SAP NetWeaver '04

SAP NetWeaver 2004s

SAP NetWeaver Process Integration - Best Practices for Roles and Procedures in Integration Projects

Document Version 1.0 – December 19, 2006

SAP®

Typographic Conventions

Type Style	Represents
Example Text	**Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths and options.**
	Cross-references to other documentation
Example text	**Emphasized words or phrases in body text, titles of graphics and tables**
EXAMPLE TEXT	**Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE.**
Example text	**Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, source code as well as names of installation, upgrade and database tools.**
Example text	**Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.**
<Example text>	**Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.**
EXAMPLE TEXT	**Keys on the keyboard, for example, function keys (such as F2) or the ENTER key.**

Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

1 Introduction

This guide explains the typical roles and steps required to implement or develop process integration scenarios.

You should use this guide as a reference. Analyze the concepts in your company and project environment, and then apply modifications as necessary.

The guide contains two main chapters:

- The 'Required Roles' chapter typifies the different roles required in any process integration project. There is no relationship between the number of roles and the number of persons. Depending on the project size one person could perform several roles, or a single role could be performed by several people.

- Chapter 'Development Steps' lists and describes all the necessary steps, taking into account the motivations, sources and deliverables (required inputs and outputs), a role description (including responsibilities and responsibilities), and additional comments where required.

The document is targeted mainly at integration project leads. Nevertheless, developers can also use it as reference to get an overview of the roles and procedures that are involved during the lifecycle of process integration IT scenarios.

1.1 Prerequisites and Restrictions

- It is assumed that the systems are already installed, including all the adapter drivers.

- This document does not apply to any specific document versioning method for the deliverables. SAP recommends that you follow the versioning provided by your general implementation methodology.

- It is assumed that SAP NetWeaver Exchange Infrastructure (XI) is interacting with application systems. If it is interacting with other middleware (EAI, ETL, schedulers, for example) to exchange business data (not monitoring) the guide is still valid, but you should analyze the implications.

2 Required Roles

Some of these roles belong to the company organizational structure while others are performed ah-hoc or by external resources during the implementation project.

2.1 Project Management and Coordination Group

Business Process Owner

The business process owner defines the business process requirements and provides the basic requirements.

Interaction Facilitator

This is a key role in process integration development. Projects are often delayed because the interaction between organizational units (either internal or outside the company organizational unit sponsoring the project) fails. This is normally due to the fact that the organizational units do not share the same priorities or objectives, or simply do not have the required resources (human or equipment) because they were not considered during the project preparation phases.

This role has no specific task assigned. The interaction facilitator smoothes interaction between resouces assigned to the project, and external resources.

Another important point is that this is a high-level role, with direct access to company top management.

2.2 Functional Group

Key User

The person assigned this role clearly understands the expected benefits and the details of the company processes. The key user defines the requirements at a low level and participates in business-level testing.

Business Process Analyst

A person assigned this role is usually a consultant who works with the key user and understands business processes and who has extensive knowledge of application systems.

Tester

This role is usually also performed by the key user or another user in the company with knowledge of the company's processes.

The tester creates and executes all test cases.

2.3 Company Architecture Department

Design Architect

This is a key role. It does not apply to middleware or application system developers since they are not able to provide the high-level point of view provided by a process integration design architect.

The deliverables of the role are so important that an error in the definition could lead to inconsistencies in the network of systems that interact in the company.

Design architects must have good knowledge of most integration technologies and the details required in process integration design (communications and messaging technologies, qualities of service, services-level agreements, for example).

Additionally they must be aware of the information and process flow at high level inside the company.

Enterprise Services Administrator

Companies nowadays have database administrators who know about the data models and entities. The enterprise services administrator is a similar role, but instead of data models and entities, the users assigned this role know about information flow.

Enterprise services administrators administer the list of published services and the map of interfaces.

Each time a service or a new interface is required, the enterprise serivces administrator checks the list of available interfaces that meet the requirements in the Integration Repository and in other company records.

2.4 SAP NetWeaver XI Development Group

Technical Analyst

The technical analysts close the gap between the business process analysts, the design architects, and the SAP NetWeaver XI developers. They analyze the business needs, the high-level implementation strategy and generate the technical specifications for the developers.

SAP NetWeaver XI Developer

This role is aimed to develop the solution in the Integration Repository, and the configuration in the development environment.

SAP NetWeaver XI developers are not the architects who decide the best technology to integrate SAP NetWeaver XI with other systems, but they support the decision providing information about the capabilities of SAP NetWeaver XI.

Considering the development complexity, the SAP NetWeaver XI developer role might be split into a developer and a 'configurator'. For reasons of simplicity we refer to both as the developer in this document.

2.5 Business Application Systems Group

Application Consultant

The business application consultant is usually an external consultant with in-depth knowledge of application systems (such as ERP or CRM).

Users assigned this role know how to implement a new requirement at application level and provide valuable information during creating a design.

Another important thing is that the application consultant will provide the authorization requirements for the service users who interact in the communications.

Technical Analyst

The technical analysts close the gap between the business process analysts, the design architects, and the developers. They analyze the business needs and generate the technical specifications for the developers.

Developer

Users assigned this role are able to extend or modify application systems functionalities in accordance with the application system consultant.

Considering the development complexity, the application system developer role might be split into a developer and a technical analyst. For reasons of simplicity we refer to both as the developer.

Communication Layers Specialist

These specialists know application systems technology for application linking and communications. They are responsible for the configuration and participate in the technical design.

Without this role, the architect may fail to select the appropriate integration technology.

For example, in SAP applications using ALE, the ALE consultant will assume this role, and in SAP CRM, it is the CRM middleware consultant who assumes it.

2.6 Technology Group

Technology Administrator

The technology administrator is the person authorized to execute transports and perform channel configuration activities.

It is the only role that has access to authentication information in quality assurance and production environments.

3 Development Steps

This chapter describes all the steps that are necessary to create and run a cross-component business process. The involved roles and tasks, and the level of responsibility are described for each step.

The sequence of step descriptions provided in this chapter corresponds to the sequence in the overall development process.

3.1 Process Definition

3.1.1 Customer Requirement Definition

High-Level Requirements Definition

Description

This step aims to clearly explain the business process goals and benefits expected by the business process owners.

Objectives

Understanding the expected benefits will provide information about:

- The general design of the implementation or development

- The amount of effort required, considering the expected benefits

- The importance of the solution considering the project priorities and resources

- The critical nature of the solution for the company once in productive operation

  This expresses the business impacts caused by a malfunction, downtimes or not being able to fulfill the required service-level agreements.

Sources

The sources are considerations regarding which goals the company needs to achieve with the business process.

Deliverables

The deliverable of this step is typically a presentation to a corresponding key user, business process analysts, application system consultants, and design architects to kick off development.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process owner	Defines business benefits, high-level specification and expected results.	Responsible

Detailed Requirements Definition

Description

This step generates a functional specification containing process steps, detailed results and a list of all possible business variants that should be covered by the process

Objectives

The functional specification will provide a detailed explanation about the process. This

includes the business steps, requirements, constraints, and error handling, for example.

Sources

The sources of this step are presentations and explanatory meetings with the business process owner.

Deliverables

The deliverables document is a functional specification showing the end user's point of view. The most important point to consider from this document is the process and company experience. No technical considerations should be expected.

Role-Level Tasks

Role	Task Description	Responsibility Level
Key user	Creates functional specification.	Responsible

3.1.2   Design Creation

Scenarios and Interfaces Definition

Description

This step provides a first approach to the technical implementation. The scenarios and actions will outline the flow of information and the systems, modules or applications that are interacting. It also provides important information such as the volumes and service-level agreements, for example.

Objectives

The objective is to understand the user's point of view and provide the functional-technical bridge.

Sources

The source for this step is the functional specification.

Deliverables

The deliverables are:

- Model document

- Usage requirements document

- Authorization roles for service users

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process analyst	Processes model documentation at action level, including volumes, system-level agreements required, peak times, error handling requirements, and so on.	Responsible
Application consultant	Support the definition in accordance with partner system functionalities.	Support
Key user	Clarifies the functional specification as required.	Support

Test Case Creation

Description

This step provides all the required test cases from the business process analyst point of view. These cases allow the developers to perform unit testing during development, during the execution of the stabilization phase, and during both the integration and technical testing.

Objectives

In this step, the business cases that the software should be able to handle are analyzed and documented. This document will be required to perform the testing during the stabilization phase.

Sources

The input document is the business process model documentation.

Deliverables

The deliverable is a document with the list of business situations that the applications should be able to handle. This document will also include technical-level situations that should also be considered (for example, conversion errors).

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process analyst	Generates test cases with list of all possible business variants that should be covered by the process	Responsible

Design Approval

Description

In this design step, the business process owner understands and officially approves the design.

Objectives

The basic needs are to make sure that the business process owner requirements have been correctly understood and to get a formal approval to proceed with development.

Sources

The sources are the functional specification, the process model document and usually a general introduction presentation. These three documents represent the business blueprint for development.

Deliverables

The main deliverable is the formal customer approval.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process owner	Approves design.	Responsible
Key user	Clarify requirements etc.	Support
Business process analyst	Clarify requirements etc.	Support

Additional Comments

This step is also very important from the project administration point of view. It will clearly

show the scope of the development. You should be able to easily recognize any customer modifications afterwards.

You should also note that depending on the implementation methodology, the number and types of documents usually changes.

3.2 Check Point: Process Integration IT Practices

At this point, it should be possible to recognize whether the development involves process integration IT practices and scenarios.

Process Integration IT scenarios are *Enabling A2A Processes*, *Enabling B2B Processes* and *Business Process Management*.

3.3 Implementation Design

3.3.1 Process Handover

Communicate Request to Technical Area

Description

The business process analyst and the technical design architects will work together to understand the business process.

Objectives

The technical team must understand the requirements and proceed with the technical implementation.

Sources

The sources are the functional specification, the process model document and usually a general introduction presentation.

Deliverables

The technical team is in charge of the development from this point. If a formal approval document is required, a mail from the development team to the business process analyst stating that the requirement has been understood and accepted should be sufficient.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process analyst	Explains process to design architects.	Responsible
Design architect	Understands process definition.	Responsible

3.3.2 Technical Design

General Architecture Design

Description

This is one of the most important steps in the process; during this step the architects design the software.

Objectives

The motivation is the need to have a formal step where the software is analyzed and

designed, and all the required business and technical considerations are embraced.

Defining process integration without proper knowledge of middleware and application systems technical capabilities may result in data inconsistencies and performance problems, and you may need to implement the integration again. This will ultimately increase the cost of the project and its duration.

Sources

The sources are the functional specification, the process model document and usually a general introduction presentation. Many other roles are also involved.

Deliverables

The deliverable is a proposal for a design document which describes required new or existing System Landscape Directory (SLD) objects.

Role-Level Tasks

Role	Task Description	Responsibility Level
Design architect	Provides general integration process design. Defines flow of information, synchronicity, systems involved and communication technology. Guarantees that the information is taken from the **owner systems** if possible. Considers service-level agreements of participating systems.	Responsible
Services administrator	Provides available process integration content (XI content) that should be reused.	Support
SAP NetWeaver XI technical analyst	Provides available process integration content which might be reused.	Support
Application systems technical analyst	Provides technical details and capabilities.	Support
Application systems communication layer specialist	Provides technical details and capabilities.	Support

Additional Comments

Owner System Definition: Information is often replicated in several places. Only one system is the owner, that is, in case of problems, the version taken from that system is considered to be the original one. Under some circumstances, technical requirements may force a change in the flow of information, but as general rule, information should be taken from the owner system.

Technical Feasibility Check

Description

This step generates the final design document.

Objectives

Every role in the implementation team provides knowledge about a specific area of the process. They have to understand the new development and the consequences in their systems at business and technical level.

Sources

Sources for this step are the proposal of the design document and team explanation meetings, if required.

Deliverables

Each role must send their feedback and finally the formal approval to the design architect. He or she in turn generates the proposal of the design document.

Role-Level Tasks

Role	Task Description	Responsibility Level
Design architect	Gets formal validation of technologies and involved systems capabilities (SLA, volumes, for example).	Responsible
SAP NetWeaver XI technical analyst	Analyzes design and provides feedback on any possible technical issues.	Responsible
Application system technical analyst	Analyzes design and provides feedback on any possible technical issues.	Responsible
Application system consultant	Analyzes design and provides feedback on any possible functional issues.	Responsible
Application system comm. layer specialist	Analyzes design and provides feedback on any possible technical issues.	Responsible
Technology administrator	Analyzes design and provides feedback on any possible technical issues.	Responsible
Business process analyst	Provides clarifications.	Support

Integration Objects Design

Description

In this step, the list of technical SLD and XI objects will be defined. To do so, the services administrator will provide all the available services in the company that can be reused (from a business point of view) and finally the architect will generate the list of required objects (products, product versions, software components, software component versions and namespaces).

Objectives

In this step, the necessary integration objects are properly defined.

Sources

The sources are the proposal of design document and the services administrator information.

Deliverables

A document with the list of involved objects must be issued.

Role-Level Tasks

Role	Task Description	Responsibility Level
Design architect	Defines new required Integration Repository objects.	Responsible

Services administrator	Provides available process integration content that should be reused.	Support

Design Documentation Generation

Description

This step enriches the design documentation with the selected system objects (products, product versions, software components, software component versions, and namespaces).

Objectives

Once the design document outline has been checked, and the services and system objects are determined, everything must be put together to generate a complete version of the design.

Sources

The two sources are the list of involved objects and the proposal of the design document

Deliverables

The deliverable is a draft version of the design document.

Role-Level Tasks

Role	Task Description	Responsibility Level
Design architect	Defines or documents integration scenario at action and interface level.	Responsible

Service Administration Review

Description

After generating the design document, the services administrator reviews the process integration content defined and its usage. If everything is correct, the services administrator updates the company's documents such as the interfaces map, the services information database, and the usage details.

Objectives

The services administrator owns the company information flow between systems (as well as outside the company) and system linkage information. He must be aware of any change in this flow and as such, provide a formal approval.

Sources

The source document is the previous version of the design document

Deliverables

The deliverables are both the company services and updated interface information databases and the formal validation or feedback. This action automatically generates a first released version of the design document.

Role-Level Tasks

Role	Task Description	Responsibility Level
Services administrator	Reviews services and interfaces definition and usage.	Responsible

3.4 SAP NetWeaver XI Built-In Content and Applications Systems Configuration

In this section, the built-in functionalities of the involved systems are be configured. SAP NetWeaver Exchange Infrastructure (XI) contains built-in functionalities to support industry standards without any development.

3.4.1　　　Configuration

System Landscape Directory Content Maintenance

Description

In this step, the technical and business landscapes are created or updated accordingly in the System Landscape Directory (SLD). In the subsequent steps, the built-in software components are configured.

Objectives

The administrator checks whether the required objects and versions already exist in the system, or whether they must be created or updated. The administrator role is the only role that updates the SLD centrally.

Sources

The source is the released version of the design document.

Deliverables

The technical and business systems are updated in the SLD.

Role-Level Tasks

Role	Task Description	Responsibility Level
Technology administrator	Applies SLD changes as required in the design documentation.	Responsible

Application Systems and SAP NetWeaver XI Built-In Content Configuration in Development Environment

Description

Now both the technical and business landscapes are ready. The SAP NetWeaver XI developer configures the cross-component business process in accordance with the design document and the integration scenario from the Integration Repository.

Objectives

Complete the configuration in the Integration Directory in the development environment with documentation that explains how to test it.

Sources

The sources are the released version of the design document and the integration scenario in the Integration Repository.

Deliverables

The process is ready for testing in the development environment and there is a documentation available that explains how to test it.

Role-Level Tasks

Role	Task Description	Responsibility Level
SAP NetWeaver XI developer	Configures process in Integration Directory including channels.	Responsible
Application system developer	Configures application system.	Responsible
Business application system communication layer specialists	Configures application system.	Responsible

Additional Comments

This step supposes the SAP NetWeaver XI developer has access to the systems involved. That means that he or she has a user name and passwords and configuration details to be able to configure the channels.

3.5 Gap Analysis

3.5.1 Gap Analysis

Gap Identification

Description

The requirement is now implemented in the development environment. Now it is time to check if the built-in content fully complies with the requirement. To do so, you must execute the business process and then analyze the results and try to identify any gaps.

Objectives

The motivation is the need to discover gaps in the requirements.

Sources

The source is the released version of the design document and the configuration document.

Deliverables

The deliverable is the gap-identification documentation.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process analyst	Executes process if possible and identifies gaps.	Responsible
SAP NetWeaver XI technical analyst	Helps to narrow down gaps.	Support
Application system consultant	Helps to narrow down gaps.	Support

Additional Comments

Gaps can occur due to missing application system functionalities or missing process integration content.

Gaps Analysis Documentation

Description

The gaps were identified after testing the scenarios. The gaps has been narrowed down and clarified; now it is time to create the documentation to explain them.

Objectives

It is necessary to get a clear understanding from the business process analyst on what they consider the gaps to be.

Sources

The basic source is the execution of the business scenarios.

Deliverables

The deliverable in this case is a gap-analysis document.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process analyst	Analyzes differences between	Responsible

	required and built-in functionalities.	
SAP NetWeaver XI technical analyst	Provides details on system functionalities.	Support
Application system consultant	Provides details on system functionalities.	Support

3.6 SAP NetWeaver XI and Application Systems Linking Development

The built-in content was not sufficient to implement the desired functionality. Now it is time to develop an application to fill the process gaps.

3.6.1 Process Handover

Communicate Request to Technical Area

Description

The technical team receives the documented test results with an explanation regarding the gaps from the business process analyst.

Objectives

The technical team must clearly understand the new requirements.

Sources

The sources are both the gap-analysis document and an explanation.

Deliverables

The technical team is in charge of deliverables. If some formal approval document is required, a mail from the development team to the business process analyst stating that the requirement has been understood and accepted should suffice.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process analyst	Explains gap to design architects, if applicable	Responsible
Design architect	Reviews development requirement	Responsible

3.6.2 Technical Specification Definition

Integration Objects Design

Description

The design architect has the original design and the gap-analysis documents. The design architect must now determine the pieces of software that will be required to fully comply with the requirements.

Objectives

The architect defines the high-level design and identifies the objects in the software catalog that should be used.

Sources

The sources are the service administrator documents (interfaces maps, services, for example), the design document and the gap-analysis document.

Deliverables

The required objects from the software catalog are defined.

Role-Level Tasks

Role	Task Description	Responsibility Level
Design architect	Defines new required Integration Repository objects.	Responsible
Services administrator	Provides existing process integration content that should be reused.	Support

Additional Comments

Many SLD and Integration Repository objects may be already have been created, while others must be updated (creating new versions or namespaces) or created new.

Design Documentation

Description

You must now update the original design document with new version that contains the results from the previous steps.

Objectives

Create a complete design document with all the necessary technical details.

Sources

The sources are:

- The previous version of the design document
- The gap-analysis document
- The updated versions of the technical systems, business systems, and the software catalog

Deliverables

New released version of the design document, including the integration scenarios, actions, and configuration scenarios.

Role-Level Tasks

Role	Task Description	Responsibility Level
Design architect	Review, if necessary, integration scenario at action and interface level.	Responsible

Service Administration Validation

Description

The final version of the design document has been issued. The service administrator must update his information database and validate or provide feedback about the document.

Objectives

The service administrator information must be updated accordingly. Any feedback must be passed to the design architect.

Sources

The source is the released version of design document.

Deliverables

The service administrator will provide feedback to the design architect and will give the formal approval. The services and interfaces databases are also updated.

Role-Level Tasks

Role	Task Description	Responsibility Level
Services administrator	Validates services and interfaces definition and usage.	Responsible

Additional Comments

SAP recommends that the service administrators manage versions so that they know if an interface or service is still being implemented, is still in production, and so on.

3.6.3 Application Development

SLD Content Maintenance

Description

The software catalog might have been changed because a new version of the design document has been issued,. Consequently, you must review the SLD.

Objectives

The objective is to check the software catalog in the SLD, and if necessary, update it.

Sources

The source is the released version of design document.

Deliverables

The software components versions are ready to be imported to the SLD.

Role-Level Tasks

Role	Task Description	Responsibility Level
Technology administrator	Creates or updates software catalog objects.	Responsible

Technical Specification

Description

The design document does not provide details about technical requirements; however, this step will provide them.

Objectives

It is necessary to provide the developers with the correct development approach, and provide technical-level directives and explanations.

Sources

The source is the released version of the design document.

Deliverables

The deliverables are the technical specification documents both for the Integration Server system and all the business application systems.

Role-Level Tasks

Role	Task Description	Responsibility Level
SAP NetWeaver XI technical analyst	Generates the technical specification for Integration Repository objects.	Responsible
Application system technical analyst	Generates the technical specification for the application systems.	Responsible

SAP NetWeaver XI Development

Description

This is another central step. Here the application is created in the systems in accordance with the design.

Objectives

Implement the designed solution in the systems.

Sources

The source is the released version of the design document and the corresponding technical specification.

Deliverables

All the objects, including Integration Repository objects, ABAP mappings, additional Java developments, and so on have been developed and configured.

Role-Level Tasks

Role	Task Description	Responsibility Level
SAP NetWeaver XI developer	Implements required mappings, adapter configurations, BPM, and so on.	Responsible
Application systems technical analyst	Provides support on application-system-related aspects.	Support
Application systems consultant	Provides support on application-system-related aspects.	Support
Application system communication layer specialist	Provides support on application-system-related aspects.	Support

SAP NetWeaver XI Documentation

Description

Once the solution is created in the system, the developer must create the technical documentation.

Objectives

This step aims to guarantee that the implementation - including all technical details - is properly documented.

Sources

The source is the implementation itself.

Deliverables

The deliverable is the documentation, including technical and adapter information.

Role-Level Tasks

Role	Task Description	Responsibility Level
SAP NetWeaver XI developer	Creates documentation including adapter details.	Responsible

Additional Comments

It is advisable to document each Integration Repository object within the system.

Application Systems Configuration and Development

Description

In parallel with SAP NetWeaver XI development, it might also be necessary to enhance, modify or at least perform some configurations on the different application systems (or other middleware) to fulfill the requirements at business or technical level.

For example, in SAP systems that will require RFC or ALE, it is time to configure them.

Objectives

Develop and configure every application system to fulfill the requirement.

Sources

The source is the released version of the design document and the corresponding technical specification.

Deliverables

At this point the application system development is finished and ready to interact with SAP NetWeaver XI.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business application developer	Develops required functionalities.	Responsible
Application consultant	Configures built-in cross-system business processes.	Responsible
Application system communication layer specialist	Implements application and communication linking system capabilities.	Responsible
SAP NetWeaver XI technical analyst	Provides technical details and feedback to application system consultants.	Support

Application Systems Configuration and Development Documentation Generation

Description

This step will generate the documentation for all the development created in the previous step.

Objectives

The objective of this step is to generate the documentation for the work realized in the different application systems.

Sources

The source is the application development and configuration performed.

Deliverables

The deliverables are the application system developments and the procedures documented.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business application developer	Creates program documentation.	Responsible
Application consultant	Writes process-level documentation and configurations.	Responsible
Application system communication layer specialist	Documents technical requirements and configurations.	Responsible

3.7 Application Deployment

3.7.1 Stabilization Process (Iterative Tasks)

Business Process tests

Description

Once development and configuration of SAP NetWeaver XI and other systems is complete, it is time to start the stabilization phase. This is where the tester role comes into play.

Objectives

A business role must execute all the possible cases that may show up during production to highlight possible errors.

Sources

The test cases document is the source document.

Deliverables

As result, every discrepancy must be documented and explained to developers if required. Finally a compliance document is created including the list of transportable units and versions provided by the development teams.

Role-Level Tasks

Role	Task Description	Responsibility Level
Tester	Test all possible business variants that should be covered by the process and provide feedback to development.	Responsible
Business process analyst	Supports testing	Support
Key user	Helps solving emerging problems, explains expected results or behaviors, provides clarifications.	Support

Additional Comments

In some situations, the application consultant might be required to change some configurations, too.

Development Debugging

Description

Every time the tester issues a discrepancies-feedback document, this should be analyzed in order to correct the errors.

Objectives

The motivation is the correction of development or configuration errors that occurred during the development phase.

Sources

The sources are the discrepancies documents.

Deliverables

All the errors are corrected and the documentation is updated accordingly. A list with the software package versions must also be generated.

Role-Level Tasks

Role	Task Description	Responsibility Level
SAP NetWeaver XI developer	Corrects errors and configurations.	Responsible
Business application system developer	Corrects program errors.	Responsible
Application consultant	Corrects configurations.	Responsible
Application system communication layer specialist	Corrects configurations.	Responsible

Technical Test Execution

Description

The technical tests aim to ensure that the development behaves correctly under high load and when working in parallel, and also that the system landscape remains consistent even after errors have occurred.

Objectives

If no production hardware is available to test the development, and there is no other environment similar to productive operation in which you can test the development, you want to ensure that the development is technically sound and also get an idea of the configuration tuning that will be required for productive operation.

Sources

The sources differ depending on the test:

- For stress testing, the test cases created for the stabilization phase must be executed in parallel.

- For volume testing (where the runtime and not the system load is tested) you must create and execute a time-consuming batch job.

- For system recovery both sources above can be used.

- For error handling testing both sources above can be used.

Deliverables

The deliverables are the estimations of resource requirements and processing times. A document with the results of the tests will also be issued that confirms that the development will execute correctly in production environment.

Role-Level Tasks

Role	Task Description	Responsibility Level
Tester	Supports testing by triggering the process.	Responsible
SAP NetWeaver XI technical analyst	Generates test cases and performs tests in development (if production system not available or possible) to foresee system requirements and application behavior.	Responsible

Application consultant	Generates test cases and performs tests in development (if production system not available or possible) to foresee system requirements and application behavior.	Responsible
Technology administrator	Supports test execution and records statistical information for analysis.	Responsible

Additional Comments

Depending on the requirement, only some of these tests might be applicable.

3.7.2   Development Approval

Development Formal Approval

Description

The business process analyst must analyze the results of functional and technical testing and approve the development prior to sending it to a quality-assurance environment.

Objectives

The idea is to get the validation from the business side.

Sources

The sources are the business compliance document generated by the tester and the technical testing approval document.

Deliverables

Now the documented pieces of software are approved to be sent to the quality-assurance environment.

Role-Level Tasks

Role	Task Description	Responsibility Level
Business process analyst	Performs formal validation - ensures that development is technically stable and complies with business process definitions in accordance with all possible business variants that shold be covered by the process.	Responsible

Transportable Software Units Export

Description

Considering the technical details of every involved platform, all the necessary pieces of software must be exported from the development environment.

Objectives

You need to obtain a set with all the pieces of software from every middleware and application system documented and exported from the original system.

Sources

The source is the list of transport units documented by the developers after the stabilization

phase included in the business-compliance document.

Deliverables

Software is exported from the development environment.

Role-Level Tasks

Role	Task Description	Responsibility Level
Technology administrator	Exports contents	Responsible
SAP NetWeaver XI developer	Supports the export	Support
Application system developer	Supports the export	Support

3.7.3   Software Transport to Quality Assurance Environment

Every required piece of software must be replicated to the quality-assurance environment for testing

Transportable Software Units Import to Quality Assurance Environment

Description

In this step, the exported software versions generated in the previous step are imported to their corresponding quality-assurance systems.

This will provide feedback and experience regarding the import to production system that should be added to the development documentation.

Objectives

The aim of this step is to ensure that the software versions in development and quality assurance environments correspond to each other.

Sources

The source is the exported software generated in the previous step in accordance with the documentation.

Deliverables

The software versions are the same both in development and quality-assurance environments.

Role-Level Tasks

Role	Task Description	Responsibility Level
Technology administrator	Imports content (for example Integration Repository content and Integration Directory objects).	Responsible
SAP NetWeaver XI developer	Supports the import.	Support
Application system developer	Supports the import.	Support

Configuration of Communication Channels in the Quality-Assurance Environment

Description

At this point the software is installed in quality-assurance environments, but there is still a need to complete some configuration work in the Integration Directory in order to update the channel connection and authentication information.

Objectives

All the required technical configuration parameters must be completed and updated as

required in the quality-assurance environment.

Sources

The sources are:

- Development documentation

- System Landscape Directory information (or additional databases) about the technical landscape

- Technology administrator authentication records for quality-assurance environments

Deliverables

The adapters are configured and the software is ready to be used in quality-assurance system.

Role-Level Tasks

Role	Task Description	Responsibility Level
Technology administrator	Configures adapters in accordance with development documentation and own connection information.	Responsible

Additional Comments

This step is necessary if new or updated channels have been imported to the quality-assurance environment.

Depending on your naming rules you may also be required to create new channels.

3.7.4   Integration Testing Execution

Integration Testing Execution (Iterations)

Description

In this environment, the business process can be executed within the whole process cycle (for example, passive cycle) which allows you to analyze further implications or impacts.

Integration testing focuses only on business-level testing, works in a segregated environment and except for the new piece of software that is being tested, the rest of the software and configuration is an exact copy of the production system.

Some issues that did not show up in the development environment before may show up here. This requires you to generate software corrections and perform the export and import steps again.

Objectives

Obtain the information that results from the integration testing in accordance with the customer's individual test methodology.

Sources

The source is the list of test cases generated previously.

Deliverables

The deliverable is the whole business process cycle impact, and finally a document of compliance.

Role-Level Tasks

Even if this step is assigned to the tester only, several people will probably perform this role

---

because several systems are involved.

Role	Task Description	Responsibility Level
Tester	Executes business process in accordance with integration test and provides feedback to development if required.	Responsible
Key user	Provides support, help, or clarification.	Support
Business process analyst	Provides support, help, or clarification.	Support

Development Formal Approval

Description

The business process analyst must analyze the results of integration testing and approve the development prior to sending it to a production environment.

Objectives

The idea is to get validation from the business side.

Sources

The source is the business compliance document.

Deliverables

Documented pieces of software approved for sending to the production environment will be issued.

Role-Level Tasks

Role	Task Description	Responsibility Level
Key user	Performs formal validation - assures that development is technically stable and complies with business process definitions in accordance with all required casuistry.	Responsible
Business process analyst	Provides support or clarification.	Support.

3.7.5   Software Transport to Productive Environment

Transportable Software Units Import to Productive Environment

Description

In this step, the exported software versions are imported to their corresponding productive systems.

Objectives

The objective is to get the software working in a productive environment.

Sources

The source is the exported software in accordance with the documentation.

Deliverables

Now the software versions must be the same in the development, quality assurance, and production environments.

Role-Level Tasks

Role	Task Description	Responsibility Level
Technology administrator	Imports content (for example Integration Repository content).	Responsible
SAP NetWeaver XI developer	Supports the import.	Support
Application system developer	Supports the import.	Support

Configuration of Communication Channels in the Productive Environment

Description

At this point the software is installed in production environments, but some configuration is still required in Integration Directory in order to update the channel connection and authentication information.

Objectives

All the required technical configuration parameters must be completed and updated as required in the production environment.

Sources

The sources are:

- Development documentation

- System Landscape Directory information (or additional databases) about the technical landscape

- Technology administrator authentication records for production environments

Deliverables

The adapters are configured and the software is ready to be used in production environment.

Role-Level Tasks

Role	Task Description	Responsibility Level
Technology administrator	Configures adapters in accordance with development documentation and own connection information.	Responsible

Additional Comments

This step is necessary if new or updated channels have been imported to the production environment.

Depending on your naming rules you may also be required to create new channels.

3.7.6   Technical Testing

Technical Testing

Description

If you are installing all the involved systems for the first time and none of them are in production, then it makes sense to execute the technical testing at this point.

These technical tests aim to ensure that the software behaves correctly under high load and when working in parallel, and that the system landscape remains consistent after error or disaster situations.

Objectives

The idea is to make sure that the software is technically feasible and to also perform any configuration tuning required for productive operation.

Sources

The sources differ depending on the test:

- For stress testing the test cases created for the stabilization phase must be executed in parallel.

- For volume testing (where the runtime and not the system load is tested), you must create and execute a time-consuming batch job.

- For system disaster recovery both the first and second sources can be used.

- For error handling testing both the first and second sources can be used.

Deliverables

The deliverable is the new business process, which is ready to be executed

A document containing the results of the tests will be issued which confirms that the software will execute correctly in the production environment.

Role-Level Tasks

Role	Task Description	Responsibility Level
Tester	Supports testing – triggering the process.	Responsible
SAP NetWeaver XI technical analyst	Generates test cases and performs test to foresee system requirement and application behavior.	Responsible
Application consultant	Generates test cases and performs test to foresee system requirement and application behavior.	Responsible
Technology administrator	Supports test execution and records statistical information for analysis.	Responsible

Additional Comments

Depending on the requirement, only some tests might be required.