What IT Professionals Need To Know About

SAP enhancement packages

for SAP ERP

This document gives you an overview of the fundamental changes and the new implementation procedure with SAP enhancement packages for SAP ERP.

Version 1.4

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1 INTRODUCTION

1.1 Purpose of This Document

SAP enhancement packages represent a new software delivery strategy that allows you to add innovations on top of SAP ERP 6.0 without the need for fully upgrading your current release. With SAP enhancement packages, the methodology for implementing new functionality has significantly changed. This document outlines the basic ideas of the new concept and the implementation procedure for SAP enhancement packages for SAP ERP. Furthermore, this document links to the guides and notes that SAP provides. Getting familiar with these procedures will help you to minimize implementation efforts.

1.2 Target Group

This document is written for Technical Consultants and SAP Administrators, so you should be experienced in SAP technology and upgrades.

1.3 SAP enhancement package Strategy

SAP enhancement packages for SAP ERP include functional enhancements, industry-specific enhancements, and UI simplifications. To discover and evaluate which innovations are shipped in which SAP enhancement package, visit the SAP Service Marketplace: **service.sap.com/erp-ehp**.
In addition SAP enhancement packages also include Enterprise Services (ES). Enterprise Services are grouped in Enterprise Service Bundles that support business processes (for example 'order to cash') across the SAP Business Suite. Refer to the ES Wiki and online help to learn what ES bundles are available and to understand the details of the services.
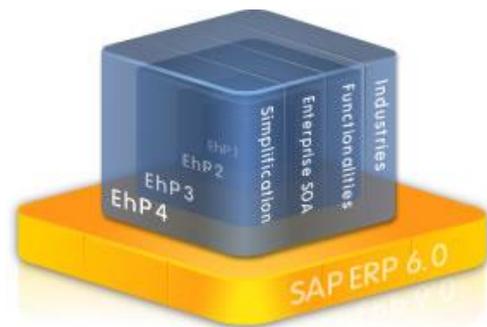
Figure 1: SAP enhancement package strategy

SAP enhancement packages are cumulative from a functional perspective: current SAP enhancement packages contain the entire content of earlier packages. So each SAP enhancement package is based on the previous one. SAP enhancement packages have the same maintenance duration as the underlying core application, SAP ERP 6.0.
As before, all legal changes and corrections will be available via Support Packages. SAP provides Support Packages for SAP ERP 6.0 on a regular basis during the defined maintenance period and, in parallel, SAP provides equivalent Support Packages for SAP enhancement packages for SAP ERP. There are also SAP enhancement packages available for SAP NetWeaver and SAP Solution Manager. In the future, we plan to deliver SAP enhancement packages for other SAP applications, such as SAP CRM or SAP SCM.

2 ESSENTIALS

Two major characteristics comprise the key difference between SAP enhancement packages for SAP ERP and other, older technologies:

- **Selective installation of software components**
  a) Each SAP enhancement package contains new versions of existing software components, which do not constitute an innovation on their own. But with SAP enhancement packages, you only update software components that are related to the functionality you want to use.
  b) After the installation no UI or process changes take place.
- **Selective activation of new functionality**
  a) **New functionality must b**e explicitly switched on to become active in the system.
  b) Changes are predictable, with changes only in the activated areas – no side effects.

2.1 Selective Installation

SAP enhancement packages allow you to update a subset of the software components that are part of your SAP ERP 6.0 implementation. For example, you are now able to update parts of your SAP ECC Server. Your selection of software components is driven by the

Figure 2: Selective Update - Example

functional enhancements that you plan to implement. In **figure 2,** new HCM functionality is installed by updating only EA-HR (version 603) on the SAP ECC Server. The Solution Manager Maintenance Optimizer automatically identifies the relevant installation packages (potentially also including Support Packages) according to the current system status and the selected **Technical Usage(s)**. As the whole procedure is highly automated, the Maintenance Optimizer also provides a configuration file ("Stack XML") for the installation tools.

> A "Technical Usage" describes a valid set of software components that must be installed together.

2.1.1 Impact of Installation

As SAP leverages the Enhancement and Switch Framework to deliver new functionality, the installation of an SAP enhancement package has no impact on existing business processes or user interfaces, as long as **no business function** has been activated. Up to EHP3, the installation did not have any implications on the underlying SAP NetWeaver platform. This has changed: With EHP4 for SAP ERP, the SAP ECC server always requires EHP1 for SAP NetWeaver.

> A "business function" is the activatable unit within the SAP ECC Server.

Furthermore SAP enhancement packages also contain corrections from the equivalent Support Package Stacks. After the installation you have to perform a modification adjustment (SPDD/SPAU). If you have modified SAP code in your system, do not separate the installation of the Support Package Stack and the installation of the SAP enhancement package into two steps. This would mean having to perform the modification adjustment twice (and partially for the same objects).

2.1.2 Recommendations on Installation Strategy

Since the installation process is decoupled from activation, you can now continuously provide the newest functionality to the system along with your regular maintenance activities. In order to use synergy effects and to minimize effort (especially regarding potentially needed modification adjustments – see above), **SAP ERP enhancement packages must be applied within one queue, together with the required Support Packages**. Using this strategy, SAP enhancement packages can be installed as a normal maintenance activity together with Support Packages. As before, you have to schedule a normal regression test as part of this maintenance activity. Note that once an SAP enhancement package is installed, you cannot reverse the installation. If you are not sure what to use you could set up a sandbox system to explore the new functionality.

> **Always install SAP enhancement package together with a Support Package Stack.**

2.2 Separate Activation

With the Switch Framework, it is possible to control the activation of SAP ERP objects. Activating a business function triggers switches, which then "influence" the execution of the code enhancements. These switches ensure that you only see the new functions if you have activated them. The activation process starts a job in your SAP system that automatically performs all changes in the system. You can create a transport request with the current settings of the switch framework. All functional changes and the impact of an activated business function are made transparent in advance by the documentation. Bear in mind that once a business function is activated you cannot reverse it.

2.3 Implementation Procedure at a Glance

1. Get the information on which business functions should be used. This information is typically provided by a business expert. You can find the complete list of business functions as well as the mapping to processes and scenarios in the Service Marketplace.
2. Read the documentation and check if all prerequisites are met. Make sure you have a SAP Solution Manager (min. EHP 1) installed and your system landscape properly maintained in SMSY (see section 3.2.1).
3. Map the business function(s) to the corresponding Technical Usage(s) - section 3.2.2. In case the business cannot decide which business function(s) they want to use, you could also proceed by choosing a broad installation approach for the ECC server. In this case you look at the technical usages offered for the ECC server and exclude the ones that you do not use. By choosing the "broad" approach you minimize the initial effort for analyzing new functions. However , the drawbacks are the potential effort for additional modification adjustments and additional downtime (only valid for SAINT – not for the EHP installer due to the new system switch procedure).
4. Use Maintenance Optimizer to select the correct packages (section 3.2.3) and choose the correct product version (section 4.2).
5. Install the required Support Package Stack and include all selected parts of the EHP.
6. Activate the business function – depending on your planning, either directly, or separately, after the installation procedure.

> **If you have an add-on installed in your system, ask your add-on provider whether it is compatible with the SAP enhancement package for SAP ERP 6.0.**
>
> See SAP note 1117309 (EHP3) or 1226284 (EHP4) for details about SAP add-ons.

3 INSTALLATION: STEP BY STEP

This section gives you an overview of the steps for successfully installing an SAP enhancement package for SAP ERP 6.0. First, we provide an overview of the tools involved in the installation process. Then we sketch the process itself.

If you have questions about the SAP enhancement package 4 installation feel free to contact the SAP EHP Technology Backoffice by sending an e-Mail to EHP-TECH@sap.com.

3.1 Tools Used for Installation

As shown in section 2, from the point of view of the effort involved, you can treat SAP enhancement packages like Support Packages and should combine the application of both in one queue. However, there are mutual dependencies to be taken into account. With the Solution Manager Maintenance Optimizer, these dependencies are handled automatically.

The Solution Manager Maintenance Optimizer helps you to find and download the necessary bundles of software components and provides the information to the implementation tools needed for a successful installation of your SAP enhancement package for SAP ERP 6.0.

As of enhancement package 4 for SAP ERP 6.0, the new enhancement package installation tool (SAPehpi/SAP Enhancement Package Installer) is available. For more information about the SAP Enhancement Package Installer see the installation guide at **service.sap.com/erp-inst** -> *SAP ERP 6.0 -> SAP enhancement packages for SAP ERP 6.0 -> SAP enhancement package 4 for SAP ERP 6.0 -> Enhancement Package Installation on Existing SAP Systems.*

Recommended tools to use for installation:

Case	Enhancement Package Level	Tool
Installation of … (on top of an existing SAP ERP 6.0)		
	Enhancement Package 3 for SAP ERP 6.0	ABAP: SAINT Java: JSPM
	Enhancement Package 4 for SAP ERP 6.0[2]	ABAP: SAPehpi Java: SAPehpi
Upgrade to SAP ERP 6.0 (Release < SAP ERP 6.0) and inclusion of …		
	Enhancement Package 3 for SAP ERP 6.0	ABAP: SAPup Java: SAPJup
	Enhancement Package 4 for SAP ERP 6.0	ABAP: SAPup Java: SAPJup
New Installation of SAP ERP 6.0 with enhancement package 4 for SAP ERP 6.0		
	1. Installation of SAP ERP 6.0 (including SAP EHP 1 for SAP NW 7.0)	ABAP: SAPinst Java: SAPinst
	2. Installation of selected parts of Enhancement Package 4 for SAP ERP 6.0	ABAP: SAPehpi Java: SAPehpi

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[2] Note that there are constraints for 32 bit platforms (SAINT/JSPM). See the EHP4 master guide for details.

3.2 The Main Installation Steps

3.2.1 Prerequisites for Installation

First, bring your SAP Solution Manager up-to-date. In order to use the Maintenance Optimizer application (see SAP Note 1122966), you need SAP Solution Manager 7.0 with the highest Support Package level in your system landscape. Your system landscape has to be maintained in the Solution Manager system (SAP Note 1139493). You can find more information about the SAP Solution Manager at help.sap.com > SAP Solutions > SAP Solution Manager.

Support Package Level:

You need a certain Support Package level in your system. Let the Solution Manager Maintenance Optimizer calculate the needed Support Packages for you. They can be included in the installation queue.
SAP Note 1095233 (EHP3) and 1165437 (EHP4) describe in detail which Support Packages are required for installing the selected SAP enhancement package.
Please remember: The software components of SAP enhancement packages for SAP ERP 6.0 contain new developments as well as corrections. If you take a look at your system after applying the SAP enhancement package components, you will find software components in version 600 (for example with SP level 12) as well as software components in version 603 (for example with SP level 1 that contains equivalent corrections to SP level 12 of the same component in version 600).

3.2.2 Select the Software Components

The starting point for the installation is your decision about which new business functions you want to use in your system. Therefore, first make a list of the business functions you need.
Once you have the business functions, you have to find out the software components you need. Besides ABAP software components, you might need to update Java components, portal content, BI or XI content as well. To help you ensure consistency, we have bundled ABAP components, Java components, portal content, and XI content as "Technical Usages."
The following SAP Notes provide information about the mapping of business functions to a Technical Usage, including the underlying software components contained in SAP enhancement packages for SAP ERP 6.0:
- SAP Enhancement Package 3: SAP Note 1083576
- SAP Enhancement Package 4: SAP Note 1165438

3.2.3 Identify and Download SAP Enhancement Package Using SAP Solution Manager Maintenance Optimizer

If you use the SAP Solution Manager Maintenance Optimizer (see SAP Note 1122966) – which is mandatory and which was already required for downloading Support Packages in general – you only need the name of the Technical Usage to install all needed software components. Based on that information, the SAP Solution Manager Maintenance Optimizer calculates the needed software components and Support Packages.
Create a new maintenance transaction for updating your system with the selected SAP enhancement package for SAP ERP 6.0. A guided procedure leads you through the preparation process for updating your systems. Select all systems that are affected by the application of the SAP enhancement package.

In the next step of the guided procedure, you select the Technical Usages you want to apply to your systems. As a result, the Solution Manager Maintenance Optimizer downloads all required files and creates an XML document that can be read by the installation tools to create a valid import queue.

> **The deselection of files in Step 2.4 of the Maintenance Optimizer transaction is for experts only – improper usage might lead to subsequent installation errors (e.g. the package queue calculation will fail).**

The new Enhancement Package Installer asks for a valid Enhancement Package stack configuration file. Specify the path to the XML file in the download directory or select a direct connect to the Solution Manager System (MOPZ), to request the required information.
You can find further information about the Solution Manager Maintenance Optimizer at service.sap.com/solman-mopz, and detailed documentation at help.sap.com > SAP Solution Manager > (select your preferred language) in the "Change Management" section.

3.2.4 Update ABAP and JAVA Components Using SAP Enhancement Package Installer

The SAP Enhancement Package Installer installs the SAP enhancement package 4 for SAP ERP using a system cloning and switch procedure. This procedure installs a copy of the system, the shadow system, in parallel with the original system. The shadow system is used to update the affected software components and to install the additional components, while the original system is still in production operation. Note that operating two instances in parallel places increased demands on free space in the file system, in the database, and on the system resources. More information can be found in the installation guide.

3.2.5 Update ABAP Software Components Using SAINT

The SAINT tool was previously used (up to EHP3) to update ABAP software components and apply the needed Support Packages. In order to define a valid import queue, the SAINT tool can read the document created by the Solution Manager Maintenance Optimizer.
SAP recommends installing the SAP enhancement package in one queue together with the required Support Packages. Remember that you might have to adjust modifications after applying an update or Support Package. If you apply Support Packages and SAP enhancement packages in one queue, you have to adjust modifications only once.
You can access detailed documentation for the SAINT tool at help.sap.com > SAP NetWeaver > SAP NetWeaver 7.0. Choose the link *Access the SAP NetWeaver library* in your preferred language. Within the library, you can access the SAINT documentation by choosing the path *SAP NetWeaver by Key Capability > Solution Life Cycle Management by Key Capability > Software Life Cycle Management > Software Maintenance > Add-On Installation Tool*.

3.2.6 Update Java Components and Portal Content Using JSPM

The JSPM tool is used to update Java components and Portal content. You can apply the document created by the Solution Manager Maintenance Optimizer to the JSPM tool in order to define a valid import queue. Once the software archives are in place, you can start the update.
For more information on the JSPM tool see help.sap.com > SAP NetWeaver > SAP NetWeaver 7.0 > Select the link *Access the SAP NetWeaver library* in your preferred language. Within the library, you

can access the SAINT documentation by choosing the path *SAP NetWeaver by Key Capability > Solution Life Cycle Management by Key Capability > Software Life Cycle Management > Software Maintenance > Java Support Package Manager*.

3.2.7 Update PI Content

Always install the PI or ESR content which corresponds to the PI version you have in use. You can find further information in chapter 2 of the SOA Master Guide.

3.2.8 Update SAP Library

You install the more detailed application documentation on your server using the business functions. In doing so, you only update those parts of your SAP Library that contain information about the new developments in a business function. You can therefore update your SAP Library dependent on the business functions you activated.

For information about installing the SAP Library in the context of the SAP enhancement packages, see SAP Note 1066110.

3.2.9 Installing SAP Enhancement Packages across the System Landscape

From a system landscape or project perspective, keep in mind that all activities must be performed in a set sequence, for example:

> a) Set up sandbox and perform SAP enhancement package and Support Package installation in one step. Get familiar with the new functionality. Note that it is not possible to switch-off a business function.

> b) Set up temporary maintenance system for the SAP EHP installation project for emergency corrections. Note that it is in general not recommended to transport between systems which have different structures (for example, different installed software component versions).

> c) Perform installation in DEV (development system), perform modification adjustment, etc.

> d) Perform installation in QAS (quality assurance system), perform regression test, etc.

> e) Perform installation in PRD (productive system) & go-live

In general you should have most of the procedures in place, since you already regularly implement Support Package Stacks. If you want to learn more about the impact of enhancement packages and transport management have a look in the EHP Technology media library.

3.2.10 Examples

Here we briefly show you the main steps you need to follow to install the SAP enhancement package components necessary for using the enhancements in Travel Management and S&D Simplification.

No.	Step	Step Description	
		Travel Management	**SD Simplification**
1	Identify business functions	You can find information about business functions at service.sap.com/erp-ehp. Here, in SAP enhancement package 3 for SAP ERP 6.0, select *SAP ERP Corporate Services*. You find the business function *Travel Management (FIN_TRAVEL_1)*.	You can find information about business functions at service.sap.com/erp-ehp. Here, in SAP enhancement package 3 for SAP ERP 6.0, select *SAP ERP Operations*. You find the business function *Logistics S&D Simplification (SD_01)*.
2	Map Technical Usages	Read note 1083576. The attachment contains the mapping of this business function to the Technical Usage "HCM – Travel Management.." The table shows that you need to update an ABAP product instance *Human Capital Management* with the software component EA-HR 603, all Portal Content, as well as all XI content in order to fully use the innovations. (We assume that you already have an Enterprise Portal and an Exchange Infrastructure in place.)	Read note 1083576. The attachment contains the mapping of this business function to the Technical Usage *Central Applications - EAM, PSM, SD*. The table shows that you need to update the ABAP product instance *Central Applications* with the software components EA-APPL 603 and SAP APPL 6.03, and all Portal Content in order to fully use the innovations.
3	Check prerequisites	Note 1095233 gives you details about the required Support Packages in your systems. Check that your SAP Solution Manager is up-to-date. Check that your system landscape is maintained properly.	
4	Start SAP Solution Manager Maintenance Optimizer	Create a Maintenance Transaction in the Maintenance Optimizer. During the maintenance transaction you select the Technical Usage. The Solution Manager determines the packages to be installed in your systems. Here it selects the ABAP component EA-HR 603, all Business Packages, and all XI content packages. This information is stored in an XML file. Besides that, all necessary packages can be downloaded during the maintenance transaction.	Create a Maintenance Transaction in the Maintenance Optimizer. During the maintenance transaction you select the Technical Usage. The Solution Manager determines the packages to be installed in your systems. Here it selects the ABAP components EA-APPL 603 and SAP APPL 6.03, and all Business Packages. This information is stored in an XML file. Besides that, all necessary packages can be downloaded

			during the maintenance transaction.
5	Install	ABAP installation is performed using the SAINT tool. You have the option of defining the installation queue by loading the XML file generated by the SAP Solution Manager Maintenance Optimizer. As this queue can contain Support Packages as well as installation packages, you can update your system in one step. Portal Content is updated using the JSPM tool. Here the same XML file can be used in order to determine the components to install. Finally, XI content is simply uploaded from within the Integration Repository.	(same)
6	Activate	After successful installation, you can activate the newly available business functions at any time. Use transaction Sꜰw5 for that purpose. Activating starts a batch job.	(same)

Remark: These are only the essential steps connected to the new kind of update of an SAP system. Testing and other usual steps are not mentioned here.

3.3 Upgrading to SAP ERP 6.0 integrating SAP enhancement packages

With SAP ERP 6.0 SR3 it is possible to integrate SAP enhancement package 3 directly into the upgrade procedure. There is also a procedure available for SAP enhancement package 4 for SAP ERP.

> **SAP recommends integrating the latest Enhancement Package when doing an upgrade.**

4 FURTHER INFORMATION

The SAP enhancement package Master Guide gives you detailed information about the SAP enhancement package concept and should be the central starting point for planning your installation. Until SAP enhancement package 3, the SOA Master Guide is the starting point for the technical implementation of enterprise services (until EHP3).

The SAP enhancement package Installation Guide describes the procedure for performing the technical installation. SAP provides standard test case templates, so you can efficiently test the new functionality that belongs to the scope of a selected business function.

For information about the business functions see the SAP Service Marketplace (service.sap.com/erp-ehp) and the SAP Help Portal (help.sap.com) under SAP ERP > SAP ERP Central Component > SAP enhancement package <no.> for SAP ERP 6.0 > SAP Library > business function Sets and Business Functions.

4.1 Support Package Stack Equivalence Level

SAP has synchronized the delivery of ERP enhancement packages and SAP ERP 6.0 Support Package (SP) Stacks. This means that every time an SAP enhancement package or an SAP enhancement package SP stack is released, a corresponding SAP ERP 6.0 SP stack is also delivered. The equivalent SP Stacks for the enhancement packages that are planned for 2009 are listed below:

Enhancement Package (EHP)	EHP SP Stack	Based on ERP SP Stack
Enhancement Package 4 for SAP ERP 6.0	1	14
	2	15
Enhancement Package 3 for SAP ERP 6.0	2	13
	3	14
	4	15

You can view the current SP Stack schedule at service.sap.com/sp-stacks -> SP Stack Information -> SP Stack Schedule.

4.2 New with EHP4 for SAP ERP: SAP Enhancement Package 1 for SAP NetWeaver

As of enhancement package 4 for SAP ERP, enhancement packages for SAP NetWeaver 7.0 are available. Therefore, there are **different installation options** and system landscape alternatives for **Java-based system instances**. There are two available product versions from which you can choose. These options avoid situations, in which the installation of an enhancement package for SAP NetWeaver 7.0 requires you to update Java-based system instances, although you do not need to update them from the functional perspective.

The following product versions are available with the current enhancement package:

1. **EHP 4 for SAP ERP 6.0**

   Existing customers require that as many as possible system instances are kept stable on SAP NetWeaver 7.0. With the **EHP 4 for SAP ERP 6.0** product version, all system instances on usage type AS Java can remain on SAP NetWeaver 7.0, while the system instances on

As a consequence, SAP ECC Server (ABAP), for example, always requires SAP enhancement package 1 for SAP NetWeaver 7.0 – which should be installed in one step together with the required support packages and the SAP ERP enhancement package 4 components.

2. **EHP 4 for SAP ERP 6.0/ NW 7.01**

    You use the **EHP 4 for SAP ERP 6.0/ NW 7.01** production version in new installations. Here the installation process updates both usage types AS ABAP and AS Java with enhancement package 1 for SAP NetWeaver 7.0. This allows customers to leverage the latest functions from all areas.

4.3 Relevant SAP Notes

SAP Note 1083576	SAP ERP 6.0 EHP 3 - Mapping of Business functions – Technical Usages
SAP Note 1165438	SAP ERP 6.0 EhP 4 - Mapping of Business functions – Technical Usages
SAP Note 1224284	Mapping for ES Bundles - Required Technical Usages and BFs
SAP Note 1095233	Enhancement Package 3 for SAP ERP 6.0: required Support Packs
SAP Note 1165437	Enhancement Package 4 for SAP ERP 6.0: required Support Packs
SAP Note 1165067	Release Info SAP Enhancement Package 4 for SAP ERP 6.0
SAP Note 1083533	Installation of Enhancement Package 3 on SAP ERP 6.0 (ABAP)
SAP Note 1143022	Installation of Enhancement Package 4 on SAP ERP 6.0 (ABAP)
SAP Note 1100230	EhP3 Installation (Java with JSPM)
SAP Note 1160106	EhP4 Installation (Java)
SAP Note 1245473	SAP Enhancement Package Installer
SAP Note 1156006	SAP ERP 6.0 SP Stack 13 (06/2008) Release Information Note
SAP Note 1064635	SAP ERP Enhancement Packages: SP Stacks Release Info Note
SAP Note 1122966	Maintenance Optimizer: Notes for Enhancement Packages
SAP Note 1117309	SAP Enhancement Package 2 & 3 for ERP 6.0:Compatible Add-ons
SAP Note 1226284	SAP Enhancement Package 4 for SAP ERP 6.0:Compatible Add-ons

4.4 Feedback

Your comments help us to provide guides and tools that fit your needs.
You can send feedback directly to: christian.oehler@sap.com.

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