What's New in SAP NetWeaver 7.3 - Process Integration

Release 7.3

Copyright

Icons in Body Text

Icon	Meaning
⚠	Caution
⁘	Example
💡	Note
⬆	Recommendation
⟨⟩	Syntax

Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see *Help on Help → General Information Classes and Information Classes for Business Information Warehouse* on the first page of any version of *SAP Library*.

Typographic Conventions

Type Style	Description
Example text	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.
	Cross-references to other documentation.
Example text	Emphasized words or phrases in body text, graphic titles, and table titles.
EXAMPLE TEXT	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
`Example text`	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and 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. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, `F2` or `ENTER`.

Table of Contents

Process Integration

This section describes all new features, enhancements and changes for Process Integration.

These release notes describe all the changes made from SAP NetWeaver 7.0 Support Package 8 up to and SAP NetWeaver 7.3 Support Package 1. For each change made, we specify the release and the SAP NetWeaver PI components for which it was implemented.

This document is also intended to be a source of reference for those who are preparing to upgrade from one of the intermediate releases. For example, SAP NetWeaver PI 7.1 to SAP NetWeaver 7.3.

Some new features have been downported to lower releases. For example, a new feature in SAP NetWeaver 7.3 may be downported to SAP NetWeaver PI 7.1. Note that when a feature is downported to a lower release, that feature may not be available in intermediate releases. For example, if a new feature in SAP NetWeaver 7.3 is downported to SAP NetWeaver 7.0, it will not necessarily be available in release SAP NetWeaver PI 7.1. In such cases, all the releases for which a feature is available are specified.

Changes in Documentation

Change	Description
New documentation structure *SAP NetWeaver Process Integration*	A new documentation structure *SAP NetWeaver Process Integration* provides an entry point to the main procedures and key concepts that are relevant for those who work with SAP NetWeaver Process Integration. It is targeted at development and integration experts who need to develop and configure integration scenarios using SAP NetWeaver Process Integration. However, it also provides an entry point to the documentation for administrators who want to operate and monitor integration scenarios. More information: SAP NetWeaver Process Integration

Enterprise Services Repository

This section describes all new features, enhancements, and changes for Enterprise Services Repository.

- Interface Objects

- ES Repository Tools

    This section covers the new and modified features in the Enterprise Services Builder and SAP NetWeaver Developer Studio.

Interface Objects

Changes to Service Interface

Feature	Type of Change	Description
Automatic Migration of Message Interfaces	New (7.1 SP 04)	Until SAP NetWeaver 2004s there were message interfaces in the Integration Repository. Each message interface consists implicitly of an operation, which is not named in the message interface editor. As of this release, you can no longer create message interfaces. You can only create service interfaces, which allow the definition of multiple operations. During an upgrade to the new release or a transport of message interfaces to the Enterprise Services Repository, all message interfaces are automatically converted to equivalent service interfaces with one operation. For example, a message interface called **MI** becomes a service interface called **MI** with one operation **MI**. You do not need to do anything to convert message interfaces to service interfaces. For more information, see Service Interface.
Interface Pattern	New (7.1 SP 04)	Depending on the use of a service interface, there can be different types of operations for the respective use. To enable the selection of possible operations to be restricted at design time, each service interface has an interface pattern, which you use to decide implicitly on a communication and thus programming model. For more information, see Interface Pattern.
Idempotency	New (7.1 enhancement package 1)	In the service interface, for inbound category with mode as synchronous and any interface pattern except TU&C/C, a new option called Idempotent is available. For more information about the *Idempotent* flag, see Service Interface.
Security Profile	New (7.1 enhancement package 1)	You can assign security levels to the service interfaces in the ES Repository. For more information about security profile, see Service Interface.
Assigning Service Interfaces	New (7.1 SP 04)	• To simplify the configuration of point-to-point connections, you can assign related service interfaces to one another in the Enterprise Services Repository (outbound service interface and inbound service interface). For more information, see Developing Point-to-Point-Services Outside-In.

Assigning Service Interfaces	New (7.1 enhancement package 1)	For a given inbound service interface, a wizard automatically creates an outbound service interface and assigns a link to match the two interfaces. This is applicable only for point-to point communication. For more information, see Matching Service Interfaces for Point-to-Point Communication.
Classifying service interfaces in the ES Repository	New (7.1 enhancement package 1)	You can assign classifications to service interfaces in the ES Repository. For more information: Classifying Services in the Enterprise Services Repository.
Publishing service interfaces	New (7.1 enhancement package 1)	- Mass Publication You can publish multiple service interfaces at once to the Services Registry. For more information about publishing multiple service interfaces at once, see Publishing Service Interfaces. - Auto-publication You can configure the ES Builder to automatically publish service interfaces to the Services Registry after activation. For more information, see Enabling Automatic Publication of Service Interfaces.
Creating service interfaces from WSDL files	New (7.1 enhancement package 1)	A wizard enables you to import WSDL files into the ES Repository and create service interface objects. For more information, see Creating Service Interfaces from WSDL Files.

Changes to Data Types

Developing Data Types	Enhanced (7.1 SP 04)	Core data types and aggregated data types are developed according to ISO 15000-5 (ebXML Core Components Technical Specification (ebCCTS, shortened to CCTS)). This UN/CEFACT committee methodology defines semantic modules without syntax (core component types) that take into account the latest requirements for describing business data generically. Applying this methodology simplifies the implementation of cross-company processes, in particular. SAP applies the CCTS methodology in an unification and standardization process to develop data types in XML schema in the ES Repository. For this purpose, the data type editor for core data types contains attributes that enable developers to reference the semantic modules of CCTS. Compared with free-style data types, core data types also contain additional information about the semantics of a particular data type. This information makes it easier to develop interface elements such

		as input and value help later on, for example. Free-style data types support the range of commands in XML schema only. For more information, see Developing Data Types According to CCTS.
Help Type for Complex Types with SimpleContent	New (7.1 SP 04) (7.0 SP 08)	Previously, to define a complex type with simpleContent you had to manually create a help type. The data-type editor now creates this help type automatically in the background. For more information, see Complex Types with SimpleContent.
Mass import of data types	New (7.1 enhancement package 1)	The ES Builder enables you to import multiple data types at a time. For more information, see Mass Import of Data Types.
Deletion Indicator	New (7.1 enhancement package 1)	A consumer can explicitly communicate to a provider at runtime that the elements of a particular data type can be deleted.

Changes to External Definitions

Mass import of external definitions	New (7.1 SP 04)	Until now, you could only upload individual files to the Integration Repository one after the other. As of the new release, you can upload multiple files to the Enterprise Services Re pository at once and create an external definition for each file. For more information, see Mass Import for External Definitions.
Automatic Migration of Imported RFCs and IDocs	New (7.1 SP 04)	The internal data storage format for imported RFCs and IDocs has changed. The new data format is simpler and less performance-intensive. All RFCs and IDocs are automatically put in the new data storage format when you upgrade to the new release or transport RFCs or IDocs to the Enterprise Services Repository. There are no other effects

Changes to UI Text Objects

Defining interface texts	New (7.1 SP 04)	You use UI text objects to define interface texts at design time. You assign these texts to objects in the Enterprise Services Repository so that they are immediately accessible for later use in UI development. For more information, see UI Text Objects.

Changes to Mapping Objects

This section is applicable only if you have SAP NetWeaver Process Integration installed in you landscape.

General	Enhanced (7.1 SP 04)	• Parameterized Mapping Programs You can now work with parameters - whose values are not defined until configuration

		time - in message mappings, Java mapping programs, and XSLT mapping programs. In mapping lookups, to define the communication channel to be used in the Integration Directory, you can now use the new parameter type `Channel`. For more information, see Parameterized Mapping Programs. • Test Environment In lower releases, you were able to test mapping programs if you had the authorization to display mapping objects in the Enterprise Services Repository. This authorization is now no longer sufficient. For more information, see Test Environment for Operation Mappings and Test Environment.
Message Mappings	Enhanced (7.1 SP 04)	• Function Libraries In lower releases, you were able to save and manage user-defined functions as part of one message mapping. You can now create function libraries independently of specific message mappings, and can use the functions you define in them in multiple message mappings. For more information, see Function Libraries. • Standard Functions for Mapping Lookups In lower releases, you could only use mapping lookups in message mappings if you used the mapping-lookup-API in Java within a user-defined function. The mapping editor now has the standard functions *JDBC Lookup* and *RFC Lookup* for lookups involving the JDBC or RFC adapter. For more information, see Defining JDBC Lookups Graphically and Defining RFC Lookups Graphically. • Variables In the target structure in the mapping editor, you can now define a graphical variable that you assign a value to at runtime by using a normal target-field mapping. You can then use this value in the scope of the variable when you apply the variable in other target-field mappings; doing so helps to simplify the target-field mappings concerned. For more information, see Variables in the Target Structure. • Filter (Usability) A filter is now available in both the structure overview and the test environment in the mapping editor. The filter enables you to

		display only those fields in the respective structure that you require for your work on the message mapping. For more information, see Structure Overview.
Message Mappings	Enhanced (7.1 SP 04) (7.0 SP 09)	Precision of Standard Functions The arithmetic standard functions of a message mapping perform calculations with the precision of the Java data type float. The Java runtime converts values of type float to dyadic format before the calculation, calculates the result, and converts this result back to decimal format. The conversion may result in decimal places in the dyadic format that are periodically repeated and then automatically cut off. In the decimal system, this can result in inaccurate results (example: 2.11 + 22.11 = 24.220001). Until now you could not change the precision of the calculations. To prevent the above-mentioned inaccuracies in the calculations, you can now perform the calculation for a selection of standard functions in the decimal system. For more information, see Standard Functions or SAP Note 958486.
XSLT Mappings	New (7.1 SP 04)	SAP supports the SAP XML Toolkit for SAP NetWeaver Process Integration 7.1 and the next release of SAP NetWeaver. In SAP NetWeaver Process Integration 7.1 and higher you can work with the Java Development Kit (JDK) 5, which is a functionally superior tool to the SAP XML Toolkit. Both runtimes are available during the transition phase. From SAP NetWeaver Process Integration 7.1. you can only use the Java Development Kit in the PCK. For more information, see XSLT Mapping.
Java Mappings	Enhanced (7.1 SP 04)	A new API is available for Java mappings. The previous mapping API still exists but no further development will take place (parameterized Java mapping programs are only possible with the new mapping API, for example). For more information, see JAVA Mapping.
Testing Mapping Programs	Changed (7.0 SP 08)	It was previously possible for users who had authorization to display mapping objects in the Integration Repository to test mapping programs. This authorization is now no longer sufficient.

ES Repository Tools

Changes in the Enterprise Services Builder

Feature	Type of Change	Description
Authorizations	New (7.1 enhancement package 1)	You can define basic and advanced authorizations using the new authorization editor. Basic authorization allows you to assign simple actions such as read, write, delete, and so on, to users. However, if you want to assign granular permissions, you use advanced authorizations. For more information, see Authorizations.
Authorizations	New (7.1 SP 04)	To define authorizations for access to objects in the Enterprise Services Repository, you can now select objects in the navigation area of the Enterprise Services Builder and use a new authorization editor.

You can also define authorizations using the previously available user roles. |
Handling language-dependent texts	New (7.1 SP 04)	Handling of language-dependent texts to ESR content objects has been simplified and is easier to follow on the user interface. You now define the original language of objects with the software component version.
Translating language-dependent	New (7.1 SP 04)	You can now translate language-dependent texts in a separate editor.
Usage Profile	New (7.1 enhancement package 1)	The usage profile is a filter that defines the number of ES Repository objects that you can access. It enables you to view and work with only a set of object types, software component versions, and modeling filters required to achieve your goals. For more information, see Usage Profile.
Export of Process Component Architecture model entities	Enhanced (7.1 enhancement package 1)	When exporting Process Component Architecture model entities, the repository checks if the dependent and the associated models are present in the target system.
Context perspective	New (7.3)	The context perspective in the ES Builder provides improved access to objects, better navigation capabilities, and allows you to work with a subset of objects of your choice. For more information, see Working with Context Perspective.
Search based on documentation	New (7.3)	You can search for objects in the ES Repository using the documentation URL of the entities in the ES Workplace. This enables reuse. For more information, see Search Objects by Documentation.
Subscribing for objects	New (7.3)	In the ES Builder, you subscribe to an interface object if you want to receive e-mail notifications of changes made to the object. You receive notifications when an interface object is modified or

		deleted. For service interfaces, you can also choose to receive notifications when you classify or publish a service interface. For more information, see Managing Subscriptions.
Performing component checks	New (7.1 enhancement package 1 SP 03) (7.1 SP 04)	You can perform various checks on a number of objects of a software component version at the same time. These include consistency checks and checks for invalid characters, for example. For more information, see Performing a Component Check.
Usability of interface objects	Enhanced (7.1 SP 04)	The usability of interface objects varies in some aspects, depending on the SAP NetWeaver release on which the back-end system in which your interfaces are implemented is based. You can make basic settings for usability of interface objects with the software component version. For more information, see Usability of Interface Objects.
Assigning object documentation	New (7.1 SP 04)	You can navigate from an object in the ES Repository to the documentation for this object in the SAP Solution Composer or to the ES Workplace. This option is possible if documentation exists for the object in the SAP Solution Composer or on the ES Workplace. For more information, see Navigate to the object documentation in SAP Solution Composer.
Defining filters	Enhanced (7.1 SP 04)	With filter settings you can determine the number of ES Repository objects that can be accessed. • Usage profile Define a basic selection of object and model types using the usage profile. • You can hide separate objects from the basic selection of object types defined by the usage profile and therefore set up the ES Builder according to your individual requirements. • You can also display lost and found objects. A lost and found object can occur when the folder to which the object was originally assigned has been deleted but the object itself has not. For more information, see Defining Filters.

Changes in SAP NetWeaver Developer Studio

Creating service interfaces	New (7.3)	Starting with SAP NetWeaver 7.3, you can create some interface objects in the SAP NetWeaver Developer Studio. You can create service interfaces, data types, and message types using the *Enterprise Services Browser* view. For more information, see Creating a Service Interface and

		Creating a Freestyle Data Type.
Change list	New (7.3)	You can activate or reject changes made to objects using a change list. For more information, see Working with a Change List.
Subscribing to objects	New (7.3)	In the *Enterprise Services Browser*, you subscribe to an interface object if you want to receive e-mail notifications of changes made to the object. You receive notifications when an interface object is modified or deleted. For service interfaces, you can also choose to receive notifications when you classify or publish a service interface. For more information, see Managing Subscriptions.
Defining attribute definitions	New (7.3)	You can extend the existing interface objects by assigning additional attributes to them. You assign attributes to interface objects by defining the attribute definitions. For more information, see Defining Attribute Definitions.

Other

ES Repository web-browser	New (7.3)	Apart from the ES Builder and SAP NetWeaver Developer Studio, you can also access the contents of the ES Repository by using the ES Repository web-browser view. This view enables you to access objects in the repository in a Web-browser, without launching either of the tools. For more information, see Working with ES Repository Web-Browser.
Wizard to configure central ES Repository	New (7.3)	If you have both SAP NetWeaver CE and PI in your landscape, you can use a wizard to automatically configure one repository as the central ES Repository. For more information, see Setting Up a Central ESR for PI - CE Scenarios
Central ES Repository for PI-CE scenarios	New (7.1 enhancement package)	When you have SAP NetWeaver Composition Environment and SAP NetWeaver Process Integration installation in your system landscape, you can maintain all your design objects in one ES Repository.

Services Registry

Feature	Type of Change	Description
Services Registry	New (7.1 SP 04)	The Services Registry is part of the SOA landscape. It contains entries for all services and service definitions, including references to the WSDL metadata and the callable service endpoints of the service providers. The registered services are organized using classification systems to simplify the search for services in the registry. For more information, see Services Registry.
Publishing	New (7.1 SP 04)	Users can publish third-party services to the Services Registry. There is a function for publishing services of a software component or deployment unit update to the Services Registry. Users can publish service definitions that require user authentication (user name/password). In the publication wizard, users can add a link to documentation and classify the published service. For more information, see Publishing Service Definitions Using the Services Registry.
Service Groups	New (7.1 enhancement package 1)	Users can search for Service Groups in the Services Registry. For more information, see Searching and Browsing Service Groups.
Classification Systems	New (7.1 SP 04)	Classifications systems delivered by SAP are available in the Services Registry after installation. Users can create and modify classification systems and values as necessary. For more information, see Predefined Classification Systems and Managing Classification Systems.
Classifying Services	New (7.1 SP 04)	Users can classify many service definitions at once. Users can classify service endpoints. For more information, see Classifying Service

Feature	Type of Change	Description
		Definitions.
Searching	New (7.3)	When a user regularly performs a specific search, he or she can save the search query and then just load it when you want to perform the same search again. The system stores the search queries separately for each user. Users can group by QName the result of a service definition search. For more information, see Searching and Browsing Service Groups.
Permissions	New (7.1 enhancement package 1)	Administrators can define a set of service definition details and User Management Engine roles in a usage profile. As a result of applying usage profiles, Services Registry restricts the access to a defined set of service definitions only to those users who have the corresponding role assigned to their user account. For more information, see Defining Usage Profiles.
User roles for accessing Services Registry	New (7.1 SP 04)	Users who need to access and modify Services Registry have certain User Management Engine roles assigned to them. For more information, see Services Registry Roles.
Deleting Entities	Enhanced (7.3)	Users can delete the following entities in Services Registry's user interface: unused classification values, service definitions, service endpoints, physical systems, service groups. For more information, see Removing Services from the Services Registry.
Cleaning Invalid URLs	New (7.1 enhancement package 1)	Users can clean the Services Registry from invalid URLs or URIs that cannot be reached For more information, see Cleaning the Services Registry.
SAP Enterprise Services Explorer for Microsoft .NET	New (7.1 enhancement package 1)	SAP Enterprise Services Explorer for Microsoft .NET (ES Explorer) is an add-in for Microsoft Visual Studio 2005 and 2008 that helps to leverage SOA by enabling .NET developers to discover SAP enterprise services and consume them in their applications, as well as publish their own custom Web services.

Feature	Type of Change	Description
		The documentation of ES Explorer is available in the Microsoft Visual Studio local help after installation of the add-in. For more information, see http://www.sdn.sap.com/irj/sdn/dotnet.
System Management	New (7.3)	Users can specify the systems on which the registered Web services reside. Users can also assign systems to existing service definition and service groups. For more information, see Managing Physical Systems.

Advanced Adapter Engine

Advanced Adapter Engine Extended		
Feature	**Type of Change**	**Description**
Advanced Adapter Engine Extended	New (7.3 SP 0)	The Advanced Adapter Engine Extended (AEX) is a new installation option of SAP NetWeaver Process Integration. It provides the connectivity capabilities of the Advanced Adapter Engine (AAE) as well as design and configuration tools (ES Repository and the Integration Directory) to set up integration scenarios that are based on the AAE. The AEX is based on AS Java alone. Therefore, it is easier to install and maintain as well as it needs less memory and data storage. More information: Advanced Adapter Engine Extended

Advanced Adapter Engine		
Feature	**Type of Change**	**Description**
Channel Specific Timeout	New (7.3 SP 0)	Channel specific timeout decouples each channel from the messaging system and enables the channels to have their own timeout. More information: Setting a Channel-Specific Timeout
Message Versioning on the Advanced Adapter Engine	New (7.3 SP 0)	Configure where message versions are stored on the Advanced Adapter Engine. More information: Saving Message Versions in the Advanced Adapter Engine
IDoc adapter on the Advanced Adapter Engine	New (7.3 SP 0)	You use the IDoc adapter (AAE) to have IDocs (intermediate documents) processed by the Advanced Adapter Engine. You can also use the IDoc adapter (AAE) to connect and process requests from non-SAP business systems by the Advanced Adapter Engine. More information: Configuring the IDoc Adapter (Advanced Adapter Engine)
HTTP adapter on the Advanced Adapter Engine	New (7.3 SP 0)	You can leverage the high performance capabilities of the Advanced Adapter Engine for the HTTP message traffic. More information: Configuring the Java HTTP Adapter
Topic support (publish/subscribe) in the JMS	Changed (7.3 SP 0)	The JMS Adapter now supports both JMS publish/subscribe and point-to-point communication.

adapter		More information: JMS Publish/Subscribe and Point-to-Point Communication
Configure the maximum message size and row size fetched from data base in JDBC adapter	Changed (7.3)	More information: Configuring the Sender JDBC Adapter *Defining Additional Parameters in Advanced Mode*, additional parameters for large message size.
File splitting (EOIO processing of large binary files) in the File/FTP sender adapter	Changed (7.3)	You can select this settings for larger files (for example, larger than 1 gigabyte). The file is first divided up into smaller file parts. These file parts are then processed individually at runtime. More information: Configuring the Sender File Adapter Configuring the Sender FTP Adapter
Configuring a mapping-based message split for local message processing on Advanced Adapter Engine	Changed (7.3)	For a mapping-based message split, an outbound message is divided into multiple target messages using a multi-mapping. You can now also configure this option for local message processing on Advanced Adapter Engine (in the integrated configuration object in Integration Directory). More information: Configuring Mapping-Based Message Splits
CPA Cache	Changed (7.3)	Minimal use is now made of cluster communication. This makes the CPA Cache more robust and ensures that the same CPA objects are on all the server nodes. The following properties can be configured: • `communication.type` More information: Properties for XPI Service: CPA Cache • `updateCPACacheJobInterval` More information: Properties for XPI Service: CPA Cache
SOAP sender adapter handles XI bulk messages	New (7.3)	The SOAP sender adapter can split the incoming bulk message into individual messages.
Exactly Once In Order Messages	New (7.3) (7.1 enhancement packe 1 SP 06)	Handling of Exactly Once In Order (EOIO) messages is more robust. Exactly Once In Order (EOIO) messages with the same serialization context can be processed on the same J2EE server node. This reduces communication between the nodes, thus

		improving system performance..
		This feature is controlled by parameter AE_EOIO_OPTIMIZE. AE_EOIO_OPTIMIZE determines whether the JSESSIONID cookie is sent for messages with a Quality of Service EOIO that are sent by the Integration Engine to the Adapter Engine without a user ID (Principal Propagation).
		By default, parameter AE_EOIO_OPTIMIZE is active. If you need to disallow JSESSION cookies, you can deactivate this feature.
Out Of Memory Handling	New (7.3) (7.1 enhancement packe 1 SP 06)	Out Of Memory (OOM) Handling has been improved. Errors due to memory leaks and incorrect sizing can be resolved by restarting the process. Errors caused by a single very large request or a few very large requests can be resolved without restarting the process.
Blacklisting	New (7.3) (7.1 enhancement packe 1 SP 06)	Blacklisting can prevent situations in which individual messages cause servers to become overloaded and even to fail. Blacklisting works by identifying and isolating messages that appear likely to cause a problem, or that were being processed when a server failure occurred. More information: Blacklisting
MS Job Framework lock handling	New (7.3) (7.1 enhancement packe 1 SP 06)	Improved (auto-)recovery features for resolving lock conflicts.

Safe Restart	New (7.3) (7.1 enhancement packe 1 SP 06)	The restart behavior has been improved as follows:
		 • Loading of held EOIO messages into the sequencer
		     o Server startup is decoupled from backlog loading in order to prevent startup failures or timeouts.
		     o Asynchronous processing is used.
		 • Loading of EO backlog messages at connection registration time
		     o Server startup is decoupled from backlog loading in order to prevent startup failures or timeouts.

		o Asynchronous processing is used.
		• Synchronize Messaging System connection registration with JEE startup
		o Message processing is started in synchronization with service and applications startup.
		• Synchronize polling Adapter startup with JEE startup
		o Message processing is started in synchronization with service and applications startup.
New Properties of XPI Service AF Core	New (7.1 enhancement package 1)	XPI service AF Core uses new properties for aggregating data of the message payload for license auditing. More information: Properties for XPI Service: AF Core
Message Protocol XI 3.0 in SOAP Adapter	New (7.1 enhancement package 1)	If you want to send an XI message via the XI message protocol to or from an Advanced Adapter Engine through the SOAP Adapter, then select the Message Protocol as XI 3.0. More information: Configuring the Sender SOAP Adapter and Configuring the Receiver SOAP Adapter
Additional Parameters in Mail Adapter	New (7.1 enhancement package 1)	You can configure additional parameters when IMAP4 is selected as Transport Protocol. More information: Configuring the Sender Mail Adapter
Enhanced Routing Capabilities	Changed (7.1 enhancement package 1)	When configuring local message processing by the Advanced Adapter Engine, you can now define routing conditions. More information: Defining the Integrated Configuration
Module to Add Attribute Values in Dynamic Configuration in Sender Mail Adapter	New (7.1 enhancement package 1)	You can use the MultipartHeaderBean module to add the attribute values in dynamic configuration. More information: Adding MultipartHeaderBean in the Module Processor
Module to Convert IDoc XML to Flat File and Vice Versa	New (7.1 enhancement package 1)	You can use the IDOCXmlToFlatConverter module to convert IDoc Xml to IDoc flat format and IDOCFlatToXmlConverter module to convert the data in IDoc flat format to Xml format. More information: Adding IDOCXmlToFlatConverter in the Module Processor and Adding IDOCFlatToXmlConverter in the Module Processor
Local Message Processing on	New (7.1 SP 04)	Using Integrated Configuration you can define a local Message Processing on the Advanced

the Advanced Adapter Engine		Adapter Engine. The Advanced Adapter Engine provides mapping and routing for this locally. Message Processing is only executed on the Advanced Adapter Engine from one adapter to another without the involvement of the Integration Engine. You can gain a great improvement in performance. You can implement all adapters on the Adapter Engine for a local Message Processing on the Advanced Adapter Engine, apart from the RNIF adapters and the CIDX adapters. If you do not use the integrated configuration, message processing will continue to be performed using the Integration Engine.
Adapter Development	Changed (7.1 SP 04)	You must adapt adapters and modules that you have developed for SAP Exchange Infrastructure 2.0, SAP NetWeaver 2004 (SAP XI 3.0), and SAP NetWeaver 7.0 (2004s) to use them in SAP NetWeaver Process Integration 7.1. The changes to the Adapter Framework API are only syntactic, not semantic. SAP provides a help for converting partner adapters and modules. If you cannot convert adapters straight away, you can reconfigure them for a non-central Adapter Engine. This Adapter Engine is based on SAP NetWeaver 2004 and SAP NetWeaver 7.0 (2004s). It is connected to the SAP NetWeaver Process Integration 7.1 Integration Server by the XI adapter. SAP is only providing this solution for a transition period. Upgrade your adapters to SAP NetWeaver Process Integration 7.1 and have them certified as soon as possible. For more information about API cross references, see the appendix of SAP Note 1004000.
File/FTP Adapter	Changed (7.1 SP 04) (7.0 SP 12)	The following new parameters are available for the File/FTP adapter: In advanced mode, you can specify the maximum file size in bytes to be processed by sender adapters.
File/FTP Adapter	Changed (7.1 SP 04) (7.0 SP 12)	The following new parameters are available for the File/FTP adapter: • New parameters are available for the conversion of the file content in the sender adapter. You can use these parameters to influence the behavior of the conversion routine if the structure at runtime is different from the configured structure.

		More information: Converting Text Format in the Sender File/FTP Adapter to XML, (NameA.missingLastfields and NameA.additionalLastFields parameters) • You can specify the maximum concurrency for receiver adapters. This defines the number of messages an adapter can process in parallel on a cluster node.
File/FTP Adapter	Changed (7.1 SP 04) (7.0 SP 10)	You can set how empty files (length 0 bytes) are to be handled in the sender adapter, and how XI messages with an empty main payload are to be handled in the receiver adapter. More information: Configuring the File/FTP Adapter in Integration Directory/PCK, section*Configuring the (Sender/Receiver) File Adapter*, under *Defining Processing Parameters*
File/FTP Adapter	Changed (7.1 SP 04) (7.0 SP 10)	In the sender adapter, you can make specifications for an archive directory for archiving files if a permanent error occurred when they were processed. In the MessageTransformBean module, you can set a parameter that defines whether errors of the executed module are to be evaluated as temporary or permanent.
File/FTP Adapter	Changed (7.1 SP 04) (7.0 SP 08)	The sender file/FTP adapter now has a new parameter: The Create Target Directory parameter allows you to specify that the adapter is to create the target directory if it does not exist.
Adapter and Module Development	Changed (7.1 SP 06) (7.0 SP 14)	A monitor is provided for your adapter and module development, you can use it to measure the performance of your adapter or module. More information: Measuring Adapter and Module Performance
CIDX Adapter	Changed (7.1 SP 04) (7.0 SP 12)	Now, the CIDX adapters supports MD5 algorithm as part of the security services. You can specify this under the Security Settings of the sender or receiver agreement. More information: Configuring the CIDX Adapter
RNIF Adapter	Changed (7.1 SP 04) (7.0 SP 12)	Now, the RNIF Adapter 1.1 supports MD5 algorithm as part of the security services. You can specify this under the Security Settings of the sender or receiver agreement. More information: Configuring Security in the RNIF 1.1 Adapter
JDBC Adapter	Changed	You can specify the maximum concurrency for JDBC receiver adapters. This defines the number

	(7.1 SP 04) (7.0 SP 12)	of messages an adapter can process in parallel on a cluster node. More information: [Configuring the Receiver JDBC Adapter](#)
JDBC Adapter	Changed (7.1 SP 04) (7.0 SP 10)	The following new parameter is available for the sender JDBC adapter: To remove empty tags from the XML document, you can set the Remove Empty Tags indicator in the sender JDBC adapter. This allows you to reduce the size of the XML document. More information: [Configuring the Sender JDBC Adapter](#) .
JMS Adapter	Changed (7.1 SP 04) (7.0 SP 10)	The sender JMS adapter supports the failover of channels with quality of service Exactly Once in Order in a cluster environment. More information: [Configuring the Sender JMS Adapter](#) under *XI Settings*, *Quality of Service*
JMS Adapter	Changed (7.1 SP 04) (7.0 SP 09)	The sender and receiver JMS adapters no longer have the adapter-specific message attributes `DCJMSStringProperty1` and `DCJMSStringProperty2`. Instead, they have the attributes `DCJMSMessageProperty0`, `DCJMSMessageProperty1`, …, DCJMSMessageProperty9 (see above). You must adapt the configuration of existing communication channels that use these attributes. The adapter-specific message attributes have been enhanced in the sender and receiver adapter. You can now use 10 additional attributes to set or use JMS properties in the message header of the XI message. In the receiver adapter, you can also set the Java type of the respective attribute for the JMS message. More information: [Configuring the Sender JMS Adapter](#) and [Configuring the Receiver JMS Adapter](#) under Adapter-Specific Message Attributes
HTTP Adapter	Changed (7.1 SP 04) (7.0 SP 12)	The following new parameters are available for the HTTP adapter: You can set or use adapter-specific attributes for synchronous response in sender and receiver adapters. More information: [Configuring the HTTP Adapter](#)
SOAP Adapter	Changed (7.1 SP 04) (7.0 SP 12)	You can choose to use the Axis Framework in the SOAP adapter and can enhance the functions of the adapter by using Axis handlers. More information: [Using the Axis Framework in an SOAP Adapter](#)
SOAP Adapter	Changed	The SOAP adapter and mail adapter now have additional adapter-specific message attributes in

	(7.1 SP 04) (7.0 SP 08)	the message header: More information: Configuring the SOAP Adapter in the Integration Directory/PCK, Configuring the Mail Adapter in the Integration Directory/PCK
Adapters – Usability	Changed (7.0 SP 12)	To make entering parameters easier, the parameters for adapters with a large number of parameters are now grouped on tab pages. The functions of the adapters remain the same. The following adapters have tab pages for grouping parameters: RFC, File/FTP, JDBC, JMS, Mail, SOAP, CIDX, and RNIF (1.1 and 2.0) In CDIX and RNIF adapter scenarios, there can be empty tab pages.
Enabling Async/Sync and Sync/Async Communication With JMS Adapter	New (7.0 SP 10, 7.1 SP 04)	Modules are provided for the JMS adapter that enable async/sync and sync/async communication. You add the modules to the JMS adapter modules in the module processor. If you do not have any particular demand for monitoring or for troubleshooting in async/sync or synch/async communication, SAP recommends that you use the bridge in the JMS adapter instead of sync/async communication in the Business Process Engine. The advantage of using the bridge over the Business Process Engine is a fivefold to tenfold increase in system performance. More information: Configuring Async/Sync and Sync/Async Bridge in the JMS Adapter
EOIO Processing	Changed (7.0 SP 10)	Until now, the queue ID was used for serialization in the Advanced Adapter Engine. You can now perform receiver-specific serialization.
Queues	Changed (7.1 SP 04) (7.0 SP 10)	In the Advanced Adapter Engine there is now a queue for each adapter type in the receiver direction. This means that messages can be received in parallel. You can enter the default settings for these queues by using the corresponding properties. More information: Java Service Properties that May Require Changes
Non-central Adapter Engine in Java Proxy Mode	Changed (7.1 SP 04) (7.0 SP 10)	You can now configure the non-central Adapter Engine as a Java-only proxy application. In Java proxy mode, you cannot register any adapters in the System Landscape Directory.
Resending Messages to Receiver Systems	Changed (7.1 SP 04) (7.0 SP 10)	You can make settings for each receiver channel defining how many attempts are to be made to resend messages to a receiver, and the retry interval.

XML to Text Conversion Module	New (7.0 SP 09, 7.1 SP 04)	You use this module to convert an XML document contained in the mail payload of the XI message to simple text format. You can convert data records either to text with a fixed column width or a separate list. You can define the separator. During conversion, the structure of the XML document is checked using your specifications. More information: Adding StrictXml2PlainBean (XML to Text) in the Module Processor
Module Processor	Changed (7.0 SP 08)	You can specify a module key in the processing sequence, or use the proposed key. In Module Configuration, you can select the module key using an input help. More information: Adding Modules to the Module Processor

Integration Engine

Integration Engine		
Feature	**Type of Change**	**Description**
Configuration Parameters	New (7.3)	In Integration Engine configuration (transaction SXMB_ADM) are the following new RUNTIME parameters available: • SKIP_INBOUND_PERS Asynchronous messages sent by the Advanced Adapter Engine or the Business Process Engine (ccBPM) are persisted in the inbound channel of the Integration Engine. This step can be skipped and then messages run through the pipeline to the message split according to the interface determination and are persisted there. • SYNC_ERROR_LOG This parameter controls which parts of a message (whole message, headers, no message) are displayed in an error message in synchronous communication (Quality of Service = Best Effort). • AUTHORITY_ON_MSG_TYPE This parameter allows controling the access to services on interface and operation level in the receiver system. The access is based on authorization object S_SERVICE. The check is identical to the check performed in the ABAP Web Services runtime.
Configuration Parameters	Changed (7.3)	In Integration Engine configuration (transaction SXMB_ADM) the following RUNTIME parameter has been enhanced: • IS_URL determines the URL or HTTP destination for the Integration Server belonging to the client. You can now use entries from Sender/Receiver ID to define sub parameters for IS_URL. This enables you to define URLs for the Advanced Adapter Engines and the Integration Server. To ensure monitoring all Engines have to belong to the same domaine.
Messaging System Monitor	New (7.3)	The Messaging System Monitor allows administrators to perform tasks like displaying messages, searching for messages, filtering the displayed messages by different categories, for example.

		More information: [Messaging System Monitor](#)
PI Background Jobs	New (7.3)	PI background have been added to the standards jobs. It is therefore no longer necessary to schedule PI background jobs individually.
New Report RSXMB_SWITCH_ARCHIVE_VERSIONS	New (7.3)	For already processed messages you can subsequently determine whether all message versions or only one message version should be archived.
JMS receiver adapter's connection on demand support for IBM MQ series	New (7.3)	You can create a connection and optimally reuse it for multiple messages. More information: [Configuring the Receiver JMS Adapter](#)
Service Variants	New (7.3)	Service variants provide views on service interfaces. Instead of using all the parameters in a service interface, a service variant allows you to use only parameters that are needed for a particular business context. More information: [Working with Service Variants](#)
Messages in Shared Memory	Deleted (7.1 enhancement package 1 SP 02)	The function to use the shared memory of the ABAP Application Server for message processing on the Integration Engine is removed. More information: SAP note [1294656](#)
Messages in Shared Memory	New (7.1 enhancement package 1)	You can now use the shared memory of the ABAP Application Server for message processing on the Integration Engine. You have to use a special configuration parameter to activate this feature. It leads to faster processing of asynchronous messages.
Subsequently Defining Interfaces for Archiving	New (7.1 enhancement package 1)	You can use the new report RSXMB_DEL_TO_ARCH to subsequently define interfaces for archiving so that you can archive their messages. This can be required in the following situations: • You have forgotten to consider certain interfaces for the archiving of their messages, or you have forgotten to configure message archiving at all. • You want to archive selected messages, for example, only messages of interface xy that were processed the day before. More information: [Defining Interfaces and Retention Periods for Archiving](#)
New Properties of XPI Service	New (7.1 enhancement	XPI service AF Core uses new properties for aggregating data of the message payload for license

AF Core	package 1)	auditing. More information: [Properties for XPI Service: AF Core](#)
IDoc Sender Adapter Available in Integration Directory	New (7.1 enhancement package 1)	You can now configure an IDoc sender adapter in the Integration Directory for processing IDoc packages that reach the inbound channel of the Integration Server and to enter the segment release so that the IDocs are forwarded correctly. More information: [Configuring the Sender IDoc Adapter](#)
Comparing Metadata for the IDoc Adapter	New (7.1 SP 04)	You have the option of comparing metadata that has been loaded to the Integration Server with the current metadata from the SAP reference system that the metadata comes from. More information: [Comparing Metadata with the Reference System](#)
IDoc Adapter	Changed (7.01 SP 0)	You can now configure an IDoc sender adapter in the Integration Directory so that you are able to process IDoc packages that reach the inbound channel of the Integration Server using the Integration Engine also as packages and to enter the segment release so that the IDocs are forwarded correctly.
Communication with Web Service Applications	New (7.1 enhancement package 1)	Web service applications can communicate with Integration Server using Java Proxy Runtime. More information: [Using Java Proxy Runtime for Communication of Web Service Applications with PI](#)
Message Packaging	New (7.1 SP 04) (7.0 SP 13)	You can now improve the performance of message processing in SAP NetWeaver Process Integration by grouping together asynchronous messages in packages and then processing each message package. More information: [Message Packaging](#)
Interface-/Operation-Specific Authorization Check in Local Integration Engine (Inbound)	Changed (7.1 SP 04)	If you like to configure interface operation-specific authorization checks for inbound messages processes by the local Integration Engine in a receiver system, you are affected by a change in the default setting of an authorization check. The parameter AUTHORITY_ON_MSG_TYPE is set default to 1 (activated) by default. This means that you need to maintain the authorization objects S_SERVICE as described in SAP note [1416725](#). This change is only relevant for back-end systems based on AS ABAP 7.3.
Archiving	Changed (7.1 SP 04) (7.0 SP 12)	Integration Engine archiving now offers a function for migrating archive administration data. More information: [Migrating Archive Administration Data](#)
IDoc Adapter –	Changed (7.0 SP	The IDoc adapter now has a new parameter: If you

New Parameter	08)	set the Restore Original Parties for Acknowledgements indicator, the original parties from the Idoc request message are used. This means you no longer have to maintain the alternative identifiers (for party conversion) in the Integration Directory.
Comparing Metadata for the IDoc Adapter	New (7.1 SP 04) (7.0 SP 08)	You have the option of comparing metadata that has been loaded to the Integration Server with the current metadata from the SAP reference system that the metadata comes from. More information: Comparing Metadata with Reference System
IDoc Adapter - Restore Original Parties for Acknowledgment s indicator	Changed (7.1 SP 04)	If you set the Restore Original Parties for Acknowledgments indicator, the original parties from the IDoc request message are used. This means you no longer have to maintain the alternative identifiers (for party conversion) in the Integration Directory.
IDoc Adapter – IDoc Tracking	Changed (7.1 SP 04) (7.0 SP 09)	IDoc tracking is now available in IDoc adapter monitoring (IDX5). You can track IDocs and call the corresponding monitors in sender and receiver systems. More information: Displaying XML Messages
IDoc Adapter: Acknowledgment s Function	Changed (7.1 SP 04) (7.0 SP 09)	On the Integration Server, you can use the IDoc Adapter: Acknowledgments function to define the acknowledgments you want to request for a sender port and client. More information: Configuring Acknowledgment Requests
IDoc Adapter – Converting Acknowledgment IDocs to XI Request Messages	Changed (7.1 SP 04) (7.0 SP 09)	On the Integration Server, you can call a function to convert acknowledgment IDocs to XI request messages and send them. More information: Sending Acknowledgment IDocs as XI Request Messages
Monitor for Bulk Messages	Changed (7.0 SP 08)	The message monitor of the Integration Engine now also displays bulk messages, from which you can navigate to the monitor for bulk messages.

Integration Directory

Integration Directory		
Feature	**Type of Change**	**Description**
Integration Directory programming interface	Changed (7.3)	The Integration Directory programming interface supports the following additional configuration object types: • Integrated configuration • Receiver rule More information: Integration Directory Programming Interface
Model-based configuration of integration content	Changed (7.3 SP 01)	Model-based configuration of integration content ("model configurator") in Integration Directory supports also scenarios using the Advanced Adapter Engine Extended and local message exchange using the Advanced Adapter Engine. The scope of generation covers integrated configurations as additional object type. This option is only supported in case you use *process integration scenarios* as configuration templates. More information: Configuring Process Integration Scenarios
Model-based configuration of process component interaction models	Changed (7.1 enhancement package 1)	Model-based configuration of integration content ("model configurator") in Integration Directory supports process component interaction models as additional model type. More information: Configuring Process Component Interaction Models
Cache Refresh	New (7.3) (7.1 enhancement package 1 SP 06)	When the cache is refreshed, the configuration data maintained in Integration Directory is synchronized with the configuration data maintained by the runtime components. Parameters are available to control the following settings for cache refresh: • Create statistics files • Location of statistics files • Location of the temporary files More information: List of Profile Parameters
Configuration of Principal Propagation	New (7.1 SP 04)	You can configure principal propagation based on Security Assertion Markup Language (SAML 1.1). Principal propagation based on the SAML 1.1 standard is supported for applications that use Web

		service runtime (WS RM).
		More information: Configuring Principal Propagation
Configuration of communication channels with adapter type WS	Changed (7.1 enhancement package 1)	For configuring scenarios using Web service consumer and web service provider, you can now use a new version of the adapter type WS. For compatibility reasons, the old version of the adapter type which was available with earlier support package stacks of SAP NetWeaver PI 7.1 can still be used.
Connectivity with Web service providers and consumers	New (7.1 SP 04)	In the Integration Directory you can configure systems that communicate using the Web service runtime based on standard Web Service Reliable Messaging (WS RM).
		The communication channel type (adapter type WS) is available for implementing the settings required. With the new communication channel you can configure not only enhanced communication between WS RM-capable systems using the Integration Server, but also direct communication between WS RM-capable systems.
		More information: Configuring the Communication Channel with Adapter Type WS
Connectivity with Web service providers and consumers	Changed (7.3)	The adapter type WS has the following new features:
		• Optimized XML transfer is supported.
		• Transport binding SOAP1.2 Using HTTP is supported.
		• Extended signature and header protection is now available also for asymmetric message signature/encryption.
		• Authentication at message level based on the Security Assertion Markup Language (SAML 1.1) standard is supported.
		More information: Configuring the Communication Channel with Adapter Type WS
Usability improvements in navigation area of Integration Directory	Changed (7.1 enhancement package 1)	The usability of the navigation area of the Integration Directory was improved. You can now choose between three views. An object view shows the configuration objects grouped according to the object type. A scenario view groups the Integration Directory content according to configuration scenarios, and a folder view groups all content according to folders.
Enhanced search capabilities for communication channels	Changed (7.1 enhancement package 1)	The search function in the Integration Directory was improved in particular for communication channels. You can now search communication channels with adapter type specific attribute values. For example, you can now search channels with adapter type File/FTP who have configured a specific file name.
Configuring direct	New (7.1 SP	To implement direct communication between WS RM

connections	04)	-capable systems in the Integration Directory, direct connection is available as a new object type. More information: Define Direct Connection
Publishing sender agreements into the Services Registry	New (7.1 SP 04)	You can publish the WSDL description for a sender agreement from the Integration Directory to the Services Registry and thus make it readily available to a business partner. More information: Publishing Sender Agreements in the Services Registry
Operation-dependent receiver determination	Changed (7.1 enhancement package 1)	It is now possible to configure a receiver determination that depends on the operation of the assigned service interface.
Integration Directory programming interface	Changed (7.1 enhancement package 1)	A new version of the Integration Directory programming interface is now available. The new interface version supports new object types and attributes of the Integration Directory, like, for example, the direct connection. For compatibility reasons, the old version of the Integration Directory programming interface that was delivered with earlier support package stacks of SAP NetWeaver PI 7.1, is still available.
Integration Directory Programming Interface	New (7.1 SP 04) (7.0 SP 13)	In addition to the existing user interface (Integration Builder), a new programming interface is now available that you can use for accessing Integration Directory objects. The programming interface is based on the fundamental configuration options that are possible in the Integration Directory. This means that you use the interface to create, edit, and activate all configuration objects. Since you can now use a program to access the content of the Integration Directory, scenarios that were previously not possible with the existing user interface, or that required a lot of effort to realize manually are now possible (for example, mass changes to configuration objects). More information: Integration Directory Programming Interface
Simplified configuration of simple scenarios (integrated configuration)	New (7.1 SP 04)	Using Integrated Configuration you can specify the complete configuration settings for the clear exchange of a message in one single object. This object replaces the "classic" configuration objects (sender agreement, receiver determination, interface determination, and receiver agreements). You can only use Integrated Configuration to set up communication scenarios where the message is only to be transferred within an Advanced Adapter Engine from a sender to a receiver adapter.

		More information: Defining the Integrated Configuration
Creating folders	New (7.1 SP 04)	You can create a folder to structure Integration Directory content more clearly. Folders can be shown or hidden in the navigation area of the Integration Builder.
Display cache status for each object	New (7.1 SP 04)	In cache notifications you can now display the cache status for each individual object. More information: Analyzing Cache Notifications

User Interface	Changed (7.1 SP 04)	The following changes have been made to the Integration Directory user interface (Integration Builder):
		
		• Creating folders
		
		  You can create a folder to structure Integration Directory content more clearly. Folders can be shown or hidden in the navigation area of the Integration Builder.
		
		• Display unassigned objects
		
		  An unassigned object can occur when the folder to which the object was originally assigned has been deleted but the object itself has not. These objects are displayed in a separate folder.
		
		• Display cache status for each object
		
		  In cache notifications you can now display the cache status for each individual object.

Collaboration Agreement	Changed (7.0 SP 10)	You can make settings to propagate principals from a sender to a receiver. To do this, you make the required settings in the collaboration agreement: • In the sender agreement, you define that principals are to be propagated from the sender to the Integration Server. • In the receiver agreement, you define that principals are to be propagated from the Integration Server to the receiver. This function is available for adapter types XI, RFC, and SOAP.
Collaboration Agreement	Changed (7.0 SP 08)	When using the SOAP adapter, you can specify the following additional settings for the security procedure in the collaboration agreement: • Sender SOAP adapter: Decrypt and Decrypt and Validate • Receiver SOAP adapter: Encrypt and Sign and Encrypt

		More information: [Security Settings for the Sender SOAP Adapter](#), [Security Settings for the Receiver SOAP Adapter](#)

Conversion Agent

Conversion Agent		
Feature	**Type of Change**	**Description**
Operating System Support for Conversion Agent Engine	Changed (7.1 enhancement package 1)	• Microsoft Windows Server 2003 SP 02 64-bit edition (in-process or out-of-process) • Solaris 9 and 10 on SPARC (out-of-process) • IBM AIX 5.3 on pSeries (out-of-process) • Linux SUSE 9 or 10 on x86-64 (out-of-process) • Linux Red Hat EL4 or EL5 on x86-64 (out-of-process) • HP-UX 11.23 on PA-RISC or ia64 (out-of-process)
Operating System Support for Conversion Agent Studio	Changed (7.1 enhancement package 1)	Windows 2000 SP 04, XP Professional SP 02, or 2003 Server SP 01 32-bit edition
New Document Processors	New (7.1 enhancement package 1)	• PdfToTxt_4 document processor lets you define PDF table structures graphically • PdfFormToXml_1_00 document processor converts PDF forms to XML • ExcelToDataXml document processor now supports input in Excel 2007 XLSX format
Lookuptransformer	Changed (7.1 enhancement package 1)	Support of dynamic construction of lookup tables
Multiple Inputs and Outputs	Changed (7.1 enhancement package 1)	A transformation can now obtain its input from multiple documents and can generate multiple output documents.
XSD and XSI Support	Changed (7.1 enhancement package 1)	• There is now the option for strict XML validation available. • XML elements having the xsi:type attribute are now supported.
User Log	New (7.1 enhancement package 1)	Use the new on_fail property to generate user-defined log messages if any transformation component fails.
Frequent Library Updates	Changed (7.1 enhancement package 1)	Conversion Agent libraries are now made available as independent packages.
New and Updated	Changed (7.1	• New libraries supporting the CREST, FIX,

Libraries	enhancement package 1)	IATA PADIS, NACHA, and Telekurs VDF industry standards • Several of the existing libraries such as ACORD AL3, BAI, EDIFACT, EDI-X12, and HIPAA have been updated and improved
New Functions	New (7.1 SP 06)	The Conversion Agent has the following new features: • Additional support of operation systems for Conversion Agent Engine and Studio • New document processors • Changed lookuptransformer • Multiple inputs and outputs • Enhanced XSD and XSI support • New user log • New and updated libraries
New Wizards	Changed (7.1 SP 04)	Conversion Agent Studio provides wizards for parsers, serializers, blank projects, and more. You can, for example, use the new parser wizard to define XSD schemata, example sources, formats document processors, and standard transformers.
IntelliScript Enhancements	Changed (7.1 SP 04)	To configure IntelliScript of a data transformation, you can choose to use the new guided mode.
Embedded Help	Changed (7.1 SP 04)	Embedded, context-sensitive help is available in the Conversion Agent Studio.
New Data Transformation Components	Changed (7.1 SP 04)	Conversion Agent 4 contains new data transformation components. • Mapper for XML-to-XML file transformations • Mapping action and anchors • Streamers Divide a large source document into smaller parts that can be processed independently from the application. • Non-sequential access data • Indexed processing of transformations • Lookup tablesmanagement. • Improved anchors • New and improved transformers • New, improved, and more flexible actions

		• New and improved document processors • Simplified data holder
Improved Schema Support	Changed (7.1 SP 04)	Conversion Agent provides improved schema support, for example, XML validation and namespaces.
Further Improvements	Changed (7.1 SP 04)	The Conversion Agent has been enhanced as follows: • New terminology • The Conversion Agent Engine Version 4 runs on Microsoft Windows and on the UNIX platforms Sun Solaris, IBM AIX, Linux, and HP-UX. Conversion Agent Studio runs on Microsoft Windows. • 64-Bit support and the Conversion Agent Server Conversion Agent 4 supports 64-bit environments on Unix platforms. The Conversion Agent is available on some platforms as a native 64-bit application. On other platforms, you can enable 64-bit support by using the Conversion Agent Server. • The Conversion Agent API is supported in Java, C, C++, and COM versions. • A Java Runtime Environment is provided with the installation. • By using the configuration editor, you can support multiple Conversion Agent configurations on the same computer. • There are no libraries available. The libraries cover the messaging standards such as ACORD, some EDI versions, HIPAA, HL7, and SWIFT.
Conversion Agent Studio	Changed (7.1 SP 04) (7.0 SP 13)	In the Conversion Agent Studio, the design and configuration tool for transforming data is now integrated in the Eclipse development environment.
New Functions	Changed (7.0 SP 13)	The Conversion Agent has been enhanced as follows: • Various new wizards are available, for example the parser wizard for defining XSD schemas, example source, formats, document processors, and default transformers. • Conversion Agent 4 has many new components that you can use in the

		IntelliScript configuration of a data conversion.
		• The introduction of the mapper-data conversion component rounds off the format-in-format conversion functions.
		• You can nest mapping actions within a single mapper.
		• When converting data, you can use the new LocatorByOccurrence component for non-sequential access to data holders with multiple instances.
		• The new Key and LocatorByKey components enable you to perform data conversions that retrieve, match, and store records according to encoded criteria.
		• The following new transforms are available:
		o Base64Decode
		Converts a binary string to base64 MIME encoding
		o Base64Encode
		Converts the base64 MIME encoding to a binary string
		o CDATADecode
		Decodes a CDATA section of an XML document
		o CDATAEncode
		Encodes a CDATA section of an XML document
		o CreateUUID
		Creates a UUID identifier
		• The concept of actions has been generalized.
		• Conversion Agent Engine Version 4 runs on Microsoft Windows and on Unix-type platforms such as Sun Solaris, IBM AIX, Linux, and HP-UX. Conversion Agent Studio runs on Microsoft Windows.
		• Conversion Agent 4 supports 64-bit environments on Unix-type platforms. On some platforms, Conversion Agent is available as a native 64-bit application. On other platforms, you can enable 64-bit support by using the Conversion Agent Server.

		• By using the configuration editor, you can support multiple Conversion Agent configurations on the same computer. • Expanded Conversion Agent libraries are available.
Support of Selected 64-bit Platforms	Changed (7.0 SP 12)	Conversion Agent now supports the following 64-bit platforms: • AIX 5.3 (in out-of-process mode) • HP11.23 PA-RISC (in out-of-process mode) • HP11.23 IA-64 (in out-of-process mode) • Solaris Sun 10 (in out-of-process mode)
New Library Versions	Changed (7.0 SP 12)	New library versions are available for the following industry standards: • AL3 - Summer 2006 • Swift - SRG 2006 • EDI - X12V5R3 • Validation for EDI Two versions are provided for EDI X12 (v5030 and v4010) with EDI validation. The parsers of these versions validate elements and structures in the EDI message. The XML output of these parsers is changed slightly to include EDI error codes for elements or segments with errors.
New Document Processors	Changed (7.0 SP 12)	The following new document processors are available: • Excel2DataXML Only extracts data from Microsoft Excel workbooks and ignores formatting information. This document processor can process large Excel files and is useful when formatting information is not relevant for the transformation. • Excel2XML enhancement Protected worksheets in Microsoft Excel are now supported. • API additions A new .Net API is provided. It provides the same calls as a Java or C++ API and can be used in the .NET environment, for example for a C# application.

ICU (International Components for Unicode)	Changed (7.0 SP 12)	This version uses the ICU library v3.2 to support more code page conversions and date and time format standardizations. The following transformers and actions have been added: • DateFormatICU (transformer) • DateAddICU (action) • DateDiffICU (action)
Installation of the Engine with Different Configurations on Same Machine	Changed (7.0 SP 12)	You can use an installation of the engine with different configurations on the same machine.
Information About Processing COBOL Data	Changed (7.0 SP 12)	Information about processing COBOL data is available. More information: Conversion Agent under *Processing COBOL Data in Conversion Agent*
IntelliScript Enhancements	Changed (7.0 SP 12)	• Sort You can sort recurrent XML data structures by various fields. • Variable initialization You can initialize variables with values in the definition.
New Functions	Changed (7.0 SP 09)	The Conversion Agent now has the following additional functions: • The Protected Sheet property is now supported when you use the document processor ExcelToXML. • You can now convert Excel validation criteria and VBA macro code in the XML display of an Excel workbook from Excel to XML and the other way round. • It is now possible to run SAP Conversion Agent out of process using the Conversion Agent server. • The syntax of published services is automatically converted in the upgrade to version 4.0.6. • Additional code pages in Korean, Spanish, Chinese, and Japanese are supported. • WebSphere Business Integration Message Broker Version 6 is supported. • The following EDI libraries have been added: o American Railroads EDI Library (AAR)

		o Grocery Industry EDI Library (UCS) and Warehouse Information EDI Library (WINS)
		o Voluntary Inter-Industry Communication Standard EDI Library (VICS)
		o Additional EDI-X12 versions
		o International Component for Unicode EDI Library (ICU)
Improved Conversion Agent Studio Environment	Changed (7.0 SP 08)	The Conversion Agent has the following additional functions: Improved Conversion Agent Studio environment with new project assistants, a guided mode, and embedded help.
New Data Conversion Components	Changed (7.0 SP 08)	Improved functions for schema support, for example, improved XML namespace support.

More information: Conversion Agent under *Additional Information*

Adapter Engine (Java SE)

Adapter Engine (Java SE)		
Feature	**Type of Change**	**Description**
Adapter Engine (Java SE) version check in SLD	Changed (7.3)	If the Adapter Engine (Java SE) is connected to the System Landscape Directory (SLD), you can now check the version of the Adapter Engine in the SLD.
Remote Configuration Service	New (7.0 enhancement package 1) New (7.1 enhancement package 1)	The RemoteConfiguration service option is available to you, use this to add and start remote adapter instances to the Adapter Engine. You can also change existing adapter instances. More information: Services
Additional Parameters in File/FTP Sender Adapter	Changed (7.1 SP 04) (7.1 enhancement package 1)	Use parameter file.emtpyFileStop to control how the adapter handles empty files. Under parameter file.badMsgDir enter the name of the directory to which the empty files are to be written. More information: Configuring the Sender File/FTP Adapter
Additional Parameters in File/FTP Receiver Adapter	Changed (7.1 enhancement package 1)	Use parameter file.overWrite to control whether files with names that already exist in the target directory are to be overwritten. This parameter replaces file.writeMode. More information: Configuring the Receiver File/FTP Adapter
Certificates	Changed (7.1 SP 06) (7.0 SP 14)	You can manage certificates and use them for SSL authentication.
New Parameters	Changed (7.1 SP 04)	The following new parameters are available in the Adapter Engine (Java SE): - You can restart the Adapter Engine. This cancels the existing Adapter Engine process and starts a new process. More information: Configuration, under Turn Off or Restart Adapter-Engine. - For sender adapters - You can now save the file name or the directory name, or both, of the processed file in the XI message header (parameter file.messageAttribute). - If you want to convert the file content to an XML document,

		parameters are now available for controlling the behavior of the conversion routine if the file to be converted differs from the defined structure (parameter xml.missingLastFields, xml.additionalLastFields). o filestopMode enables you to define how the adapter is to react when it is stopped. • For receiver adapters XI.AckFinal enables you to define whether the adapter is to send back a synchronous system acknowledgement if the sender requests it.
Restarting Advanced Adapter Engine	Changed (7.0 SP 12)	You can restart the Advanced Adapter Engine. This cancels the existing Adapter Engine process and starts a new process.
File/FTP Adapter	Changed (7.0 SP 12)	The following new parameters are available in the sender file adapter: • You can now save the file name or the directory name, or both, of the processed file in the XI message header (parameter file.messageAttributes). • If you want to convert the file content to an XML document, parameters are now available for controlling the behavior of the conversion routine if the file to be converted differs from the defined structure (parameters xml.missingLastFields, xml.additionalLastFields).
New Adapter Parameters	New (7.0 SP 09)	The following new parameters are available: • For sender adapters filestopMode enables you to define how the adapter is to react when it is stopped. • For receiver adapters XI.AckFinal enables you to define whether the adapter is to send back a synchronous system acknowledgment if the sender requests it.

Business Process Engine

Feature	Type of Change	Description
Message Packaging for Integration Processes	New (7.1 SP 04) (7.0 SP 13)	To improve the performance of inbound processing in the Business Process Engine (BPE), you can combine messages into packages and process them together (as a package). Scenarios with high loads profit from message packaging in the BPE. These are scenarios in which there is a throughput of a large number of messages. You can activate message packaging at the process type level. Using message packaging in BPE can have the following advantages: • Improvement in performance and increase in throughput • Reduction of database space required More information: Message Packaging for Integration Processes
Monitoring Milestones	New (7.1 SP 04)	You can use the new scenario variant Monitoring Milestones of the Business Process Management scenario to define a monitoring process that can monitor events from different applications. A monitoring process can subscribe to events from SAP or non-SAP systems. More information: Defining a Monitoring Process
Alert Categories and Condition Editor	New (7.1 SP 04)	When you define an integration process, you can specify that if a specific situation occurs at runtime, an alert is to be triggered using Alert Management. To do this, you must first define an alert category. You can define the alert category directly in the Enterprise Services Builder.
Language-Specific Texts	New (7.1 SP 04)	You can define language-specific texts in integration processes, for example when defining alerts or describing steps. You can translate these texts.
New and Enhanced Step Types	New (7.1 SP 04)	The following new step types are now available for integration processes: • User decision (new) You use this step type to define decision options in the process definition for a particular situation. The user responsible can select one of the defined decision options at runtime and determine how the process is to be continued. More information: User Decision

		• Transformation step (enhanced) You can now use parameterized mapping programs in a transformation step. You can use parameterized mapping programs to transfer values from the process container and values from configurable parameters to the mapping program. You can also use parameterized mapping programs for lookups to query business intelligence data in an integration process, for example. More information: Transformation Step
Step Group	New (7.1 SP 04)	You can merge a frequently used sequence of steps into a step group. You can reuse this step group in the same process or in other processes. You can hide the steps in a step group to simplify the display of the process definition. More information: Defining Step Groups
Process Editor	Changed (7.1 SP 04)	The process editor has a new view in the overview area that displays the objects used by the integration process, such as interfaces or mapping programs. You can generate a where-used list for dependent objects. The results of the where-used list are displayed in the output area.
Configurable Parameters	Changed (7.1 SP 04)	You can now use configurable parameters in integration processes. A configurable parameter is a parameter with a value that you configure in the Integration Directory. You can use configurable parameters in conditions, for example, or to specify the agent of a user decision. More information: Defining Configurable Parameters
WS-BPEL Export and Import	New (7.1 SP 04)	You can now also export and import integration processes to and from WS-BPEL 2.0. More information: WS BPEL: Importing or Exporting an Integration Process
Displaying and Processing Work Items	New (7.1 SP 04) (7.0 SP 09)	You can display the messages that an integration process is currently processing. To do so, use the work-item display function. The work item display now shows all XML messages that are processed in a process on a separate XML Messages tab page. This makes the display quicker and clearer, especially for more complex processes. The tab page also allows you to display additional information for a particular XML message, for example, the corresponding message proxy. The XML Messages tab page is visible when you have selected User View or Classic User View for the workflow display in the personal workflow settings. In particular error situations, you may be required to edit the payload of the message before continuing

		the process. In this case, you can switch to an editor to edit the message from within the work-item display.
Principal Propagation	Changed (7.1 SP 04)	Principal propagation can be implemented in the Business Process Engine (BPE) for correlating messages, such as simply sending messages. More information: Activating Principal Propagation in the BPE
Principal Propagation	Changed (7.1 enhancement package 1)	You can implement principal propagation in the Business Process Engine (BPE) for non-correlating and correlating messages.
Transactional Behavior	Changed (7.1 SP 04) (7.0 SP 10)	You can now influence transactional behavior in the definition of an integration process in the process editor. This allows you to improve performance. More information: Transactional Behavior of an Integration Process
Inbound Processing for Integration Processes	Changed (7.1 SP 04) (7.0 SP 10)	Inbound processing is a runtime component that delivers messages to integration processes, or that starts new integration process instances. Depending on the semantics of the particular process, you can enable load balancing. To do this, you define that messages for a process type are distributed to several qRFC queues. Messages in different qRFC queues are then processed in parallel. This enables you to improve message throughput.
Inbound Processing for Integration Processes	Changed (7.0 SP 09)	Inbound processing is a runtime component that delivers messages to integration processes, or that starts new integration process instances. You can now configure the qRFC queue that is assigned to a particular process type individually. For example, you can define which server the qRFC queue of a particular process type is to be processed on. For example, you can specify a particular server for executing the qRFC queue of a particularly time-critical process type.
Inbound Processing for Integration Processes	Changed (7.0 SP 08)	Inbound processing is a runtime component that sends messages to integration processes, or that starts new integration process instances. You can now choose one of two settings: • Classic setting (default): Inbound processing with buffering • Inbound processing without buffering
qRFC Monitor (QIN Scheduler)	Changed (7.1 SP 04) (7.0 SP 09)	In the qRFC monitor, you can now display information about the process definition, runtime, and inbound processing settings of an integration process for an LUW processing an integration process (function module SWF_XI_MSG_RAISE_EVENT).

CCMS Monitors for Business Process Engine	Changed (7.0 SP 09)	Two more CCMS monitors are now available for the central monitoring of the Business Process Engine: • Status of the Business Process Engine • Status of the Automatic Customizing If an error occurs, detailed descriptions about causes, remedies, and functions for troubleshooting are also available.
CCMS Monitors for Business Process Engine	Changed (7.1 SP 04) (7.0 SP 08)	Additional CCMS monitors are now available for the central monitoring of the Business Process Engine. It is now possible to see the status of the Business Process Engine at a glance. If an error occurs, detailed descriptions about causes, remedies, and functions for troubleshooting are also available.
Starting and Stopping the BPE	Changed (7.1 SP 04) (7.0 SP 08)	A special transaction is now available for starting and stopping the Business Process Engine. The transaction SWF_XI_ADM_BPE allows you to start and stop the Business Process Engine in a simple and controlled way. More information: Starting and Stopping the Business Process Engine

SOA Management

Configuration		
Feature	**Type of Change**	**Description**
Standard Jobs for PI	Change (7.3)	The following standard jobs are available for PI: • SAP_SOA_ARCHIVE_PLAN Can replace SAP_BC_XMB_ARCHIVE • SAP_SOA_DELETE_HISTORY Can replace SAP_BC_XMB_HIST_DELETE • SAP_SOA_DELETE_MESSAGES Can replace SAP_BC_XMB_DELETE • SAP_SOA_TABLE_SWITCH More information: Periodical Tasks
XML Validation	Change (7.1)	In XML validation, automatic distribution of XML schema is used to replace manual schema provisioning. Previously, the XSD file had to be manually copied into a specific directory depending on where the validation was to be performed. Whenever a sender agreement, receiver agreement, or an integrated configuration with enabled XML validation is activated now, the corresponding XSD is sent to the runtime and stored in the persistent cache. After reactivating the sender agreements for already existing scenarios , they continue working More information: XML Validation
SOA Manager: New Roles and Authorization	Change (7.0 enhancement package 2)	New roles and authorization objects are available for SOA Manager. More information: Roles and Authorizations SAP Note 1318883 (Introduction of new authorizations in Web Service Framework). You can also download the new roles from this SAP Note.
SOA Manager: Event Enabling	New (7.0 enhancement package 2)	Operations for specially created event proxies can be service enabled to allow applications in a landscape to communicate with each other using business events. More information: Configuring a Consumer Proxy
SOA Manager: Fallback	New (7.0 enhancement	If a failure occurs in a service group, the service connections will not be correctly configured and may

Configuration for Service Groups	package 2)	fail. When a failure is identified, the configuration profile can be switched to a fallback configuration that you define. More information: Creating a Fallback Configuration
SOA Manager: Logical and Technical Receiver Determination	New (7.0 enhancement package 2)	Logical receiver determination provides information about provider systems that enables a consumer application to decide which provider system to send a call to. You can configure routing rules to direct calls to a particular receiver. More information: Creating Routing Rules for Service Groups Technical receiver determination (TRD-API), which allows developers of web service consumer applications to dynamically instantiate consumer proxies at runtime. More information: Technical Receiver Determination API Logical receiver determination and technical receiver determination can be used in parallel to provide more information about which system is used.
SOA Manager: Migration Tools	New (7.0 enhancement package 2)	To use new functionality in SOA Manager, you can migrate Web service configurations from earlier SAP NetWeaver releases to the latest SAP NetWeaver release. More information: Migrating Web Service Configurations SAP note 1120273
XML Validation	New (7.1 SP 04)	XML validation allows you to check the structure of an XI message payload. The structure check is based on saved data types. More information: XML Validation You use the XiHeaderValidationBean module to validate XI header information against the information from the communication channel. More information: Inserting the Header Validation Module in the Module Processor

Monitoring

Monitoring with SAP Solution Manager		
Feature	**Type of Change**	**Description**
Central Monitoring	New (7.3)	The central tool for monitoring the integration processes in your landscape is the PI Monitoring dashboard in Technical Monitoring Work Center in SAP Solution Manager. When you find there that certain processes or messages should be reviewed more thoroughly, you can navigate to the corresponding local monitor in SAP NetWeaver Administrator, Runtime Workbench, or the Integration Engine message monitor.

Runtime Workbench		
Feature	**Type of Change**	**Description**
Message Prioritization	New (7.1 SP 04)	On the Adapter Engine you can define rules according to which messages with different priorities (low, normal, or high) are processed. Use the attributes from the message header to define such rules. For more information, see Prioritizing the Processing of Messages.
SLD registration	New (7.1 enhancement package 1)	PI components are registered in the System Landscape Directory (SLD) during basic configuration. Using the SLD registration function, you can check and correct this registration, and also register additional components. For more information, see Registering Components in SLD.
Communication Channel Monitor	Enhanced (7.1 SP 04) New (7.0 SP 08) Enhanced (7.0 SP 09) Enhanced (7.0 SP 12)	In component monitoring, you can use the communication channel monitor to call information about the status of your communication channels and the corresponding adapters. You can also administrate your communication channels. There is a function for the scheduled stopping and starting of communication channels. You can schedule locally by defining availability times, or externally by using an HTTP request. You can use the communication channel monitor to monitor CIDX and RNIF adapters as well. Messages sent to stopped channels are no longer subject to retries. Instead, they are scheduled again when the channel is restarted. For more information, see Communication Channel Monitor.
Technical Status	Enhanced (7.0	You can display technical data on the Adapter Engine

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Runtime Workbench		
Feature	**Type of Change**	**Description**
of the Adapter Engine	SP 12, 7.1 SP 04)	across multiple server nodes. For more information, see Displaying Technical Data for the Adapter Engine.
Message Monitor	Enhanced (7.0 SP 12, 7.1 SP 04) Enhanced (7.0 SP 14, 7.1 SP 04)	Bulk messages are now displayed in the message list for Integration Engines. The corresponding individual messages are displayed in the message list for Adapter Engines. You can select and display archived messages in the Integration Engine. The detail display for messages on the Adapter Engine allows you to display various versions of a message. You can use the message editor to edit messages on the Adapter Engine, too. During editing, the system locks the messages so that they cannot be changed by other users. The new message overview gives you an overview of message processing within a certain time period, sorted by sender or receiver attributes.
	Enhanced (7.0.1 SP 00)	You can now search for edited messages using new filter criteria and also display the messages found. The message list shows whether a message is from a Web service. For more information, see Message Monitoring.
Background Processing	Enhanced (7.0 SP 12, 7.1 SP 04)	Background processing monitor offers an additional standard job for archiving edited messages. You can also configure parameters for restart jobs. For more information, see Background Processing.
Performance Monitoring	Enhanced (7.0 Sp 08, 7.1 SP 04)	The advanced search now includes the sender and receiver criteria Agency and Scheme. However, you can still use the selection filters that you have created and saved, since the two new criteria are handled as not specified when such filters are loaded. The input help for all available sender and receiver criteria now has an additional entry <empty>. This allows you to specify attributes explicitly as "empty". For more information, see Performance Monitoring.
Adapter Monitor	Enhanced (7.1 SP 04)	The Adapter Monitor has been renamed as the JPR Monitor as it is now only used for monitoring the Java Proxy Runtime (JPR). The adapters can now all be monitored with the communication channel monitor. For more information, see Monitoring Java Proxy

Runtime Workbench		
Feature	**Type of Change**	**Description**
		[Runtime](#).
Alert Configuration	Enhanced (7.0 SP 12, 7.1 SP 04)	When defining alert rules, you can now decide whether or not the alerts to be generated are to be linked to a message. For more information, see [Alert Configuration](#).
Index Administration	Enhanced (7.0 SP 09, 7.1 Sp 04)	In addition to standard indexing, index administration now has a fast indexing method that speeds up the indexing procedure considerably. For more information, see [Index Administration](#).
Cache Monitoring	Enhanced (7.1 SP 04)	You can now monitor additional cache objects from the ABAP cache of the Integration Server. You can also use cache monitoring to monitor the cache of business systems that communicate using Web services. For more information, see [Cache Monitoring](#).

Integration Engine Monitoring		
Feature	**Type of Change**	**Description**
Message Monitor	Enhanced (7.1 SP 04) New (7.3, 7.1.1 SP 06) Enhanced (7.0 SP 08)	The message monitoring message list in the Integration Engine shows you whether a message is a message from a Web Service. The user-defined message search capability enhances the ability to find information about persisted XML messages. In addition to the existing search criteria users now can search for asynchronous messages using the attributes of the XML main payload, or adapter-specific message attributes. Users can display message packages. Users can find archived messages, display their content, and compare the different message versions. They can find archived messages either by searching the archive, or by performing an advanced search for messages that match specific search criteria. For more information, see [Monitoring XML Messages](#).

Monitoring the Advanced Adapter Engine using SAP NetWeaver Administrator		
Feature	**Type of Change**	**Description**
Monitoring Messages	New (7.1.1 SP 00)	You can use the message monitoring to create an overview of message processing, to track the status of messages, and to find errors that have occurred

Monitoring the Advanced Adapter Engine using SAP NetWeaver Administrator		
Feature	**Type of Change**	**Description**
	New (7.3, 7.1.1 SP 06)	and establish what caused them. The user-defined message search capability enhances the ability to find information about persisted XML messages. In addition to the existing search criteria users now can search for asynchronous messages using the attributes of the XML main payload, or adapter-specific message attributes. For more information, see Monitoring Messages.
Displaying Technical Data for the Adapter Engine	New (7.1.1 SP 00)	You can obtain technical information about Advanced Adapter Engine. This includes information about the defined sender and receiver components, database locks of messages, the number of messages per category and status, and other technical details. For more information, see Displaying Technical Data for the Adapter Engine.
Monitoring Communication Channels	New (7.3)	With the communication channel monitor you can obtain information about communication channels that are set up for the Advanced Adapter Engine. You can also perform some administrative activities, like activating or deactivating external control, manually starting or stopping channels, and checking the status of the connection of a channel using the channel ping functionality. For more information, see Monitoring Communication Channels.
Monitoring IDoc Adapter	New (7.3)	You can use the IDoc monitor when you need information about the messages processed with the IDoc adapter on the AAE. For more information, see Monitoring IDoc Adapter.
Monitoring the Cache	New (7.1 SP 00)	You can use the cache monitor to display objects that are currently in the runtime cache of the AAE and the mapping runtime. For more information, see Monitoring the Cache.
Performing Background Processing	New (7.3)	You can schedule the background processing of routine tasks on the Advanced Adapter Engine. You can configure jobs for archiving, deleting, restarting, and recovering messages. You can also configure parameters for restart jobs. For more information, see Performing Background Processing.
Monitoring Java Proxy Runtime	New (7.1.1 SP 00)	The Java Proxy Runtime monitor provides information about the current status of each runtime component.

Monitoring the Advanced Adapter Engine using SAP NetWeaver Administrator		
Feature	**Type of Change**	**Description**
		For more information, see Monitoring Java Proxy Runtime.
Prioritizing the Processing of Messages	New (7.1.1 SP 06)	You can define rules according to which the system processes messages with different priority: low, normal, or high. For more information, see Prioritizing the Processing of Messages.
Monitoring Roles	New (7.3)	The access to the monitoring tools in SAP NetWeaver Administrator can be managed using a set of predefined user roles and actions. For more information, see Monitoring Roles.

Monitoring Using CCMS		
Feature	**Type of Change**	**Description**
CCMS Monitor	Enhanced (7.1.1 SP 00) Enhanced (7.0 SP 08, 7.1 SP 04) Enhanced (7.0 SP 12, 7.1 SP 04)	A new CCMS connection allows you to collect unprocessed alerts from the XI alert categories periodically and forward them to CCMS. Information about message indexing for the index-based message search is now available in the CCMS monitor. Cross-namespace information about stopped messages is now provided in the CCMS monitor. You can display how many messages are located in a processing backlog on the Adapter Engine for each defined service. You can define corresponding threshold values for generating alerts. You can monitor the status of the PI runtime cache in the Integration Directory using CCMS. For more information, see Monitoring Using CCMS.

Additional Changes

Feature	Type of Change	Description
SLD Self Registration Central Technical Configuration (CTC) Template	New (7.3, 7.11 SP 01, 7.1 SP 5)	Registers PI components and creates the Integration Server business system again after patch update or restart, if needed. SAP note: 1292803
PI Demo Client CTC Template	New (7.3, 7.11 SP 00)	Configures clients 105, 106, 107 for the PI demo scenario This is not supported for systems upgraded from XI 3.0 or SAP NetWeaver 7.0. SAP note: 1304208
PI Full Qualified Host Name CTC Template	New (7.3, 7.11 SP 00)	Allows access to PI monitoring from a client outside your network domain or access to a remote central SLD SAP note: 1320707
PI Adapter Engine in JPR Mode CTC Template	New (7.3, 7.11 SP 04)	Configures the Advanced Adapter Engine to run in Java Proxy Mode only SAP note: 1346933
PI Robustness Configuration CTC Template	New (7.3)	Reads PI system parameters from the system and offers recommendations for an overall consistent configuration of PI SAP note: 1400543
PI SSO Configuration CTC Template	New (7.3)	Sets up Single Sign-On between the PI components SAP note: 1473556
PI Self Test for NetWeaver CTC Template	New (7.3, 7.11 SP 02, 7.10 SP 08)	Gives an overview of the PI runtime SAP note: 1286149
PI Self Test for NetWeaverScheduler CTC Template	New (7.3)	Creates a Java background job that calls the PI Self Test for NetWeaver every 24 hours SAP note: 1318609
PI System Copy CTC Template	New (7.3, 7.11 SP 07)	Executes the majority of follow up activities after a system copy. This is not supported for systems upgraded from XI 3.0 or SAP NetWeaver 7.0. SAP note: 1299373
PI Upgrade CTC	New (7.3, 7.11	Executes several follow up activities after an upgrade

Template	SP 04)	automatically
		SAP note: 1321868
PI PCK Upgrade CTC Template	New (7.3)	Executes follow up activities after upgrade automatically
		SAP note: 1439558
PI/ESR Support Package Update CTC Template	New (7.3)	Executes follow up activities after applying a support package automatically
		SAP note: 1444305
PI ENHANCEMENT PACKAGE Update CTC Template	New (7.3)	Executes follow up activities automatically after applying an enhancement package
		SAP note: 1450419
Adapter Engine Upgrade CTC Template	New (7.3)	Executes follow up activities automatically after upgrade of a non-central Advanced Adapter Engine
		SAP note: 1519075
Mapping-Based Message Packaging	Changed (7.1 SP 06)	Mapping-based message packaging is now supported by all receiver adapters that support message packaging (for example, the WS adapter), regardless of whether they run on the Adapter Engine or not.
Security	Changed (7.1 SP 04)	A P4 logon to the Enterprise Services Repository and Integration Directory based on the message server is now supported. This logon is required in a high availability environment and you have to make particular entries in the exchange profile.
Security	Changed (7.1 SP 04) (7.0 SP 09)	Security has been enhanced as follows: - The new dialog user SAP_XI_SUPPORT is available. This provides read access to certain administration pages of the J2EE Engine of the Integration Server. This user is necessary for SAP support employees working with Solution Manager Diagnostics (SMD). - An RMI/P4 logon to the Integration Repository and Integration Directory based on the message server is now supported. This logon is required in a high availability environment and you have to make particular entries in the exchange profile.
Service Metering	New (7.01 SP 02)	Service metering gathers information about a service caller, transfers it to the service provider, and counts on the service provisioning side how many times a service is called and by which service caller.

Service metering is performed for the XI message protocol and the WS message protocol. Service metering is automatically enabled after support |

		package stack installation. By default, only non-sensitive data is transmitted to internal or external service providers in a compatible way. Service metering can be configured in AS ABAP in transaction SOAMANAGER. Service Metering can be configured in PI in the Integration Engine on sender-side, and in the Integration Directory. Only if the service provider is allowed to receive more detailed information about the service caller, set the metering level to higher than the default. More information: SAP Note 1239428
Software Logistics	Changed (7.0 SP 14)	Transports Using the Change and Transport System There are the following enhancements for transporting XI objects using the Change and Transport System (CTS): • You can now call the Web UI of the Transport Organizer directly in the Integration Builder to create a transport request, or to classify an already existing transport request as a standard request. • In the Integration Builder transport search, a link to the corresponding transport request in CTS is included in the attributes of a completed export or import.
Software Logistics	New (7.1 SP 06) (7.0 SP 13)	Transports Using the Change and Transport System You can include the following Objects in one Change and Transport System (CTS) transport request and transport them together: • Integration / Enterprise Services Repository design objects • Integration Directory configuration objects • ABAP Mappings This also enables you to use some of the advantages of CTS that were previously not supported when transporting SAP NetWeaver XI objects, for example the modeling of complex transport landscapes.
High Availability	New (7.0 SP 09, 7.1 SP 04)	A new concept is available for setting up a high availability environment for SAP NetWeaver Process Integration (PI). To do this, you need SAP Web Dispatcher for load balancing, and you must reconfigure your HTTP, RFC, and RMI connections so that they can be used for load balancing. You must also make various configuration steps in other components of your PI environment. More information: High Availability