



E-Recruiting Job Board Integration using XI

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Overview of Integration Scenario

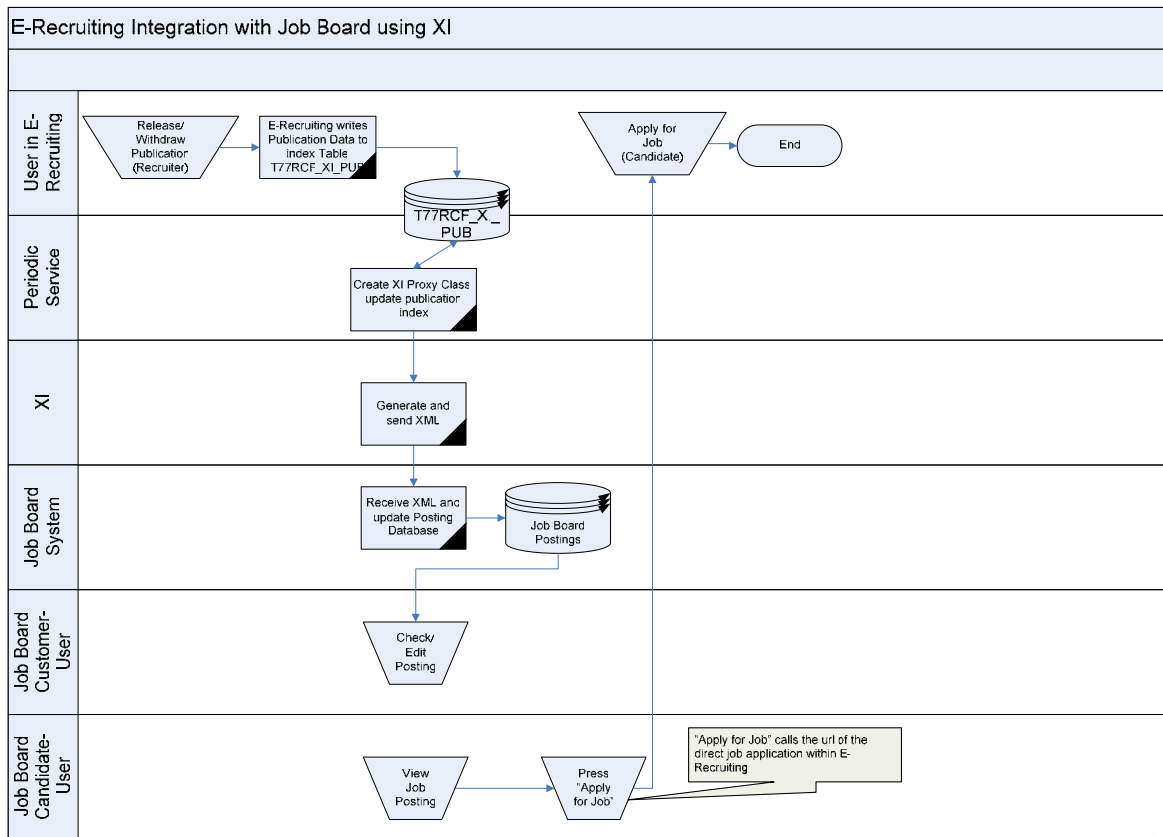
E-Recruiting System Configuration

Delivered XI Components

Basic XI-side Configuration

Message Monitoring

High Level Process

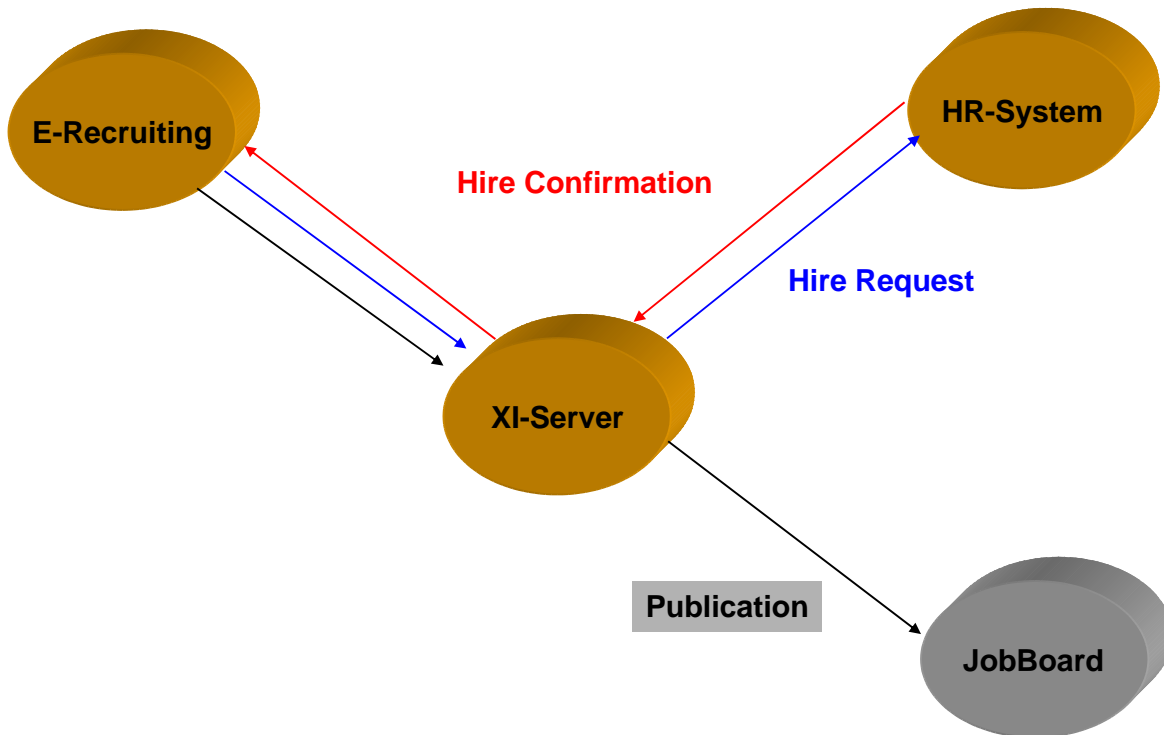


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- The existing publication publishing framework that was available in E-Recruiting 3.0 is still available in 6.0. With E-Recruiting 6.0, a new XI scenario is available that publishes using HR-XML. The determination of whether external postings can be withdrawn or not is also new to 6.0.



- This is an example system landscape. HR and E-Recruiting could be on the same instance if the ERP release is 2004 or higher, and the E-Recruiting version is the same as the ERP version. This simplified landscape doesn't show firewalls, TREX, etc. Please see E-Recruiting architecture presentation for detailed examples.



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E-Recruiting System Configuration

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Choose a Publication Channel to Publish

Job Posting

Personal Pages > Requisition Maintenance > Requisition > Job Posting

Job Posting Sales Manager - Western Region | Status Released

Job postings invite potential candidates to submit applications. You can publish the posting in a number of different posting channels.

Job Posting 1 Descriptions 2 Basic Data 3 Status 4 Data Overview 5 Publications

Data Overview

Publications

Data

Reference Code: MONS1_SALESMAN1

Posting Channel: monster.com

Language: English

Start Date: 02.02.2006 | End Date: 01.03.2006

Status: Draft

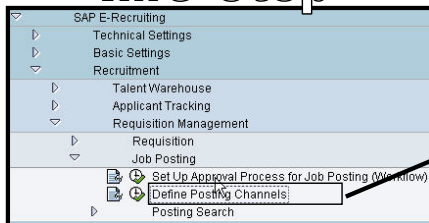
Save Cancel Withdraw

Change View "Posting Channels": Overview

New Entries

Chanl	Name	Publisher Class	Cand.Class	Identification
1	For Internal Candidates	CL_HRRCF_PUBLISHER_INT	Internal	
2	For External Candidates	CL_HRRCF_PUBLISHER_EXT	External	
6000	Application Groups	CL_HRRCF_PUBLISHER_EXT_U	External	
9901	monster.com	CL_HRRCF_PUBLISHER_XI	External	991001

IMG Step



Customer number to be sent to the job board

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- Each external job board or aggregator must be specified in the "Posting Channels IMG Step."
- The Publisher Class refers to a class which has the methods needed to put the reference index information (such as publication ID) into a queue table. The entries in this table will later be picked up by a periodic service and published using XI (see next slides)

ABAP Publisher Class Linked to Publication Channel

The screenshot shows the 'Change View "Posting Channels": Overview' in SAP. It contains a table with the following data:

Chanl	Name	Publisher Class	Cand.Class	Identification
1	For Internal Candidates	CL_HRRCF_PUBLISHER_INT	Internal	
2	For External Candidates	CL_HRRCF_PUBLISHER_EXT	External	
6000	Application Groups	CL_HRRCF_PUBLISHER_EXT_U	External	
9901	monster.com	CL_HRRCF_PUBLISHER_XI	External	991001

Below the table, the SAP IDE shows the class hierarchy for 'CL_HRRCF_PUBLISHER_XI'. The hierarchy is as follows:

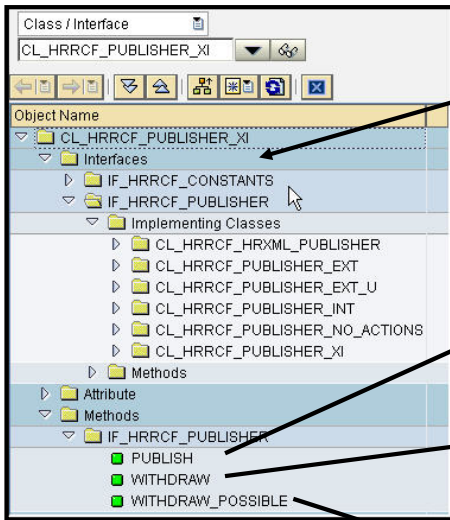
- Class / Interface: CL_HRRCF_PUBLISHER_XI
 - Interfaces
 - IF_HRRCF_CONSTANTS
 - IF_HRRCF_PUBLISHER
 - Implementing Classes
 - CL_HRRCF_HRXML_PUBLISHER
 - CL_HRRCF_PUBLISHER_EXT
 - CL_HRRCF_PUBLISHER_EXT_U
 - CL_HRRCF_PUBLISHER_INT
 - CL_HRRCF_PUBLISHER_NO_ACTIONS
 - CL_HRRCF_PUBLISHER_XI
 - Methods
 - Attribute
 - Methods
 - IF_HRRCF_PUBLISHER
 - PUBLISH
 - WITHDRAW
 - WITHDRAW_POSSIBLE

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- The publisher class listed above is the standard one delivered by SAP. Customers will often need to do their own classes. This can be done as long as the customer classes implement interfaces IF_HRRCF_CONSTANTS and IF_HRRCF_PUBLISHER.

Class CL_HRRCF_PUBLISHER_XI



CL_HRRCF_PUBLISHER_XI or any customer class to publish data must implement these INTERFACES

T77RCF_XI_PUB processed by periodic service

PUBLISH

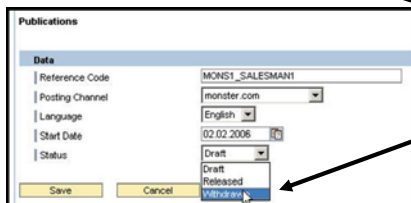
Adds an entry to publication index table T77RCF_XI_PUB

WITHDRAW

Adds an entry to publication index table T77RCF_XI_PUB if withdraw allowed

WITHDRAW_POSSIBLE

Checks whether withdraw is possible for the selected channel



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- The WITHDRAW_POSSIBLE method will usually contain something like a simple case statement that sets the return value of the method to be true or false based on the ID of the posting channel. The return value determines whether the publication channel appears in the dropdown list or not.

Periodic Service

Service	Class
CREATE_SP_FOR_CANDIDACY	CL_HRRCF_SPB_CANDIDACY
CREATE_SP_FOR_CANDIDATE	CL_HRRCF_SPB_CANDIDATE
CREATE_SP_FOR_EXT_POSTINGS	CL_HRRCF_SPB_POST_REQ_EXT_PUB
CREATE_SP_FOR_INT_POSTINGS	CL_HRRCF_SPB_POST_REQ_INT_PUB
CREATE_SP_FOR_REQUISITION	CL_HRRCF_SPB_REQUISITION
DELETE_DEREGISTERED_CANDIDATES	CL_HRRCF_PS_DELETE_CANDIDATE
DELETE_REQUISITION	CL_HRRCF_PS_DELETE_REQUISITION
HIRE_REQUEST_VIA_XI	CL_HRRCF_HIRE_REQUEST_XI
INDEX_DOCUMENTS	CL_HRRCF_PS_INDEXING
PUBLICATION_VIA_XI	CL_HRRCF_PUBLISH_XI_PUB

**Must implement Interfaces
IF_HRRCF_PERIODICAL SERVICE
and IF_HRRCF_CONSTANTS**

Method: RUN does the work

Define and activate periodic service

SAP E-Recruiting
 Technical Settings
 Check System Settings
 Set System Parameters
 Set Up Communication Interface
 User Administration
 SAP Business Partner
 Search Engine
 Workflow
 Periodic Services
 Define Periodic Services
 Activate Periodic Services
 Determine Rules for Periodic Services
 Schedule Background Process for Periodic Services

Service
CREATE_SP_FOR_CANDIDACY
CREATE_SP_FOR_CANDIDATE
CREATE_SP_FOR_EXT_POSTINGS
CREATE_SP_FOR_INT_POSTINGS
CREATE_SP_FOR_REQUISITION
DELETE_DEREGISTERED_CANDIDATES
DELETE_REQUISITION
INDEX_DOCUMENTS
PUBLICATION_VIA_XI



What Does the RUN Method do?

Get pointers of all posting instances (T77RCF_XI_PUB or customer table), where an XI-message must be sent

Instantiate XI PROXY object

Populate proxy object with publication and posting data

Send data to XI-Server asynchronously

Mark record in pointer-table as published or withdrawn

Reorganize the publication index table

The explicit COMMIT WORK is necessary to really send the message(s) to the XI-Server

P.S. DON'T FORGET THE COMMIT WORK!

Proxy class must reference Class Interface **co_hrrcfjob_pos_publ_out** (or customer version) –

Proxy class was generated from transaction SPROXY (ABAP proxy generation)



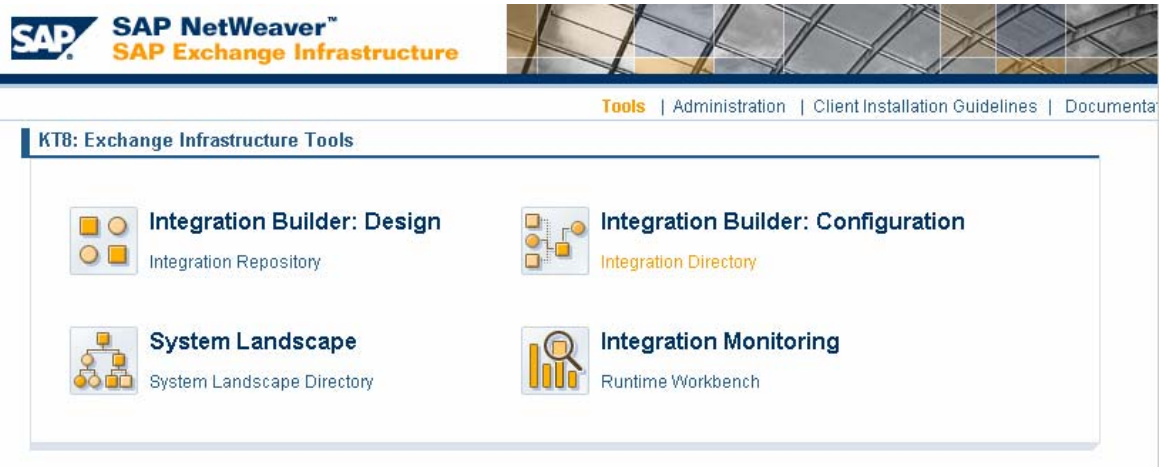
Overview of Integration Scenario

E-Recruiting System Configuration

Delivered XI Components

Basic XI-side Configuration

Message Monitoring

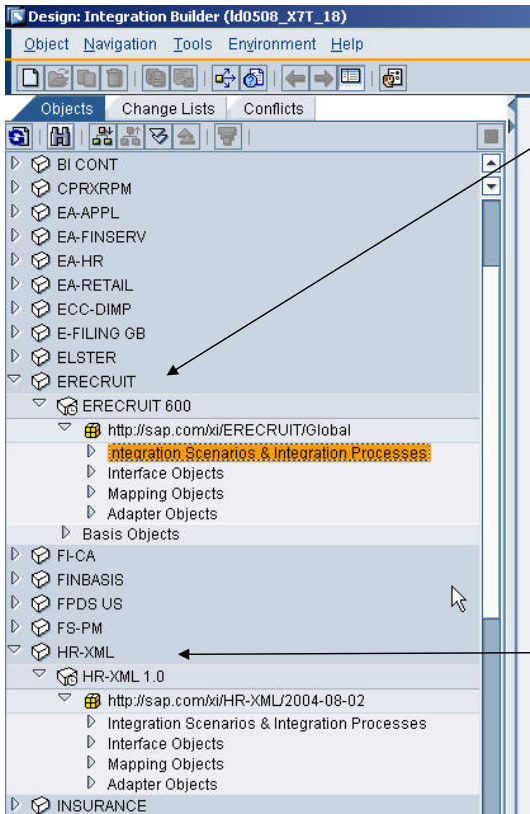


The screenshot shows the SAP NetWeaver SAP Exchange Infrastructure Tools page. The header includes the SAP logo and the text "SAP NetWeaver™ SAP Exchange Infrastructure". Below the header, there are navigation links: "Tools", "Administration", "Client Installation Guidelines", and "Documenta". The main content area is titled "KT8: Exchange Infrastructure Tools" and contains four tool icons with their respective names and sub-names:

- Integration Builder: Design** (Integration Repository)
- Integration Builder: Configuration** (Integration Directory)
- System Landscape** (System Landscape Directory)
- Integration Monitoring** (Runtime Workbench)

Requires Java Web Start, which is part of JS2E 1.4.2 (Status Jan 06)

Software Components Used



Software Component: **ERECRUIT**
 Software Component Version: **ERECRUIT 600**

Inside-out integration:
 Maps directly to the E-Recruiting system via proxy object

Structures mapped from E-Recruiting Proxy Object to HR-XML using the Mapping Objects within the HR-XML Software Component

Software Component: **HR-XML**
 Software Component Version: **HR-XML 1.0**

Outside-in integration:
 Maps directly to the HR-XML standard

Integration Scenario

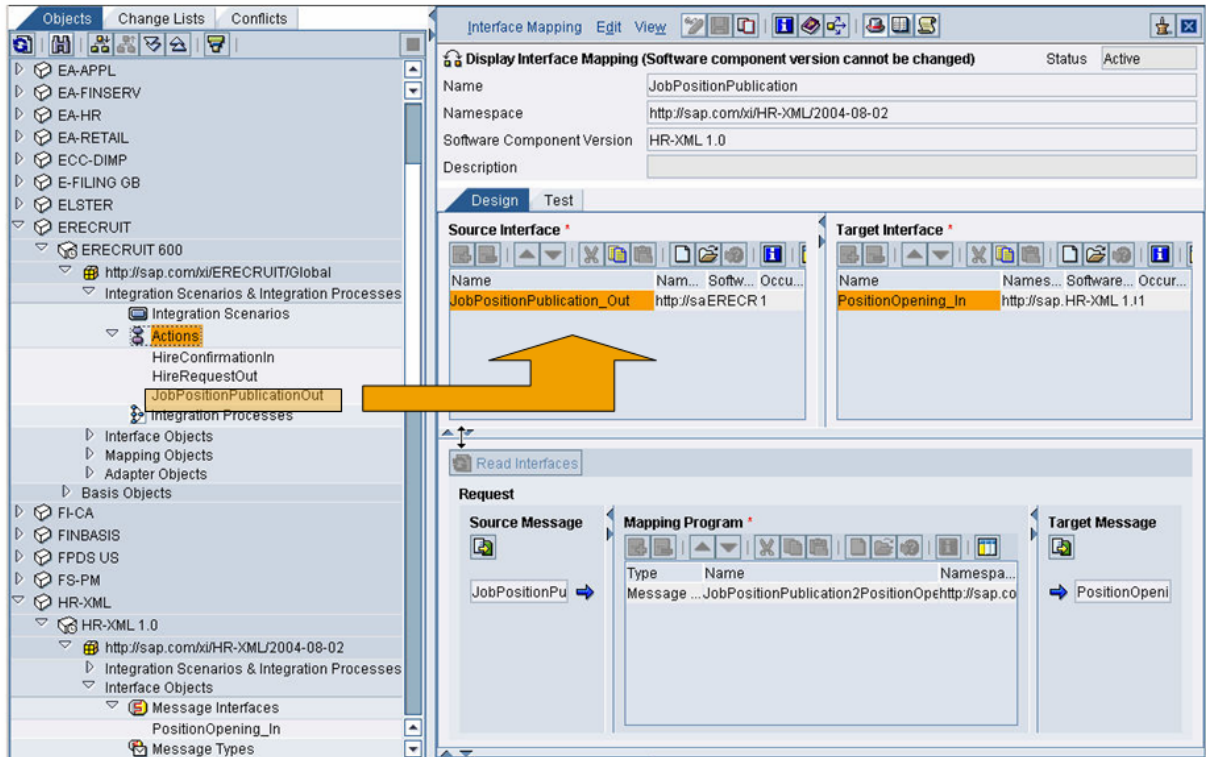
The screenshot displays the SAP Integration Builder interface for an integration scenario named "JobPositionPublication". The main workspace shows a component view with two components: "Recruiting Department SAP E-RECRUITING 6.0" and "Empfänger einer Ver... Template". An arrow labeled "Reference Interface Mapping" points from the "Stellenausschreibung" interface of the first component to the "Stellenausschreibung" interface of the second component. A blue box labeled "Reference Outbound Interface" is positioned over the "Stellenausschreibung" interface of the first component, and a red box labeled "Reference Inbound Interface" is positioned over the "Stellenausschreibung" interface of the second component.

An open "Display: Connection" dialog box is visible in the top right, showing the following details:

From Action	To Action
Stellenausschreibung	Stellenausschreibung
Role: Recruiting Department	Role: Empfänger einer Veröffentlichung
Component: SAP E-RECRUITING 6.0	Component: Template

The dialog also shows the connection type as "Asynchronous Communication" and provides fields for "Assigned Outbound Interface" and "Assigned Inbound Interface" with their respective metadata.

JobPositionPublicationOut Action





Overview of Integration Scenario

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Message Monitoring

Create technical system

Create business system

Create business system service with communication channel

Transfer Integration Scenarios from Integration Repository (Wizard)

Use alternative interface and mapping [optional]

- This document will not cover creation of technical systems and business systems as this is a basic requirement of any XI integration.
- The communication channel will typically use the HTTP adaptor to send XML to a job board or aggregator. In our example we save the XML as a file and put it in a directory of the XI server.

Create Business System Service With Communication Channel

Object Navigation Tools Environment Help

Scenarios Objects Change Lists

Configuration Scenario Edit View

Edit Configuration Scenario Status: Being Processed

Configuration Scenario: TestJobPositionPublication

Description:

Integration Scenario from the Integration Repository: JobPositionPublication <http://sap.com/xi/HR-XMLJ201>

Configuration Scenario Objects Configuration

Collaboration Profile Objects

Type	Partner	Service	Communication Channel

Logical Routing and Collaboration Agreement Objects

Type	Sender	Receiver	In/Outbound Interface
	Partner	Partner	Name

TestJobPositionPublication

Create Business System Service Wizard

1. Introduction	Use this wizard to add business systems from the System Landscape Directory to the Integration Directory as services
2. Assign Party	You can have communication channels created automatically for these business system services
3. Select Business Systems	

Assign Business System

1. Introduction
2. Assign Party
3. Select Business Systems

List of business systems from the System Landscape Directory for which no business system services have been defined for the party

Select the business systems that you want to define as the business system service. You cannot use business systems that already exist as a business service as a business system service

Name ▲
<input checked="" type="checkbox"/> JobBoardTest
<input type="checkbox"/> XI_INTEGRATIONSERVER

Create Communication Channels Automatically

◀ Back ▶ Continue Finish Cancel

Create New Communication Channel

The screenshot shows the 'Create Object' dialog box in SAP. The left sidebar contains a tree view with the following categories and items:

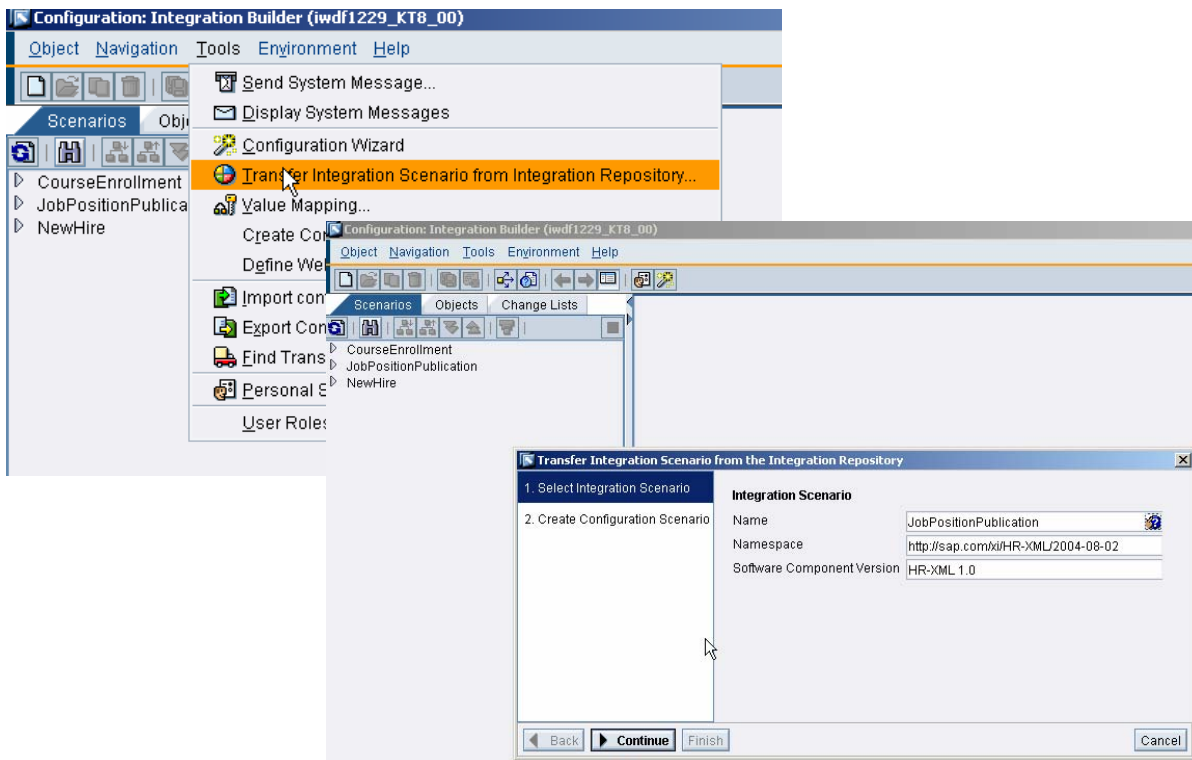
- Configuration**
 - Configuration Wizard
- Configuration Objects**
 - Configuration Scenario
 - Receiver Determination
 - Interface Determination
 - Value Mapping Group
- Collaboration Profile**
 - Party
 - Business Service
 - Communication Channel
- Collaboration Agreement**
 - Sender Agreement
 - Receiver Agreement
- Version Creation**
 - Change List

The main area is titled 'Communication Channel' and contains the following fields:

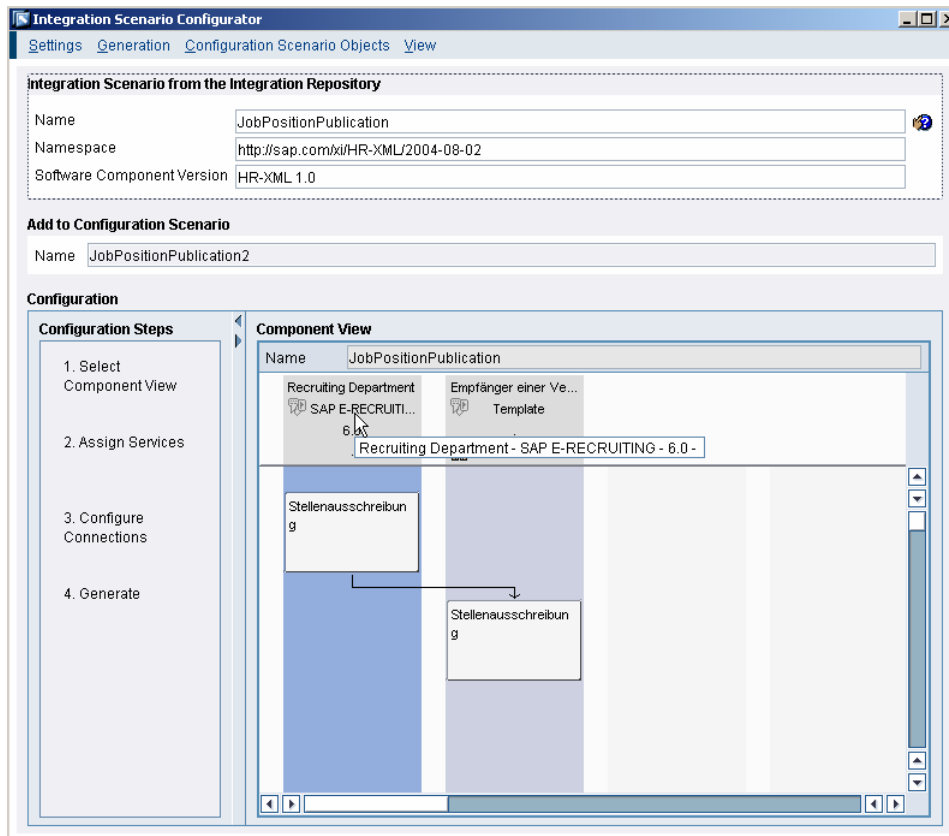
- Party: (empty)
- Service *: JobBoardTest
- Communication Channel *: JobPositionReceiver
- Description: (empty)
- Add to Scenario: TestJobPositionPublication

At the bottom of the dialog are 'Create' and 'Cancel' buttons.

Transfer Integration Scenarios from Integration Repository



Transfer Integration Scenarios from Integration Repository (Cont.)



Transfer Integration Scenarios from Integration Repository (Cont.)

Assign Services to Application Components

Role: Recruiting Department

Product: SAP E-RECRUITING

Version: 6.0

Integration Process: Not Assigned

Communication Type: A2A and B2B Communication

Assign Business System and Business Services for B2B Communication

Business System Services for A2A | Business Services for B2B | Details

Assign Business System Services for A2A Configuration

Party	Service
	JobPositionSenderTest

Assign Cancel

Receiver Communication Channel

The screenshot displays the SAP NetWeaver interface for configuring a Receiver Communication Channel. The left-hand pane shows a hierarchical tree structure with the following nodes expanded:

- CourseEnrollment
- JobPositionPublication
 - Party
 - Service Without Party
 - Business System
 - JobPositionSenderTest
 - Communication Channel
 - JobPositionReceiver**

- NewHire
- TestJobPositionPublication
 - Party
 - Service Without Party
 - Business System
 - JobBoardTest
 - Communication Channel
 - Business Service
 - Integration Process
 - Receiver Determination
 - Interface Determination
 - Sender Agreement
 - Receiver Agreement

The right-hand pane shows the configuration details for the selected **JobPositionReceiver** channel, which is currently **Active**. The configuration is organized into several sections:

- Display Communication Channel:** Shows the channel name (JobPositionReceiver), Party, Service (JobPositionSenderTest), and Description (Receiver for job positions).
- Parameters:** Contains the following settings:
 - Adapter Type: File (URL: http://sap.com/xi/XI/System, SAP BASIS 7.00)
 - Sender/Receiver: Receiver (selected)
 - Transport Protocol: File System (NFS)
 - Message Protocol: File
 - Adapter Engine: Integration Server
- File Access Parameters:**
 - Target Directory: c:/hrxml/
 - File Name Scheme: job_position.xml
- Processing Parameters:**
 - File Construction Mode: Add Time Stamp
 - File Type: Binary
 - Operating System Command: (empty)
- Variable Substitution (Target Directory/File Name Scheme):** Enable
- Adapter Status:** (empty)

The bottom status bar shows the current context: TestJobPositionPublication | JobPositionSenderTest | JobPositionReceiver.

Setting up Receiver Agreement

The screenshot shows the 'Create Object' dialog box in SAP. The left sidebar contains a tree view with the following categories and items:

- Configuration**
 - Configuration Wizard
- Configuration Objects**
 - Configuration Scenario
 - Receiver Determination
 - Interface Determination
 - Value Mapping Group
- Collaboration Profile**
 - Party
 - Business Service
 - Communication Channel
- Collaboration Agreement**
 - Sender Agreement
 - Receiver Agreement (selected)
- Version Creation**
 - Change List

The main area is titled 'Receiver Agreement' and contains the following fields:

- Sender**
 - Party: [Empty]
 - Service *: JobPositionSenderTest
- Receiver**
 - Party: [Empty]
 - Service *: JobPositionSenderTest
 - Interface *: PositionOpening_In
 - Namespace *: http://sap.com/xi/HR-XML/2004-08-02
- Description: [Empty]
- Add to Scenario: TestJobPositionPublication

At the bottom of the dialog are 'Create' and 'Cancel' buttons.

Receiver Agreement

The screenshot displays the SAP NetWeaver interface for configuring a Receiver Agreement. The left-hand pane shows a hierarchical tree structure with the following nodes expanded:

- CourseEnrollment
- JobPositionPublication
 - Party
 - Service Without Party
 - Receiver Determination
 - Interface Determination
 - Sender Agreement
 - Receiver Agreement
 - JobPositionSenderTest | JobPositionReceiver
- NewHire
 - TestJobPositionPublication
 - Party
 - Service Without Party
 - Business System
 - JobBoardTest
 - Communication Channel
 - Business Service
 - Integration Process
 - Receiver Determination
 - Interface Determination
 - Sender Agreement
 - Receiver Agreement

The main workspace is titled "Receiver Agreement" and shows the configuration details for the selected agreement:

- Display Receiver Agreement** (Status: Active)
- Sender**
 - Party: [Empty]
 - Service: JobPositionSenderTest
- Receiver**
 - Party: [Empty]
 - Service: JobPositionSenderTest
 - Interface: PositionOpening_In
 - Namespace: http://sap.com/xi/HR-XML/2004-08-02
 - Description: [Empty]
- Receiver Communication Channel: JobPositionReceiver
- Header Mapping**
 - Sender Party [Empty]
 - Sender Service [Empty]
 - Receiver Party [Empty]
 - Receiver Service [Empty]

The bottom status bar shows the current context: TestJobPositionPublication | JobPositionReceiver | JobPositionSenderTest | Jo...

Receiver Determination

The screenshot displays the SAP configuration interface for Receiver Determination. The left-hand pane shows a hierarchical tree of objects, with 'JobPositionSenderTest | JobPositionPu' selected. The main area is titled 'Display Receiver Determination' and shows the following configuration details:

- Sender:**
 - Party: [Empty]
 - Service: JobPositionSenderTest
 - Interface: JobPositionPublication_Out
 - Namespace: http://sap.com/xi/ERECRUIT/Global
- Receiver:**
 - Party: *
 - Service: *
 - Description: [Empty]
- Configured Receivers:**

Condition	Party	Service
		JobPositionSenderTest
- Configuration Overview for Receiver Determination:**

Receiver (Partner Service)	Mapping	Receiver Agreement (Communication Channel)
JobPositionSenderTest	PositionOpening_In JobPositionPublication	JobPositionReceiver

Activate Changes

The screenshot displays the SAP software interface for configuring receiver determination. The main window is titled "Display Receiver Determination" and shows the following details:

- Sender:**
 - Party: (empty)
 - Service: JobPositionSenderTest
 - Interface: JobPositionPublication_Out
 - Namespace: http://sap.com/xi/ERECRUIT/Global
- Receiver:**
 - Party: *
 - Service: *
 - Description: (empty)
- Configured Receivers:**

Condition	Party	Service
		JobPositionSenderTest
- Configuration Overview for Receiver Determination:**

Receiver (Partner Service)	Mapping	Receiver Agreement (Communication Channel)
JobPositionSenderTest	PositionOpening_In JobPositionPublication	JobPositionReceiver

The left sidebar shows the "Change Lists" section for user "vmartin", with a context menu open over the "Standard Change List" containing options: Open, Activate, Delete, Transfer, and Close Without Transport. The status of the receiver determination is "Active".



Overview of Integration Scenario

E-Recruiting System Configuration

Delivered XI Components

Basic XI-side Configuration

Message Monitoring

SAP Exchange Infrastructure – Monitor Web Services

Message List Edit Goto System Help

Monitor for Processed XML Messages

Number of Displayed XML Messages 29

XML Messages

Status	Ack	Status	Executed From	StartTI...	Executed Until	EndTime	Send...	Sender Sche...	Sender Agen...	Sender Service	Sender Namespace
			16.01.2006	10:27:56	16.01.2006	15:16:31				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
			17.01.2006	10:44:08	17.01.2006	10:44:09				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				11:44:05	17.01.2006	11:44:06				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				14:46:02	17.01.2006	14:46:03				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				15:17:03	17.01.2006	15:17:03				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				15:35:02	17.01.2006	15:35:02				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				15:41:01	17.01.2006	15:41:02				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
			18.01.2006	13:25:48	18.01.2006	13:25:49				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				13:39:33	18.01.2006	13:39:34				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				16:16:32	18.01.2006	16:16:32				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				17:55:32	18.01.2006	17:55:32				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				18:40:31	18.01.2006	18:40:31				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				19:05:31	18.01.2006	19:05:31				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				19:17:31	18.01.2006	19:17:31				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				19:31:32	18.01.2006	19:31:32				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				19:40:30	18.01.2006	19:40:31				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				19:43:30	18.01.2006	19:43:31				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				19:46:30	18.01.2006	19:46:31				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				19:49:33	18.01.2006	19:49:34				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				18.01.2006	18.01.2006	19:50:27				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global
				18.01.2006	18.01.2006	19:54:21				ERP_BACKEND	http://sap.com/xi/ERECRUIT/Global

Transaction SXMB_MONI

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- In the monitoring area of the Exchange Infrastructure errors can be traced via checking the xml files that were defined by doing the configuration.
- In the above shown case something is wrong when calling the integration server “X7R”.
- Note: if there is no error then typically there is no monitoring in the productive system (unless otherwise configured).

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