PUBLIC

Support Package Stack Guide

SAP NetWeaver 2004s Support Package Stack Guide — SPS10

Target Audience

- Implementation Consultants
- System Administrators

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Disclaimer

Some components of this product are based on Java™. Any code change in these components may cause unpredictable and severe malfunctions and is therefore expressively prohibited, as is any decompilation of these components.

Any Java™ Source Code delivered with this product is only to be used by SAP's Support Services and may not be modified or altered in any way.

Documentation in the SAP Service Marketplace

You can find this document at the following address:
`service.sap.com/instguides`

Typographic Conventions

Example	Description
< >	Angle brackets indicate that you replace these words or characters with appropriate entries to make entries in the system, for example, “Enter your <User Name>”.
	Arrows separating the parts of a navigation path, for example, menu options
Example	Emphasized words or expressions
Example	Words or characters that you enter in the system exactly as they appear in the documentation
Example	Textual cross-references to an internet address, for example, http://www.sap.com
/example	Quicklinks added to the internet address of a homepage to enable quick access to specific content on the Web
123456	Hyperlink to an SAP Note, for example, SAP Note 123456
Example	■ Words or characters quoted from the screen. These include field labels, screen titles, pushbutton labels, menu names, and menu options. ■ Cross-references to other documentation or published works
Example	■ Output on the screen following a user action, for example, messages ■ Source code or syntax quoted directly from a program ■ File and directory names and their paths, names of variables and parameters, and names of installation, upgrade, and database tools
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, database table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE
EXAMPLE	Keys on the keyboard

Document History

 Caution

Before you start the implementation, make sure you have the latest version of this document. You can find the latest version on SAP Service Marketplace http://service.sap.com/instguides.

The following table provides an overview on the most important document changes:

Version	Date	Description
1.00	11/21/2006	First released version

Table of Contents

1 Overview

This documentation describes how to install SAP NetWeaver 2004s Support Package Stacks (SP Stacks). You can find all information related to the SAP NetWeaver 2004s SP Stacks on the SAP Service Marketplace at service.sap.com/nw2004s ▶ *Support Package Stacks Information*.

1.1 Before You Start

Updated Document Versions

The Support Package Stack Guide is regularly updated on SAP Service Marketplace at service.sap.com/maintenanceNW2004s.

> Note
> Make sure you have the latest version of the Support Package Stack Guide by checking SAP Service Marketplace immediately before starting to import Support Packages.

SAP Notes

You **must** read SAP Note 879289 before you read this documentation as it may contain corrections and further information about the Support Package Stack installation.

SAP Library

You should inform yourself about enhancements and changes with the Support Package Stack to be applied in SAP Library under *SAP NetWeaver Library* ▶ *What's New in SAP NetWeaver 2004s – Release Notes*. You can access the SAP Library in one of the following ways:

- **SAP Help Portal** at help.sap.com/nw2004s
  Select the required language.

  > Note
  > The SAP Help Portal always provides the up-to-date version of the SAP Library. Therefore, we recommend that you use this channel to access the SAP Library.

- **Local installation** of the SAP Library from the online documentation DVD.

> **Caution**
> In order to inform yourself about the current Support Package Stack, you first have to update your local installation of the SAP Library to the corresponding SP level. Follow the instructions in *SAP Library* [page 46].

Naming Conventions

In this documentation, the following naming conventions apply:

Variables

Variables	Description
`<SAPSID>` `<sapsid>`	SAP system ID
`<INSTDIR>`	Installation directory for the SAP system
`<host>`	Host name
`<instance_no>`	Instance number of a system instance
`<database>`	Name of database
`<sapinst_directory>`	Installation directory for the SAP installation tool SAPinst
`<sp_directory>`	Temporary directory which the archives of a Support Package are downloaded or copied to
`<OS>`	Operating system
`<OS_DIR>`	OS-dependent directory consisting of a folder for the platform and a subfolder of your OS version. For example, if you operating system is Sun OS 64bit, **`<OS_DIR>`** stands for **`/UNIX/SUNOS64`**.
`<SP_Stack>`	Number of Support Package Stack
`<SP>`	Support Package level
`<PL>`	Support Package patch level
`<REL>`	Release number
`<LOCALE>`	Language definition For example, the German locale is **`_de`**.
`<krnl_directory>`	Kernel directory, which the profile parameter `DIR_CT_RUN` usually refers to
`<sdm_home>`	Program file location of the Software Deployment Manager (SDM)

Variables	Description
<SAPGLOBALHOST>	SAP global host, the host where the global directories of an SAP system reside
<SAPLOCALHOST>	SAP local host, the host where an particular instance of an SAP system is running

1.2 Types of Support Packages

The following table explains the terms used in the Support Package process for SAP NetWeaver:

Correction Process	Description
Standard correction process	**Support Package Stack** ■ Description: A Support Package Stack is a set of Support Packages and patches for the respective product version that must be used in the given combination. ■ Version numbers: Support Package Stacks have a release number and a Stack number, for example, SAP NetWeaver 2004s Support Package Stack 05. ■ Delivery: There is no dedicated delivery format for Support Package Stacks. The Support Package files have their usual formats and should be applied using tools as described below.
	ABAP Kernel Patches ■ Version numbers: ABAP Kernel Patches have a release number and a patch number. The patch number is increased for every correction. ■ Delivery: ABAP Kernel Patches are delivered using SAR files. They are installed by extracting these SAR files to the kernel directory using SAPCAR.
	ABAP Support Package ■ Description: ABAP Support Packages contain quality improvements for the SAP system or make necessary adjustments, for example, due to legal changes. The objects affected are replaced in your system. ■ Dependencies: In contrast to Java Support Packages, ABAP Support Packages are non-cumulative. Therefore, ABAP Support Packages have to be installed in the correct order, one after the other. You cannot skip any Support Packages. ■ Delivery: ABAP Support Packages are delivered using SAR files. They are installed using the Support Package Manager (SPAM).

Correction Process	Description
	Java Support Package ■ Description: Java Support Packages are used to ship correction levels of Software Components. They correspond to the ABAP Support Packages. ■ Dependencies: Java Support Packages contain the complete software involved. Within one release, you can therefore skip Java Support Packages with a lower SP number (if no other instructions are given, for example, in the corresponding SAP Notes). ■ Delivery: Java Support Packages are normally delivered using Software Component Archives (SCAs). They are applied using the Java Support Package Manager (JSPM).
Emergency correction process	**SAP Note Correction (ABAP)** ■ Description: SAP Note Corrections contain single ABAP fixes. ■ Delivery: SAP Note Corrections are delivered using SAP Notes. If required, you apply them using SAP Note Assistant.
	Java Support Package Patch ■ Description: A Java Support Package patch contains corrections for the Java Software Components. Java Support Package patches are normally created and released on demand. They correspond to a SAP Note that describes the same correction. ■ Dependencies: A Java Support Package patch always contains a full package of the corresponding Software Component and is applied using JSPM.

1.3 Downloading Support Packages

You can download the Support Package Stack from the SAP Service Marketplace according to your IT scenario implementations. Proceed as follows:

1. Access the *SAP Software Distribution Center* on SAP Service Marketplace at `service.sap.com/sp-stacks` and choose *SAP NetWeaver 2004s* in the table of SP Stacks.
   The first download step for the SAP NetWeaver 2004s SP Stacks is displayed.
2. Perform the following three steps:
   a) Choose the target and source SP Stack, check the option *Restrict according to Usage* and select the required usage types according to the IT scenario to be updated.

Besides the selected usage types, all relevant standalone engines and clients are also listed in the next step for further specification.


Note

- The Target Stack indicates the wanted SP Stack level.
- The Source Stack indicates the current SP Stack level.


Note

If you do not want to restrict the Support Package Stack to particular usage types, uncheck the option *Restrict according to Usage*.

Choose *Next Step*. The second download step `Choose Configuration` is displayed.

b) Select operating systems and database systems from the *ConfigTree* for each installable software unit of the IT scenario to be updated, according to the individual implementation.


Note

- You must always select the options *#OS independent* and *#DB independent* whenever these options are provided.
- Some usage types require SAP Kernel for Unicode. Choose the UNICODE versions for the SAP Kernel according to the particular usage types selected in the previous step.


Example

The usage type PI works only with SAP Kernel Unicode.

Choose *Next Step*. The third download step is displayed.

c) All required Support Packages are listed accordingly to the selections in the previous steps.
   A) Choose *Add to Download Basket* to add the Support Packages to the download basket,
   B) Choose *Save As File* and on the subsequent screen download the XML file that contains the Support Package Stack definition.

3. Download your download basket.

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2 Applying Support Packages to Installable Software Units of SAP NetWeaver 2004s

This chapter describes how to apply Support Packages to installable software units of SAP NetWeaver 2004s. SAP NetWeaver distinguishes three types of installable software units:

- Systems with one or multiple usage types
- Standalone engines
- Clients

A scenario implementation usually involves several installed software units. SAP strongly recommends that you always update all software units belonging to one scenario together in order to retain a consistent system state. Due to the fact that some installable software units can be commonly shared in different scenarios, you must consequently update all scenarios using the common software units at the same time.

2.1 Application Server ABAP and ABAP-Based Software Components

2.1.1 Planning

The following components belong to the usage type SAP NetWeaver Application Server ABAP:

Software Components of Application Server ABAP

Component to Be Updated	SP File Name	Tool Used to Apply SP
SAP KERNEL 7.00 32-/64-BIT Non-UNICODE/UNICODE	SAPEXE.SAR SAPEXEDB.SAR	None
SAP IGS 7.00	igsexe.sar	
SAP ABA 7.00	SAPKA700<SP>	SPAM/SAINT
SAP BASIS 7.00	SAPKB700<SP>	
SAP BW 7.00	SAPKW700<SP>	
PI_BASIS 2005_1_700	SAPKIPYJ7<PL>	

Note

This table contains only software components that belong to the usage type AS-ABAP. Software components of other usage types and application units are listed in the corresponding sections.

Note

Starting with SAP NetWeaver 2004s Support Package Stack 10, SAP also delivers intermediate Support Packages for the component `SAP BW 7.00` between two subsequent SP Stacks beside the Support Packages delivered along with the SP Stacks. Therefore, the highest SP level of `SAP BW 7.00` does not necessarily match the SP Stack to be applied.

Caution

When applying Support Packages to a Java system, the Java Support Package Manager (JSPM) will necessarily restart the system several times to make the changes effective. In case of a dual-stack system (ABAP + Java), the ABAP part will be restarted along with the Java part.

2.1.2 Preparation

Read SAP Note 822379 and all related SAP Notes which the first one refers to.

2.1.3 Updating the Application Server ABAP and ABAP-Based Software Components

Applying Support Packages to the Application Server ABAP and ABAP-Based Software Components

You can update the SAP NetWeaver Application Server ABAP and all ABAP-based software components running on it using either the **standard update** or the **downtime-minimized update**.

Note

If a particular Support Package stack requires the installation or upgrade of some add-on components, you should use the ABAP Add-on Installation Tool (`SAINT`) instead of the ABAP Support Package Manager (`SPAM`). In this case, `SAINT` is able to import both the Add-on components and the related Support Packages of ordinary SAP components. The procedures described below are similar.

Standard update

This alternative consists:

1. Updating the ABAP kernel and the SAP Internet Graphic Service (IGS).
   Start the system after the kernel update.
2. Importing ABAP Support Packages with the *ABAP Support Package Manager* [page 51].

Downtime-minimized update

This alternative makes use of the *downtime-minimized mode* of the *ABAP Support Package Manager* [page 51] to reduce the system downtime during the update. It consists of the following steps:

1. In the transaction SPAM, enable the downtime-minimized mode by choosing menu item ▶ *Extras* ▶ *Settings* ↵ and on the tab *Import queue*, activate the option `Import mode`: *Downtime-minimized mode*.
2. Import Support Packages into the system in an inactive state in the downtime-minimized mode during system uptime.
3. Update the ABAP kernel and the SAP Internet Graphic Service (IGS).
   Start the system after the kernel update.
4. Complete the Support Package import.

> **Caution**
> During this step, the system cannot carry out any business transactions (business downtime).

> **Note**
> Due to the dependencies of some Support Packages on a particular kernel patch level, the downtime-minimized update does not work in rare cases. In these cases, the Support Package Manager will inform you that you must update the ABAP kernel prior to the import of Support Packages. You must proceed with the standard update procedure.

Updating the SAP System Kernel and the SAP Internet Graphic Service (IGS)

In general, the kernel and IGS binaries are located in the global kernel directory DIR_CT_RUN on the <SAPGLOABALHOST>. Once the files in this directory have been updated to a new patch level, a system restart will distribute them by means of the program SAPCPE to the local execution directories DIR_EXECUTABLE on the hosts where the instances of the ABAP system are running.

> **Note**
> If the system to be updated is a double-stack installation (ABAP+Java) and the ABAP stack has a non-Unicode kernel, you can update the kernel of the Java stack (Unicode) at the same time as the non-Unicode kernel to reduce overall system downtime.

> **Caution**
> The automatic distribution by means of SAPCPE depends on the settings of the profile parameters DIR_CT_RUN for the central kernel directory and DIR_EXECUTABLE for the instance local directory of the executables. Please check the instance profiles for settings of these parameters for systems that are not installed using SAPinst, for example, systems upgraded from older releases and copied or migrated systems, before you continue.

Therefore **in most cases**, you only need to update the global kernel directory `DIR_CT_RUN`. Proceed as follows:

1. Log on as user `<sapsid>adm` to the instance host to be updated.
2. Extract the SAR files of the kernel and the IGS Support Packages to a temporary directory using *SAPCAR* [page 50].
3. Stop the ABAP system that you want to update.

> **Note**
> If the system is running in a High Availability environment (HA), make sure that the HA software does not restart the system automatically during the update.

4. Back up the kernel directory `<krnl_directory>`.
5. Copy or move the extracted programs from the temporary directory to the SAP kernel directory.

   Only valid for: UNIX

6. Perform the following additional steps on UNIX platforms:

   Only valid for: DB2 UDB for UNIX and Windows

   ```
   su root
   ```

   End of: DB2 UDB for UNIX and Windows

   Only valid for: DB2 UDB for iSeries;DB2 UDB for z/OS;Informix;MaxDB;MS SQL Server;Oracle

   ```
   su - root
   ```

   End of: DB2 UDB for iSeries;DB2 UDB for z/OS;Informix;MaxDB;MS SQL Server;Oracle

   ```
   cd <krnl_direcotry>
   ./saproot.sh <SAPSID>
   exit
   ```

   End of: UNIX

7. Restart the SAP system.

In rare cases, it is possible that the binary distribution by means of `SAPCPE` does not take effect for some instances. You must update these instances individually in a similar way.

> **Note**
> In a high availability (HA) setup recommended by SAP, the ABAP Central Services Instances (SCS) run on a dedicated hosts. If an individual kernel update is necessary for the SCS instances, you can exclude the IGS update, because the IGS is not required in an SCS instance.

2.1.4 Post-Installation Steps

Perform the post-installation steps as described in the corresponding sections of the usage types that have been updated along with this ABAP system.

2.2 Application Server Java and Java-Based Software Components

Starting with SAP NetWeaver 2004s, the Java Support Package Manager (JSPM) is used for applying Support Packages for SAP NetWeaver Application Server Java (`AS-Java`) and all Java-based software components running on it. JSPM becomes the **only valid** tool for applying Support Packages and Support Package Stacks.


Recommendation

SAP strongly recommends that you apply a particular Support Package Stack to a Java system as a whole. This ensures consistency on both the system and the application levels.

2.2.1 Planning

Java Support Package files (SCAs) contain all software objects of the corresponding software components. Thus it is sufficient to apply the Java Support Package files of the intended Support Package Stack directly to the Java system to be updated. It is **not** necessary to apply all the Support Package Stacks from the start SP Stack to the target SP Stack succesively.


Caution

When applying Support Packages to a Java system, the Java Support Package Manager (JSPM) will necessarily restart the system several times to make the changes effective. In case of a dual-stack system (ABAP + Java), the ABAP part will be restarted along with the Java part.

The following components belong to the usage type SAP NetWeaver Application Server Java:

Software components of Application Server Java

Component to Be Updated	SP File Name	Tool Used to Apply SP
SAP Kernel 7.00 32-/64-BIT UNICODE	`SAPEXE.SAR` `SAPEXEDB.SAR`	`JSPM`
SAP IGS 7.00	`igsexe.sar`	
BI META MODEL REPOSITORY 7.00	`BIMMR<SP>_<PL>.SCA`	

Component to Be Updated	SP File Name	Tool Used to Apply SP
J2EE ENGINE CORE TOOLS 7.00	CORETOOLS<SP>_<PL>.SCA	
J2EE ENGINE BASE TABLES 7.00	BASETABLES<SP>_<PL>.SCA	
BI UDI 7.00	BIUDI<SP>_<PL>.SCA	
SAP CAF 7.00	CAF<SP>_<PL>.SCA	
SAP_IKS_7.00	KMKWJIKS<SP>_<PL>.SCA	
JAVA LOG VIEWER 7.00	JLOGVIEW<SP>_<PL>.SCA	
SAP J2EE ENGINE CORE 7.00	SAPJEECOR<SP>_<PL>.SCA	
SAP JAVA TECH SERVICES 7.00	SAPJTECHS<SP>_<PL>.SCA	
SAP TECH S 7.00 OFFLINE	SAPJTECHF<SP>_<PL>.SCA	
SAP J2EE ENGINE 7.00	SAPJEE<SP>_<PL>.SCA	
JAVA SP MANAGER 7.00	JSPM<SP>_<PL>.SCA	
ADOBE DOCUMENT SERVICES 7.00	ADSSAP<SP>_<PL>.SCA	
UME ADMINISTRATION 7.00	UMEADMIN<SP>_<PL>.SCA	
LIFECYCLE MGMT TOOLS 7.00	LMTOOLS<SP>_<PL>.SCA	
SAP CAF-UM 7.00	CAFUM<SP>_<PL>.SCA	
SAP STARTUP FRAMEWORK 7.00		
SAP SOFTW.DELIV.MANAGER 7.00	SDMKIT.JAR	

Note

This table contains only software components that belong to the usage type AS-Java. Software components of other usage types and Java application units are listed in the corresponding sections.

2.2.2 Preparation for Applying Java Support Package Stack

1. *Download the Support Package Stack* [page 10] with all usage types to be updated **and** the Support Package Stack definition file.

   Note

   Starting with SAP NetWeaver 2004s SPS09, you can find out the activated usage types in an existing Java system in the *Deployed Components* tab in JSPM user interface.


Note

Downloading of the Support Packages of the SP Stacks between the start SP Stack and target SP Stack is **not** necessary. You can rely on the Support Package Stack download page in the SAP Service Marketplace. It offers you the correct files to be applied according to your selections.

2. Copy the downloaded Support Package files **and** the Support Package Stack definition file to the JSPM inbox.
3. Ensure that the system to be updated is fully functional prior to the update.
4. To prevent the Software Deployment Manager (SDM) from temporarily exceeding the available disk space during the update process, you can change the file transfer directory of SDM using following command sequence:

Only valid for: Windows

- `cd <sdm_home>`
- `StopServer.bat`
- `sdm.bat jstartup "mode=standalone"`
- `sdm.bat filetransferdir "dir=<new_dir>"`
- `sdm.bat jstartup "mode=integrated"`
- `StartServer.bat`

End of: Windows

Only valid for: iSeries;UNIX

- `cd <sdm_home>`
- `StopServer.sh`
- `sdm.sh jstartup mode=standalone`
- `sdm.sh filetransferdir dir=<new_dir>`
- `sdm.sh jstartup mode=integrated`
- `StartServer.sh`

End of: iSeries;UNIX


Note

There must be one and a half times as much disk space available as the SP files to be deployed in the JSPM inbox for temporary file transfer by SDM.

5. In order to reduce the logging-on time of JSPM, JSPM no longer conduct the synchronization of system states which is also performed by SDM after each deployment if the automatic synchronization of SDM is activated. To ensure the activation of the automatic synchronization, you have to perform following steps for a single time:

Only valid for: Windows

- `cd <sdm_home>`
- `StopServer.bat`
- `sdm.bat jstartup "mode=standalone"`
- `sdm.bat systemcomponentstate "mode=activate"`
- `sdm.bat jstartup "mode=integrated"`
- `StartServer.bat`

End of: Windows

Only valid for: iSeries;UNIX

- `cd <sdm_home>`
- `StopServer.sh`
- `sdm.sh jstartup mode=standalone`
- `sdm.sh systemcomponentstate mode=activate`
- `sdm.sh jstartup mode=integrated`
- `StartServer.sh`

End of: iSeries;UNIX

 Note

If have to perform both of the previous steps, redirecting the SDM file transfer directory and activating the automatic system status synchronization, you can combine the required SDM commands in one sequence.

6. Check whether the used JDK version and the Java VM settings of the Java runtime system comply with the requirements in the SAP Note 723909. Update the JDK and adjust the settings if necessary.

2.2.3 Updating the NetWeaver Application Server Java and Java-Based Components

Updating the Java Support Package Manager (JSPM)

When updating a system to NW 2004s SPS07 and higher for the first timer, you must update the JSPM before applying the entire SP Stack. The update process takes place during the system uptime. Proceed as follows:

1. In the JSPM, deploy the appropriate Support Package level of the software component `sap.com/JSPM` .
2. Restart the JSPM.

For more information about the JSPM, see section *Java Support Package Manager* [page 52].

Applying a Support Package Stack to SAP NetWeaver Application Server Java and Java-Based Components

1. Log on as user `<sapsid>adm` to the Central Instance host.
2. Start the JSPM and log on to the SDM.
3. In the *Deployment* tab, select the option *Support Package Stack* and choose *Next*.

   Recommendation

   SAP strongly recommends that you use the option *Support Package Stack* when applying a Suppourt Package Stack. Other options can lead to unintended consistence issues.

   For JSPM to correctly recognize the Support Package Stack, all Support Package files relevant to the system to be updated **and** the corresponding Support Package Stack definition file which has been downloaded along with the Support Package files must reside in the JSPM inbox.
4. If the status of the selected SP Stack is appropriate, choose *Next* to start the system update.
   The JSPM starts the deployment of the selected Support Package stack and the status changes to `SCHEDULED`.
   If the SP Stack to be applied includes a kernel update and the current kernel is not already of the corresponding patch level, JSPM arranges the kernel update as the very first Support Package to be applied. JSPM updates the kernel binaries of all instances (including Dialog Instances and SCS instances in a HA environment) whose kernel directories `DIR_CT_RUN` effectively reside on the host indicated by the profile parameter `SAPGLOBALHOST`.

   Caution

   Kernel binaries of instances whose kernel directories `DIR_CT_RUN` are not effectively linked to the host `SAPGLOBALHOST` must be updated individually as described in the section *Manually Updating Instances with Kernel Directory Located on Separate Hosts* below.

   The kernel update using JSPM consists of the following steps:
   a) JSPM stops the Central Instance automatically and request you to manually stop all SCS and Dialog Instances with a dialog box.
   b) After you have stopped all the instances, choose the *Next* button in the dialog box.
      The kernel update takes place.

      Note

      If the system is running in a high availability environment, make sure that the HA software does not restart the instance automatically during the update.

> **Note**
> If kernel binaries of the SCS instance should be updated individually, you must update them manually in the time when JSPM is updating the kernel binaries of the Central Instance. If any case, the SCS kernel must be up-to-date before the next restart.

When the kernel update is finished, JSPM request you to restart the SCS instance manually with a dialog box.

Only valid for: UNIX

c) For UNIX platforms, you must adjust the ownership and permissions of the kernel binaries before you can proceed with the next step. Refer to the section *Adjusting the Ownership and Permissions of Kernel Binaries on UNIX Platforms*.

End of: UNIX

d) Choose the *Next* button in the dialog box when the SCS instance is running again.
JSPM continues to update the remaining Support Packages.

After the kernel update, JSPM restarts the system for further deployment of the remaining Support Packages of the stack.

If the Support Package Stack to be applied includes JSPM itself, you will need to restart the JSPM after it has been updated for it to take effect. After the restart of JSPM, the remaining packages are in the queue with the status `NOT DEPLOYED`. You can continue the update process by choosing *Retry*.

> **Recommendation**
> If you have to update the kernel binaries of any Dialog Instances, perform the update when JSPM is updating the further components for saving time.

For more information about the JSPM, see the section *Java Support Package Manager* [page 52].

Subsequent Installation of New Software Components

SAP NetWeaver 2004s SR 1 which corresponds to the SPS07 includes some additional software components with certain usage types. Refer to the component lists in the corresponding sections of the usage types in this document. You can optionally install the new software components subsequently, if your SAP NetWeaver 2004s system is not installed or upgraded using the SAP NetWeaver 2004s SR 1 installation or upgrade tools, since this sort of systems does not contain the new software components. To subsequently install the new software components, use the deployment option `New Software Components` in JSPM.

The installation can take place either before or after the ordinary SP Stack update.

> **Note**
> If your system already has the new components, they are updated with the SP Stacks using JSPM.

Manually Updating Instances with Kernel Directory Located on Separate Hosts

JSPM performs kernel update for all instances (including Dialog Instances and SCS instances in a HA environment) whose kernel directories `DIR_CT_RUN` effectively reside on the host indicated by the profile parameter `SAPGLOBALHOST` (by using folder sharing on Windows or file system mounting on UNIX). In rare cases, there are systems with instances intentionally using kernel directories located on separate hosts. That means, the profile parameter `DIR_CT_RUN` of those sort of instances does not point to `SAPGLOBALHOST`. You must perform kernel updates for those instances individually.
To update the kernel of an instance manually, proceed as follows:

1. Log on as user `<sapsid>adm` to the host of the instance to be updated.
2. Backup the kernel directory, which is specified by the profile parameter `DIR_CT_RUN`.
3. Extract the Support Package SAR files of the kernel Support Packages to a temporary directory with *SAPCAR* [page 50].
4. Stop the instance being updated.

> **Note**
> If the system is running in a high availability environment, make sure that the HA software does not restart the instance automatically during the update.

5. Copy or move the extracted programs from the temporary directory to the local kernel directory.

   Only valid for: UNIX

6. For UNIX platforms, you must adjust the ownership and permissions of the kernel binaries as described in the section *Adjusting the Ownership and Permissions of Kernel Binaries on UNIX Platforms*.

   End of: UNIX

7. Restart the instance after JSPM has finished the deployment of all packages on the Central Instance.

Only valid for: UNIX

Adjusting the Ownership and Permissions of Kernel Binaries on UNIX Platforms

On UNIX platforms, you must adjust the ownership and execution permissions of the kernel binaries after the update, regardless whether the update was performed manually or by using JSPM, because both update procedures are performed with the user `<sapsid>adm`. Proceed as follows:

Only valid for: DB2 UDB for UNIX and Windows

```
su root
```

End of: DB2 UDB for UNIX and Windows

Only valid for: DB2 UDB for iSeries;DB2 UDB for z/OS;Informix;MaxDB;Oracle

```
su - root
```

End of: DB2 UDB for iSeries;DB2 UDB for z/OS;Informix;MaxDB;Oracle

```
cd <krnl_direcotry>
./saproot.sh <SAPSID>
exit
```

End of: UNIX

2.2.4 Post-Installation Steps

Perform the post-installation steps as described in the corresponding sections of the usage types that have been updated along with this Java system.

2.3 Process Integration

2.3.1 Planning

This section covers all the units of Process Integration that should be updated. Particularly, the following units **must always** have the same Support Package level (the patch level can be different):

- XI Server
- XI Adapter Engine
- XI Partner Connectivity Kit

System with the Usage Type PI

Software components of XI

Components to Be Updated	SP File Name	Tool Used to Apply SP
Java stack:		
XI TOOLS 7.00	SAPXITOOL<SP>_<PL>.SCA	JSPM
XI ADAPTER FRAMEWORK 7.00	SAPXIAF<SP>_<PL>.SCA	
XI ADAPTER FRAMEWORK CORE 7.00	SAPXIAFC<SP>_<PL>.SCA	
SAP NetWeaver Application Server Java (see table *Software components of Application Server Java* [page 17])		
ABAP stack:		
XI CONTENT SAP_BASIS 7.00	SAPBASIS<SP>_<PL>.ZIP	File upload

SAP NetWeaver Application Server ABAP (see table *Software components of Application Server ABAP* [page 13])
Update of the following software components of the ABAP system is not required:

- SAP ABA 7.00
- SAP BW 7.00
- PI_BASIS 2005_1_700

J2EE Adapter Engine

If your implemented scenario includes a J2EE Adapter Engine, then it must always be of the same Support Package level as the XI server.

Components of the J2EE Adapter Engine

Component to Be Updated	SP File Name	Tool Used to Apply SP
XI ADAPTER FRAMEWORK 7.00	SAPXIAF<SP>_<PL>.SCA	JSPM
XI ADAPTER FRAMEWORK CORE 7.00	SAPXIAFC<SP>_<PL>.SCA	
SAP NetWeaver Application Server Java (see table *Software components of Application Server Java* [page 17])		

J2SE Adapter Engine

The installation of the J2SE Adapter Engine depends on the implemented scenario.

Components of the J2SE Adapter Engine

Component to Be Updated	SP File Name	Tool Used to Apply SP
XI CONNECTIVITY SE 7.00	SAPXICONS<SP>_<PL>.SCA	ZIP tool (for instance, WinZip)

XI Partner Connectivity Kit

If your implemented scenario includes an XI Partner Connectivity Kit (PCK), then it must always be of the same Support Package level as the XI server.

Software components of the XI Partner Connectivity Kit

Components to Be Updated	SP File Name	Tool Used to Apply SP
XI PCK 7.00	SAPXIPCK<SP>_<PL>.SCA	JSPM
XI ADAPTER FRAMEWORK 7.00	SAPXIAF<SP>_<PL>.SCA	
XI ADAPTER FRAMEWORK CORE 7.00	SAPXIAFC<SP>_<PL>.SCA	
SAP NetWeaver Application Server Java (see table *Software components of the Application Server Java* [page 17])		

System Landscape Directory (SLD)

The System Landscape Directory is required for the XI operations. Although updating the SLD is not necessarily required, it is advisable to update the SLD server and the SAP Master Data Content within it from time to time. The update of the SLD includes:

1. The system where the SLD is running.
2. The SAP Master Data Content within this SLD.

SAP GUI

See table *SAP GUI Components* [page 45].

2.3.2 Updating Units of Process Integration

System with the Usage Type PI

1. Update the SAP NetWeaver Application Server ABAP with the appropriate Support Packages where the XI instance is running.
   For more information, see the section *SAP NetWeaver Applicaion Server ABAP and ABAP-Based Components* [page 13].
2. Apply the Support Package Stack to the system where the XI instance is running.
   For more information, see the section *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].

System Landscape Directory (Optional)

1. Update the SAP NetWeaver Application Server ABAP with the appropriate Support Packages where the SLD is running.
   For more information, see the section *SAP NetWeaver Applicaion Server ABAP and ABAP-Based Components* [page 13].
2. Apply entire Support Package Stack to the system where the SLD is running.
   For more information, see the section *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].

J2EE Adapter Engine

Apply the Support Package Stack to the system where the Adapter Engine is running.
For more information, see the section *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].

XI PCK

Apply the Support Package Stack to the system where the PCK is running.
For more information, see the section *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].

Front End GUIs

Update the SAP GUI components if necessary.
For more information, see the section *SAP GUI Family* [page 45].

ABAP 7.00 Business System (Optional)

Apply the Support Packages for SAP NetWeaver Application Server ABAP ((including ABAP kernel and the Support Package for `SAP BASIS 7.00`).

For more information, see the section *SAP NetWeaver Application Server ABAP and ABAP-Based Components* [page 13].

ABAP 6.40 Business System (Optional)

Apply the Support Packages for SAP Web Application Server ABAP 6.40 (including ABAP kernel and the Support Package for SAP BASIS 6.40).

For more information, see the section *SAP NetWeaver Application Server ABAP and ABAP-Based Components* [page 13].

ABAP 6.20 Business System (Optional)

1. Patch the SAP Kernel 6.20.
2. Import the released Basis Support Packages for SAP Web AS 6.20 as well as the most recent Add-On Support Package for APPINT 200_620 in the order described in SAP Note 439915.

J2SE Adapter Engine (Optional)

Note

The XI Adapter Engine (J2SE) and all its adapters are provided for compatibility reason only and are not developed any further. You should prefer to use the XI Adapter Engine running on SAP NetWeaver AS Java. For more information, see Master Guide – SAP NetWeaver 2004s available on SAP Service Marketplace at ▶ `service.sap.com/installNW2004s` ▶ *Planning* ↵.

1. Extract the `SAPXICONS<SP>_<PL>.SCA` (XI Connectivity SE 7.00) archive (ZIP format) into a temporary directory.
2. Save the old configuration files as described in the documentation `Adapter.pdf` in directory `<temp_directory>/tech_adapter/Administration/Documentation`.
3. Unpack the ZIP archive `TechnicalAdapters.sda` to the installation directory of the XI Adapter Engine (J2SE).
4. Restore the configuration files with **`restore_configuration`**.

2.3.3 Post-Installation Steps

XI Content

In the system with the usage type PI, import the appropriate process integration content from the archive `SAPBASIS<SP>_<PL>.ZIP` (`XI CONTENT SAP_BASIS 7.00`) as follows:

1. Unpack the archive using a ZIP tool of your choice.
2. Copy the export file (with file extension `tpz`) into the import directory `<INSTDIR>/<SAPSID>/SYS/global/xi/repository_server/import`.
3. Start the Integration Builder and enter the Integration Repository.
4. Import the XI content by choosing ▶ *Tools* ▶ *Import design objects...* ↵.

 Note

For more information, see SAP Note 836200.

Role Generation in the XI Server

In the system with the usage type PI, execute transaction SUPC (mass generation of roles) for all `SAP_XI*` roles in each of your clients to regenerate possibly changed roles.

 Note

Do not forget to make a user comparison for regenerated roles afterwards.

SAP Master Data within the SLD (Optional)

In the system where your SLD is running, import the latest SLD content as described in SAP Note 669669.

Receiver-Based EOIO Serialization in J2EE Adapter Engine (Optional)

As of SPS10, the J2EE Adapter Engine can be switched to receiver-based EOIO serialization. The switch can be triggered on demand and is executed asynchronously. It includes a database migration step, during which all EOIO processing in the Adapter Engine is disabled. See SAP Note 973894 for details about how to start the EOIO serialization migration.

2.4 Business Intelligence

2.4.1 Planning

Business Intelligence includes one or many of the following units that should be updated, depending on your implemented scenarios. However, the usage types *Business Intelligence* and *Business Intelligence Java* must always have the same Support Package level.

 Note

Starting with SAP NetWeaver 2004s Support Package Stack 10, SAP also delivers intermediate Support Packages for the components `SAP BW 7.00` and *BI Frontend* between two subsequent SP Stacks beside the Support Packages delivered along with the SP Stacks. Therefore, the highest SP level of these components does not necessarily match the SP Stack to be applied.

Business Intelligence

BI CONT

Component to Be Updated	SP File Name	Tool Used to Apply SP
BI CONT 7.03 (*Recommended*)	SAPKIBIIIH (*Installation*) SAPKIBIIUH (*Upgrade*) SAPKIBIIIC (*Delta Upgrade*) SAPKIBIIP1 (Minimum *SP01*)	SAINT
SAP NetWeaver Application Server ABAP (see table *Software components of Application Server ABAP* [page 13])		

Note

The Support Package releases of the component BI_CONT 7.03 are synchronized with the Support Package Stacks of mySAP ERP 2005. Read the accompanying Release Information Notes (RIN) of mySAP ERP 2005 SP Stacks for release information on BI_CONT 7.03 Support Packages. Refer to SAP Note 849887 (*ERP 2005: Support Package Stacks Release and Info Note*) to find out the appropriate RINs of the corresponding mySAP ERP 2005 SP Stacks.

Business Intelligence Java

BI Java Components

Component to Be Updated	SP File Name	Tool Used to Apply SP
BI REPORTING AND PLANNING 7.00	BIREPPLAN<SP>_<PL>.SCA	JSPM
BI WEBDYNPRO ALV 7.00	BIWDALV<SP>_<PL>.SCA	
BI INFORM. BROADCASTING 7.00	BIIBC<SP>_<PL>.SCA	
BI WEB APPLICATIONS 7.00	BIWEBAPP<SP>_<PL>.SCA	
BI BASE SERVICES 7.00	BIBASES<SP>_<PL>.SCA	
New components as of SPS07		
VISUAL COMPOSER BI KITS 7.00	VCKITBI<SP>_<PL>.SCA	
Enterprise Portal (see table *Software components of Enterprise Portal* [page 32])		
SAP NetWeaver Application Server Java (see table *Software components of AS-Java* [page 17])		

With SAP NetWeaver 2004s SR 1/SPS07, the usage type BI-Java includes an additional Software Component as listed in the table above. If it is not already installed in the system with the usage type BI-Java which is to be updated, you must install it before updating the system to a higher SP Stack. See the section *Updating Units of Business Intelligence* [page 31].

BI Precalculation Service

Components of the BI Precalculation Service

Component to Be Updated	SP File Name	Tool Used to Apply SP
BI Pre-calculation Service 7.00	`xPreCalServer<SP>_<PL>.exe`	Installer

Search and Classification (TREX)

See the table *TREX Component* [page 39].

BI Accelerator

The BI accelerator is based on the TREX technology. It is a special Linux 64 Bit version of SAP NetWeaver 2004s Search and Classification (TREX) which is delivered on preconfigured hardware.

Note

You cannot use a TREX installation based on 32-bit architecture that is configured for searching in metadata and documents for the BI accelerator. And vice versa, a BI accelerator box cannot be used for searching in metadata and documents.

If you want to use the search functionality as well as the BI accelerator you require two separate installations. Refer to the section *BI Accelerator* [page 43].

Clients

Depending on implemented scenarios, *SAP GUI Components* [page 45] and the *Business Explorer (BI)* [page 46] (BI Add-ON/BW Add-On) are to be updated.

Recommendation

SAP recommends that you use the BI Frontend Add-On Support Packages (formerly known as *Front End Patch*) that corresponds to the currently deployed ABAP Support Package Stack. For most current information, refer to the corresponding SAP Note listed at `service.sap.com/bi` ▶ *Product Information SAP NetWeaver 2004s - BI* ▶ *Support Packages* ▶ *BI Frontend Add-On*.

See also SAP Note 889314 to determine when to use the BI Add-On or the BW Add-On.

2.4.2 Preparation

Read all SAP Notes on the Support Packages of the Business Intelligence units to be applied that are listed under `service.sap.com/bi` ▶ *Product Information SAP NetWeaver 2004s - BI* ▶ *Support Packages*.

2.4.3 Updating Units of Business Intelligence

Business Intelligence

1. Update the SAP NetWeaver Application Server ABAP (with `BI CONT 7.0x`, if necessary) with the appropriate Support Packages.
   For more information, see the section *SAP NetWeaver Application Server ABAP and ABAP-Based Components* [page 13].

   Note
   When applying the component SAP BW 7.00, some generation errors can occur. When you start importing the BI Support Packages, choose the menu path *Extras* ▸ *Ignore generation errors* in the transaction `SPAM`. For more information, see SAP Note 114134.

   Caution
   Do not forget to update the SAP IGS on this ABAP system to the same Support Package level.

2. Install the additional Software Component which is new as of SPS07 with the Support Package file of the current SP stack to be applied using JSPM, if it is not already installed with a lower SP stack as of SPS07. For details how to install new Software Components using JSPM, read the section *Subsequent Installation of New Software Components* [page 20].
3. Apply the Support Package Stack to the system with the usage type BI-Java.
   For more information, see the section *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].
4. Update the BI Precalculation Service that is used in your scenario. (See below)
5. Update the standalone engine *Search and Classification (TREX)* that is used in your scenario. For more information, see the section *Standalone Engine Search and Classification (TREX)* [page 39].

   Note
   You have to update `TREX` to the newest version if you use search capabilities within Business Intelligence.

6. Update the BI accelerator to the newest available version. For more information, see section *BI Accelerator* [page 43].
7. Update the SAP GUI and Business Explorer (BI) on all remote client hosts that are involved in the scenario.
   For more information, see the section *SAP GUI Family* [page 45] and *Business Explorer (BI)* [page 46].

BI Precalculation Service

1. Log on to the host as a user with administration rights.
2. Install the Support Package of the BI Precalculation Service by executing the `xPreCalServer.exe` file.

The welcome screen of the *BI Precalculation Server* setup wizard appears.
The setup now checks the system for the prerequisites.

3. Choose the option *Update* for updating the BI Precalculation service to the current patch level and click *Finish*.

2.4.4 Post-installation Steps

If you have not yet configured BI Java with SAP NetWeaver 2004s yet, configure BI Java with the current SAP NetWeaver 2004s Support Package Stack with the *SAP NetWeaver Administrator*. Refer to ▶ *SAP Library* ▶ *SAP NetWeaver Library* ▶ *SAP NetWeaver by Key Capability* ▶ *Solution Life Cycle Management by Key Capability* ▶ *System Landscape Administration with SAP NetWeaver Administrator* ▶ *Deploy & Change* ▶ *Template Installer* ↵.

2.5 Enterprise Portal

2.5.1 Planning

The following installable software units are to be updated.

Enterprise Portal
Software components of the usage type Enterprise Portal

Component to Be Updated		SP File Name	Tool Used to Apply SP
EP Core	PORTAL CORE SERVICES 7.00	EPBC<SP>_<PL>.SCA	JSPM
	PORTAL FRAMEWORK 7.00	EPBC2<SP>_<PL>.SCA	
	PORTAL 7.00	EPPSERV<SP>_<PL>.SCA	
	PORTAL WEB DYNPRO 7.00	EPWDC<SP>_<PL>.SCA	
PDK PORTAL SERVICES 7.00		NETPDK<SP>_<PL>.SCA	
RTC-STREAM 7.00 (*Optional*)		RTCSTRAM<SP>_<PL>.SCA	
RTC 7.00		RTC<SP>_<PL>.SCA	
KMC COLLABORATION 7.00		KMCCOLL<SP>_<PL>.SCA	
UWL COLL PROCESS ENGINE 7.00		UWLJWF<SP>_<PL>.SCA	
KMC BASE COMPONENTS 7.00		KMCBC<SP>_<PL>.SCA	
KMC CONTENT MANAGEMENT 7.00		KMCCM<SP>_<PL>.SCA	
LIFECYCLE MGMT PORTAL 7.00		LMPORTAL<SP>_<PL>.SCA	
SAP CAF-KM 7.00		CAFKM<SP>_<PL>.SCA	
CAF EU 7.00		SAPEU<SP>_<PL>.SCA	

Component to Be Updated	SP File Name	Tool Used to Apply SP
New components as of SPS07 VISUAL COMPOSER BASE 7.00	VCBASE<SP>_<PL>.SCA	
VISUAL COMPOSER FRAMEWORK 7.00	VCFRAMEWORK<SP>_<PL>.SCA	
VISUAL COMPOSER FLEX 7.00	VCFLEX<SP>_<PL>.SCA	
VISUAL COMPOSER GP KITS 7.00	VCKITGP<SP>_<PL>.SCA	
VISUAL COMPOSER XX KITS 7.00	VCKITXX<SP>_<PL>.SCA	
WEB DYNPRO EXTENSIONS 7.00	WDEXTENSIONS<SP>_<PL>.SCA	
SAP NetWeaver Application Server Java (see table *Software components of AS-Java* [page 17])		

With SAP NetWeaver 2004s SR 1/SPS07, the usage type EP includes some additional components as listed in the table above. If they are not already installed in the system with the usage type EP which is to be updated, you must install them before updating the system to SPS07 or higher. See the section *Updating Enterprise Portal* [page 33].

With SAP NetWeaver 2004s SR 2/SPS09, a new usage type *EP Core* is available to provide more flexibility in implementing a portal where full enterprise portal capabilities are not needed. The implementation of this new usage type is currently limited to certain ERP scenarios. The introduction of the new usage type has no effect to updating an existing system with the usage type EP to SPS09.

Search and Classification (TREX)

See table *Components of TREX* [page 39].

2.5.2 Updating Enterprise Portal

1. Install the additional Software Components which are new as of SPS07 with the Support Package files of the current SP stack to be applied using JSPM, if they are not already installed with a lower SP stack as of SPS07. For details how to install new Software Components using JSPM, read the section *Subsequent Installation of New Software Components* [page 20].
2. Apply the support package stack to a system with usage type EP.
   For information, see *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].

> **Note**
> During the deployment of the EP Support Packages, JSPM will possibly abort on converting the table EP_PRT_CACHE. In this case, please empty this table with the SQL statement `delete * from EP_PRT_CACHE`. For details, refer to the SAP Note 939108.

3. Apply the support package of the same SP level to the *standalone engine TREX* [page 39].

2.5.3 Post-Installation Steps for Enterprise Portal

Collaboration: Updating Groupware Connectivity

Use

If you have configured groupware exchange connectivity, you need to update the MSXA components on the remote groupware server. Upgrade the components directly after the upgrade, otherwise errors will occur.

Prerequisites

Make sure that you know the location of the directory of the *SAPExchange* web site. This is the home directory you specified for the IIS *SAPExchange* web site that you created when you originally configured groupware connectivity.

Procedure

1. Stop the *SAPExchange* IIS web site for groupware exchange connectivity.
2. Deregister the `DLL SapExchangeConnector.dll`. To do this, open a command prompt and enter the following command, replacing the placeholders:
   `<Drive>:\winnt\system32\regsvr32.exe –u`
   `<Drive>:\<path_to_SAPExchange_website_directory>\SapExchangeConnector.dll>`

   Example
   `c:\winnt\system32\regsvr32.exe –u c:\SAPExchangeTransport\SapExchangeConnector.dll`
3. Delete the MSX-A components (all the files) located in the directory for the *SAPExchange* web site. For example, under `c:\SAPExchangeTransport`
4. Copy the new MSX-A components to the directory for the SAPExchange web site. The components are located at:
   `<irj>\root\portalapps\com.sap.netweaver.coll.appl.gw\external\exchange`
5. Register the DLL `SapExchangeConnector.dll`. To do this, enter the following at the command prompt, replacing the placeholders:
   `<Drive>:\winnt\system32\regsvr32.exe`
   `<Drive>:\<path_to_SAPExchange_website_directory>\SapExchangeConnector.dll`

   Example
   `c:\winnt\system32\regsvr32.exe c:\SAPExchangeTransport\SapExchangeConnector.dll`
6. Restart the *SAPExchange web site*.

Assignment of New Portal User Roles for the Guided Procedures Runtime

After you have applied the SP08 patch level 1 or later of the Software Component `CAF EU 7.00`, the Guides Procedures runtime navigation tab disappears in the portal. You have to assign new Portal user roles to the relevant users by following the instructions in the SAP Note 963382.

Optimizing KM Database Tables

As of SAP NetWeaver 2004s SPS10, an optimized procedure for storing application-specific properties (application properties) for feedback items, comments, and personal notes is used in database tables. You have to execute a report after the first update of the system to SPS10 or higher. It is located in the portal at ▶ *Content Administration* ▶ *KM Content* ▶ *Toolbox* ▶ *Reports* ▶ *Tools* ▶ *Collaboration Consistency Checks* ↵. Select the *Recalculate the Collaboration Item Count* parameter and then start the report.


Caution

The runtime of the report depends on the number of resources for which feedback items, comments, or personal notes exist. Tables in the database are optimized when you run the report. Whilst the report is being run, you may not create feedback items, comments, or personal notes for resources. However, you can navigate as normal.

2.6 Development Infrastructure

2.6.1 Planning

The Development Infrastructure includes one or more of the following units that should be updated, depending on implemented scenarios.

SAP NetWeaver Application Server ABAP

See the table *Software Components of Application Server ABAP* [page 13].

Development Infrastructure

Software Components of the SAP NetWeaver Development Infrastructure

Component to Be Updated	SP File Name	Tool Used to Apply SP
DI CHANGE MGMT. SERVER 7.00	`DICMS<SP>_<PL>.SCA`	`JSPM`
DI COMPONENT BUILD SERVER 7.00	`DICBS<SP>_<PL>.SCA`	
DI DESIGN TIME REPOSITORY 7.00	`DIDTR<SP>_<PL>.SCA`	
SAP NetWeaver Application Server Java (See the table *Software Components of AS-Java* [page 17])		

Developer Workplace

The Developer Workplace installation includes an installation of the SAP NetWeaver Developer Studio and optionally a local installation of the SAP NetWeaver Application Server Java with the usage type Enterprise Portal.

Components of a Developer Workplace Installation

Component to Be Updated	SP File Name	Tool Used to Apply SP
NW DEVELOPER STUDIO 7.00	`JIDE<SP>_<PL>.SAR`	`IDE70setup`
Optional: SAP NetWeaver Application Server with Enterprise Portal (see table *Software Components of Enterprise Portal* [page 32])		

Front-End GUI

Depending on implemented scenarios, the SAP GUI in use is to be updated. See section *SAP GUI Family* [page 45].

Adobe LiveCycle Designer (Optional)

Depending on implemented scenarios, the Adobe LiveCycle Designer is to be updated. The update is not covered by SAP NetWeaver 2004s SP Stacks, but synchronized with the SAP GUI updates.

Component of Adobe LiveCycle Designer

Component to Be Updated	SP File Name	Tool Used to Apply SP
`ADOBE LIVECYCLE DESIGNER 7.1`		Installer

You can download the Adobe LiveCycle Designer installer from SAP Service Marketplace under `service.sap.com/installations` ▶ *Entry by Application Group* ▶ *SAP NetWeaver* ▶ *SAP NETWEAVER* ▶ *SAP NETWEAVER 2004S* ▶ *Installation and Upgrade* ▶ *<OS>* ▶ *<DB>* ▶ *Adobe LiveCycle Designer 7.1*.

2.6.2 Updating Development Infrastructure

Updating the server systems of the Development Infrastructure

1. Apply Support Packages to the SAP NetWeaver AS ABAP, if applicable.
   For more information, see the section *SAP NetWeaver Application Server ABAP and ABAP-Based Components* [page 13].
2. Apply the Support Package stack to the system with the usage type DI.
   For more information, see the section *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].

Updating the Developer Workplace

SAP NetWeaver Developer Studio

1. Extract the downloaded archive file `JIDE<SP>_<PL>.SAR` to `<sp_directory>`.
2. Stop all SAP applications (including the Developer Studio itself, SAP GUI/Logon, local J2EE Engine, and so on) that are still running on the local host to be updated.
3. Execute the program `IDE70setup.exe` in `<sp_directory>`.
4. In the *Welcome* screen, choose *Next*.
5. In the next screen, select the option *Update* and choose *Finish*.

The Developer Studio will be updated.

Local SAP NetWeaver Application Server Java

Apply the Support Package stack with the usage type Enterprise Portal to the local Application Server Java as described in the section *SAP NetWeaver Application Server Java and Java Components* [page 17].

> **Caution**
>
> Before updating your local Application Server Java, you have to increase the parameter `MAXUSERTASKS` of the underlying MaxDB instance to at least 85. You can set this parameter of the relevant database instance either in the SAPMMC or in the MaxDB Database Manager GUI at ▶ *Configuration* ▶ *Parameters* ↵. You have to restart the database instance afterwards to make the change effective.

Updating Adobe LiveCycle Designer

1. Uninstall any previous versions of Adobe LiveCycle Designer. Go to Windows menu ▶ *Start* ▶ *Settings* ▶ *Control Panel* ▶ *Add or Remove Programs* ↵.
   The old versions of Adobe LiveCycle Designer may have been installed in various ways. Depending on how it was installed, perform one of the following alternatives:
   - Standalone installation using Adobe LiveCycle Designer installer: Select `Adobe LiveCycle Designer` und choose the *Change/Remove* button to uninstall the whole application.
   - Integrated installation with SAP GUI or SAP NetWeaver Developer Studio: Select the relevant item from the list and choose the *Change* button and deselect the `Interactive Forms` element to uninstall the Adobe LiveCycle Designer feature from the respective applications.
2. Extract the downloaded package to a temporary directory.
3. Install Adobe LiveCycle Designer 7.1 by invoking the executable file `ALDsetup.exe` from the temporary directory of the extracted files.

2.7 Mobile Infrastructure

2.7.1 Planning

The following units should be updated.

SAP NetWeaver Application Server ABAP

See the table *Software Components of AS-ABAP* [page 13].

Mobile Infrastructure

Software Components of the Mobile Infrastructure

Component to Be Updated	SP File Name	Tool Used to Apply SP
MI CLIENT 7.00	`NWMCLIENT<SP>_<PL>.SCA`	JSPM
MI DRIVERS 7.00	`NWMDRIVERS<SP>_<PL>.SCA`	
MI ADMINSTRATION 7.00	`NWMADMIN<SP>_<PL>.SCA`	
MI WD LAPTOP 7.00	`NWMWDLAP<SP>_<PL>.SCA` (*Optional*, see release restriction 853508)	
SAP NetWeaver Application Server Java (see table *Software Components of Application Server Java* [page 17]) Update of the following software components of the ABAP system is not required: ■ SAP BW 7.00 ■ PI_BASIS 2005_1_700		

2.7.2 Preparation

1. Read SAP Note 983897 (SAP Mobile Infrastruct. 7.0 SP10 – Composite Note).
2. Read the latest documentation for `SAP MI Administrator` available on the SAP Help Portal at `help.sap.com/nw2004s` ▶ *SAP NetWeaver* ▶ *SAP NetWeaver by Key Capability* ▶ *People Integration by Key Capabilitiy* ▶ *SAP Mobile Infrastructure* ▶ *SAP MI for Administrators* ↵ .

2.7.3 Updating Mobile Infrastructure

1. Apply Support Packages to the SAP NetWeaver AS ABAP.
   For more information, see the section *SAP NetWeaver Application Server ABAP and ABAP-Based Components* [page 13].
2. Apply the Support Package Stack to the system on which the Mobile Infrastructure is running.
   For more information, see the section *SAP NetWeaver Application Server Java and Java-Based Components* [page 17].

> **Caution**
>
> Updating the `NWMADMIN.sca` component from SAP NetWeaver 2004s SPS09 or lower to SPS10 results in the loss of some setup package parameters. Consequently, you must reset the setup package parameters after the update of your MI system to SPS10. For more information, see the SAP Help Portal at `help.sap.com/nw2004s` ▶ *SAP NetWeaver* ▶ *SAP NetWeaver by Key Capability* ▶ *People Integration by Key Capability* ▶ *SAP Mobile Infrastructure* ▶ *SAP MI for Administrators* ▶ *Tasks* ▶ *Installing SAP MI on the Mobile Device* ▶ *Mobile Device Installation Using Setup Packages* ▶ *Allowing the Creation of Setup Packages*.

3. Apply the Support Package for SAP GUI. For more information, see the section *SAP GUI Family* [page 45].
4. Open ▶ *SAP NetWeaver Mobile Administrator* ▶ *Mobile Component* and choose *Reload* to reload the client installation files deployed in the second step.
   The new framework is available.
5. Set up SAP Mobile Infrastructure on the mobile devices.
   For more information, see the SAP Help Portal at `help.sap.com/nw2004s` ▶ *SAP NetWeaver* ▶ *SAP NetWeaver by Key Capability* ▶ *People Integration by Key Capability* ▶ *SAP Mobile Infrastructure* ▶ *SAP MI for Administrators* ▶ *Tasks* ▶ *Installing SAP MI on the Mobile Device*.

2.8 Standalone Engines

2.8.1 Search and Classification (TREX)

2.8.1.1 Planning

As of the SAP NetWeaver 2004 SP Stack 18, the update package of TREX is renamed to TREX Revision. The TREX Revision numbers no longer follow the SP stacks. Nevertheless, you can download the TREX Revision update from the SP stack download page as described in the section *Downloading Support Packages* [page 10] in order to get the TREX update packages appropriate to the corresponding SP stack.

The following unit will be updated:

Components of TREX

Component to Be Updated	Update File Name	Tool Used to Apply Update
TREX 7.00	`TREX70_<REVISION>.SAR`	`SAPinst`

2.8.1.2 Preparation

In this section, the following variables are used:

Variable	Meaning
<TREX_DIR>	Installation directory for TREX. The path to the directory is as follows: ■ UNIX: /usr/sap/<sapsid>/TRX<instance_number> ■ Windows: <disk_drive>:\usr\sap\<SAPSID>\TRX<instance_number>
<TREX_UPDATE>	Directory used for applying TREX update

1. Read SAP Note 802987 : TREX 7.0: Central Note.
2. Download the required update package (see *Downloading Support Packages* [page 10]).
3. Create a directory <TREX_UPDATE> for the TREX update package.
4. Use SAPCAR (see *SAPCAR* [page 50]) to extract the downloaded Support Package file TREX70_<REVISION>.SAR into the directory <TREX_UPDATE>.
   The extraction of the archive generates several subdirectories under the directory <TREX_UPDATE>. The relevant directory for this description is the SAPinst directory: <TREX_UPDATE>/ims_sapinst_standalone_trex/<OS_DIR>/.

2.8.1.3 Updating TREX

Prerequisites

You have installed at least one previous TREX 7.0 release (Version 7.0.XX.XX) :

- If you have already installed TREX, refer to the file <TREX_DIR>/exe/doc/TREXVersion.html to find out its version.
- If you do not have TREX installed at all, install TREX 7.0 from scratch as described in *Installation Guide – SAP NetWeaver 2004s Search and Classification (TREX) Single Host*. For more information, see SAP Service Marketplace at service.sap.com/installNW2004s.

Note

In a distributed scenario, all TREX systems must have the same TREX release with the same patch level. Mixed installations with different TREX releases are not supported.

Procedure

1. Log on to the host on which you want to apply the TREX Support Package, either as **root** user (UNIX) or with **administrator rights** (Windows).

   Caution

   Do not use the user <sapsid>adm for updating TREX. The <sapsid>adm users do not possess all permissions for updating a TREX system. Therefore, also do not use the <sapsid>adm user of another SAP system for updating a TREX system.

Note

For a distributed TREX system, you have to perform the update on the TREX host on which the TREX global file system is installed. The TREX instance on this host is to be updated first. With the restart of TREX after the update, all other TREX instances of the TREX system are updated automatically by replicating the updated binaries.

2. Change to the directory **<TREX_UDAPTE>/ims_sapinst_standalone_trex/<OS_DIR>**, which has been created by SAPCAR.

Note

Before starting the update, you have to close the TREX Admintool.

3. Start SAPinst from the directory `<TREX_UDAPTE>/ims_sapinst_standalone_trex/<OS_DIR>`.
4. On the Welcome screen of SAPinst, choose ▶ *SAP NetWeaver 2004s Search and Classification (TREX)* ▶ *TREX Instance* ↵.
5. Choose *Next* and Follow the instructions on your screen. The necessary input parameters are listed in the following table:

Window	Input Option/Entry
TREX > Installation	*Confirm the installation of TREX Search and Classification.* Choose *Next*.
SAP System > General Parameters	1. In ▶ *SAP System Parameters* ▶ *Profile Directory* ↵, enter the path to the directory in which the SAP system profiles are stored: **Windows:** **\\<SAPGLOBALHOST>\sapmnt\<SAPSID>\SYS\profile** **UNIX:** **/<SAP System Mount Directory>/<SAPSID>/profile** In the default scenario, the SAP system profiles are located on the host on which the TREX global file system and the first TREX instance are installed. You can choose Browse to search for the directory. 2. Choose *Next*.
SAP System > OS User Passwords	1. 1. Enter the passwords of the operating system users: a) ▶ *SAP System Administrator* ▶ *Password of SAP System Administrator* ↵ Here you enter the password for the operating system user `<sapsid>adm` with which you log on to administrate TREX. b) ▶ *SAP System Service User* ▶ *Password of SAP System Service User* ↵ Here you enter the password for the operating system user `SAPService<SAPSID>` under which the TREX processes run. 2. Choose *Next*.

Window	Input Option/Entry
TREX > Instance	*Choose an existing TREX instance to upgrade* ▶ *TREX Installation Mode* ▶ *SAP System ID (SAPID)* ↵ The SAP system ID `<SAPSID>` is displayed here. ▶ *TREX Installation Mode* ▶ *Installation Mode* ↵ Choose *upgrade an existing TREX instance* ▶ *Detected TREX Instances* ▶ *TREX instances for Upgrade* ↵ A dropdown list with the TREX instances which can be updated is displayed. 1. Select one of the TREX instances where the hotfixes should be applied. Example If you want to update TREX instance 11, you select: On UNIX: `TREX instance 11 [/usr/sap/<SAPSID>/TRX11]` On Windows: `TREX instance 11 [C:\usr\sap\<sapsid>\trx11]` Note For a distributed TREX system landscape you have to perform the update on the host where the TREX global file system and the first TREX instance are installed. 2. Choose *Next*
Check Parameters	Before the installation starts, the system displays the parameters that you entered. Choose *Start* to start the installation.
Task Progress	
Finished successfully	Choose *OK* to finish the installation.
	After the update finishes successfully, restart TREX by means of the SAP Management Console or the TREX Admintool. Note After you restart TREX, all TREX instances of a distributed TREX system landscape are updated automatically by replication of the updated binaries.
	When you have entered all input parameters, SAPinst starts the installation and displays the installation progress during the processing phase. If the installation is successful, SAPinst displays the message `The installation finished successfully.`

Note

In some cases you may have to restart the Application Pool of the MS Internet Information Server.

For Windows Server 2003 choose ▶ *Start* ▶ *Administrative Tools* ▶ *Internet Information Services (IIS) Manager* ▶ *Application Pools* ▶ *AppPool_TREX_<number>* ↵ and restart the service.

2.8.2 BI Accelerator

2.8.2.1 Planning

The BI accelerator is a special build of the SAP NetWeaver Search and Classification (TREX) for Linux 64-bit which is delivered with pre-configured hardware. The following units should be updated:

Components of BI Accelerator

Component to Be Updated	Update File Name	Tool Used to Apply Update
TREX 7.00	BIA70_<REVISION>.sar (Linux on x86_64 64bit)	SAPinst

Note

You have to download the update package for SAP NetWeaver 2004s Search and Classification (TREX) Linux 64bit at service.sap.com/patches ▸ *Entry by Application Group* ▸ *SAP NetWeaver* ▸ *SAP NetWeaver* ▸ *SAP NETWEAVER 2004S* ▸ *Entry by Component* ▸ *Search and Classif. (TREX)* ▸ *TREX 7.00* ▸ *Linux on x86_64 64bit*.

Caution

This package is intended only for updating the BI accelerator systems. For updating a TREX system, refer to the section *Search and Classificaiton (TREX)* [page 39].

2.8.2.2 Preparation

In this section, the following variables are used:

Variable	Meaning
<TREX_DIR>	Installation directory for TREX. The path to the directory is as follows: UNIX: /usr/sap/<sapsid>/TRX<instance_number>
<TREX_UPDATE>	Directory used for the patching of TREX

1. Read SAP Note 883725: TREX 7.0: Updating SAP NetWeaver 2004s BI accelerator.
2. Read SAP Note 883726: TREX 7.0: Centraal Note for SAP NetWeaver 2004s BI accelerator.
3. Download the required Support Package and extract it to the directory <TREX_UPDATE> using SAPCAR.

   Example

   ```
   SAPCAR -xvf BIA70_<REVISION>.sar -R <TREX_UPDATE>
   ```

4. Prevent the corresponding BI system from starting queries or indexing jobs on the BI accelerator system to be updated.

2.8.2.3 Updating BI Accelerator

1. Log on to the host of the BI accelerator system as user `<sapsid>adm`.
2. Change to the directory `<TREX_UPDATE>/tx_trex_content/TX_LINUX_X86_64` and start the update script with the command `python update.py`.
   The update script starts and requests you to specify the relevant parameters.
3. Enter the SAP system ID `<SAPSID>` of the BI accelerator system.
4. Enter the instance number `<instance_no>` of the BI accelerator system.
   The update script displays all specified parameters.
5. Choose one of the options:
   - `c`: To start the update procedure.
   - `e`: To exit the update procedure.
   - `r`: To repeat the previous steps in order to correct or change the parameters.

2.8.2.4 Post-Installation Steps

Re-enable the corresponding BI system to access the BI accelerator system.

2.8.3 Gateway

There are two different ways to run SAP Gateway Service:

- The Gateway server is installed and configured with SAP NetWeaver Application Server ABAP. In this case, the Gateway service is updated along with the kernel update of the ABAP-based system.
- The Gateway server is installed as a standalone engine. In this case, you must update the system manually.

To update a standalone Gateway engine, proceed as follows:

1. Download the non-Unicode kernel patch file `SAPEXE.SAR` from the SAP Service Marketplace at service.sap.com/patches.
2. Log on as user `<sapsid>adm` to the host where the Gateway service is running.
3. Stop the Gateway system and the OS level service.
4. Extract the kernel SAR file with the command `SAPCAR -vxf SAPEXE.SAR -R <krnl_directory>`.
5. Start the OS level service and the system.

2.8.4 SAP Web Dispatcher

Updates for the executable and required library files of SAP Web Dispatcher are included in the SAP kernel update file SAPEXE.SAR.

1. Log on to the host where the Web Dispatcher is running as user <sapsid>adm.
2. Stop the SAP Web Dispatcher process.
3. Extract the kernel update file with the command **SAPCAR -vxf SAPEXE.SAR -R <kernel_directory>**.
4. Restart the SAP Web Dispatcher.

2.8.5 Other Standalone Engines

Content Server

Refer to the SAP Note 514500 for information on Content Server update.

Job Scheduler

The update process of the Job Scheduler is currently not covered by the SAP NetWeaver 2004s SP Stacks.

2.9 Clients of SAP NetWeaver 2004s

2.9.1 SAP GUI Family

The table below lists the versions of the SAP GUI components that are recommended for SAP NetWeaver 2004s Application Server ABAP and all applications on top of it.

Latest Available SAP GUI Versions

SAP GUI Family
SAP GUI FOR WINDOWS 6.40
SAP GUI FOR JAVA 6.40

All SAP GUI versions are downward compatible, which means that the SAP GUI versions recommended for the latest release of Application Server ABAP can also be used with lower releases of the Application Server ABAP.

 Example

Besides the SAP NetWeaver 2004s Application Server ABAP, you also have several other ABAP systems of lower releases installed in your company. You can use the SAP GUI for Windows/Java 6.40 for all systems.

Although you can continue using older SAP GUI versions (as long as your SAP Systems with the underlying SAP Web AS do not require new features supported by newer SAP GUI versions), SAP recommends that you update your SAP GUI on a regular basis. Also check the corresponding sections of this document for requirements of the particular usage types.

SAP GUI patches are cumulative, which means the latest SAP GUI update includes all corrections implemented so far. Applying the single package of the latest update is sufficient. To download the SAP GUI patches, follow the path ▶ service.sap.com/patches ▶ *Enter by Application Group* ▶ *SAP Frontend Components* ▶ *SAP GUI FOR WINDOWS | JAVA* ▶ *SAP GUI FOR WINDOWS | JAVA 6.40* ↵ .

For more information about updating SAP GUI, see the *SAP Frontend Installation Guide* available in SAP Service Marketplace at ▶ service.sap.com/sapgui ▶ *Media Library* ▶ *Literature* ↵ .

2.9.2 Business Explorer (BI)

Business Explorer (BI) is updated along with the update of SAP GUI for Windows on client computers where Business Explorer is installed.

2.9.3 Other Clients

SAP NetWeaver Developer Workplace

See section *Development Infrastructure* [page 35].

SAP NetWeaver Developer Studio

See section *Development Infrastructure* [page 35].

Adobe LiveCycle Designer

See section *Development Infrastructure* [page 35].

J2SE Adapter Engine (PI/XI)

See section *Process Integration* [page 24].

MI Client

See section *Mobile Infrastructure* [page 37].

2.10 SAP Library

SAP delivers updates of SAP Library in connection with Support Package Stacks that can be applied to your local installation of SAP Library. A local installation has one of the following formats:

- HtmlHelp: Compiled HTML files that can be displayed on Windows platforms using HTML Help Viewer.

- PlainHtml: Standard HTML files that can be displayed with a standard Web browser.

You can download the updates of SAP Library for SAP NetWeaver 2004s with appropriate formats and languages from the SAP Service Marketplace at service.sap.com/maintenanceNW2004s.

Prerequisites

- You have installed SAP Library for SAP NetWeaver 2004s SR1 from the online documentation DVD which you can order from the SAP Help Portal at help.sap.com/nw2004s.
- You have downloaded the update files of SAP Library for SAP NetWeaver 2004s SR1.

Procedure

To update SAP Library to the intended SP level (target SP level), you must apply the updates of all SPs subsequent to the currently installed SP level (start SP level).

To apply a single update, proceed as follows:

1. Extract the update file to a temporary directory using a ZIP tool of your choice.
2. Execute the installation program and enter the path to the directory where SAP Library is installed.
   - For HtmlHelp, the installation program `SETUP.EXE` is located in the directory `<temp_dir>\<language>\HtmlHelp\`.
   - For PlainHtml, the installation program is either `INSTALL` or `INSTHELP`, which is located in the directory `<temp_dir>/<language>/PlainHTML/PLAINHTM/INSTALL/<OS>`.

Repeat the steps for all subsequent SP levels.

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A Appendix

A.1 Determining the Current Component Versions

This section describes how to determine the currently installed component versions.

SAP NetWeaver Application Server ABAP

You can find out the current kernel patch level of the Application Server ABAP in one of following ways:

- If the system is running, follow the menu path ▶ *System* ▶ *Status* ↵ and then hit the key combination `SHIFT + F5`. The kernel patch level is displayed in the field *Sup.Pkg.lvl*.
- If the system is not running, enter the following commands:

```
cd <krnl_directory>
disp+work[.exe] -V
```

To find out the current Support Package level of all software components running in this ABAP system, call the transaction `SPAM` and then choose *Package level*.

SAP NetWeaver Application Server Java

To find out the current kernel patch level of the Application Server Java, enter the following commands:

```
cd <krnl_directory>
disp+work[.exe] -V
```

To find out the current Support Package level of all software components running in this Java system, follow the path in the Web browser ▶ `http://<host>:<http_port>/sap/monitoring/SystemInfo` ▶ *Software Components* ▶ *all components* ↵.

Search and Classification (TREX)

The file `<TREX_DIR>/exe/doc/TREXVersion.html` indicates the current TREX version.

XI/PI Adapter Engine (J2SE)

To find out the current Support Package level of the XI/PI Adapter Engine (J2SE) follow the path in the Web browser ▶ `http://<host>:<http_port>/monitor?action=about` ▶ *Information* ↵.

MI Client

To find out the current MI Client version installed on the mobile device, follow the path on the device ▶ *Info* ▶ *Buildversion* ↵.

SAP Internet Graphic Server (IGS)

To find out the current Support Package level of the IGS, follow the path in the Web browser ▶ `http://<host>:4<instance_no>80/` ▶ *Version* ↵.

SAP NetWeaver Developer Studio

To find out the current version of the SAP NetWeaver Developer Studio, follow the menu path ▶ *Help* ▶ *About SAP NetWeaver Developer Studio* ↵.

SAP MASTER DATA CONTENT for SLD

To find out the version of the current SAP MASTER DATA CONTENT in the SLD, follow the path in the Web browser ▶ `http://<host>:<http_port>/sld/admin/details.jsp?view=data` ▶ *SAP CR Content Version* ↵.

BI Pre-calculation Service

The version number of the BI Pre-calculation Service is denoted by the file version of `BExPreCalcServerProgram.exe`. In the file browser, select *Properties* from the context menu of the file in `<Drive>:\Program Files\SAP\FrontEnd\BW`.

A.2 Tools Used During the System Update

This section provides further information about the tools that you need to apply Support Packages.

A.2.1 SAPCAR

SAPCAR is used to extract SAR archives. It is installed with each SAP Web AS in the kernel directory and its patch is delivered with the SAP KERNEL package (`SAPEXE.SAR`).


Note

In rare cases, for instance, when the currently installed SAPCAR tool is defective and you cannot extract the Kernel patch itself, you can download the unpackaged version of the SAPCAR tool at ▶ `service.sap.com/patches` ▶ *Entry by Application Group* ▶ *Additional Components* ▶ *SAPCAR* ↵.

Using SAPCAR

1. Change to the directory in which you have downloaded or copied the archives:
   UNIX: `cd /<sp_directory>`
   Windows: `cd \<sp_directory>`
2. Start SAPCAR to extract the archive to the current directory `<sp_directory>`:
   UNIX: `<path to SAPCAR>/sapcar –xvf <file_name>.SAR`
   Windows: `<path to SAPCAR.EXE>\sapcar.exe –xvf <file_name>.SAR`

Note

Instead of using `<sp_directory>` as the target directory, you can use the option **`-R`** to specify a specific target directory. For instance, **`sapcar -xvf <SAR_file> -R <target_dir>`**.

Note

Directories in the archive will be created as subdirectories of the target directory by keeping the directory structure of the archive.

A.2.2 ABAP Support Package Manager and Add-On Installation Tool

The Support Package Manager (SPAM) imports ABAP Support Packages into an ABAP system.

The Add-On Installation Tool (SAINT) enables users to install and upgrade add-on components. You can use SAINT to import add-on components with their prerequisite ABAP Support Packages in a single import queue.

Caution

Before using the Support Package Manager, see SAP Note 822379.

Recommendation

We recommend that you always use the latest version of Support Package Manager. You can get it on SAP Service Marketplace at `service.sap.com/spmanager` ▶ *Download SPAM/SAINT Update*.

Procedure

To import Support Packages or add-on components, proceed as follows:

1. Log on to the SAP NetWeaver AS system with client 000.
2. Start the Support Package Manager with the transaction code **`SPAM`**, or start the Add-On Installation Tool with the transaction code **`SAINT`**.
3. Load the relevant Support Packages or add-on installation packages.
4. Define an import queue.
5. Perform the import of the defined queue.

Note

If you modified SAP objects in your system and these objects are included in the Support Packages, you must adjust the modifications during the import using the transactions `SPDD` and `SPAU`.

Note

To reduce downtime during the import, you can use the *downtime-minimized* import mode. In the transactions `SPAM` or `SAINT`, choose ▶ *Extras* ▶ *Settings* ▶ *Import queue* ▶ *Import mode: Downtime-minimized* ↵.

A.2.3 Java Support Package Manager

Starting with SAP NetWeaver 2004s, the Java Support Package Manager (JSPM) is used for applying Support Packages to SAP NetWeaver Application Server Java (AS-Java) and all components running on top of it. JSPM is able to update all integral parts of a Java system, which includes:

- Kernel and other native OS level binaries that are installed with the NetWeaver AS Java
- JSPM itself and the deployment service of the system (currently the SDM)
- All installed Java usage types in the system

Caution

Before using the Java Support Package Manager, see SAP Note 891983.

Prerequisites

- Make sure that all Support Packages to be applied are in the JSPM inbox. The JSPM inbox is a file system directory and resides at `<DIR_EPS_ROOT>/in`. `<DIR_EPS_ROOT>` is a profile parameter and can be defined in the central instance profile. The default value is `/usr/sap/trans/EPS`.
- The Support Packages for the kernel and other OS level binaries are delivered as SAR files. Make sure that your current SAPCAR tool is able to extract these files.

  Recommendation

  You can download the latest version of `SAPCAR` from the SAP Service Marketplace at ▶ `service.sap.com/patches` ▶ *Entry by Application Group* ▶ *Additional Components* ▶ *SAPCAR* ↵. Put the downloaded version in the same directory in the JSPM inbox in which the kernel SAR files reside so that JSPM can use this version for extracting the SAP files.

Procedure

To apply Support Packages of the NetWeaver AS Java and components running on it, proceed as follows:

1. Log on to the Central Instance host as user `<sid>adm`.
2. Close the SAP Management Console (MMC) and the SDM remote GUI client.
3. To start the JSPM, change to `<INSTDIR>/<SAPSID>/<Central-Instance>/j2ee/JSPM` and call the `go` script.

> **Note**
> Depending on the system type, `<Central-Instance>` has the following syntax:
> - Standalone Java system: `JC<instance_no>`
> - Add-in Java system: `DVEBMGS<instance_no>`

4. Enter the SDM password to log on to the SDM.
5. In the *Deployment* tab, select one of the following options:
   - *Support Package Stack*
   - *Single Support Packages*

   and choose *Next*.

   > **Note**
   > The option *New Software Components* is irrelevant in this context.

   If the system to be updated is a system in a NWDI-controlled landscape, specify the role of the system accordingly.
6. Depending on the selected package type in the previous step, do one of the following:
   - Select the Support Package stack to be applied in the *Target SP Level* drop-down box and choose *Next*.
   - Select the appropriate Support Package level for the Support Packages to be applied in the *Target SP Level* drop-down box and choose *Next*.

   At this step, JSPM performs various status validations and displays the result of each software component selected or included in the stack definition on the subsequent screen, which includes following the possible states:
   - `OK`: Indicates that the SP of the corresponding software component is applicable.
   - `WARNING`: Indicates that the corresponding software component comprises custom modifications in a NWDI-controlled system.
     The deployment can be performed.
   - `REVISE`: Indicates inconsistencies with the corresponding software component.
     The deployment **cannot** be performed until all problems have been resolved. You can view the problems by choosing View Details.
7. If the status of the selected Support Packages or Support Package stack is appropriate, choose *Next* to start the system update.
   The JSPM starts the deployment of the selected support package stack and the status changes to SCHEDULED.

   > **Note**
   > If there are Dialog Instances running, JSPM will request that you stop all Dialog Instances manually.

 Note

If a system restart is necessary for the system update, the system will inform you accordingly. The system restart will be performed immediately as you have clicked *Next*. Make sure that there are no active users working in the system!

 Note

If the selected Support Packages or the selected SP stack includes a JSPM update, JSPM will request that you restart the JSPM after it has been updated. In this case, you can relaunch the JSPM and restart the deployment of the subsequent SPs in the queue that have the status `NOT DEPLOYED`.

The deployment of each SP can end with one of the following states:

- `DEPLOYED`
  The SP has been successfully deployed.
- `DEPLOYED WITH WARNING`
  The SP has been deployed but it possibly may not work properly with other deployed components. You can view the details by choosing *View Details*, or examining the log files.
- `ERROR`
  An error occurred during the deployment. You can view the details by choosing *View Details* or examining the log files. You **must** correct the error to continue with the SP stack update.
  - If the error correction does not change the contents in the JSPM inbox, you can continue the SP stack update by choosing *Retry*.
  - If the error correction changes the contents in the JSPM inbox, you have to choose *New Deployment* in order to redeploy the SP stack.
- `NOT DEPLOYED`
  JSPM has not attempted to deploy the software component for certain reasons. You can proceed as described above to resolve the potential problems and restart the SP stack update appropriately.

Only valid for: UNIX

8. If the applied Support Packages update the kernel, perform the following steps on a UNIX platform:
   a) Log on as user `<sapsid>adm`.
   b) Stop the SAP system being updated.
   c) Enter the following command:

Only valid for: DB2 UDB for UNIX and Windows

```
su root
```

End of: DB2 UDB for UNIX and Windows

Only valid for: DB2 UDB for iSeries;DB2 UDB for z/OS;Informix;MaxDB;MS SQL Server;Oracle

```
su - root
```

End of: DB2 UDB for iSeries;DB2 UDB for z/OS;Informix;MaxDB;MS SQL Server;Oracle

```
cd <krnl_direcotry>
```

```
./saproot.sh <SAPID>
exit
```

d) Start the SAP system.

End of: UNIX

A.3 System Profile Parameters

You can find out the current values of system profile parameters in one of the following ways:

- If a system is an ABAP system and it is running, you can use the transaction **RZ11**.
- If a system is either a non-ABAP system or not running, proceed as follows:
  1. Log on to the host with the user <sapsid>adm.
  2. Call the command
     sappfpar[.exe] name=<SAPSID> nr=<instance_no> pf=<SAPSID>_<instance_name>_<host> <PAR_NAME>.
     <PAR_NAME> stands for the particular profile parameter in question.

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