

White Paper on Master Data Extraction from ERP R3 System to SAP MDM via SAP PI



Applies to:

SAP Netweaver Master Data Management 5.5 Server, SAP Process Integration 7.0 Server & ECC6 R3 Server. For more information, visit the [Master Data Management homepage](#).

Summary

This Article talks about the Complete Landscape Description of the Master Data Extraction of Material Master Data From the SAP ERP R3 System to SAP MDM Repository. This article will provide all the minute configuration details of the whole Integration Landscape including the configuration details at all the 3 different System Level namely SAP MDM, SAP PI & SAP R3 system. This article will only deal with the Extraction procedure of Material Master Data from Backend R3 System to MDM Repository.

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1. Business Scenario

The Business Process talks about one prominent portion of the IT Process of SAP Netweaver MDM and the complete configuration details of all the systems required for the successful implementation of that particular IT Process.

The portion of the IT Process this document will talk about is Master Data Consolidation, which involves the Master Data Extraction from the Backend ERP R3 Systems to the MDM repositories and then the Consolidation of Master Data using the de-duplication, cleansing & other features of SAP NW MDM. This particular business process will only talk about the Master Data Extraction Part of Master Data Consolidation IT Process.

Prerequisite for this particular Scenario to be implemented from the business process point of view is

- Application of the required Patch on the SAP R3 System to enable the features of the Reference Data Extractor (MDMGX) and the Master Data Extractor (MDM_CLNT_EXTR).

And

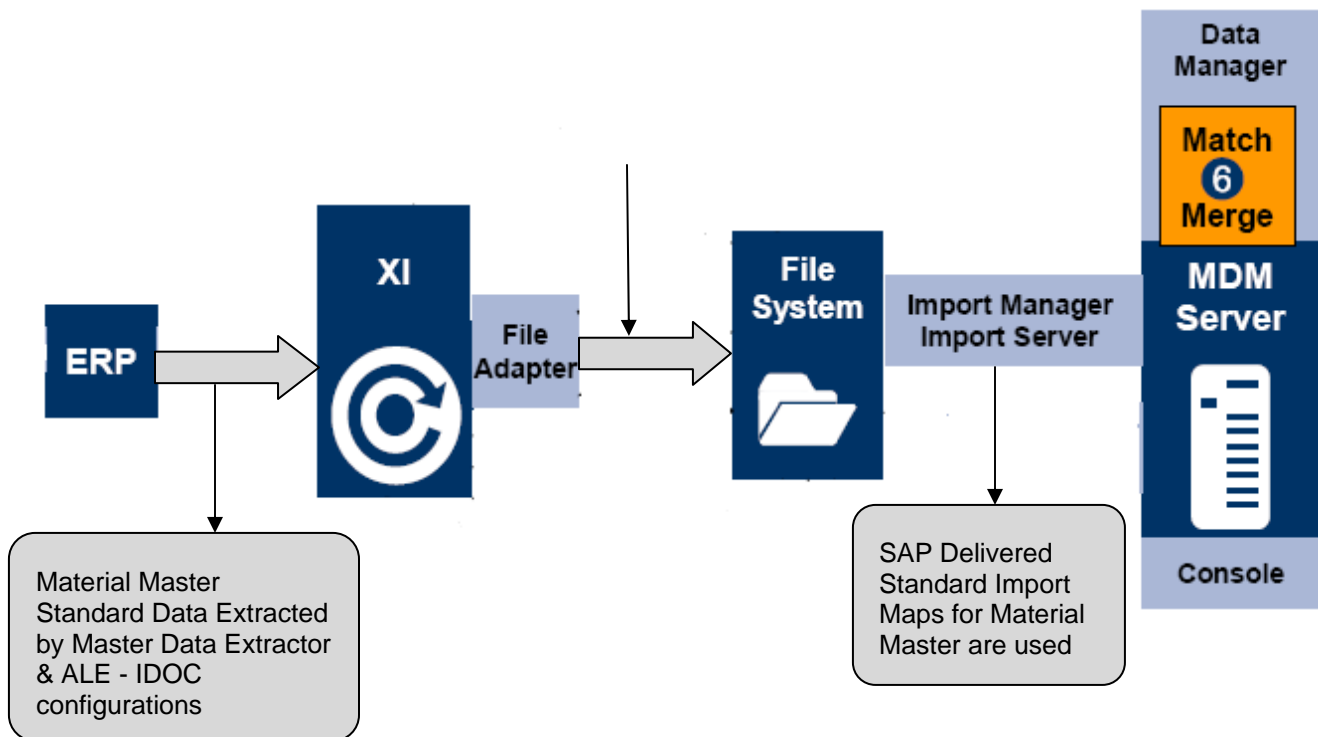
- The Extraction of all the Reference Data for Material Master through Reference Data Extractor from R3 System to MDM Material Master Repository is completed successfully.

Hence when this configuration takes place, Material Master Reference data is already available in the MDM Repository.

This article talks about the extraction of Material Master Data from ERP R3 System through Master Data Extractor & then sending that data to MDM Repositories via SAP PI.

SAP Process Integration or SAP PI acts as a Middleware to take up the Master Data from the ERP R3 System & then sending that data to MDM Material Master Repository.

The Process Flow Diagram, which explains this complete Business Process, is as follows:



In this Business Process the Configuration happens in mainly 3 stages in the 3 different systems, which are SAP MDM server 5.5 (which is used in this scenario); SAP PI Server 7.0 and ERP R3 ECC6 System.

The different stages of Configuration are now described in detail.

2. ERP R3 Configuration

The ERP R3 system needs to be configured in different steps. In this Business Process mass bundled Material Master IDOC (Used for MDM purpose) is used which is MATMAS and its latest version is 05 so MATMAS05 is to be used.

Since this business process talks about the Master Data Extraction of Standard Material Master Data from the ERP R3 System to MDM Repository, the R3 Configuration involves the ALE & Master Data Extractor(MDM_CLNT_EXTR) Configuration.

The configuration Steps are as follows:

2.1 ALE Configuration in ERP R3 System

The ALE & IDOC Configuration needs to be done for receiving the MATMAS05 IDOC from SAP PI system and then storing that master data into the Application Repository.

The steps for the ALE configuration are as follows:

2.1.1 Creating a New Logical System for Receiver PI System

For the ALE Configuration the first step is the creation of a Logical System for Receiver PI system.

The Steps of configuration are:

- TCode – Bd54/SALE – For SALE TCode the steps are :

Display IMG

Existing BC Sets | BC Sets for Activity | Activated BC Sets for Activity | Release Notes | Change Log | Where Else Used

Structure

- ▼ IDoc Interface / Application Link Enabling (ALE)
 - ▼ Basic Settings
 - IDoc Administration
 - Inbound SOAP for IDoc: Register Service
 - Perform Automatic Workflow Customizing
 - Activate event receiver linkage for IDoc inbound
 - ▼ Logical Systems
 - Define Logical System
 - Assign Logical System to Client
 - Convert Logical System Names in Application Tables
 - Communication
 - Modelling and Implementing Business Processes
 - System Monitoring

Information

Caution: The table is cross-client!

Continue (Enter)

Change View "Logical Systems": Overview

Log.System	Name
MDM_TEST	LS Name for Receiver PI System for Test
MDS_00_800	Master Data Management Server
MYSYS	mysystem
N13CLNT800	N13 Client 800
NEW1800	reciever1
NEW800	sender1
NEWLOG1	new logical system
NSR_RECEIV	Receiver machine
NSR_SENDER	sender machine
P001	Sender
P13CLNT800	P13 Client 800
P23CLNT800	P23 Client 800 - PDR
P2DCLNT033	Sending system

2.1.2 Creating the Logical System for Sender R3 System & Assigning the Client

The Logical system maintained for that particular R3 system needs to be checked & configured if necessary.

Configuration Steps:

- Tcode – SCC4 – The LS name maintained here should be used as the Sender R3 LS or it may be changed according to the MDM Project requirements. This LS Name here is also assigned to the Client for which it is created.

The following Screen describes this:

Display View "Clients": Details



Client	<input type="text" value="800"/> <input type="text" value="SAPTRN"/>	
City	<input type="text" value="powai"/>	Last Changed By
Logical System	<input type="text" value="TRNCLNT800"/>	Date
Std currency	<input type="text" value="INR"/>	
Client role	<input type="text" value="D Demo"/>	

Changes and Transports for Client-Specific Objects

Changes without automatic recording

Automatic recording of changes

No changes allowed

Changes w/o automatic recording, no transports allowed

2.1.3 Configuration of RFC Destination Pointing to PI System

A RFC Destination is to be created with the exact same name as the LS name for the Receiver PI System. This RFC Destination will point to the receiver PI System which would be used in the integration Landscape.

Configuration Steps:

- Tcode – SM59/SALE – Communication – Create RFC Connections.

The Following screenshots describes what technical details about PI Server needs to be given:

RFC Destination MDM_TEST

Remote logon Test connection Unicode Test

RFC destination: MDM_TEST
 Connection type: 3 R/3 connection

Description

RFC Destination for the Receiver PI System for Test

Technical settings Logon/Security Special Options

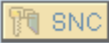
Load distrib. Yes No
 Target host: PISERVER System Number: 00
 Save as HostName IP Address 172.25.8.118

The Logon & Security Tab is filled as:

Technical settings Logon/Security Special Options

Security Options

Trusted System No Y Logon Screen

 SNC Inactiv
 Actv.

Authorization:

Logon

Language: EN
 Client: 800
 User: DEVELOPER Current User
 Password: ***** Unencrypted Password (2.0)

2.1.4 Configuration of Communication Port

A Transactional RFC Communication Port is to be created which is used for R/3 systems. Then the port needs to be mapped with the RFC Destination.

Creating a tRFC port

Ports	Description
TEST_PORT	Communication Port for Re
TEST_SPRT	
TODAY	NEW POERT
TRN_PORT	port for trn
TR_PORT	Port for testing the RFC
VIKAS	PORT FOR XI
XI3TRFC	Port for connecting TRN to >
XIPOINT	POR CONNECTING TO SAF
XISAPBL1	Port Connecting to 172.25.8
XITEAM_POR	xi team port
XI_00_800	XI Integration Server

Port: TEST_PORT
 Description: Communication Port for Receiver PI System For Test

Version:
 IDoc rec.types SAP Release 3.0/3.1
 IDoc record types SAP Release 4.x

RFC destination: MDM_TEST

2.1.5 Configuration of Partner Profile

Partner Profile needs to be configured for Outbound Message types for Material Master that is MATMAS05. Also along with that the Message type MDMRECEIPT also because as transaction MDM_CLNT_EXTR still has to support the old MDM releases, this IDoc type have to be configured in ALE, although it is not used in standard MDM 5.5 scenarios. If an extraction is run and it fails with error "BI 003 – Could not determine recipients for message type MDMRECEIPT", then the ALE is not configured correctly. The following screenshots describes the Partner Profile:

Partner profiles

Partner	Description
ZRECRWASS	Receiver WASS
ZRECV64	receiver ls
ZRECV_551	Test Receiver 1
ZRECV_NEW	Test Receiver
ZRECV_S	receiver system
ZRECV_SS	receiver server
ZRECV_TEST	Receiver test ex
ZREC_ING	RECEIV_ING
ZSEN565	SENDER SERV
ZSEND198	sender ls
ZSEND87	ECC 500 New
ZSEND94	Receiver system c
ZSENDER123	sender
ZSENDEREC6	sender for EC6
ZSEND_551	Test Sender 17
ZSEND_NEW	Test server
ZSEND_S	sender system
ZSEND_TEST	Sender test exa
ZSHOURYA	SENDER108
ZSHSEND	sending system
ZSH_RECV	RECIEIVING SY
ZSH_SEND	SENDING SYS
ZSH_SEND1	sender
ZSM5_RCV	SM5 receiver

Partner no.: MDM_TEST LS Name for Receiver PI System for
 Partn.Type: LS Logical system

Post processing: permitted agent Classification

Type: US User
 Agent: DEVELOPER Sap Newsletter
 Lang.: EN English

Outbound parmtrs.

Parth.funct.	Message type	Message var...	MessageFu...	Test
	MATMAS			
	MDMRECEIPT			

Partner profiles: Outbound parameters

Partner no.	MDM_TEST	LS Name for Receiver PI System for
Partn.Type	LS	Logical system
Partn.funct.		
Message Type	MATMAS	Material master
Message code		
Message function		<input type="checkbox"/> Test

Receiver port	TEST_PORT	Transactional RFC	Communication Port for Recei...
Pack. Size	1		

Output Mode		Output Mode	2
<input checked="" type="radio"/>	Transfer IDoc immedi.		
<input type="radio"/>	Collect IDocs		

IDoc Type		Enhancement: Distribution of ...
Basic type	MATMAS05	
Extension		
View		

2.1.6 Creation of ALE distribution Model/Customer Distribution Model

A customer distribution model needs to be created with a Model Name & then the MATMAS & MDMRECEIPT Message Type should be added there under the Sender PI System & Receiver R3 System.

Create Model View	
Short text	Model for MDM
Technical name	MDM Test
Start Date	14.05.2009
End Date	31.12.9999

Add Message Type	
Model view	MDM TEST
Sender	TRNCLNT800
Receiver	MDM_TEST
Message type	MATMAS

Model view	MDM TEST
Sender	TRNCLNT800
Receiver	MDM_TEST
Message type	MDMRECEIPT

Change Distribution Model

Distribution Model	Description/ technical name	Business object
Model for MDM	MDM TEST	
Logical System for this R3 System	TRNCLNT800	
LS Name for Receiver PI System for Test	MDM_TEST	
MATMAS	Material master	
No filter set		
MDMRECEIPT	Receipt MDM	

After creation of the Model & adding of the Message types the Partner Profile needs to be generated and the Distribution model needs to be distributed from the Edit Menu.

2.2 Master Data Extractor Configuration (MDM_CLNT_EXTR)

The Master Extractor needs to be configured by setting the variants & using the LS name of the ALE settings done above.

The Variant Name according to Material Master Data & a short description is also given. The Extraction Object is given according to the Message type of the Master which is to be exported, thus here the MATERIAL_EXTRACT Extraction Object is selected which will in turn call the MATMAS05 Mass Bundled IDOC. In the Target system the Logical System Name of the Receiver PI system is given. The Mode is kept Initial if it is a first time Extraction. The Block size is selected on the basis of how many IDOCs are to be mass bundled together.

Local Extraction Control

Select a variant or enter a new variant

Variant: VAR_MATERIAL

Configure the new variant

Description: Variant for Extraction of Material Master Data using MATMAS

Extraction Object: MATERIAL_EXTRACT

Target System: MDM_REC_TR

Distribution Mode: I

Block Size: 000025

Field Groups: Selection Transfer

After this configuration 'Enter' is given and the following screen appears:

Local Extraction Control

Select a variant or enter a new variant

Variant:

Change the configuration of the existing variant

Description:

Extraction Object:

Target System:

Distribution Mode: Block Size:

Field Groups	Selection	Transfer	Field Name	From Value	To Value
E1MARAM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MATKL		
E1MARA1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MATNR	MDM_DEMO_98	
E1MAKTM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MTART		
E1MARC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AENAM		
E1MARCMM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AENNR		
E1MARM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AESZN		
E1MARM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	BEGRU		
E1MARM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	BEHVO		
E1MARM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	BISMT		
E1MARM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	BLANZ		
E1MARM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	BLATT		
E1MARM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RMATN		

When all the Configuration from the R3 , MDM & PI Side are completed then the 'Start Extraction' Button is clicked of this extractor as shown below & the Extraction Process starts.

Local Extraction Control

Select a variant or enter a new variant

3. SAP MDM Server Configuration

The SAP MDM 5.5 server needs certain configurations for the Master Data Extraction to take place.

The Prerequisite for this configuration are:

- Setting up a FTP server inside the MDM server & setting the Home Directory Path of the FTP to the Repositories of the MDM server.
- It is taken as granted that the Material Master Repository is already designed & configured with the help of SAP Delivered MDM Business Content of Material Master from the Service Marketplace
- The Repository contains the already extracted Material Master Reference Data(by MDMGX).

The different configurations in MDM Front are as follows:

3.1 Remote System Configurations

In the Admin configuration part of Material Master Repository the remote systems needs to be configured for the backend ERP R3 System. In the screenshot below Remote System for the R3 is highlighted.

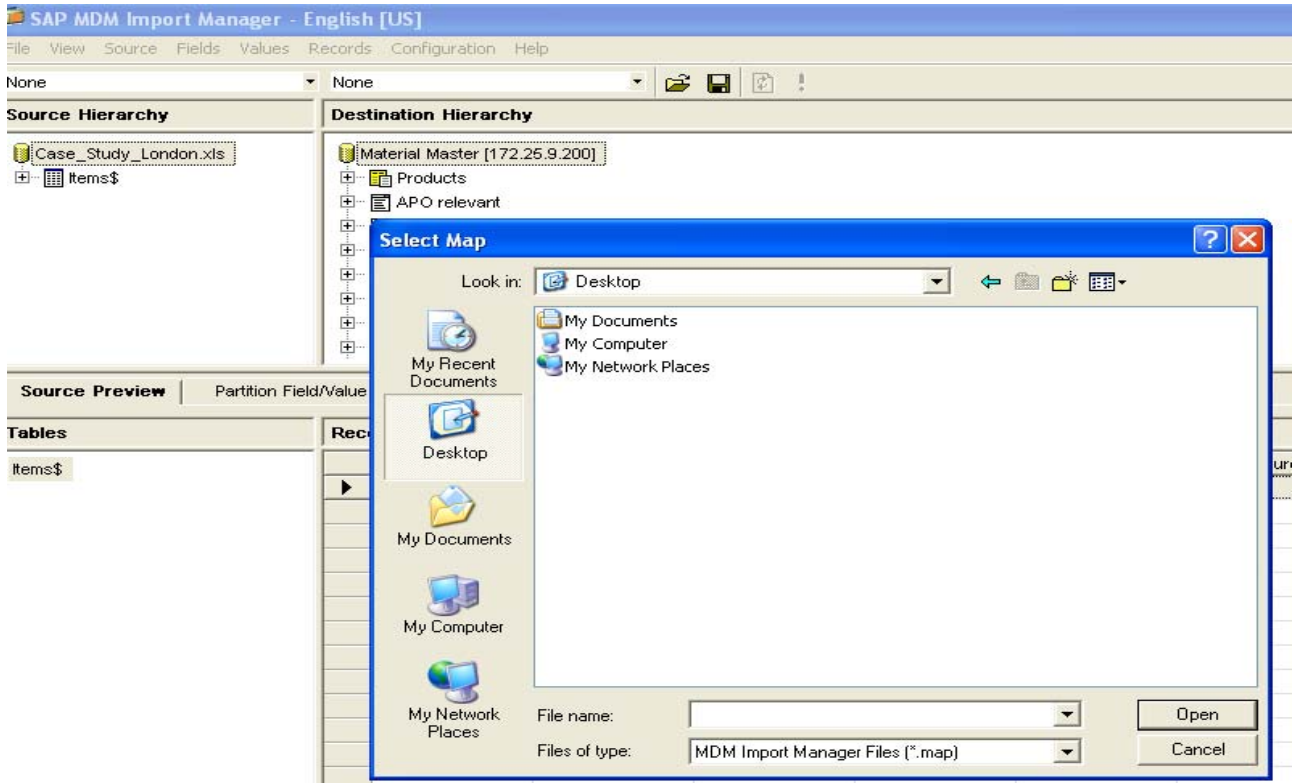
The screenshot displays the SAP MDM Console interface. On the left is the 'Console Hierarchy' tree, and on the right is the 'Remote Systems' table. The 'MDC R3 Competency System' is selected and highlighted in blue. Below the table, the 'Remote System Detail' for this system is visible.

Name	Code	Type	Key Generation	From	To
MDM	MDM	Inbound/Outbound	None		
MDC R3 Competency System	R3_ERP_CEB	Inbound/Outbound	None		
MDC BI	BI	Inbound/Outbound	None		
Business One	B1	Outbound	None		

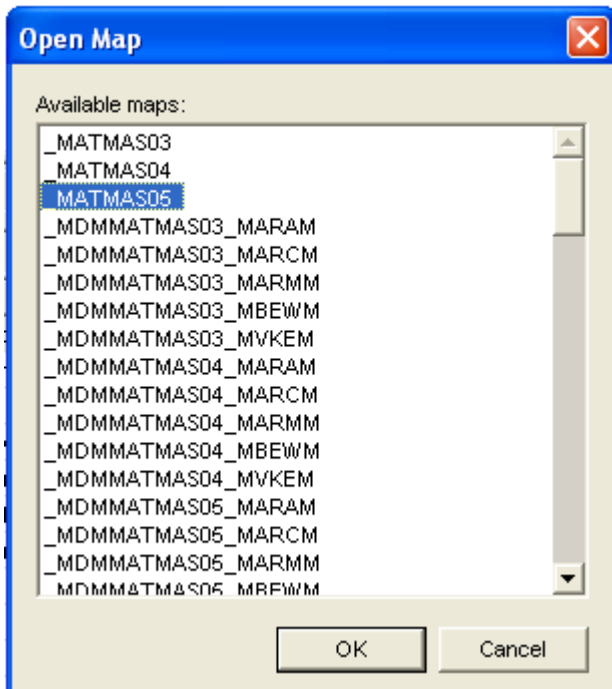
Remote System Detail	
Name	MDC R3 Competency System
Code	R3_ERP_CEB
Type	Inbound/Outbound
Key Generation	None
From	
To	
Lookup Field	
Qualified Range	

3.2 Use of SAP Delivered Standard Import Maps

The SAP Delivered Standard Mappings for Material Master is used in this Business Process. The Standard Import Map for Material Master is available in the SAP Standard Business Content for Material Master to be downloaded from SAP Service Marketplace. This standard Import Map needs to be imported in MDM Import Manager with a name for one Remote System & relevant Outbound Port. In the screenshot below import of Standard Import Map is shown.



After the import of Standard Import map is done that map is opened in Import Manager.



3.3 Inbound Port Configuration

The Inbound Port for the Backend R3 System are configured so that during import the xml file is sent to the ready Folders of the corresponding inbound Port.

In the screenshot below the inbound port for the R3 Remote system is shown.

- Create an inbound port in MDM Console.
- The processing type is set to manual as of now so that import will take place manually through Import Manager.
- To automate the Import Process, the processing type is changed to automatic.
- The type is kept as Inbound.
- The Standard Import map is added as the map in this port.

Sequence	Name	Code	Type	Format	XML Schema
[64]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[65]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[66]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[67]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[68]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[69]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[70]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[71]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[72]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[73]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
[74]	_MDMMATMAS0...	_MDMMATMAS0...	Inbound	XML Schema	MDMMATMAS0...
	_GenericProduc...	_GenericProduc...	Outbound		
	_StandardPurch...	_StandardPurch...	Outbound		
	_MATMAS03_R3...	_MATMAS03	Outbound		
	_MATMAS05_R3...	_MATMAS05	Outbound		
	_MATMAS04_R3...	_MATMAS04	Outbound		

Port Detail	
Name	_MATMAS05_R3_ERP_Out
Code	_MATMAS05
Type	Outbound
Remote System	MDC R3 Competency System
Map	MATMAS05_R3
Format	
Columns	
Delimiter	
XML Schema	
Processing Type	Manual

4. Configuration of SAP PI System

The SAP PI 7.0 System is configured for this business scenario in which it will take up the MATMAS05 IDOC from the ERP R3 System and then convert it into XML Format using the Standard Interface Mappings of Material Master. The Interface Mappings to be used in PI System are part of the SAP standard content Downloaded from Service Marketplace & Deployed on Integration Repository.

The ALE Configuration in the SAP PI ABAP System, System Landscape Directory, Integration Repository & the Integration Directory needs to be configured for the implementation of this Business Process.

The different Configuration steps are as follows:

4.1 ALE configuration in the SAP PI ABAP System

The SAP PI ABAP System ALE configuration is required for the RFC Destination & the port.

4.1.1 RFC Destination Creation

The First configuration in the SAP PI ABAP System is the RFC Destination Creation which will point towards the Sender R3 System.

TCode -> SM59

The Technical Settings is as follows:

RFC Destination MDM_R3Test

Remote Logon
Connection Test
Unicode Test
✎

RFC Destination

Connection Type
Description

Description

 Description 1
 Description 2
 Description 3

Administration
Technical Settings
Logon & Security
MDMP & Unicode
Special Options

Target System Settings

Load Balancing Status

 Load Balancing Yes No

Target Host
System Number

Save to Database as

 Save as Hostname IP Address

4.1.2 Port maintenance in IDOC Adapter

The next step is the Port Maintenance in IDOC Adapter which is the creation of communication port mapped with the RFC Destination created above.

TCode -> IDX1

Port Maintenance in IDoc Adapter

📄
✎
🗑️

Ports	Description
Ports	
SAPECS_100	Port for SAP ECC 6.0 (ECC
SAPEI6_800	Communication Port for Se
SAPEID_800	Communication Port for Re
SAPID6_800	Communication Port for Se
SAPINS_100	Communication Port for In:
SAPTRN_800	Communication Port for Se

Port

Client

Description

RFC Destination

Receiver of Status Messages

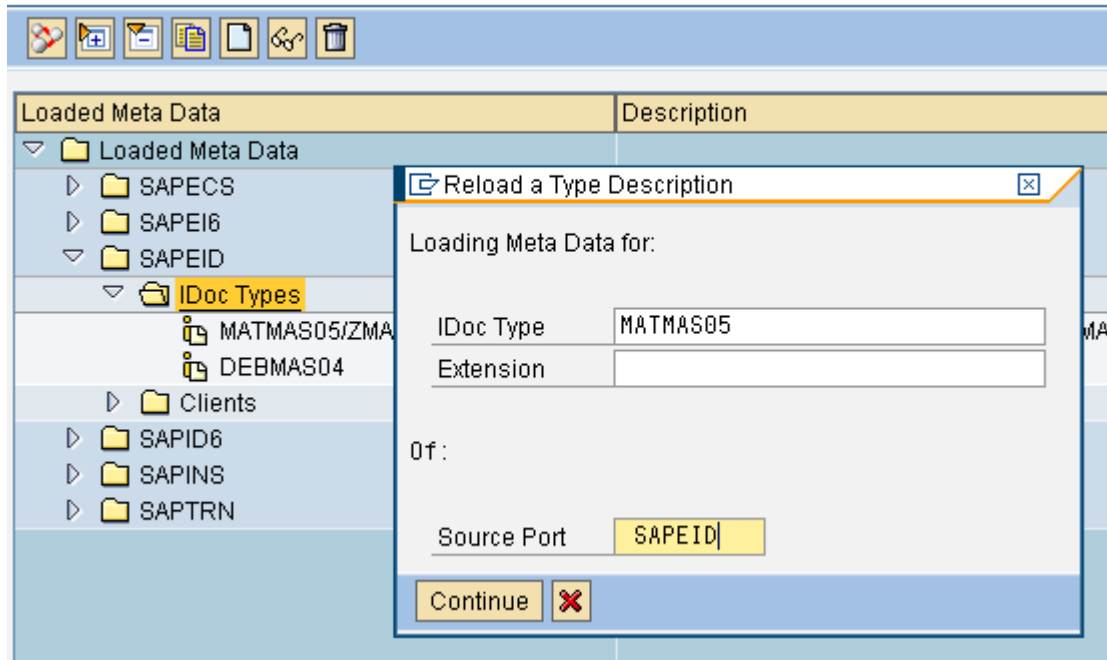
 Partner No.
 Partn.Type

4.1.3 Metadata Overview for IDOC Adapter

Then comes the maintenance of Metadata overview for IDOC adapter where the IDOC to be used its structure is loaded successfully in the PI ABAP System.

TCode -> IDX2

Metadata Overview for IDoc Adapter



On successful Loading of the metadata a pop-up comes giving that confirmation.

4.2 Configuration of System Landscape Directory

The SLD configuration includes Downloading the Current Common Information Model (CIM) and the latest version of the Component Repository (CR) Content from the SAP Service Marketplace. After that this latest CIM and Component Repository Content needs to be deployed in the System Landscape Directory.

Once this deployment is done the latest Software Products & Software Component Versions including the latest MDM related Software Products & Software component Versions are available in the Software Catalog of SLD which can now be used in this Business Process.

4.2.1 Configuration of Software Product

The Latest Software Product of MDM is now available in SLD Software Catalog which is shown in the screenshot below.

The screenshot shows the SAP NetWeaver System Landscape Directory interface. At the top, there is a navigation bar with links for Home, Administration, Log Off, Help, and About. Below this is the 'Software Catalog' section. The 'Software Type' is set to 'Products (747)' and the 'Filter' is 'SAP MDM 5.5'. A table displays the search results with columns for Product, Version, and Vendor. The first row is highlighted, showing 'SAP MDM' as the product, 'SAP MDM 5.5' as the version, and 'sap.com' as the vendor. Below the table, there are navigation controls and a 'Row 1 of 1' indicator. Below the table, there is a section for 'SAP MDM 5.5' with tabs for General, Software Units, Support Package Stacks, and Installed Systems. The 'General' tab is active, showing details for the vendor (sap.com), name (SAP MDM), and version (5.5).

4.2.2 Configuration of SWCV

All Latest MDM related Software Component Versions are available under the software Catalog's SWCV list as shown below.

The screenshot shows the SAP NetWeaver System Landscape Directory interface. At the top, there is a navigation bar with links for Home, Administration, Log Off, Help, and About. Below this is the 'Software Catalog' section. The 'Software Type' is set to 'Software Components (6472)' and the 'Filter' is 'MDM Business Content'. A table displays the search results with columns for Software Component, Version, and Vendor. The second row is highlighted, showing 'MDM BUSINESS CONTENT' as the software component, 'MDM BUSINESS CONTENT 5.5 7.00' as the version, and 'sap.com' as the vendor. Below the table, there are navigation controls and a 'Row 1 of 4' indicator. Below the table, there is a section for 'MDM BUSINESS CONTENT 5.5 7.00' with tabs for General, Products, Dependencies, Support Packages, Release Compatibility, Release History, and Installed Systems. The 'General' tab is active, showing details for the vendor (sap.com), name (MDE_APPL), version (550_700), production state (released), and type (INTEGR).

4.2.3 Technical System configuration

The Technical System of type WEB AS ABAP needs to be configured with all the technical details of the Backend ERP R3 System. Then this TS is installed in the previously shown MDM Related Software Product & Software Component Version.

Technical Systems

Technical System Type: Web AS ABAP Filter: Go

New Technical System... Remove Export Refresh

Name	Host	Version	Last Update
CE6 on compopec6	compopec6	700	02/20/2009 18:18
ECS on sapsrm5	sapsrm5	700	03/08/2009 21:55
EI6 on ec6ides	ec6ides	700	10/10/2008 14:34
EID on deverpids	deverpids	700	02/20/2009 18:32
ID6 on edcides6	edcides6		10/23/2008 08:10

Row 1 of 10

ABAP Technical System Details for: EID on deverpids

General Database Clients Message Server Application Servers Internet Transaction Servers Installed Products Business Systems Landscapes

Save

System Name: EID ⓘ

System Home: [deverpids](#) ⓘ

Installation Number: 0020204068 ⓘ [Change...](#)

Release: 700 ⓘ

Description: ⓘ

Administration Contact: ⓘ

TMS Domain: DOMAIN_SCC ⓘ

TMS Transport Group Name: GROUP_SCC ⓘ

4.2.4 Business System Configuration

The Business System needs to be configured which is installed on the previously created Technical System.

View and Configure Business Systems for Use in Exchange Infrastructure (XI)

Business Systems

Group: All Filter: Go

New Business System... Remove Export Refresh

Name	Technical System	Client
EI6_919	EI6 on ec6ides	919 of EI6
EID800	EID on deverpids	800 of EID
INSCLNT100	INS on specins	100 of INS
INSPIRE	PI7 on piserver	
INTEGRATION_SERVER_PI7	PI7 on piserver	900 of PI7

Row 6 of 14

4.3 Configuration of Integration Repository

After the SAP PI ABAP System ALE configuration and the System Landscape directory Configuration is successfully completed the Integration Repository needs to be configured. The different Configuration details are as follows:

4.3.1 Downloading & Deployment of PI Business contents (TPZ Files) in IR

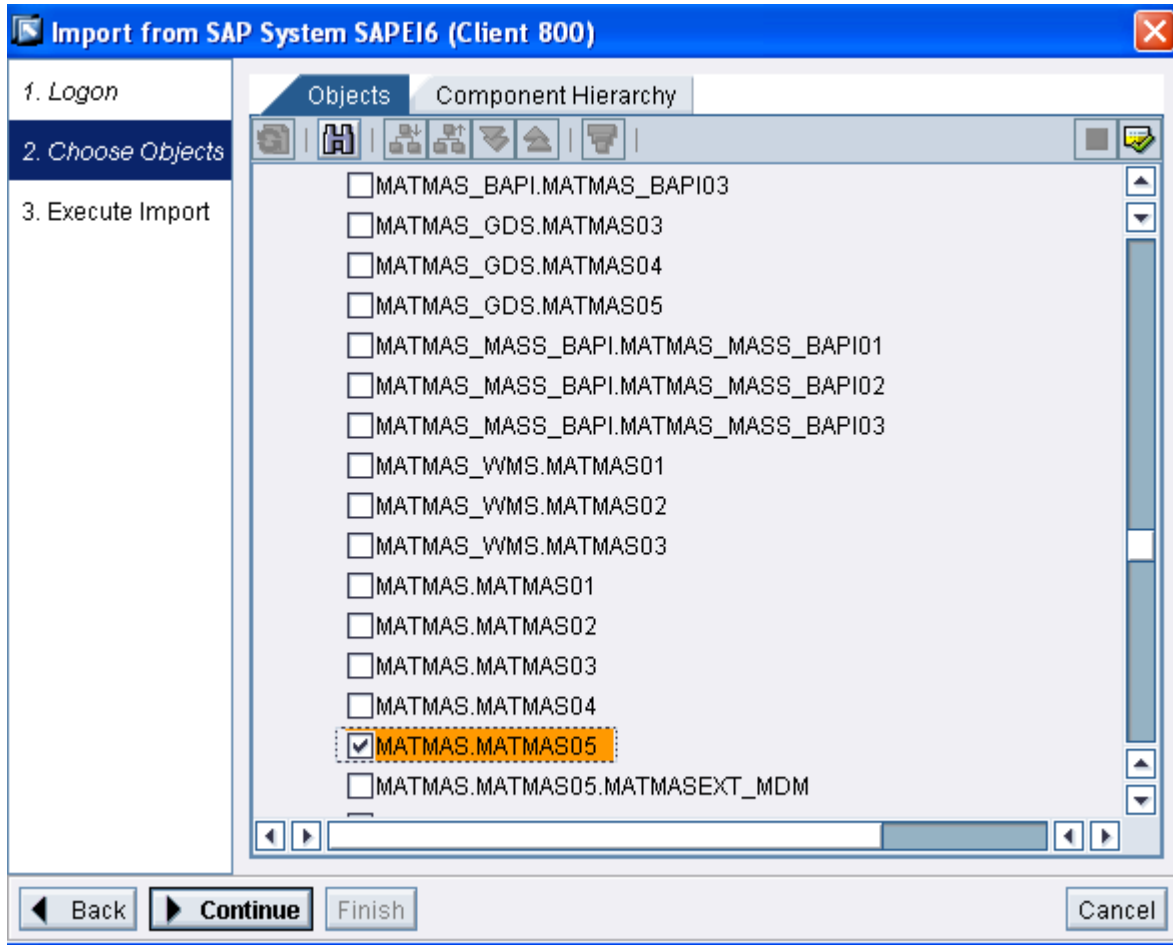
The PI Business Content for MDM is downloaded from SAP Service Marketplace which is a TPZ file named: XI7_0_MDM_BUSINESS_CONTENT_5.5_7.00_06_00.tpz. This tpz file is then deployed in the PI Server. On deployment the SWCV gets available in the IR. This Business Content contains all the completely Configured Integration Scenarios & Interface Mappings which are related to MDM Integration with ERP R3 System for almost all the Master Data. Here only the Material Master Related configurations will be used.

The screenshot shows the SAP Software Distribution Center interface. The navigation menu on the left includes 'Downloads' and 'Support Packages and Patches - Entry by Application Group'. The main content area displays the title 'SUPPORT PACKAGES AND PATCHES - ENTRY BY APPLICATION GROUP' and a breadcrumb trail: 'Support Packages and Patches - Entry by Application Group -> SAP NetWeaver -> SAP MDM -> SAP MDM 5.5 -> Entry by Component -> XI Content'. Below this, the 'XI CONTENT' section lists three items: 'XI CONTENT MDM BUS. 5.5 7.00' (with a sub-item '#Database independent'), 'XI CONTENT MDM BUSINESS 5.5', and 'XI CONTENT MDM GDS 1.0'. An 'Info Page' section highlights 'XI CONTENT MDM BUS. 5.5 7.00 -> #Database independent' and provides instructions on how to download files. At the bottom, there are four buttons: 'Add to Download Basket', 'Maintain Download Basket', 'Select All', and 'Deselect All'.

4.3.2 Import of the IDOC in IR

The Material Master Mass bundled IDOC MATMAS05 is to be imported in IR from the Imported Objects option & Import of SAP objects.

The screenshot shows the 'Import from SAP System EID (Client 800)' dialog box. The left sidebar contains three steps: '1. Logon', '2. Choose Objects', and '3. Execute Import'. The main area is titled 'SAP System' and shows 'EID (Client 800)'. Under 'Connection Data', there are two radio buttons: 'According to Software Component Version' (unselected) and 'Overwrite Server Info Temporarily' (selected). Below these are input fields for 'Application Server *' and 'System Number *'. Under the 'User' section, there are input fields for 'Name *' (containing 'DEVELOPER') and 'Password *'. At the bottom, there are buttons for 'Back', 'Continue', 'Finish', and 'Cancel'.



After the import is successful the imported IDOC is shown below:

Display IDoc Status: Active

Name: MATMAS.MATMAS05

Namespace: urn:sap-com:document:sap:idoc:messages

Software Component Version: MDM BUSINESS CONTENT 5.5

Description: Enhancement: Distribution of Single-Level Variants

Structure | XSD | WSDL

Structure	Category	Type	Context Object	Description
▼ MATMAS05	Element			
▼ IDOC	Element	MATMAS.MATMAS05		
BEGIN	Attribute	xsd:string		
▶ EDI_DC40	Element	EDI_DC40.MATMA...		
▼ E1MARAM	Element	MATMAS05.E1MAR...		
SEGMENT	Attribute	xsd:string		
MSGFN	Element	xsd:string		Function
MATNR	Element	xsd:string		Material Number
ERSDA	Element	xsd:string		Created On
ERNAM	Element	xsd:string		Name of Person who Cre...
LAEDA	Element	xsd:string		Date of Last Change
AENAM	Element	xsd:string		Name of Person Who Ch...
PSTAT	Element	xsd:string		Maintenance status

4.3.3 Finalizing the Interface Mappings for the Material Master Import from the SAP Standard Content

The SWCV of the SAP delivered Standard Content contains all the relevant Data types, Message Types, Message Interfaces, Interface Mappings and Archive Programs of Imported Archives. These standard contents need to be carefully studied & then the Perfect Interface Mapping needs to be finalized along with the Archive Program it's using for the successful Import Activity via PI.

There are certain Interface mappings available in the standard content which are relevant to different Business Segments of Material Master & thus correspond to different segments of MATMAS05 IDOC such as MARAM,MARCM,MARMM & so on.

Thus all the Interface Mappings selected here are compatible with the SAP standard Import Maps used in the MDM which also correspond to different Segments of Material Master Message Type. The Interface Mappings selected over here are of the names:

- MATMAS05_470ToMDMMATMAS_MATMAS05_MARAMIn
- MATMAS05_470ToMDMMATMAS_MATMAS05_MARCMIn
- MATMAS05_470ToMDMMATMAS_MATMAS05_MARMMIn
- MATMAS05_470ToMDMMATMAS_MATMAS05_MBEWMIn
- MATMAS05_470ToMDMMATMAS_MATMAS05_MVKEMIn

Screenshot of one Interface Mapping is shown. Others are similar to this.

Display Interface Mapping Status: Active

Name: MATMAS05_470ToMDMMATMAS_MATMAS05_MARAMIn
 Namespace: http://sap.com/xi/MDEApplicationContent
 Software Component Version: MDM BUSINESS CONTENT 5.5
 Description:

Design | Test

Source Interface *

Name	Name...	Softwa...	Occur...
MATMAS.MATMAS05	urn:sap-i602e6441		

Target Interface *

Name	Name...	Softwa...	Occur...
MDMMATMAS_MATMAS05_MAR/http://sap:MDM BU 1			

Read Interfaces

Request

Source Message: MATMAS.MATMAS05

Mapping Program *

Type	Name	Namespace
XSL	MatmasToMDMMatmas_MARAMIn	http://sap.com


Target Message: MDMMATMAS_M

4.4 Configuration of Integration Directory

After the IR configuration is done the ID is to be configured and the different stages of configuration are as follows:

4.4.1 Configuration scenario Creation

A configuration scenario is configured for this scenario.

Display Configuration Scenario		Status	Active
Configuration Scenario	MDM553_Inbound		
Description	Integration Scenario For Inbound Process of MDM		
Integration Scenario from the Integration Repository	MDM553_Inbound	http://sap.com/xi/MDEApplicationCo	

4.4.2 Assigning a Business Scenario

The Business System created in the SLD is imported in the ID and assigned to the configuration scenario.

Assign Business System ✖

1. Introduction

2. Assign partner

3. Select Business Systems

Use this wizard to add business systems from the System Landscape Directory to the Integration Directory as services

You can have communication channels created automatically for these business system services

◀ Back
▶ Continue
Finish
Cancel

4.4.3 No Sender Communication Channel

There will be no Sender Communication Channel Configuration Required for the Sender R3 System as the IDOC is sitting in ALE ABAP Stack and it is triggered by ALE. Thus there is no sender Communication Channel configured under the Business System created above.

4.4.4 Creation of Business Service for Receiver FTP System for Different Business Segments of Material Master

A Business Service is created for the Receiver FTP system for MARAM Business Segment. The Sender & Receiver are given the MATMAS05 IDOC & the MDMMATMAS_MATMAS05_MARAMIn Message Interface.

Display Service Status: Active

Service: BS_MDM_MATMAS05_MARAMIn
 Party:
 Description: Business Service for MATMAS05 MARAM Segment For MDM

Business Service

Receiver | Sender | Assigned Users | Other Attributes

Inbound Interfaces

Name	Namespace	Software Component Version
MDMMATMAS_MATMAS05_MARAMIn	http://sap.com/xi/MDEApplicationContent	MDM BUSINESS CONTENT 5.5

Similarly Business Services are created for other segments also. Here is the screenshot MARCM Segment.

Display Service Status: Active

Service: BS_MDM_MATMAS05_MARCMIn
 Party:
 Description: Business Service for MATMAS05 MARCM Segment For MDM

Business Service

Receiver | Sender | Assigned Users | Other Attributes

Inbound Interfaces

Name	Namespace	Software Component Version
MDMMATMAS_MATMAS05_MARCMIn	http://sap.com/xi/MDEApplicationCo	MDM BUSINESS CONTENT 5.5

Others are configured in the same way.

Service | Edit | View

Display Service Status: Active

Service: BS_MDM_EI6_Sender
 Party:
 Description: Business Service For EI6 R3 System for all the Master Data Idocs

Business Service

Receiver | **Sender** | Assigned Users | Other Attributes









Outbound Interfaces

Name	Namespace	Software Component Version
MDMMatmasOut	http://sap.com/xi/MDEApplicationContent	MDM BUSINESS CONTENT 5.5
DEBMDM.DEBMDM06	urn:sap-com:document:sap:idoc:messa	MDM BUSINESS CONTENT 5.5
CREMDM.CREMDM04	urn:sap-com:document:sap:idoc:messa	MDM BUSINESS CONTENT 5.5

4.4.5 Receiver Communication Channel Configuration

Receiver communication channels are configured for the receiver FTP system sitting inside the MDM server under the Business Services created above for different MATMAS Segments. The File Adapter is used & Configured in this Communication Channel. The Directory path is given from the Repositories root to the ready folder of the particular Remote system. Here receiver communication channels for 2 segments are shown, other segments are configured in similar way.

Edit Communication Channel		Status
Communication Channel	MDM_MATMAS05_MARAMIn_EI6_ReceiverFTP	
Party		
Service	BS_MDM_MATMAS05_MARAMIn	
Description	Communication Channel for the Receiver FTP For MATMAS05 MARAM Segment For MDM	
<div style="display: flex; border-bottom: 1px solid black; margin-bottom: 5px;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">Parameters</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">Identifiers</div> <div style="border: 1px solid black; padding: 2px 5px;">Module</div> </div>		
Adapter Type *	File	http://sap.com/xi/XI/System SAP BASIS 7.00
<input type="radio"/> Sender <input checked="" type="radio"/> Receiver		
Transport Protocol *	File Transfer Protocol (FTP)	
Message Protocol *	File	
Adapter Engine *	Integration Server	
<div style="display: flex; border-bottom: 1px solid black; margin-bottom: 5px;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">Target</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">Processing</div> <div style="border: 1px solid black; padding: 2px 5px;">Advanced</div> </div>		
File Access Parameters		
Target Directory *	/Material Master/Inbound/R3_ERP_75/_MDMMATMAS05_MARAM/Ready	
<input type="checkbox"/> Create Target Directory		
File Name Scheme *	MATMAS05_MARAMIn_EI6.xml	
FTP Connection Parameters		
Server *	XXX.XXX.XXX	
Port *	21	
Data Connection	Passive	
Timeout (secs)		
Connection Security *	None	
<input checked="" type="checkbox"/> Anonymous Login		
Connect Mode *	Permanently	

Edit Communication Channel		Status	Active
Communication Channel	MDM_MATMAS05_MARCMIn_EI6_ReceiverFTP		
Party			
Service	BS_MDM_MATMAS05_MARCMIn		
Description	Communication Channel for the Receiver FTP For MATMAS05 MARCM Segment For MDM		
<div style="display: flex; border-bottom: 1px solid black; margin-bottom: 5px;"> Parameters Identifiers Module </div>			
Adapter Type *	File	http://sap.com/xi/XI/System	SAP BASIS 7.00  
<input type="radio"/> Sender	<input checked="" type="radio"/> Receiver		
Transport Protocol *	File Transfer Protocol (FTP) 		
Message Protocol *	File 		
Adapter Engine *	Integration Server 		
<div style="display: flex; border-bottom: 1px solid black; margin-bottom: 5px;"> Target Processing Advanced </div>			
File Access Parameters			
Target Directory *	/Material Master/Inbound/R3_ERP_75/_MDMMATMAS05_MARCM/Ready		
<input type="checkbox"/> Create Target Directory			
File Name Scheme *	MATMAS05_MARCMIn_EI6.xml		
FTP Connection Parameters			
Server *	XXXXXXXXXX		
Port *	21		
Data Connection	Passive 		
Timeout (secs)			
Connection Security *	None 		
<input checked="" type="checkbox"/> Anonymous Login			
Connect Mode *	Permanently 		

4.4.6 Receiver Determination Configuration

The Receiver Determination is done with the sender as the Business System (R3 system) & the Receiver as all the Business Services created above for all the different Business Segments of Material Master Message Type for the FTP system.

Display Receiver Determination Status **Active**

Sender

Party:

Service: BS_MDMPOC_EI6

Interface: MATMAS.MATMAS05

Namespace: urn:sap-com:document:sap:idoc:messages

Receiver

Party: *

Service: *

Description: Receiver Determination For Receiver FTP System For MATMAS05 For EI6 system

Type of Receiver Determination

Standard Extended


Configured Receivers

Condition	Party	Service
		BS_MDM_MATMAS05_MARAMIn
		BS_MDM_MATMAS05_MARCMIn
		BS_MDM_MATMAS05_MARMMIn
		BS_MDM_MATMAS05_MBEWMin

If No Receiver Is Found, Proceed as Follows:

Terminate Message Processing with Error (Restart Possible)

End Message Processing Without Error (Restart not Possible)

Continue Message Processing with the Following Receiver: Party  Service

Configuration Overview for Receiver Determination

4.4.7 Interface Determination Configuration

Interface Determinations are configured for all the different Receivers in the receiver determination corresponding to all the different Business Segments. The interface determinations are configured with the relevant Inbound Interfaces & the Interface Mappings configured in IR. Here Interface Determination for MARAM & MARCM Business Segments are shown, others are configured in a similar manner.

Display Interface Determination Status: Active

Sender

Party:

Service: BS_MDMPOC_EI6

Interface: MATMAS.MATMAS05

Namespace: urn:sap-com:document:sap.idoc:messages

Receiver

Party:

Service: BS_MDM_MATMAS05_MARAMIn

Description: Interface Determination For Receiver FTP System For MATMAS05 MARAM Segment For EI6 system

Type of Interface Determination **Quality of Service**

Standard Enhanced Maintain Order At Runtime

Configured Inbound Interfaces

Inbound Interface		Interface Mapping			
Name	Namespace	Name	Namespace	Software	
1	MDMMATMAS_MATMAS05	http://sap.com/xi/MDEApplic	MATMAS05_470ToMDMMATMAS	http://sap.com/xi/MDEApplication	MDM B

Display Interface Determination Status: Active

Sender

Party:

Service: BS_MDMPOC_EI6

Interface: MATMAS.MATMAS05

Namespace: urn:sap-com:document:sap.idoc:messages

Receiver

Party:

Service: BS_MDM_MATMAS05_MARCMIn

Description: Interface Determination For Receiver FTP System For MATMAS05 MARCM Segment For EI6 system

Type of Interface Determination **Quality of Service**

Standard Enhanced Maintain Order At Runtime

Configured Inbound Interfaces

Inbound Interface		Interface Mapping			
Name	Namespace	Name	Namespace	Software C	
1	MDMMATMAS_MATMAS05	http://sap.com/xi/MDEApplic	MATMAS05_470ToMDMMATMAS	http://sap.com/xi/MDEApplication	MDM BUS

4.4.8 Receiver Agreement Configuration

The Receiver Agreements are configured with the following details & the Receiver communication channel configured above for all the different Receivers corresponding to the different Business Segments of Material Master Message Type. Here the Receiver Agreement for the MARAM segment is shown, others are configured in the same manner.

Display Receiver Agreement		Status
		Active
Sender		
Party		
Service	BS_MDMPOC_EI6	
Receiver		
Party		
Service	BS_MDM_MATMAS05_MARAMIn	
Interface	MDMMATMAS_MATMAS05_MARAMIn	
Namespace	http://sap.com/xi/MDEApplicationContent	
Description	Receiver Agreement For Receiver FTP System For MATMAS05 MARAM Segment For EI6 system	
Receiver Communication Channel *	MDM_MATMAS05_MARAMIn_EI6_ReceiverFTP	
Header Mapping		
<input type="checkbox"/> Sender Party		
<input type="checkbox"/> Sender Service		
<input type="checkbox"/> Receiver Party		
<input type="checkbox"/> Receiver Service		

4.4.9 No Sender Agreement Configuration

There is no Sender agreement configuration as there is no sender Communication channel because the IDOC is triggered by ALE from R3.

5. Trouble Shooting

Trouble shooting of this entire Integration Landscape will involve monitoring & testing at different levels i.e. at the R3 level & PI Level.

Transaction WE02/WE05 is used in SAP R/3 & ERP systems for the IDoc-List reporting. By using this report IDocs in the system can be searched. The Status of the IDOCs is shown here and by that the Exceptional Handling is taken care of.

Using WE19 Transaction, we can use an existing Idoc in R3 system for testing the configuration or we can create a new test Idoc

In Case of SAP PI:

- The Runtime Workbench can be used for monitoring of the complete Landscape of PI
- The SXMB_MONI Transaction & IDX5 Transaction Codes can also be used in the ABAP system of PI to Monitor & Trouble shoot the Integration Landscape.

Related Content

For more information, visit the [Master Data Management homepage](#).

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