link Enabling (ALE)** > **Modeling and Implementing Business Processes** > **Maintain Distribution Model and Distribute Views**.
2. On the **Maintain Distribution Model and Distribute Views** row, click the clock icon or right-click and select **Edit Activity**.
3. In the Display Distribution Model window, switch to edit mode.
4. In the Change Distribution Model window, click **Create Model View**.
5. In the Create Model View window, specify values for the model view short text and the technical name.
6. Click **Continue**. The new model is added to the list of model views on the Change Distribution Model window.

Defining message types in the model view:

You must define the message types that are used for transactions that go from SAP to Maximo.

About this task

The Sender value that you specify must match the Business System value that you use when you configure SAP NetWeaver Process Integration (PI) or SAP NetWeaver Process Orchestration (PO).

Procedure

1. On the Change Distribution Model window, select the model view that you created, and click **Add message type**.
2. In the Add Message Type window, place your cursor in the **Sender** field, and select a sender from the selection list. The sender is your application server for ERP.
3. Place your cursor in the **Receiver** field and select a receiver from the selection list. The receiver is your integration server for PI/PO.
4. Place your cursor in the **Message type** field and select a message type, such as HRMD_A, from the selection list. This message type corresponds to labor data in Maximo.
5. Click **Choose**. The message type is added to the model view.
6. If you use the following message types for the MXES Integration model view in your integration, repeat steps 1 - 5 to add each message type:
   - HRMD_A (HR plan and master data)
   - MATMAS (Material Master)
   - INVCON (Inventory controlling IDoc)
   - EKSEKS (PO/Invoice)
   - CREMAS (Vendor)
   - INFREC (Purchasing Information Records

   Use the same sender and receiver for all message types that you create for the MXES Integration model view, as shown in the following table:

Table 6. Message type configuration

Message type	Description	Sender	Receiver
HRMD_A	HR plan and master data	Application server for SAP ERP	Integration server for SAP NetWeaver PI/PO
MATMAS	Material Master data	Application server for SAP ERP	Integration server for SAP NetWeaver PI/PO
INVCON	Inventory controlling IDOC	Application server for SAP ERP	Integration server for SAP NetWeaver PI/PO
EKSEKS	Purchasing document for Purchasing and Invoice information system	Application server for SAP ERP	Integration server for SAP NetWeaver PI/PO
CREMAS	Vendor Master data	Application server for SAP ERP	Integration server for SAP NetWeaver PI/PO
INFREC	Purchasing Information Records	Application server for SAP ERP	Integration server for SAP NetWeaver PI/PO

The message types are added to model view in the Change Distribution Model window.

Setting up filters for message types:

You can use filtering to improve performance speed. For example, by setting filters, you can reduce the number of IDocs that are created.

About this task

Depending on the definition in the Distribution Model, SAP creates IDocs for several business transactions. For example, for creating or changing a material, or for posting the movement of goods. If filters are defined, SAP first checks whether the transaction matches these filters. If yes, SAP creates the IDoc, if not, SAP does not create the IDoc or the IDoc segment.

You can set filters on any of the message types that you create:

- EKSEKS
- HRMD_A
- INVCON
- MATMAS
- CREMAS
- INFREC

You can set filtering on a message type by using the MATMAS message type example as shown in the following steps. You can use the same procedures to set filtering on the other message types.

Procedure

1. In the Change Distribution Model window, expand the tree structure under the MATMAS message type.
2. Double-click **No filter set**.

3. In the Change Filter window, click **Create filter group**.
4. Expand **Data filtering** to show the list of fields that you can use to filter messages for this message type.
5. Double-click a filter group, and then specify the values in the Edit List of Values window.
6. Enter filter values and save your changes. You can filter by criteria such as material group or material type.

Generating partner profiles

You defined the parameters for exchanging data with a partner system by using an IDoc interface. The definitions of the distribution model are used to set up the partner profile. Those settings become the default values of the partner profile.

About this task

You generate the partner profile to activate the distribution model view that you created.

Procedure

1. Expand the IMG Structure to the following path: **SAP Netweaver** > **Application Server** > **IDoc Interface / Application Link Enabling (ALE)** > **Modeling and Implementing Business Processes** > **Partner Profiles** > **Generate Partner Profiles**.
2. On the **Generate Partner Profiles** row, click the clock icon or right-click and select **Edit Activity**.
3. In the Generating Partner Profile window, the **User** field shows the default entry for the recipient of email messages. Edit this value as appropriate for your integration.
4. Select the transfer method that is best for your outbound integration. You can select the default triggering method, because triggering does not play a role in our integration.
5. Specify the Model View, and click the clock icon. The partner, ports, and outbound parameter are generated automatically. Next, a protocol for the partner, ports, and outbound parameters is shown in the Generating Partner Profile window.

What to do next

Ignore any errors in the **Port** message section of the Generating Partner Profile window. You can address these errors when you configure the partner profile parameters in the next task.

Configuring partner profiles manually

After you create the partner profile, you must configure the connection parameters manually for the communication between SAP and SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration.

About this task

You configure the parameters for all of the message types that you created.

Procedure

1. Expand the IMG Structure to the following path: **Cross-Application Components** > **Predefined ALE Business Processes** > **Logistics** > **Logistics <-> External Systems** > **External Transportation Planning Systems** > **Maintain ALE Partner Profiles**.
2. On the **Maintain ALE Partner Profiles** row,click the clock icon or right-click and select **Edit Activity**.
3. Expand **Partner Type LS**.
4. Under **Partner Type LS**, select the Process Integration or Process Orchestration Server IDoc Adapter. This adapter is the receiving system. Add outbound parameters for each message type of the model view.
5. Click the **Create Outbound Parameter** icon in the Outbound parameters section.
6. Define outbound parameters for each message type of the model view. Configure the **Partner profiles: Outbound parameters** window with the parameters shown in the following tables:

Table 7. Outbound parameters for partner profiles

Outbound Options tab parameter	Value
Receiver port	Your receiver port number
Output Mode	Transfer Idoc immed. option.
IDoc Type: Basic type	Use Basic types from the following table.

Table 8. Message type parameters

For Message Type	Select Basic type
EKSEKS	EKSEKS01
HRMD_A	HRMD_A01
INVCON	INVCON02
MATMAS	MATMAS02
CREMAS	CREMAS04
INFREC	INFREC01

7. Click **Save**.
8. Repeat steps 6 and 7 for all message types. Save each message type configuration before you create the next one.
9. If it is necessary for your integration to change the default to specify different receivers, you can do so on the **Post Processing Permitted Agent** tab.

Results

After you add the message types, they are shown in the **Outbound parmtrs.** section of the Partner profiles window.

Activating change pointers

The distribution of material and labor master data is based on change pointers. When you activate change pointers, SAP writes a change pointer to the database for every change in the master record data. A report checks for existing change pointers and creates the necessary IDocs.

About this task

Procedure

1. In the Display IMG tree structure, expand the **Structure** tree structure to **Activate Change Pointers Generally**:

   SAP Netweaver > **Application Server** > **IDoc Interface / Application Link Enabling (ALE)** > **Modeling and Implementing Business Processes** > **Master Data Distribution** > **Replication of Modified Data** > **Activate Change Pointers - Generally**
2. Select **Activate Change Pointers - Generally**.
3. Select the **Change pointers activated - generally** check box.
4. Click **Save**.
5. In the previous Display IMG window, select **Activate Change Pointers for Message Types**.
6. In the Change View "Activate Change pointers for Message Type": Overview window, select the **active** check boxes for the HRMD_A and MATMAS message types.
   a. If your integration includes vendor master data transactions, also select the **active** check box for CREMAS.
   b. If your integration includes purchasing info records, also select the **active** check box for INFREC.
7. Click **Save**.

Defining variants for replication of modified master data

About this task

You must define variants to run the RBDMICOD program, the standard SAP report that creates IDocs from change pointers, to distribute the following message types:

- HRMD_A
- MATMAS
- CREMAS
- INFREC

Procedure

1. In the Display IMG tree structure, expand the Structure tree structure to Define Variants: **SAP Netweaver** > **Application Server** > **IDoc Interface / Application Link Enabling (ALE)** > **Modeling and Implementing Business Processes** > **Master Data Distribution** > **Replication of Modified Data** > **Create IDocs from Change Pointers** > **Define Variants**.
2. Select **Define Variants**.
3. In the **Program** field of the ABAP Editor: Initial Screen window, select **RBDMIDOC**.
4. In the **Subobjects** section, select **Variants**.
5. Click **Create**.
6. In the **Message type** field of the Maintain Variant: Report RBDMIDOC, Variant MATMASIDOC window, type MATMAS and click **Attributes**.
7. Add a variant description and click **Save**.
8. In the ABAP: Variants - Initial window, type the variant name, HRMD_A.
9. Click **Create**.

10. In the **Message type** field, type HRMD_A and click **Attributes**.
11. Add a variant description and click **Save**.
12. Repeat steps 8 to 11 for the CREMAS and INFREC variants.
13. Click **Save**.

What to do next

Run the RBDMIDOC report every 5 minutes.

Configuring custom tables

You must configure the new custom tables for the integration between Maximo and SAP. These tables are provided with the integration.

About this task

To access and configure the adapter custom tables, use the SAP transaction code SM30. You can create special authorization groups for the adapter tables and assign only certain users to these authorization groups. To display or query the adapter custom tables, you can use the SAP transaction code SM16. However, to configure the adapter custom tables, you must use the SAP transaction code SM30.

You must configure the following custom tables:

- ZBC_BATCHES
- ZBC_DESTINATION
- ZBC_FILTERS
- ZBC_INBPROGRAMS
- ZBC_RUNTIMES
- ZBC_SAPMXCONFIG

Procedure

1. Open the Edit Table Views: Initial window for working with tables. You can use transaction code SM30.
2. In the **Table/View** field, specify the table name, for example, ZBC_Filters and click **Enter**. The transport file creates the table with default values. It shows all processes inbound into SAP.
3. In the Data Browser window of the table you specified, click **Execute**.
4. To edit table fields in the Change View window, select the check box in the first column of a row, and switch to edit mode. If you double click an entry row, the display mode opens. To change values, use the edit mode.
5. Click **Save**.

Results

The changes are updated in the database.

Configuring ZBC_BATCHES

This table holds the Reports, Functions, and Structures for the integration. The information in this table controls a remote function call integration.

Activating and deactivating programs

A flag sets the programs in this table to active or inactive. This table is delivered with default values. You can set this flag by typing a Y (to activate) or N (to deactivate) in the **Active** field of the program.

Package size

The Package Size controls how many records are in one XML message. The default is 1. The SAP NetWeaver Process Integration (PI) server or SAP NetWeaver Process Orchestration (PO) server can have performance problems when processing a large amount of small messages. For example, if you download 10,000 vendors from SAP, the default package size of 1 generates 10,000 XML messages. If you increase the package size to 20, you generate only 500 XML messages and performance improves.

However, setting the package size greater than 1 can cause the following issues in Maximo:

- If one record in the XML message is not correct, the entire XML fails. For information about error handling, see the *IBM Maximo Enterprise Adapter for SAP Applications 7.6 System Administrator Guide*.
- The database can run out of open cursors. In this case you increase the amount of open cursors that your database permits.

You must balance the improved performance in the PI/PO server against the potential for errors in the adapter and in the database.

Configuring ZBC_DESTINATION

This table controls where SAP data is sent to Maximo.

About this task

Procedure

1. In the initial window of this table, click **Create Entries**.
2. Specify the following parameters:

Table 9. ZBC_DESTINATION table parameters

ZBC_DESTINATION field	Value
RFCDEST	Your Maximo business system name in Process Integration or Process Orchestration
DESCRIPTION	Description of your Maximo business system

3. Click **Save**.
4. Optional: If you use more than one instance of Maximo, repeat steps 1-3 for each instance.

Maintaining ZBC_FILTERS

This table controls what data content you send to Maximo. You use this table to set the rules for every receiver that defines the data sent to the Maximo ER structure.

The filtering rule is an **OR** relationship, so you can set up operators and field values.

The receiver must have the same name as the definition of the Maximo Business System in the System Landscape Directory of SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration and the ZBC_Destination.

You can configure the ZBC_FILTERS table for the following possible objects:

Table 10. ZBC_Filters table object descriptions

ZBC_FILTERS object	Description
MATMASTER	Material Master
PURCHORDER	Purchase Order
INVOICE	Invoice
GOODSMOV	Goods Movement
CONTRACT	Contracts
CONTRACTAU	Contract Authorization
LABMASTER	Labor Master
CREMASTER	Vendor Master data
INFORECORD	Purchasing Info Record

The ZBC_FILTERS table has the following fields:

Table 11. Field values for the ZBC_Filters table

ZBC_FILTERS field	Value
MANDT	SAP Client value
RECEIVER	Maximo destination name
OBJECT	MATMASTER (Material Master IDOC Object name)
RULENUMBER	Condition sequence number for the IDOC object
FIELDNAME	Any field name from the Material Master Message table
OPERATOR	Any SAP Relationship operator
FIELDVALUE	Value to be checked against the operator

For more information about configuring the ZBC_FILTERS table, see the *IBM Maximo Enterprise Adapter for SAP Applications 7.6.1 System Administrator Guide*.

RULENUMBER

The ABAP program handles the RULENUMBER as follows:

- If the same OBJECT uses the same RULENUMBER more than once, then ABAP handles them all as **AND** conditions (all are true).
- If the same OBJECT has more than one RULENUMBER, ABAP handles it as an **OR** condition.

Maintaining ZBC_INBPROGRAMS

This table controls SAP inbound program processing methods and error handling of inbound programs from Maximo to SAP.

For every process, specify the following modes:

- processing mode

- error handling mode

SAP has two inbound processing modes:

- Business Application Programming Interface (BAPI)
- Batch Data Communication (BDC)

Note: The inbound processing modes are dependent on your SAP system. Ensure that your SAP system supports the inbound processing mode that you use.

Not all modes apply to each program. The adapter has two inbound error handling modes:

- INT (Internal messaging system) - The Internal messaging system notifies the Integration server that there are no errors. You must handle errors within the SAP system (this method is the default).

  With this option, you also can specify error notification to the email addresses of up to four SAP users.

  To create email or SAP user notification, complete the following steps:

  1. Select recipient.
  2. Specify reception type:
     a. B= SAP user for that client
     b. U= internet address
  3. Optional: To enable error messages to display on window, select **Express**.
  4. Optional: If you select INT error handling:
     a. For BDC processing, you receive batch input maps to reprocess the error.
     b. For BAPI processing, you need a program, ZBC_BAPIADMIN, provided with the integration, to reprocess errors.
- EXT (External messaging system) - The External messaging system sends back a return code to the message queue.

The following table shows the processing modes that each program uses in this integration.

Table 12. Integration processing modes

Ident	Description	Processing mode
MICFI	CREATE FI INVOICE	BDC/BAPI
MICMM	CREATE MM INVOICE	BAPI
MISU	CREATE GOODS ISSUE	BDC/BAPI
MPOI	CREATE PURCHASE ORDER	BDC/BAPI
MPOU	UPDATE PURCHASE ORDER	BDC/BAPI
MPRI	CREATE PURCHASE REQUISITION	BDC/BAPI
MRCV	CREATE RECEIPT	BDC/BAPI
MRSVD	DELETE RESERVATION	BDC
MRSVI	CREATE RESERVATION	BDC/BAPI
MSRVU	UPDATE RESERVATION	BDC
MWI	CREATE WORKORDER	BDC/BAPI
MWU	UPDATE WORKORDER	BDC
MLPYI	CREATE LABOR HOURS	BDC/BAPI

Table 12. Integration processing modes (continued)

Ident	Description	Processing mode
MICGL	CREATE GL POSTINGS	BDC/BAPI

Configuring ZBC_RUNTIMES

This table stores the last execution dates of the reports for SAP to Maximo.

You receive this table with default values. Configure it to meet the requirements of your integration.

Note:

Change only the CPUDT and PARAM columns:

Change the last run date (CPUDT) to the actual date of installation, or to the date on which you transport the table to a new environment. A new environment can be a test system or production system.

The PARAM column is customer⌂specific.

The DESTINATION column must be the Business System name (also defined in ZBC_DESTINATION) for SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration for all rows. The destination is a logical name, not a physical location. SAP uses it to differentiate the integration rows in this table from all other entries.

Configuring ZBC_SAPMXCONFIG

This table stores the variables and values of Maximo data that are needed during transactions from SAP to Maximo.

This table filters for Maximo PR numbers, so that only PR numbers recognized by Maximo go out.

The system name must match the name of the receiver system in the System Landscape Directory of SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration and the ZBC_Destination.

You must set up this table manually.

Table 13. Attributes of the ZBC_SAPMXCONFIG table

Varname	Description	Required	Dependencies
APINVUPD	Send Inventory (price) update after Invoice (X).	No	None
BAPIME51N	Enter a value of X if you want to use the new SAP PR BAPI (BAPI_PR_CREATE) that supports additional data for the SAP Enjoy Purchase Requisition feature. Leave this field blank if you want to use the standard PR BAPI (BAPI_REQUISITION_CREATE).	No	To use the new SAP PR BAPI, apply the SAP Hotpackage SAPKH6005 in your mySAP ERP 2005 system.
GR_SETCOST	MAXIMO to accept incoming costs on receipts from SAP	No	None

Table 13. Attributes of the ZBC_SAPMXCONFIG table (continued)

Varname	Description	Required	Dependencies
MXBASELANG	Maximo base language	Yes	Receiving system dependent
MXLANGUAGE	Additional languages per receiver	No	Per receiver
MXPLANT	SAP plant codes for each plant integrated with Maximo. If an item is used in Maximo, the ZBC_FILTERS looks at this field to see if the plant is one that is used in Maximo.	No	Receiving system dependent
POPREFIX	Prefix that uniquely identifies an outbound PO as a Maximo PO number	No	None
PRPREFIX	Prefix that uniquely identifies an outbound PR as a Maximo PR number	No	None
MX5UPGDATE	Customers who upgraded from Release 5.x SAP adapter R/3 4.7 must manually configure this column to store date of upgrade.	No	None
SEQ_QUEUE	Specify one queue name per receiver. If a queue name is specified here, all records for the receiving system are written into the specified queue. If no queue name is specified, Process Integration or Process Orchestration uses multiple random queues. When messages are split, Process Integration or Process Orchestration writes the resulting records to the same queue.	No	Receiving system dependent
WOPARSETTL	Used for Work Order settling rules	No	Receiving system dependant

Specify the base language of Maximo. Languages are per receiver system.

Creating integration users in SAP

You must create an integration user in SAP, for example, the MQM user, to permit users to log on externally from the SAP Integration Server to the SAP system.

About this task

You need the user name and password that you define here when you create a channel on the SAP Business System during the configuration of Process Integration or Process Orchestration.

Procedure

1. In the SAP Easy Access menu, select **Tools** > **Administration** > **User Maintenance**.
2. Use the Create User Master Record window to create a user with the parameters in the following table:

Table 14. MQM user parameters

Parameter	Value
User Type	CPIC (Communication)
Initial Password	Specify a password to be used during Process Integration configuration or Process Orchestration configuration as noted previously in this section.
Authorization Profiles	SAP_ALL and SAP_NEW

3. Optional: Depending on the guidelines of your company, you can restrict the rights of this user to the processes that they must run. If you cannot use the SAP_ALL or SAP_NEW authorization profiles, you can grant rights to any of the transaction codes in the following table:

Table 15. SAP transaction codes

SAP transaction code	Description
KO01	Create internal order
KO02	Change internal order
MB21	Create reservation
MB22	Change reservation
ME51	Create requisition
ME21	Create purchase order
ME22	Change purchase order
MB01	Create goods movement
MB1A	Create goods issue
F⌂43	Create FI invoice
MIRO	Create MM invoice
FB01	Create general ledger posting
KB21	Enter CO labor hours

4. Test any restrictions you place on the rights of this user.
   - Grant rights for the S_RFC authorization object on the SYST, ZBC_M2S, and ZBC_S2M function groups
   - Grant read table rights
5. On the Maintain User Defaults window, specify:
   - Date form: YYYY/MM/DD
   - Decimal Notation: Period

Creating number range objects for BAPI error handling

You can configure the correct assignment of error message numbers on transactions you send from Maximo to SAP with BAPI programs. To configure the assignment of error messages, you must add a Number Range Object.

About this task

Procedure

1. In the SAP Easy Access menu, expand the **Tools** > **ABAP Workbench** > **Development** >**Other Tools** >**Number Ranges** and select **Enter**.
2. Specify ZMXESERROR in the **Object** field, and click **Create**.

3. Specify the following values and save your entries:

Table 16. Field values for number range objects

Field	Value
Short Text	Transaction Number
Long Text	Transaction Number for BAPI Errors
Number length domain	NUM10
Warning %	2.0

4. Click **Yes**.
5. Specify the name of the package and save.
6. Click **Continue**.
7. Click **Number Ranges**.
8. In the Transaction Errors for BAPI Errors window, click **Intervals**. The Maintain Number Range Intervals window appears.
9. Click **Interval** and specify the following values:

Table 17. Interval field values

Field	Value
Interval No	01
From Number	0000000001
To Number	9999999999
Current® Number	value = maximum value of ZBC_BAPI_ADMIN.MINDEX + 1

   To find the value of the **Current Number** field, complete the following steps:
   a. Type SE16 in the field of the SAP Easy Access menu.
   b. Select the ZBC_BAPI_ADMIN table.
   c. Sort the output by MINDEX to determine the last number assigned.
   d. Increase this value by 1 and use the new value as the current number. If there are no numbers in the ZBC_BAPI_ADMIN table yet, set the current number to 1.
10. Click **Insert** and **Save**.

What to do next

For more information about SAP transaction codes used for this integration, see the *IBM Maximo Enterprise Adapter for SAP Applications 7.6.1 System Administrator Guide.*

Configuring SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration

You must perform configuration tasks in the System Landscape Directory for SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration.

The System Landscape Directory contains all of the information about the information technology landscape of a system.

You must have system administrator rights and authorities to perform the configuration.

Configuring the System Landscape Directory

SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration is a set of applications that you use to configure the components of the integration in SAP. This configuration allows the SAP and Maximo systems to exchange information.

The first tools application that you must configure for Process Integration or Process Orchestration is the System Landscape Directory. The System Landscape Directory contains all of the information about the IT landscape of a system. The system landscape is logically divided into the following parts:

- Technical landscape: computers, hardware, systems, and servers
- Business landscape: logical definitions and configurations

Logging on to the System Landscape Directory

Before you configure the System Landscape Directory, you must log on to the System Landscape Directory.

Procedure

1. Use the SAPGUI to log on to the SAP NetWeaver Process Integration server or the SAP NetWeaver Process Orchestration server.
2. In a new internet browser window, open the Tools home page for Process Integration or Process Orchestration by typing transaction code SXMB_IFR in the command field, and then press Enter. Instead of taking steps 1 and 2, you can access the Tools home page directly in a browser window by accessing the following URL: http://*server_name*:*http_port*/rep/start/index.jsp.
3. Select the **System Landscape Directory** link.
4. Type the System Landscape Directory user ID and password, and then click **Log on**.

Adding Maximo to the System Landscape Directory software catalog

The first task in the System Landscape Directory is to register your Maximo integration software with SAP. To do so, you add a new product to the software catalog.

About this task

The software catalog contains the information for software products installed on the SAP system. You must add the adapter to the catalog.

Procedure

1. In the System Landscape Directory home window, select the **Products** link.
2. Click **New Product Version**.
3. Specify the **Name**, **Vendor**, and **Version** fields as shown in the following table:

Table 18. Product details

Field	Value
Name	IBM Maximo Enterprise Adapter for SAP Applications
Vendor	ibm.com®
Version	7.6.1

4. Click **Create**.

5. In the **Name** field, specify IBM Maximo Enterprise Adapter.
6. Click **Create**.
7. Specify the field values as shown in the following table. When you import the Maximo software component version, it must match the values that you type here.

Table 19. Field values for IBM Maximo Enterprise Adapter

Field	Value
Name (must be in uppercase)	IMEA⌂INTEGRATE
Version	IMEA75⌂mySAPERP2005

8. Click **Create**.
9. Return to the System Landscape Directory home window by clicking the **Home** link.

Defining technical systems

You must define a technical system for the Maximo application server.

About this task

The technical system is the computer that Maximo runs on.

Procedure

1. In the System Landscape Directory home window, click the **Technical Systems** link.
2. Open the Technical System wizard by clicking **New Technical System**.
3. Select **Third-Party** as the technical system type, and click **Next**.
4. Specify details about the Maximo system with which you are integrating SAP, as shown in the following table:

Table 20. Maximo system and host names

Technical System Wizard, System Details field	Value
System Name	The name that you assigned to your Maximo Asset Management system
Host Name	The name of the computer where Maximo Asset Management is installed

5. Click **Next**.
6. In the list of available products, select the product that you created earlier, for example, IBM Maximo Enterprise Adapter for SAP Applications.
7. Select the check box for the IMEA-INTEGRATE, IMEA75-mySAPERP2005 component of ibm.com.
8. Click **Finish**. In the Technical System Browser, the message area shows that the third-party system was created.
9. Return to System Landscape Directory home window by clicking the **Home** link.

Creating business systems

The business system is the Maximo server that integrates with SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration.

About this task

The business system is the logical sender and receiver that exchanges messages with SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration.

Procedure

1. In the System Landscape Directory home window, select the **Business Systems** link.
2. Open the Business System wizard by clicking **New Business System**.
3. Select Third-Party as the type of technical system that this business system is associated with and click **Next**.
4. Select the technical system that you created. Ensure that the **Logical System Name** field is blank.
5. Click **Next**.
6. Specify the logical name of the business application, the Maximo system that you want to integrate SAP with. The default value is Maximo. Use the name that you defined for the Maximo receiver system in the ZBC_SAPMXCONFIG table and click **Next**.
7. Ensure that your product, for example, IBM Maximo Enterprise Adapter for SAP Applications is visible, that the check box is selected, and click **Next**.
8. Select the Process Integration or Process Orchestration server name for the SAP integration that you defined as the integration server when you installed the SAP NetWeaver Process Integration or SAP NetWeaver Process Orchestration system. Because it is a third-party product, the server is predefined as an application system in the **Business System Role** field.
9. Click **Finish**.
10. Click the **Home** link.

Importing integration objects

You must copy a file of integration objects, and then import the integration objects in the Enterprise Service Repository.

Copying the integration objects file from the xi-repository folder

You can import the integration objects from your computer or from the server.

About this task

To import the integration objects from the server, you must copy a file from the adapter xi⌂repository folder to your SAP NetWeaver Process Integration (PI) or SAP NetWeaver Process Orchestration (PO) system.

Procedure

1. Copy the following file from the `\\MAXIMO\SAP-Side\xi-repository` folder on the Maximo application server (*n* = a sequential number): `XI3_0_IMEA-INTEGRATE_IMEA75-mySAPERP2005_of_ibm.com_n.tpz` to the following folder on the PI or PO server (*SID* = the SAP system number): `\\usr\SAP\SID\SYS\global\xi\repository_server\import`. This file contains all of the PI or PO objects that the adapter integration needs.
2. Optional: If you downloaded a fix pack when you installed the adapter, the fix pack might add one or more additional files to the `\\MAXIMO\SAP-Side\xi-repository` folder on the Maximo application server. A file in the fix pack has a name such as the following example: `XI3_0_IMEA-INTEGRATE_IMEA75-`

mySAPERP2005_of_ibm.com-objs_x.tpz. If the file is part of a fix pack, the file name contains the string **objs**. The file contains the objects that are fixed in the fix pack. Copy the files by using the same method and location described previously in step 1.

What to do next

After you copy the file, you import the integration objects in the Enterprise Service Repository.

Importing objects into the Enterprise Service Repository

After you copy the integration objects file to the SAP NetWeaver Process Integration (PI) or SAP NetWeaver Process Orchestration (PO) Server, you must import the integration objects into the Enterprise Service Repository.

Procedure

1. In the Process Integration or Process Orchestration Tools home window, click **Enterprise Service Repository**.
2. Log on to the Enterprise Services Builder and select **Tools** > **Import Design objects**.
3. Select the following installation file from the list: XI3_0_IMEA-INTEGRATE_IMEA75-mySAPERP2005_of_ibm.com_x.tpz and click **OK**.
4. Click **Import**. The import process uploads the interface and message mapping, design objects, interfaces, and structures.
5. Optional: If you downloaded a fix pack during your installation of the adapter, repeat the import process for all fix pack files in the \\MAXIMO\SAP-Side\xi-repository folder on the Maximo application server. The fix pack files have names like XI3_0_IMEA-INTEGRATE_IMEA75-mySAPERP2005_of_ibm.com-objs_x.tpz. The *x* immediately before the.*tpz* extension in the file name is replaced in the actual file name with a number. If you have multiple fix pack files, you must begin with the lowest sequential number.
6. After you import the design source objects, a confirmation window opens. Click **Close**. On the Objects tab of the repository, you can expand **IMEA-INTEGRATE** to view the imported objects.

Configuring integration objects

After you register the integration software in the System Landscape Directory and import integration objects, you must configure the integration objects that you need for exchanging data between SAP and Maximo.

Logging on to the Integration Directory

You configure integration objects in the Process Integration Directory or Process Orchestration Directory application.

Procedure

1. In the Process Integration Tools or Process Orchestration Tools home window, select the **Integration Directory** link in the Configuration: Enterprise Services Builder module.
2. Log on as the Enterprise Services Builder user.

Assigning services without party

You must assign the previously created Maximo business system as a service without party.

About this task

A service without party is an application within the network of a company.

Procedure

1. In the Configuration: Enterprise Services Builder window, select the **Objects** tab.
2. Expand **Communication Component**.
3. Right-click **Business System** and select **Assign Business System**.
4. Click **Continue**. Do not type anything in the Assign Party window.
5. Click **Continue**.
6. Select the Maximo business system. Ensure that the **Create Communication Channels Automatically** check box is also selected and click **Finish**.
7. Select the language that you want to use for your configuration documentation and object descriptions. The default language setting in this window is the user logon language. In the integration, the original language is English. Selecting a language other than English here does not affect the integration.

   You can write documentation for any object that you create when you configure Process Integration (PI) or Process Orchestration (PO). PI and PO use the language that you select here for the documentation and descriptions that you write for the objects that you create during configuration.

   The adapter integration maintains its descriptions in English.
8. Click **Apply**.
9. Click **Close**. The new service name is visible under Business System in the tree view.

Configuring the communication channel for the new service

You must modify the GeneratedReceiverChannel_HTTP communication channel for the Maximo service name that you created.

Procedure

1. In the **Objects** tab of the Enterprise Services Builder window, expand the communication channel.
2. Double-click **| Maximo business system | GeneratedReceiverChannel_HTTP**.
3. Specify the HTTP channel details for the connection to Maximo. HTTP is the default communication channel between SAP and other systems. Process Integration and Process Orchestration have four possible communication channels:
   - HTTP
   - IDoc
   - RFC
   - XI

   The adapter uses only HTTP to communicate with Maximo.

   The value in the **Target Host** field comes from the technical system that you defined in the System Landscape Directory.
4. Switch to edit mode.
5. In the **Parameters** tab of the Edit Communication Channel window, specify the following connection parameters for the communication channel, GeneratedReceiverChannel_HTTP, and Maximo service:

Table 21. Connection parameters for the communication channel

Field	Value
Addressing Type	URL Address
Target Host (This value comes from the technical system that was defined in the System Landscape Directory.)	*<maximohost>*
Service Number (The adapter part of the installation uses this port number.)	*<maximoport>*
Path	`/meaweb/esqueue/SAP2005`
Authentication Data Authentication Type	Anonymous logon.

6. Select the following query parameter check boxes:
   - Sender Party
   - Sender Service
   - Receiver Interface
   - Message ID
   - Quality of Service
   - Queue ID
7. Optional: If you have a Maximo Asset Management Multitenancy environment that uses Maximo authentication, you must define a header field for the Maximo receiver communication channel. To define a header field, specify the following attributes in the **Define Header fields** section of the **Parameters** tab:

Table 22. Header field values

Field	Value
Name	maxauth
Value	*<User credentials encoded to base64 format >*

To encode user credentials to base64 format, use an online base64 encoder, for example, https:// www.base64encode.org. Enter the user credentials in the following format: <username>:<password>. For example, to generate a base64 code for a username of MAXUSER and a password of MAXuser1, enter the credentials into the base64 encoder as follows: MAXUSER:MAXuser1. These credentials generate the following base64 code: TUFYVVNFUjpNQVh1c2VyMQ==.

Users of Maximo authentication must have access to the following security groups:

- TOOLMGR
- ITEMMGR
- EVERYONE
- ALLSITES
- PURCHASING
- PERSONALCONFIG
- CONTRACTMGR
- STDSVCMGR
- SDREP2

Use the Security Groups application to grant users access to these security groups.

The tenant administrator must specify the following attributes for users of Maximo authentication:

Table 23. Field Values for Maximo authentication

Field	Value
Status	Active
Type	Type 1
Default Insert Site	<*Default Insert Site*>
Language	<*Language*>

8. Save and close the Edit Communication Channel window.

Creating and configuring channels on the SAP business system

You must make a copy of a channel and configure it with the appropriate data for your integration. You cannot change existing user⌂defined authentication data.

Procedure

1. On the **Objects** tab of the Enterprise Services Builder, expand the Communication channel and select the **GeneratedReceiverChannel_XI** of your SAP business system.
2. Right-click and copy the GeneratedReceiverChannel_XI communication channel.
3. Rename the copy as MXES_ReceiverChannel_XI.
4. Switch to Edit mode.
5. Change the user name to the name that you typed when you created the integration user.
6. Specify the password for your system, or the password that you typed when you created the integration user.
7. Click **Save**.

Creating receiver agreements

You must create a receiver agreement for each combination of data exchange between Maximo and SAP in the integration. The receiver agreement defines the channel that the sender and receiver uses.

About this task

You can have the following possible combinations of data exchange between Maximo and SAP in the integration:

- Maximo to SAP
- SAP to Maximo
- SAP to SAP

Procedure

1. On the **Objects** tab of the Enterprise Services Builder, right-click **Receiver Agreement** in the tree view, and then select **New**.
2. In the Receiver Agreement section of the Create Object window, specify the sender service.
3. Specify the receiver service.

4. In the **Interface** and **Namespace** fields, type an asterisk (*).
5. Define the channels that are used between the business systems by clicking **Create**.
6. In the **Receiver Communication Channel** field, select MXES_ReceiverChannel_XI from the selection list and save.
7. Repeat steps 1 through 8 for the other combinations of senders and receivers. The following table shows the three receiver agreements that you must create. In the **Interface** and **Namespace** fields, type an asterisk (*) for these other combinations of senders and receivers.

Table 24. Receiver agreements

Sender to Receiver	Receiver Communication Channel
Maximo to SAP system	MXES_ReceiverChannel_XI
SAP system to SAP system	MXES_ReceiverChannel_XI
SAP system to Maximo	GeneratedReceiverChannel_HTTP

What to do next

After you create the three receiver agreements, they are visible in the tree view under Receiver Agreement. You saved these agreements, but you have not yet activated them. The next step is to activate them. Alternatively, you can activate them later.

Activating changes to receiver agreements

After you create and configure receiver agreements, you must activate them.

Procedure

1. In the Enterprise Services Builder, close the edit windows.
2. Click the **Change Lists** tab.
3. Right-click **Standard Change List**.
4. Click **Activate**.
5. When you receive a message that confirms the change list was activated, click **Close**.

Configuring integration scenarios

You must configure the integration scenarios. Integration scenarios are templates that are included with the integration.

About this task

You select the integration scenarios that are specific to your integration requirements. You can use these scenarios as a basis for configuring the information and details of your integration between Maximo and SAP.

The following sequence describes the general flow of tasks to complete when configuring each scenario:

Procedure

1. Select the component view from the Enterprise Service Repository.
2. Assign business system services to component actions based on template scenarios.

3. Configure connections.
4. Generate the scenario.

What to do next

You can create your own configurations by building transaction flows by using, for example, every object and message type available. To save configuration time, you can review the scenario templates provided with the integration to decide if you can use them for your customization requirements.

Selecting integration scenarios

The first task when configuring integration scenarios is to select and transfer a scenario from the Enterprise Service Repository.

About this task

Procedure

1. In the Configuration: Enterprise Services Builder window, from the **Tools** menu, select **Apply Model from ES Repository**.
2. Select the **Process Integration Scenario** or **Process Orchestration Scenario** radio button and open the selection list of the **Name** field. The list shows all the integration scenarios in the Enterprise Service Repository. Scenarios for the integration between Maximo and SAP begin with the MXES_ prefix .
3. Select a scenario to configure from the list. For example, select MXES_M2S_WorkOrder and click **OK**.
4. Click **Continue**. The default scenario name is entered in the **Configuration Scenario** field. Use the default naming convention, which matches the scenario name in the repository.
5. Click **Finish** and close the wizard.

Configuring scenarios

You must configure an integration scenario in the Model Configurator.

Assigning services to templates in the scenario:

The next configuration step is to assign services (that you defined in the System Landscape Directory) to each template that has one or more actions.

About this task

In the Component View section of the configurator, three templates are shown. Two of them contain process boxes. These boxes are called actions.

In the example of the MXES_M2S_WorkOrder scenario, services are assigned to the actions in the SAP Enterprise and Maximo Enterprise Templates.

- The SAP scenario templates always are assigned to the SAP business system or service.
- The Maximo scenario templates always are assigned to the Maximo business system or service.

Procedure

1. In the Model Configurator window, double-click **SAP Enterprise Template**.
2. Add a communication component.

3. Open the Communication Component value list.
4. Select a component from the list.
5. Click **Apply**.
6. Optional: To assign services to the Maximo template, repeat steps 1to 5 for the Maximo Enterprise template, and assign the Maximo service to the template.

Generating scenarios:

You must generate the integration scenario in the Generate step of the component view of the Model Configurator.

Procedure

1. Click **Create Configuration Objects.**
2. Change the following settings:
   - **General:** select **Generation**
   - **Scope of Generation:** clear the **Sender/Receiver Agreement** check box (because you already defined them manually with the asterisks).
3. Click **Start**. The Generation Log, a summary of the configuration, shows your configuration entries. You can use this view to check for errors.
4. Expand the **Notes for Using the Log** section for help text.
5. Save or close the log file to continue.
6. Close the Model Configurator and click **Apply**. The **Configuration Scenario Objects** tab displays the objects that you created.

Results

So far, you have created the receiver determination and the interface determination.

What to do next

To review configuration information for objects you created, select the tree view **Objects** tab, expand **Receiver Determination and Interface Determination**, and double⌂click the objects created to see configuration information.

You can activate the scenario now, or continue configuring scenarios, and activate them as a group later.

Continue selecting and configuring the scenarios that apply to your integration requirements. Do so for transactions that go from SAP to Maximo, and for transactions that go from Maximo to SAP.

Use the procedures already described in the previous sections to select and configure scenarios, assign services, and generate the scenarios.

Repeat this configuration process for each scenario you use in your integration.

Activating change lists

After you configure the scenarios that you need for your integration, the next step is to activate the change lists to activate the objects.

Procedure

1. Close edit windows.
2. Click the **Change Lists** tab.
3. Right-click **Standard Change List**, and then select **Activate**.
4. Click **Activate**.

Adjusting interface determination objects manually

The next set of configuration tasks is to adjust the interface determination objects manually. You must edit the expressions that define the conditions for how the interfaces handle transactions between SAP and Maximo.

You must configure the following Interface Determination objects. Replace *SAP system* and *Maximo* with the values that you use for both systems.

- *SAP system*SAP_MATERIALS_TOMX*Maximo*
- *Maximo*MXINVOICE_TOSAP05*SAP system*
- *Maximo*MXWODETAIL_TOSAP05*SAP system*
- *SAP system*SAP_GM_TOMX*Maximo*

Distributing material master data from SAP to Maximo

You must apply conditions to the object that SAP uses to determine which Maximo interface to send a Material Master transaction to.

About this task

Distributing material master data from SAP to Maximo has the following interface determination object. Replace *SAP system* and *Maximo* with the values that you use for both systems: *SAP system*SAP_MATERIALS_TOMX*Maximo*

The interface that is called depends on the data being sent, based on conditions set here in the interface determination object. For example, one condition for sending data might be to call the reservation interface only if a work order reservation is attached. Otherwise, use a different interface.

The adapter has three material master data transactions:

- Item
- Inventory
- InvBalances

Procedure

1. In the Configuration: Enterprise Services Builder window, click the **Objects** tab, and expand **Interface Determination**.
2. Double-click the SAP_MATERIALS_TOMX interface determination. For this sender interface, the three possible Maximo receiver inbound interfaces are shown in the Configured Inbound Interfaces section of the window.
3. Change to the edit view.
4. Open the Condition Editor by clicking the **Condition** field. Use the Condition Editor to add the conditions.

   The following tables show the values that you must configure for each interface determination object.

   If the condition requires a namespace prefix (p1), add the prefix and namespace information to the list of namespaces in the Condition Editor.

In the Condition Editor, click the headings, for example, Left Operand, to open the Expression Editor for that expression.

Table 25. Interface conditions for S2M_MaterialMaster / Material Master from SAP to Maximo

Interface	Condition
Sender: SAP_MATERIALS_TOMX	Not applicable
Receiver: MXITEM_FRSAP05	//IDENT=XII
Receiver: MXINVENTORY_FRSAP05	//WERKS~+*
Receiver: MXINVBAL_FRSAP05	//LGORT~+*

Table 26. Interface conditions for S2M_MaterialMovement / Material Movements from SAP to Maximo

Interface	Condition
Sender: SAP_GM_TOMX	Not applicable
Receiver: MXINVISSUE_FRSAP05	//IDENT=XISU
Receiver: MXRECEIPT_FRSAP05	//IDENT=XRCVI

Table 27. Interface conditions for M2S_Invoice / Invoice from Maximo to SAP

Interface	Condition
Sender: MXINVOICE_TOSAP05	Not applicable
Receiver: SAP_INVOICEMM_TOSAP	//p1:SAP_APTYPE=MM
Receiver: SAP_INVOICEFI_TOSAP	//p1:SAP_APTYPE=FI

- prefix = p1
- namespace = `http://www.ibm.com/maximo1`

Table 28. Interface conditions for M2S_Reservation / Reservation from Maximo to SAP

Interface	Condition
Sender: MXWODETAIL_TOSAP05	Not applicable
Receiver: SAP_WO_TOSAP	Not applicable
Receiver: SAP_RESERVATION_TOSAP	//p1:INVRESERVE/@action=Add

- prefix = p1
- namespace = `http://www.ibm.com/maximo`

5. Save the conditions and open the **Change Lists** tab.
6. To activate your changes, right-click **Standard Change List**, and then select **Activate**.
7. Click **Activate**.

Results

You have completed the installation and basic configuration of the adapter.

Notices

This information was developed for products and services that are offered in the USA.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
United States of America

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:
INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those

websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
2Z4A/101
11400 Burnet Road
Austin, TX 78758 U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

All IBM prices shown are IBM's suggested retail prices, are current and are subject to change without notice. Dealer prices may vary.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

Portions of this code are derived from IBM Corp. Sample Programs.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at www.ibm.com/legal/copytrade.shtml.

Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions.

Applicability

These terms and conditions are in addition to any terms of use for the IBM website.

Personal use

You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of IBM.

Commercial use

You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of IBM.

Rights

Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

IBM reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by IBM, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations.

IBM MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

IBM Online Privacy Statement

IBM Software products, including software as service solutions, (“Software Offerings”) may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information, specific information about this offering’s use of cookies is set forth below.

Depending of the configuration deployed in the application server, this Software Offering may use session cookies for purposes of session management. These cookies can optionally be enabled or disabled, but disabling the cookies will also disables the functionality they enable. See the application server documentation for additional information.

Optionally, you can also use functionality, such as typeahead, to store data locally on the browser. The data that is stored locally could contain personally identifiable information: Data validation.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see IBM’s Privacy Policy at http://www.ibm.com/privacy and IBM's Online Privacy Statement at http://www.ibm.com/privacy/details in the section entitled “Cookies, Web Beacons and Other Technologies” and the "IBM Software Products and Software-as-a-Service Privacy Statement" at http://www.ibm.com/software/info/product-privacy.

Index

Printed in USA