Mercury IT Governance Center™

Mercury Change Management Extension for SAP® Solutions™ Service Pack 3 Guide

Version: 6.0.0 SP3

MERCURY™

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Chapter 1 Introduction

In This Chapter:

About This Document

This guide provides information about installing or upgrading to Service Pack 3 (SP3) of Mercury Change Management Extension for SAP® Solutions™ release 6.0.0 (often referred to hereafter as "the Extension"), and it describes the features associated with the service pack.

This document is organized as follows:

- Chapter 1, *Introduction,* on page 9

  This chapter describes who should read this document, includes information about prerequisite and related documents, and provides an overview of SP3.

- Chapter 2, *Upgrading the Extension to Service Pack 3,* on page 13

  This chapter provides system requirements and detailed information about upgrading the Extension to SP3.

- Chapter 3, *Features of Service Pack 3,* on page 21

  This chapter provides information about the features and functions in SP3, including a new preconfigured Dashboard page and new portlets, reports, object types, workflows, environments, special commands, validations, and tokens.

  SP3 includes all the functionality of Service Pack 1 (SP1) and Service Pack 2 (SP2). This chapter indicates which service pack—SP1, SP2, or SP3— introduced which functions. For an overview of the content of each service pack, see *Overview of Service Pack 3* on page 11.

Who Should Read This Document

This document is intended for the following audiences:

- Application developers or configurators
- System or instance administrators
- Database administrators
- SAP® Basis and NetWeaver™ administrators

Prerequisite and Related Documents

The following documents are prerequisite or related documents for understanding Service Pack 3 for Mercury Change Management Extension for SAP® Solutions:

- *Mercury Change Management Extension for SAP® Solutions™ Guide* for release 6.0.0
- *System Administration Guide and Reference* for release 6.0
- *System Requirements and Compatibility Matrix* for release 6.0

Overview of Service Pack 3

In addition to new functionality, Service Pack 3 (SP3) for release 6.0.0 of Mercury Change Management Extension for SAP® Solutions includes all the changes made in Service Pack 1 (SP1) and Service Pack 2 (SP2) for the Extension, outlined as follows:

- SP1 introduced support for SAP® Java Connector (JCo) version 2.1.6, which is a toolkit that enables Mercury IT Governance Center™ release 6.0 to communicate with your SAP® Solutions systems. Prior to SP1, Mercury IT Governance Center used only the SAP® command startrfc to communicate with SAP® systems. The JCo toolkit offers greater flexibility and performance enhancements compared to SAP® startrfc. This functionality is supported in SP1 by a new object type, a new special command, and new validations.
- SP2 introduced support for SAP® NetWeaver™ 6.40, which is a development environment for SAP® systems that supports both ABAP and J2EE objects. Using SP2, both ABAP and J2EE objects can be deployed in destination SAP® systems, categorized and displayed in new portlets in a new preconfigured Dashboard page, and listed in new reports. This functionality is also supported in SP2 by new object types, workflows, special commands, validations, and tokens, and a revised Environments Workbench for SAP® systems.

The following functionality is introduced for the first time in SP3:

- Support for creating, listing, and comparing Business Configuration Sets (BC Sets), which SAP® uses to archive customizing entries. The Extension includes a new drill-down portlet, new reports, and new RFCs to support this functionality.
- Support for tracking monthly trends in the number of SAP® changes, using a new portlet added to the preconfigured Dashboard page introduced in SP2.
- Support for patching of SAP® systems, using another new portlet added to the preconfigured Dashboard page introduced in SP2, new reports, a new object type, a new workflow and subworkflows, a new special command, new validations, and new RFCs.

For details about the features in SP3, including those introduced in SP1 and SP2, see Chapter 3, *Features of Service Pack 3,* on page 21, which indicates which features and supporting entities were first provided by SP1, SP2, or SP3.

Chapter

2

Upgrading the Extension to Service Pack 3

In This Chapter:

Overview of Upgrading to Service Pack 3

This chapter explains how to install Service Pack 3 of Mercury Change Management Extension for SAP® Solutions release 6.0.0. Service Pack 3 includes the functionality of Service Pack 1 and Service Pack 2.

With few exceptions as noted, the same procedure is used to upgrade to SP3 from any of the following:

- Mercury Change Management Extension for SAP® Solutions release 6.0.0 with no service pack
- Mercury Change Management Extension for SAP® Solutions release 6.0.0, Service Pack 1
- Mercury Change Management Extension for SAP® Solutions release 6.0.0, Service Pack 2

System Requirements

Before installing SP3, the following must be installed on your Mercury IT Governance Server:

- Mercury IT Governance Center release 6.0 Service Pack 7 or later
- Mercury Change Management Extension for SAP® Solutions version 6.0.0

For more information, see the documents listed in *Prerequisite and Related Documents* on page 11.

General Upgrade Impacts and Guidelines

For information about general impacts of an upgrade, see the *Mercury Change Management Extension for SAP® Solutions™ Guide* for release 6.0.0.

Upgrading to Service Pack 3

To upgrade to SP3:

1. Check that the system requirements for SP3 installation have been met. See *System Requirements* on page 14.

2. Prepare your Mercury IT Governance Server for the SP3 installation:

   a. Back up your Mercury IT Governance Server database.

   b. Gather the following information for use during the upgrade:

      - The Mercury IT Governance Center logon username and password
      - The Mercury IT Governance Center schema password

   c. Stop the Mercury IT Governance Server.

   d. Run the following script to set the Mercury IT Governance Server to restricted mode:

      `setServerMode.sh RESTRICTED`

   e. Start the Mercury IT Governance Server.

   f. SP3 installation verifies that the `commons-httpclient-2.0.2.jar` file is installed in the directory:

      `<ITG_Home>/lib/jboss/server`

      For Windows installations only, if any earlier version of this `.jar` file is found in this directory, the SP3 installation will fail. Check the directory and delete any earlier version of this file.

3. Download and install SP3:

   a. Go to the Mercury IT Governance Download Center, located at:

      `itg.merc-int.com/support/download/login.jsp`

   b. Log on using the username and password your company was given to access the Mercury IT Governance Download Center.

   c. In the ITG Download > Main window, click the **Installs** link.

   d. From the Installs page, download the `mitg-600-ESSSP3.jar` file to your Mercury IT Governance Server `<ITG_Home>` directory.

e. On your Mercury IT Governance Server, navigate to the `<ITG_Home>/bin` directory.

f. From the `<ITG_Home>/bin` directory, start the installation by running the command:

```
sh kDeploy.sh -i ESSSP3
```

g. Follow the on-screen prompts to complete the installation. Prompts can include the database password for the Mercury IT Governance Center schema and the Mercury IT Governance Center logon name and password.

Files are installed in various subdirectories under `<ITG_Home>`. Data is also placed in the Mercury IT Governance database. When the installation procedure is complete, the following message appears:

```
Deployment ESSSP3 has been successfully installed.
```

h. Use a Web browser to check the installation summary report, which is located at:

```
<ITG_Home>/logs/deploy/600/ESSSP3/<log_x>/installLog.html
```

where `<log_x>` is a random number generated by `kDeploy.sh` to make each log file name unique. The number increments by one each time the installation script is run.

The summary report lists all Mercury entities installed as part of the SP3 installation. Each entity that was installed correctly is marked as Complete. If there is an error for a particular entity, the report contains a direct link to another log file (HTML file) with additional information. If necessary, correct any errors and repeat the installation process. Otherwise, proceed to the next step.

i. Check the log files generated during installation. These log files are in the directory:

```
<ITG_Home>/logs/deploy/600/ESSSP3
```

For more information about these log files, see the *Mercury Change Management Extension for SAP® Solutions™ Guide*, version 6.0.0.

If you are upgrading from SP1, you can skip to step 6 on page 18 because the following steps before step 6 were performed when SP1 was installed.

If you are upgrading from SP2, you can skip to step 7 on page 18 because the following steps before step 7 were performed when SP2 was installed.

j. Add the following two lines to the `server.conf` file:

```
com.kintana.core.server.SAP_TR_LOG_INTERFACE=JCO

com.kintana.core.server.SAP_MIDDLEWARE_URL=http://<ITG_
Host>:<port>/ITGSAP_Extension/ITGSAPServlet
```

where *<ITG_Host>* is the name of the machine on which Mercury IT Governance Center is installed, and *<port>* is the port number.

4. Download and install the SAP® Java connector on your Mercury IT Governance Server.

   a. Get the SAP® Java connector installation file (version 2.1.6 or later), that is appropriate for your platform. The file is located at:

   ```
   service.sap.com/connectors
   ```

   To access this site, you must be a registered user.

   b. Install the SAP® Java connector. Follow the instructions appropriate for your platform, including setting the environment variable LD_LIBRARY_PATH.

   c. Copy the `sapjco.jar` file to the Mercury IT Governance Server directory:

   ```
   <ITG_Home>\server\<server_name>\deploy\ITGSAP_
   Extension.war\WEB-INF\lib
   ```

5. Confirm that the SP3 installation was successful and complete.

   a. On the Mercury IT Governance Server, make sure the `ITGSAP_Extension.war` file is in the following directory:

   ```
   <ITG_Home>\server\<server_name>\deploy\
   ```

   For example:

   ```
   \ITG\server\Merc\deploy\ITGSAP_Extension.war
   ```

   b. On the Mercury IT Governance Server, make sure the `itgsapextensionclient.jar` file is in the following directory:

   ```
   <ITG_Home>\server\<server_name>\deploy\itg.war\WEB-INF\
   lib
   ```

   For example:

   ```
   \ITG\server\Merc\deploy\itg.war\WEB-INF\lib\
   itgsapextensionclient.jar
   ```

6. Copy the following SAP® SDM API jar files from the SAP® NW04 Developer Studio to the Mercury IT Governance Server:

   - `SDMClient.jar`
   - `Net.jar`
   - `SDMutil.jar`

   a. On the SAP® NetWeaver™ Developer Studio system, go to the subfolder:

      `JDT\eclipse\plugins\com.sap.sdm.api\lib`

   b. Copy `SDMClient.jar` and `Net.jar` to the following directory on the Mercury IT Governance Server:

      `<ITG_Home>\server\<server_name>\deploy\itg.war\WEB-INF\lib`

   c. On the SAP® NetWeaver™ Developer Studio system, go to the subfolder:

      `JDT\eclipse\plugins\com.sap.ide.eclipse.jarsap\lib`

   d. Copy `SDMutil.jar` to the following directory on the Mercury IT Governance Server:

      `<ITG_Home>\server\<server_name>\deploy\itg.war\WEB-INF\lib`

   e. Confirm that the `SDMClient.jar`, `Net.jar`, and `SDMutil.jar` SDM API jar files were successfully installed in the Mercury IT Governance server directory:

      `<ITG_Home>\server\<server_name>\deploy\itg.war\WEB-INF\lib`

7. Import the SP3 RFCs on the Mercury IT Governance Server to all your SAP® systems. The RFCs are located in the directory:

   `<ITG_Home>/deploy/600/ESSSP3/phases/transports`

   For more information about importing RFCs, see the *Mercury Change Management Extension for SAP® Solutions™ Guide*, version 6.0.0.

   The RFCs included with SP3 are listed and described in the following table. They were all introduced in SP3.

RFC	Purpose
/KINTANA/RFC_STRF_ OPEN_PROT	Opens and reads a file.
/KINTANA/SCV1_BC_SET_ CREATE	Creates BC Sets.
/KINTANA/SCV1_BC_SET_ DISPLAY	Displays BC Sets.
/KINTANA/SCV1_BC_SET_ INSERT	Inserts changes into BC Sets.
/KINTANA/SCV1_BC_SET_ SAVE	Saves BC Set data.
/KINTANA/SCV1_BCSET_ DETAIL_GET	Gets the details for BC Sets.
/KINTANA/SCV1_ CREATE_VERSION	Creates BC Sets from transport requests.
/KINTANA/SCV1_DB_ COMP_CUST_GET	Gets current customizing data for all existing BC Sets.
/KINTANA/SCV1_ DISPLAY_XML	Displays the RFC output as XML in a popup.
/KINTANA/SCV1_ VERSION_XML_GET	Returns data of one or more BC Sets as an XML string.
/KINTANA/SPD1_CLIENT_ CHECK	Checks whether the SAP® Service Package Manager (SPAM) function has been executed on client 000.
/KINTANA/SPD1_OCS_ DATA_GET	Gets the patch details for each component.
/KINTANA/SPD1_DATA_ SPLIT	Splits complex OCS data of the /KINTANA/SPD1_ OCS_DATA_GET module into two flat files.
/KINTANA/SPD1_QUEUE_ CALCULATE	Gets all the predecessors for a dedicated patch in a sorted queue.
/KINTANA/SPD1_QUEUE_ CONFIRM	Confirms the patch queue.
/KINTANA/SPD1_QUEUE_ DEFINE	Defines the patch queue.
/KINTANA/SPD1_QUEUE_ EVALUATE	Evaluates the queue status and sets process status.

RFC	Purpose
/KINTANA/SPD1_QUEUE_EXECUTE	Applies the patches in a queue.
/KINTANA/SPD1_QUEUE_STATUS_GET	Gets the status of a queue.
/KINTANA/SPD1_SPAM_FIX_GET	Gets the current version of SPAM/SAINT for the SAP® system and updates the SPAM.
/KINTANA/SPD1_SPAM_UPDATE	Updates the SPAM.
/KINTANA/SPD1_VERSION_GET	Gets the current version of SPAM/SAINT for the SAP® system.

8. Import the SP3 Business Add-in (BAdi) on the Mercury IT Governance Server to only your SAP® DEV system. The name of the BAdi is CTS_REQUEST_CHECK, its method is IF_EX_CTS_REQUEST_CHECK~CHECK_BEFORE_RELEASE, and it is located in the directory:

   `<ITG_Home>/deploy/600/ESSSP3/phases/transports`

   Importing the BAdi is analogous to importing RFCs in step 7.

9. Use the SE37 screen on the SAP® systems to verify that the RFCs listed in step 7 were successfully installed on the SAP® systems and that the BAdi described in step 8 was successfully installed on your SAP® DEV system.

10. Stop the Mercury IT Governance Server.

11. Run the following script to set the Mercury IT Governance Server to run in normal mode:

    ```
    setServerMode.sh NORMAL
    ```

12. Start the Mercury IT Governance Server.

Chapter

3

Features of Service Pack 3

In This Chapter:

Overview of Features

This chapter explains the features associated with Service Pack 3 (SP3). SP3 includes the functionality of Service Pack 1 (SP1) and Service Pack 2 (SP2). This chapter indicates which service pack introduced which features. For an overview of the features in SP3, including those introduced in SP1 and SP2, see *Overview of Service Pack 3* on page 11.

Module and File Support

Table 3-1 lists the SAP® modules and the associated SAP® platform supported by SP3; this support was introduced in SP1.

Table 3-1. Supported SAP® modules and platforms

Supported SAP® Modules	SAP® Platform
R/3 4.6B/4.6C[1]	Basis 4.6B/4.6C[1]
APO 3.10[1]	Basis 4.6D[1]
R/3 4.7[1]	Web Application Server 6.20[1]
ECC 5.0.0	NetWeaver™ 6.40
BW 3.50	NetWeaver™ 6.40
CRM 4.0.0	NetWeaver™ 6.40
[1] SP3's functionality for BC Sets and patching is supported only on the SAP® NetWeaver™ 6.40 platform. Other SP3 functionality is supported on all platforms.	

Table 3-2 lists the SAP® J2EE archives and the associated SAP® platform supported by SP3; this support was introduced in SP2.

Table 3-2. Supported SAP® J2EE archives and platform

Supported SAP® J2EE Archives	SAP® Platform
Enterprise Archive files (`.ear`)	NetWeaver™ 6.40
Enterprise Portal files (`.epa`)	NetWeaver™ 6.40
Portal Archive files (`.par`)	NetWeaver™ 6.40
Software Component Archive files (`.sca`)	NetWeaver™ 6.40
Software Deployment Archive files (`.sda`)	NetWeaver™ 6.40

J2EE Deployments and Deployment Configurations

As part of the support that the Extension provides for both transport migrations and SAP® J2EE archive deployments, SP2 introduced various portlets, reports, object types, workflows, parameters for environments, special commands, validations, and tokens, as described in detail in subsequent sections of this chapter.

In standard Mercury Change Management and SAP® ABAP deployment configurations, changes are initially developed on development (DEV) systems. When complete, these changes are collected in Mercury Change Management packages and these packages are migrated to other systems such as QA (QAS) systems and production (PRD) systems. Each Mercury Change Management package specifies the source and destination servers (set in the workflow) and the identified changes (set in the object types).

On the other hand, SAP® J2EE archives must be created in the SAP® NetWeaver™ Developer Studio, which automatically creates configuration information that is required by SAP's Software Deployment Management (SDM). The SAP® Extension integrates with SDM. The SAP® J2EE archive must reside in a staging directory on the Mercury IT Governance Server, and not necessarily in an SAP® Server (such as DEV).

The following steps describe in more detail how to use Mercury Change Management to facilitate an SAP® J2EE deployment:

- For SAP® J2EE archives, create the change in SAP® NetWeaver™ Developer Studio. The SAP® J2EE archive file must be in one of the following formats:
  - Enterprise Archive files (`.ear`)
  - Software Component Archive files (`.sca`)
  - Software Deployment Archive files (`.sda`)
- After the SAP® J2EE archive is created, copy the file to a temporary or staging directory, such as `<ITG_Home>/SAP_Stage`, in the Mercury IT Governance Server.
- In the Environment Workbench, verify that the KINTANA_SERVER environment is enabled.

  (If the com.kintana.core.server.SERVER_ENV_NAME parameter in the `server.conf` file has been changed to specify an environment other than KINTANA_SERVER, then enable that environment instead.)

- In the workflow, specify the Mercury IT Governance Server as the source environment.
- Create your Mercury Change Management package for each deployment (DEV, QAS, or PRD).

Note

When deploying Enterprise Portal files (`.epa`) and Portal Archive files (`.par`), you must first convert the files to one of the following J2EE file formats (see SAP® Note 6906084):

- Enterprise Archive files (`.ear`)
- Software Component Archive files (`.sca`)
- Software Deployment Archive files (`.sda`)

Also, the temporary or staging directory on the Mercury IT Governance Server is not automatically cleaned up after a deployment. You should monitor the size of the temporary or staging directory and manually delete out-of-date files.

Preconfigured Dashboard Page and Portlets

You can use the **Dashboard > Personalize Dashboard** menu item in the Mercury IT Governance standard interface to add preconfigured pages and their portlets to your Dashboard. The added pages consist of a set of portlets related to a specific business role or function, and are generally preconfigured for common usage, but can be personalized by users for their specific business needs. Users can access only those pages for which they have been granted access by their Mercury IT Governance Center administrator.

The following sections describe the preconfigured Dashboard page and portlets that are included in SP3:

- The Basis Administrator preconfigured Dashboard page, which was introduced in SP2 along with eight of its portlets. Two more portlets were added in SP3 as indicated.
- The SAP - Business Configuration Sets drill-down portlet, introduced in SP3. It is not associated with any preconfigured Dashboard page.

Basis Administrator Dashboard Page and Its Portlets

The Basis Administrator page, with its ten portlets, is a preconfigured Dashboard page for the SAP® Extension. *Figure 3-1* shows an example of this page and its portlets.

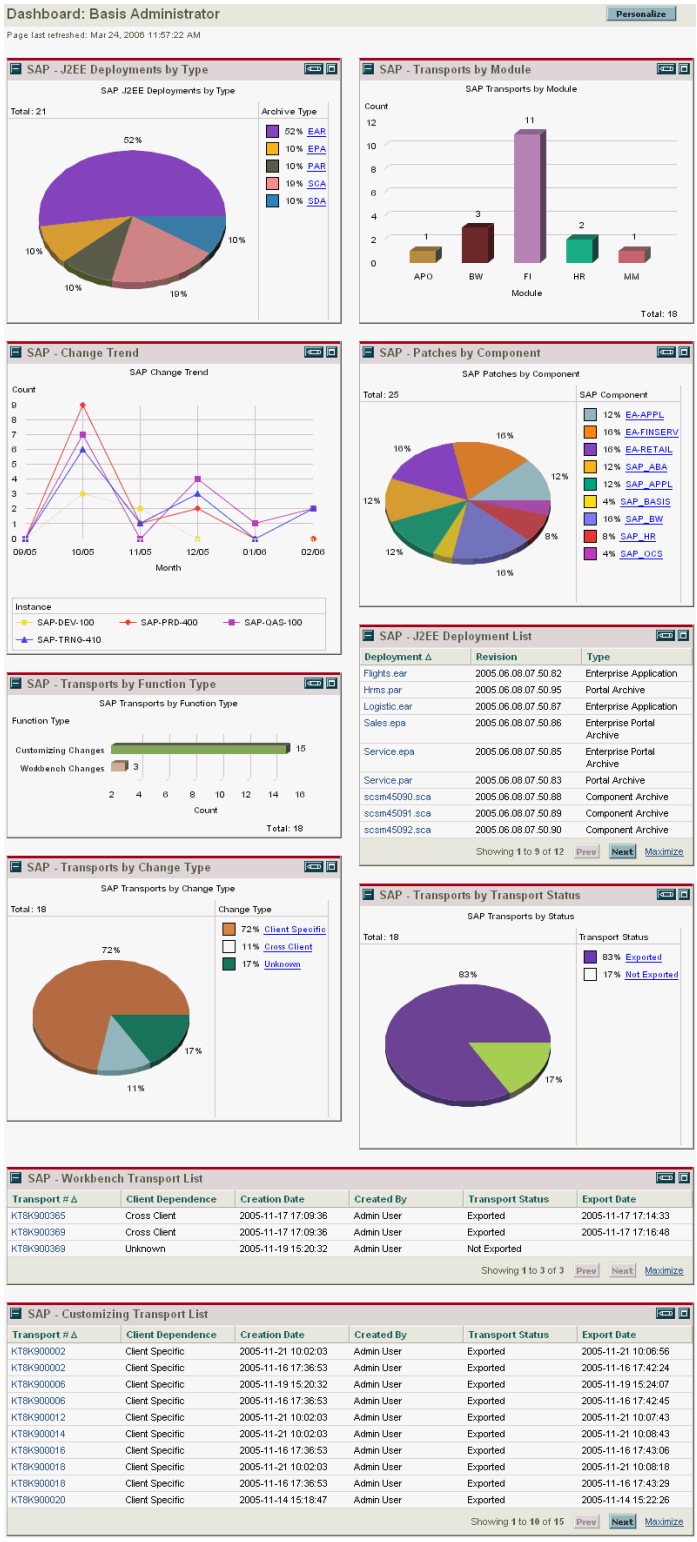


Figure 3-1. Basis Administrator preconfigured Dashboard page

The portlets of the Basis Administrator page are described in the following sections.

SAP - J2EE Deployments by Type Portlet

The SAP - J2EE Deployments by Type portlet, introduced in SP2, includes information about the type of J2EE deployment. The type of J2EE deployment is determined by the type of file being deployed by the package line, for example, an Enterprise Application file (`.ear`) or a Software Deployment Archive file (`.sda`).

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-3*.

Table 3-3. SAP - J2EE Deployments by Type portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for deploying SAP® J2EE archives.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of the package line creation.
Package Number	Filters for the package number of the package line.
Release	Filters for the release that includes the package line.

SAP - Change Trend Portlet

The SAP - Change Trend portlet, introduced in SP3, is a line graph portlet that shows how many SAP® changes were applied month by month for the specified period. Each line represents one environment, and you would typically specify the DEV, QAS, and PRD environments for display.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-4*.

Table 3-4. SAP - Change Trend portlet filter fields

Field Name	Description
Object Type	Filters for the object types that have been used for migrating changes. The default is SAP - Transport Migration using JCo and SAP - Deploy J2EE Archives.
Environments	Filters for the environments to be graphed.
From Period	Filters for the starting month of the changes.
To Period	Filters for the ending month of the changes.

SAP - Transports by Function Type Portlet

The SAP - Transports by Function Type portlet, introduced in SP2, is a pie chart portlet that displays information about the breakdown of the transports based on the function type for the selected object type. When a line is added to a package, the object type and the associated function type are selected. If the function type is not selected, it is derived before the export of the transport.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-5*.

Table 3-5. SAP - Transports by Function Type portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for migrating transports.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.
Package Number	Filters for the package number of the package line.
Release	Filters for the release that includes the package line.

SAP - Transports by Change Type Portlet

The SAP - Transports by Change Type portlet, introduced in SP2, is a pie chart portlet that displays information about the breakdown of the transports based on the type of change done by the transport at the destination SAP® system. Cross Client changes affect all the clients on the SAP® system, whereas Client Specific changes affect only the specific client to which the transport is migrated.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-6*.

Table 3-6. SAP - Transports by Change Type portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for migrating transports.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.
Package Number	Filters for the package number of the package line.
Release	Filters for the release that includes the package line.

SAP - Transports by Module Portlet

The SAP - Transports by Module portlet, introduced in SP2, is a vertical bar chart portlet that displays information about the breakdown of the transports based on the SAP® module of the selected object type. When a line is added to a package, the object type is selected as well as the associated SAP® module.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-7*.

Table 3-7. SAP - Transports by Module portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for migrating transports.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.

Table 3-7. SAP - Transports by Module portlet filter fields [continued]

Field Name	Description
Package Number	Filters for the package number of the package line.
Release	Filters for the release that includes the package line.

SAP - Patches by Component Portlet

The SAP - Patches by Component portlet, introduced in SP3, is a pie chart portlet that shows the total number of patches and what percentage of them has been applied to each component.

For example, SAP_OCS patches are for the SAP® Support Package Manager (SPAM) software component, which manages the installation of patches on an SAP® system.

Clicking links on the pie chart or the component names in the legend displays details about the individual patches that have been applied for that component, including when it was applied and by whom.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-8*.

Table 3-8. SAP - Patches by Component portlet filter fields

Field Name	Description
Environment	Filters for the SAP® system for which patch data is to be displayed.
Package Number	Filters for the package number used to apply the patches.
From Date	Filters for the earliest date a patch was imported (applied).
To Date	Filters for the latest date a patch was imported.

SAP - J2EE Deployment List Portlet

The SAP - J2EE Deployment List portlet, introduced in SP2, lists J2EE deployments based on the selected object type.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-9*.

Table 3-9. SAP - J2EE Deployment List portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for deploying SAP® J2EE archives.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.
Package Number	Filters for the package number of the package line.
Release	Filters for the release that includes the package line.

SAP - Transports by Transport Status Portlet

The SAP - Transports by Transport Status portlet, introduced in SP2, is a pie chart portlet that displays information about the breakdown of the transports based on the export status of the transport. A transport should be exported only after all the development for it is complete.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-10*.

Table 3-10. SAP - Transports by Transport Status portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for migrating transports.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.
Package Number	Filters for the package number of the package line.
Release	Filters for the release that includes the package line.

SAP - Workbench Transport List Portlet

The SAP - Workbench Transport List portlet, introduced in SP2, lists the transport numbers of the selected object type with a transport type of Workbench Changes. You can use the From Date and To Date fields to further restrict the list of transport numbers.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-11*.

Table 3-11. SAP - Workbench Transport List portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for migrating transports.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.

SAP - Customizing Transport List Portlet

The SAP - Customizing Transport List portlet, introduced in SP2, lists the transport numbers of the selected object type with a transport type of Customizing Changes. You can use the From Date and To Date filter fields to further restrict the list of transport numbers.

When you click the **Edit** icon on this portlet, a page appears with, among other portlet filter fields, the fields shown in *Table 3-12*.

Table 3-12. SAP - Customizing Transport List portlet filter fields

Field Name	Description
Object Type	Filters for the object type used for migrating transports.
Line Status	Filters for the status of the package line.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.

SAP - Business Configuration Sets Portlet

Business Configuration Sets (BC Sets) reside only in SAP® DEV environments. Each BC Set corresponds to and represents a particular set of client-dependent (customizing) changes that were made to those environments when a Customizing Changes transport request was released, as described in more detail in this section.

The generation of BC Sets is optional in a standard SAP® environment, and different developers might or might not use the option at different times. However, when the Business Add-in (BAdi) that Mercury provides with SP3 is installed in an SAP® DEV environment, a BC Set is *always* generated *automatically* whenever a Customizing Changes transport request is released in that environment. This feature ensures that all released customizing transports are archived in the SAP® system. Thus, changes can be tracked and recovered from BC Sets if necessary.

The name of any BC Set that is created using the BAdi provided with SP3 starts with the letter Y, followed by the associated transport request number.

In SAP®, different areas of functionality (for example, Plant Maintenance and Sales Prospects) are represented by tables and views. A collection of changes to the same table or different tables can accumulate in a single transport request (TR) before the TR is released. If the BAdi is installed, as soon as the TR is released, an associated BC Set is created. So one BC Set can represent a TR that changes multiple tables. In addition, one table can be changed by multiple TRs, each of which is represented by an associated BC Set.

A BC Set represents one or more customizing changes that were released simultaneously in a TR. A BC Set is *not* a cumulative list of previous changes.

To keep track of changes in BC Sets and to keep track of which tables are affected by TRs represented by various BC Sets, SP3 introduces the SAP - Business Configuration Sets portlet with drill-down capability. The Extension with SP3 retrieves the portlet's data from the SAP® DEV environment that you specify as a portlet filter field, along with other filter criteria, as described in *Editing the Portlet Filter Fields* on page 39. This portlet is not associated with any preconfigured Dashboard page.

The Extension with SP3 tracks only the BC Sets that are created using the BAdi that is provided with SP3 and installed on the SAP® DEV environment. It does not track any BC Sets that are otherwise created in the SAP® DEV environment.

To use this portlet, you must import its portlet definition, as follows:

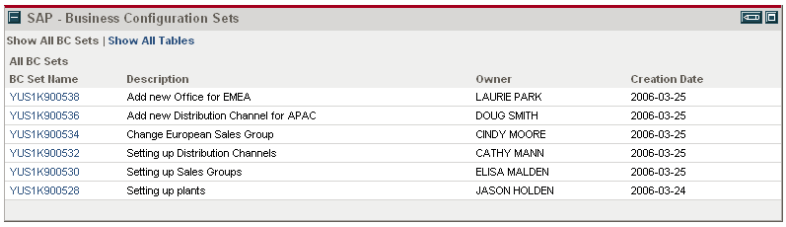
1. Log on to IT Governance Center.
2. From the menu bar, select **Administration > Portlet Definitions > Import a Portlet Definition.**

   The Import Portlet Definition wizard appears.
3. Follow the on-screen instructions of the wizard. In step 1, select a portlet type of **Java Portlet.** In step 2, select the **SAP - Business Configuration Sets** portlet.

   The Import Portlet Definition page appears, with a message that the portlet has been successfully imported.

Viewing All BC Sets or Selected BC Sets

The SAP - Business Configuration Sets portlet initially displays the default Show All BC Sets page, which lists all the BC Sets that meet your filter criteria, with their names, descriptions, owners, and creation dates. *Figure 3-2* shows an example of the SAP - Business Configuration Sets portlet's default Show All BC Sets page.


SAP - Business Configuration Sets

Show All BC Sets | Show All Tables

All BC Sets

BC Set Name	Description	Owner	Creation Date
YUS1K900538	Add new Office for EMEA	LAURIE PARK	2006-03-25
YUS1K900536	Add new Distribution Channel for APAC	DOUG SMITH	2006-03-25
YUS1K900534	Change European Sales Group	CINDY MOORE	2006-03-25
YUS1K900532	Setting up Distribution Channels	CATHY MANN	2006-03-25
YUS1K900530	Setting up Sales Groups	ELISA MALDEN	2006-03-25
YUS1K900528	Setting up plants	JASON HOLDEN	2006-03-24

Figure 3-2. SAP - Business Configuration Sets portlet, Show All BC Sets page

The BC Sets are sorted in reverse chronological order by their creation dates (see the **Creation Date** column).

To control which BC Sets are displayed, change the filter criteria by clicking the **Edit** icon (see *Editing the Portlet Filter Fields* on page 39).

Note

When a TR is created, it is given a sequential number. After the TR is developed and released, a corresponding BC Set is created; its name is "Y" followed by the associated TR number. Multiple TRs can be developed simultaneously, but they are not necessarily released in the same order as they were created. Therefore, while the list is sorted in reverse chronological order by the BC Set creation dates, the BC Set names are not necessarily in any particular order.

From the default Show All BC Sets page, you can navigate to various other pages in this portlet that present the BC Set data and table data in other useful ways, as described in the following subsections.

Viewing All Tables Affected by the TR Represented by a BC Set

You can click the name of any particular BC Set listed in *Figure 3-2* to see (drill down to) a list of all the tables that were affected by the TR represented by that BC Set. For example, *Figure 3-3* shows the table affected by the TR US1K900530, represented by BC Set YUS1K900530. In this simple example, only one table, V_TVKGR, was affected by the TR represented by the BC Set; in other cases, more than one table can be affected.

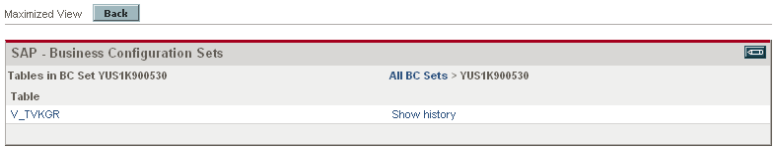


Figure 3-3. Drill-down page showing a table affected by the TR for a BC Set

The examples in the following subsections also use this BC Set and table.

Breadcrumbs appear below the portlet title bar. Clicking the **All BC Sets** link displays the Show All BC Sets page (*Figure 3-2*).

In any drill-down page, clicking the **Back** button displays the portlet's Show All BC Sets page (*Figure 3-2*).

Viewing All Changes to a Table Made in the TR Represented by a BC Set (Drill-Down from BC Set to Table)

You can click the name of any particular table listed in *Figure 3-3* to see a list of all the changes made to that table by the TR represented by the previously selected BC Set. For example, *Figure 3-4* shows the changes indicated in BC Set YUS1K900530 for table V_TVKGR.

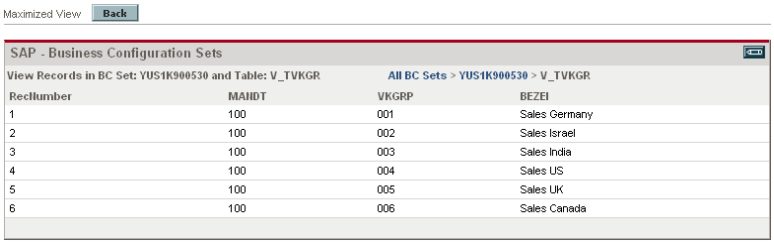


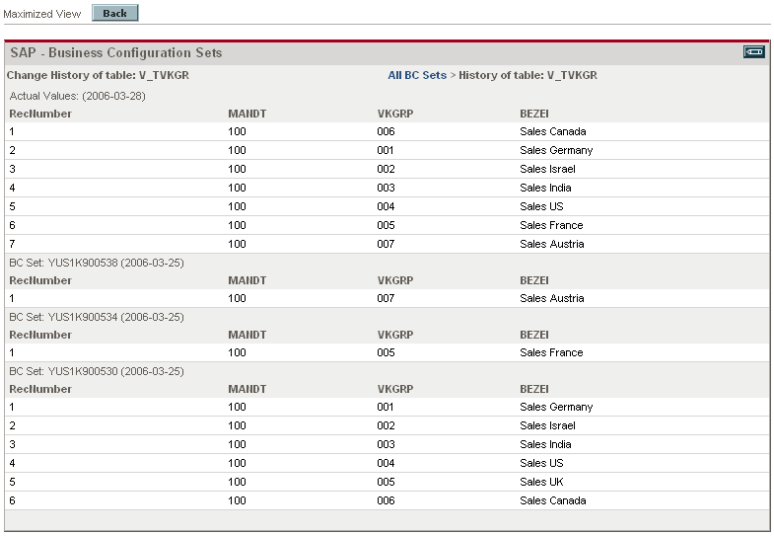
Figure 3-4. Drill-down page showing changes to a table made in the TR for a BC Set

Breadcrumbs appear below the portlet title bar. Clicking the **All BC Sets** link displays the Show All BC Sets page (*Figure 3-2*). The BC Set number, YUS1K900530 in this example, is a link to the previous page (*Figure 3-3*).

In any drill-down page, clicking the **Back** button displays the portlet's Show All BC Sets page (*Figure 3-2*).

Viewing the Change History of a Table

See *Figure 3-3*. To the right of each table name is a **Show history** link that you can use to display a page that shows the change history of that table, with regard to each BC Set that both met your filter criteria and represents a TR that affected the table. For example, *Figure 3-5* shows the change history of table V_TVKGR.



Maximized View | Back

SAP - Business Configuration Sets

Change History of table: V_TVKGR — All BC Sets > History of table: V_TVKGR

Actual Values: (2006-03-28)

ReclNumber	MANDT	VKGRP	BEZEI
1	100	006	Sales Canada
2	100	001	Sales Germany
3	100	002	Sales Israel
4	100	003	Sales India
5	100	004	Sales US
6	100	005	Sales France
7	100	007	Sales Austria

BC Set: YUS1K900538 (2006-03-25)

ReclNumber	MANDT	VKGRP	BEZEI
1	100	007	Sales Austria

BC Set: YUS1K900534 (2006-03-25)

ReclNumber	MANDT	VKGRP	BEZEI
1	100	005	Sales France

BC Set: YUS1K900530 (2006-03-25)

ReclNumber	MANDT	VKGRP	BEZEI
1	100	001	Sales Germany
2	100	002	Sales Israel
3	100	003	Sales India
4	100	004	Sales US
5	100	005	Sales UK
6	100	006	Sales Canada

Figure 3-5. Drill-down page showing a table's change history

The first section in the page is labeled **Actual Values: (*date*)** and it displays the entire current table. Subsequent sections show the change history in reverse chronological order for each BC Set that both met your filter criteria and represents a TR that affected this table. In this example, there are three such BC Sets—YUS1K900538 (the most recent), YUS1K900534, and YUS1K900530 (the oldest). The actual values in the current table reflect the chronological changes, as follows:

- First, YUS1K900530 represents a TR that added six records with **VKGRP** values from 001 to 006.
- Next, YUS1K900534 represents a TR that changed the value of **BEZEI** from Sales UK to Sales France for **VKGRP** 005.
- Most recently, YUS1K900538 represents a TR that added **VKGRP** 007.

Breadcrumbs appear below the portlet title bar. Clicking the **All BC Sets** link displays the Show All BC Sets page (*Figure 3-2* on page 33).

In any drill-down page, clicking the **Back** button displays the portlet's Show All BC Sets page (*Figure 3-2* on page 33).

Viewing All Tables Affected by the TRs Represented by Any BC Sets

If you click the **Show All Tables** link at the top of the default Show All BC Sets page for the SAP - Business Configuration Sets portlet (see *Figure 3-2* on page 33), the Show All Tables page appears. It lists all the tables that were affected by the TRs represented by any BC Sets. *Figure 3-6* shows an example.

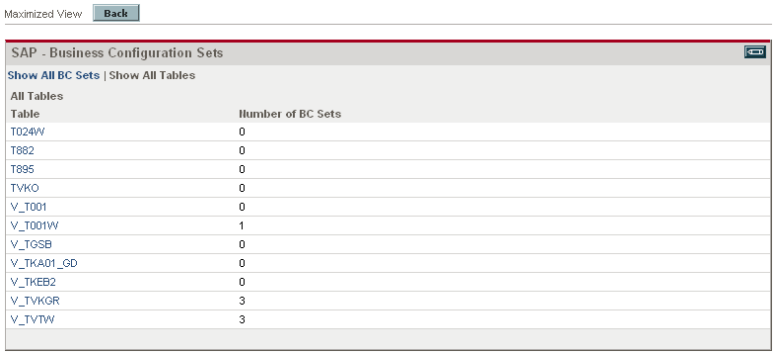


Figure 3-6. SAP - Business Configuration Sets portlet, Show All Tables page

For each table, the list also shows the number of BC Sets that both met your filter criteria and represent a TR that affected that table. If you did not specify any BC Set filter criteria, each table in the list was affected by at least one TR represented by its BC Set, so the value of the **Number of BC Sets** for each table is at least 1. If you specified BC Set filter criteria (see *Editing the Portlet Filter Fields* on page 39), such as a date range (as was used in this example), those criteria can limit the value of the **Number of BC Sets** for a table, and it can be 0.

Clicking the **Back** button displays the portlet's Show All BC Sets page (*Figure 3-2* on page 33).

Viewing the BC Sets Representing TRs that Affected a Table

From the Show All Tables page (*Figure 3-6*), you can click the name of any table to see (drill down to) a list of all the BC Sets that both met your filter criteria and represent a TR that affected that table. For example, *Figure 3-7* shows the three BC Sets for table V_TVKGR.

Figure 3-7. Drill-down page showing the BC Sets for TRs affecting a table

This page can be useful when you want to know how the development work of various people over a period of time has affected a particular table. Make sure that you select appropriate filter criteria for the BC Sets to be considered (see *Editing the Portlet Filter Fields* on page 39).

Breadcrumbs appear below the portlet title bar. Clicking the **All tables** link displays the Show All Tables page (*Figure 3-6*).

In any drill-down page, clicking the **Back** button displays the portlet's Show All BC Sets page (*Figure 3-2* on page 33).

Viewing All Changes to a Table Made in the TR Represented by a BC Set (Drill-Down from Table to BC Set)

You can click the name of any particular BC Set listed in *Figure 3-7* to see all the changes made to the previously selected table by the TR represented by that BC Set. For example, *Figure 3-8* shows the changes indicated in BC Set YUS1K900530 for table V_TVKGR.

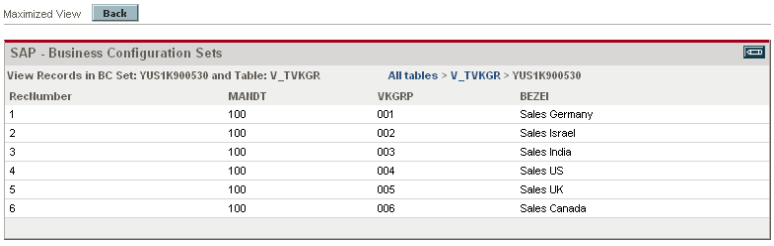


Figure 3-8. Drill-down page showing changes to a table made in the TR for a BC Set

Breadcrumbs appear below the portlet title bar. Clicking the **All tables** link displays the Show All Tables page (*Figure 3-6*).

Note

As indicated in the breadcrumbs, *Figure 3-8* is accessed by displaying all tables, then a particular table, then a particular BC Set whose TR affected that table. By contrast, *Figure 3-4* on page 34 is accessed by displaying all BC Sets, then a particular BC Set, then a particular table that is affected by the TR for that BC Set.

For the same combination of BC Set and table, as in the examples of *Figure 3-4* on page 34 and *Figure 3-8*, the data is the same. Only the sets of links that were used to access the data (as reflected by the breadcrumbs) are different.

In any drill-down page, clicking the **Back** button displays the portlet's Show All BC Sets page (*Figure 3-2* on page 33).

Comparing a BC Set to a Current Table

See *Figure 3-7* on page 37. To the right of each BC Set name is a **Compare With Actual** link that you can use to display a page that lists the latest actual values of the entire table (V_TVKGR in this example), and that also lists the entries in that BC Set, which represents a TR that affected that table. For example, clicking the **Compare With Actual** link for BC Set YUS1K900530 displays the data in *Figure 3-9*.

Maximized View | Back

SAP - Business Configuration Sets

Compare Actual Values With YUS1K900530 for table: V_TVKGR — All tables > V_TVKGR > Diff for BC Set: YUS1K900530

Actual Values

Reclnumber	MANDT	VKGRP	BEZEI
1	100	006	Sales Canada
2	100	001	Sales Germany
3	100	002	Sales Israel
4	100	003	Sales India
5	100	004	Sales US
6	100	005	Sales France
7	100	007	Sales Austria

BC Set: YUS1K900530

Reclnumber	MANDT	VKGRP	BEZEI
1	100	001	Sales Germany
2	100	002	Sales Israel
3	100	003	Sales India
4	100	004	Sales US
5	100	005	Sales UK
6	100	006	Sales Canada

Figure 3-9. Drill-down page comparing a BC Set to a current table

Notice that the actual values for the table and the data for this BC Set are the same as shown in *Figure 3-5* on page 35 for the more comprehensive change history of this table.

As you compare any BC Set to the current table, remember that any one BC Set represents one or more customizing changes that were released simultaneously in a TR. A BC Set is *not* a cumulative list of previous changes.

Breadcrumbs appear below the portlet title bar. Clicking the **All tables** link displays the Show All Tables page (*Figure 3-6* on page 36). The table name, V_TVKGR in this example, is a link to the previous page (*Figure 3-7* on page 37).

In any drill-down page, clicking the **Back** button displays the portlet's All BC Sets page (*Figure 3-2* on page 33).

Editing the Portlet Filter Fields

When you click the **Edit** icon on any of the pages of the SAP - Business Configuration Sets portlet discussed in previous sections, a page appears with, among other portlet filter fields, the fields shown in *Table 3-13*. Collectively, these fields are filter criteria that control which BC Sets are displayed.

Table 3-13. SAP - Business Configuration Sets portlet filter fields

Field Name	Description
SAP Environment	Filters for the SAP® environment on which BC Sets were generated.
From date	Filters for the earliest date of BC Sets generation.
To date	Filters for the latest date of BC Sets generation.
From BC Set	Filters for BC Sets starting with the specified one, for example `YUS1K900100`.
To BC Set	Filters for BC Sets ending with the specified one, for example `YUS1K900250`.
BC Set Name like	Using the asterisk (*) as a wildcard symbol, filters for BC Sets with names you specify, such as `YUS1K*`.

If you have generated many BC Sets over a period of time, you can back them up as flat files and delete them from the SAP® system. BC Sets deleted from the SAP® system are not displayed in the SAP - Business Configuration Sets portlet.

Reports

This section describes the reports that are included in SP3. They were introduced in SP2 or SP3, as indicated.

To access SAP® reports:

1. In the menu bar in the standard interface, select **Reports > Submit New Report.**
2. In the Report Category field, select Extension.

   All available Extension reports are listed.
3. Click the name of the Extension report to be run.

   A Submit Report window is displayed.
4. Complete the appropriate fields in the Submit Report window and click **Submit.**

SAP® reports are provided as non-editable reference copies. The reports must be copied and enabled to make them available to users.

SAP - Transports Matrix Report

The SAP - Transports Matrix report, introduced in SP2, provides a list of the environments to which a transport object type has been imported or exported.

Figure 3-10 shows the Submit Report window you use to specify which transport object type and which environments you want to see in the SAP - Transports Matrix report. *Table 3-14* describes the fields.

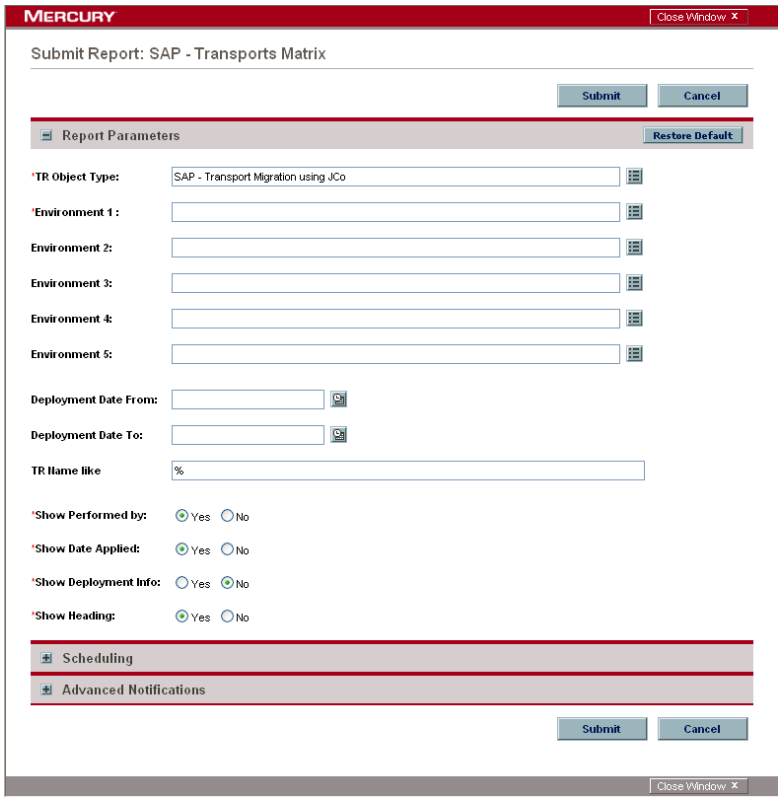


Figure 3-10. SAP - Transports Matrix report

Table 3-14. SAP - Transports Matrix report field descriptions

Field Name	Description
TR Object Type	Object type to include in the report. The default is SAP - Transport Migration using JCo.
Environment *n*	Environment to include in the report. You can include up to five environments in the report.
Deployment Date From	Earliest date of the deployments to be listed in the report.
Deployment Date To	Latest date of the deployments to be listed in the report.

Table 3-14. SAP - Transports Matrix report field descriptions [continued]

Field Name	Description
TR Name like	Transport request names to be listed in the report. The percent sign (%) is used as a wildcard symbol. For example: • Using `US1K%` lists all transport numbers starting with US1K. • Using `%US1K` lists all transport numbers ending with US1K. • Using `%US1K%` lists all transport numbers that have the sequence US1K as part of the transport number.
Show Performed by	Whether or not to display the name of the user who executed the package.
Show Date Applied	Whether or not to display the date the transport was applied to the system.
Show Deployment Info	Whether or not to display package or release information.
Show Heading	Whether or not to display row titles for the above three fields and for a field that indicates whether the transport has been applied to the destination environment.

SAP - J2EE Deployments Matrix Report

The SAP - J2EE Deployments Matrix report, introduced in SP2, provides a list of the SAP® J2EE environments to which archives have been deployed.

Figure 3-11 shows the Submit Report window you use to specify which archives you want to see in the SAP - J2EE Deployments Matrix report. *Table 3-15* describes the fields.

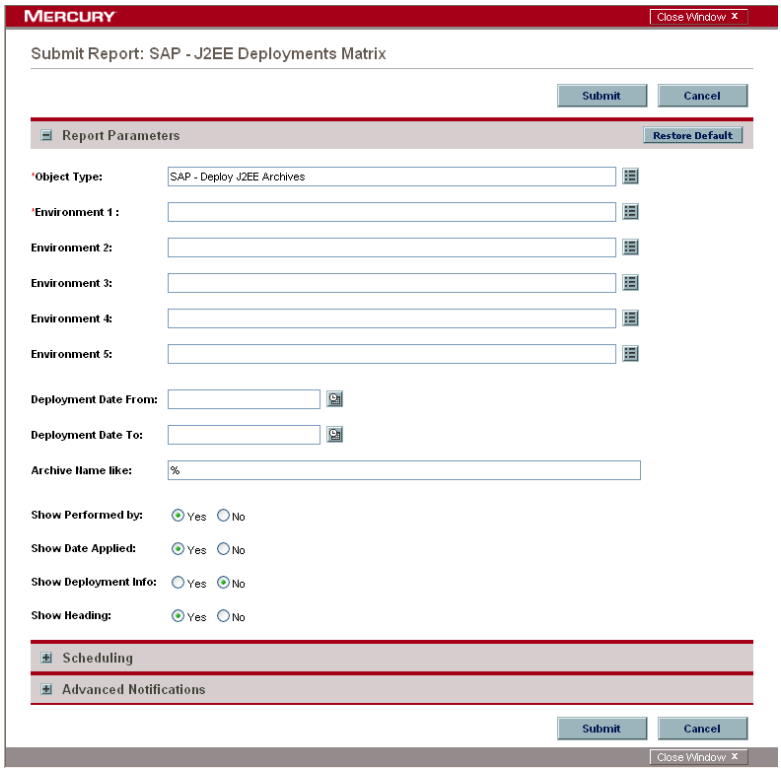


Figure 3-11. SAP - J2EE Deployments Matrix report

Table 3-15. SAP - J2EE Deployments Matrix report field descriptions

Field Name	Description
Object Type	Object type to include in the report. The default is SAP - Deploy J2EE Archives.
Environment *n*	Environment to include in the report. You can include up to five environments in the report.
Deployment Date From	Earliest date of the deployments to be listed in the report.
Deployment Date To	Latest date of the deployments to be listed in the report.

Table 3-15. SAP - J2EE Deployments Matrix report field descriptions

Field Name	Description
Archive Name like	Deployments to be listed in the report. The percent sign (%) is used as a wildcard symbol. For example: • Using `ABC%` lists all deployments starting with ABC. • Using `%ABC` lists all deployments ending with ABC. • Using `%ABC%` lists all deployments that have the sequence ABC as part of the archive number.
Show Performed by	Whether or not to display the name of the user who executed the package.
Show Date Applied	Whether or not to display the date the transport was applied to the system.
Show Deployment Info	Whether or not to display package or release information.
Show Heading	Whether or not to display row titles for the above three fields and for a field that indicates whether the archive has been deployed to the destination environment.

SAP - Released Transport List from DEV SAP System with Audit Data Report

The SAP - Released Transport List from DEV SAP System with Audit Data report, introduced in SP3, provides a list of transports of the SAP® DEV environment you specify.

Figure 3-12 shows the Submit Report window you use to specify which transports you want to see in the SAP - Released Transport List from DEV SAP System with Audit Data report. *Table 3-16* describes the fields.

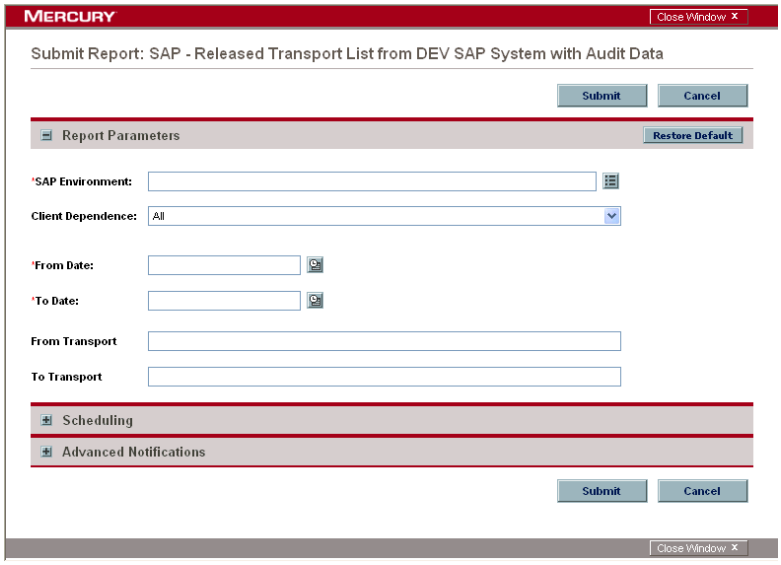


Figure 3-12. SAP - Released Transport List from DEV SAP System with Audit Data report

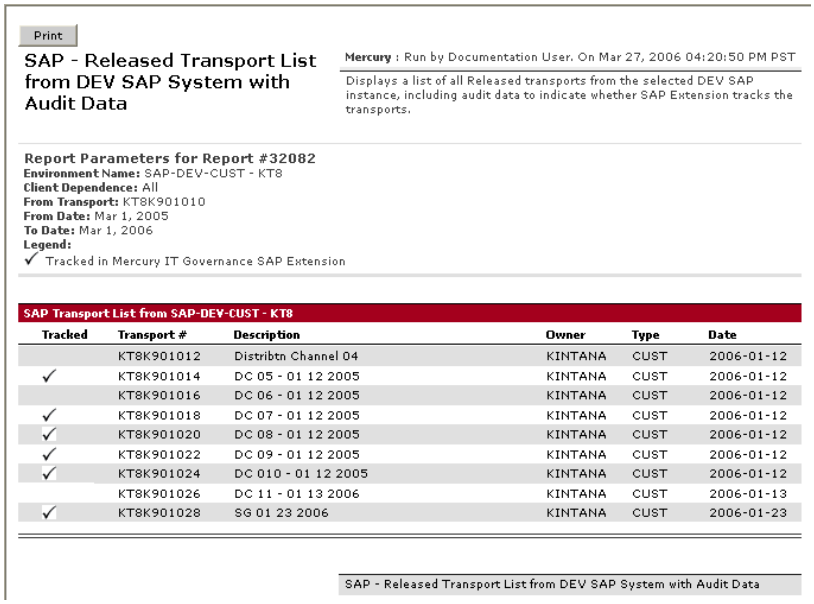
Table 3-16. SAP - Released Transport List from DEV SAP System with Audit Data report field descriptions

Field Name	Description
SAP Environment	Environment for which to generate the report.
Client Dependence	Clients of the migration to include in the report: Client Specific for client-dependent changes, Client Independent for client-independent changes, or All.
From Date	Earliest date of the transports to include in the report.
To Date	Latest date of the transports to include in the report.

Table 3-16. SAP - Released Transport List from DEV SAP System with Audit Data report field descriptions [continued]

Field Name	Description
From Transport	Starting transport number of the transports to include in the report.
To Transport	Ending transport number of the transports to include in the report.

Figure 3-13 shows an example of the report's output. The checkboxes in the **Tracked** column indicate which transports are tracked by the SAP® Change Management Extension. This report helps in auditing transport requests that were processed using the SAP® Extension and those that were not processed by the Extension.



Print

SAP - Released Transport List from DEV SAP System with Audit Data

Mercury : Run by Documentation User. On Mar 27, 2006 04:20:50 PM PST

Displays a list of all Released transports from the selected DEV SAP instance, including audit data to indicate whether SAP Extension tracks the transports.

Report Parameters for Report #32082
Environment Name: SAP-DEV-CUST - KT8
Client Dependence: All
From Transport: KT8K901010
From Date: Mar 1, 2005
To Date: Mar 1, 2006
Legend:
✓ Tracked in Mercury IT Governance SAP Extension

SAP Transport List from SAP-DEV-CUST - KT8

Tracked	Transport #	Description	Owner	Type	Date
	KT8K901012	Distribtn Channel 04	KINTANA	CUST	2006-01-12
✓	KT8K901014	DC 05 - 01 12 2005	KINTANA	CUST	2006-01-12
	KT8K901016	DC 06 - 01 12 2005	KINTANA	CUST	2006-01-12
✓	KT8K901018	DC 07 - 01 12 2005	KINTANA	CUST	2006-01-12
✓	KT8K901020	DC 08 - 01 12 2005	KINTANA	CUST	2006-01-12
✓	KT8K901022	DC 09 - 01 12 2005	KINTANA	CUST	2006-01-12
✓	KT8K901024	DC 010 - 01 12 2005	KINTANA	CUST	2006-01-12
	KT8K901026	DC 11 - 01 13 2006	KINTANA	CUST	2006-01-13
✓	KT8K901028	SG 01 23 2006	KINTANA	CUST	2006-01-23

SAP - Released Transport List from DEV SAP System with Audit Data

Figure 3-13. Output of SAP - Released Transport List from DEV SAP System with Audit Data report

SAP - Business Configuration Sets Report

The SAP - Business Configuration Sets report, introduced in SP3, provides a list of BC Sets that have the specified date range and the specified BC Set name and table name with wildcards.

Figure 3-14 shows the Submit Report window you use to specify which BC Sets you want to see in the SAP - Business Configuration Sets report. *Table 3-17* describes the fields.

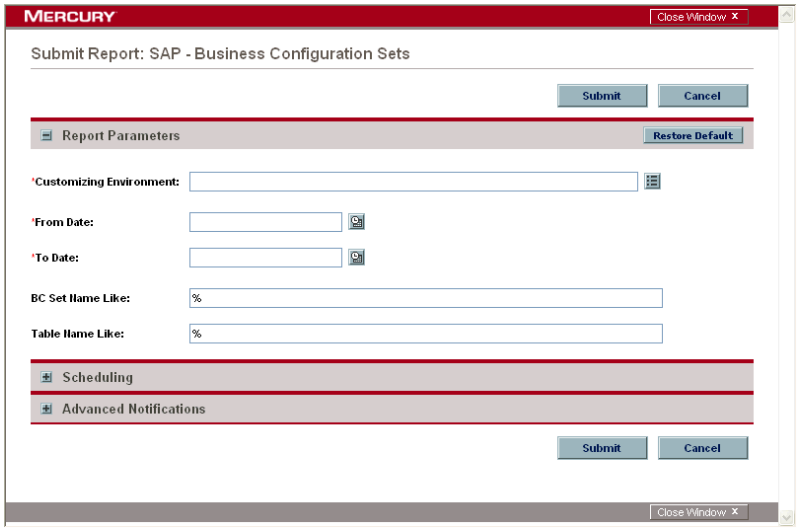


Figure 3-14. SAP - Business Configuration Sets report

Table 3-17. SAP - Business Configuration Sets report field descriptions

Field Name	Description
Customizing Environment	Customizing environment to include in the report.
From Date	Earliest date of the transports to include in the report.
To Date	Latest date of the transports to include in the report.
BC Set Name Like	Using the percent sign (%) as a wildcard symbol, filters for BC Sets with names you specify, such as `YUS1K%`.
Table Name Like	Using the percent sign (%) as a wildcard symbol, filters for tables with names you specify, such as `ABC%` or `%ABC`.

SAP - Patch Matrix Report

The SAP - Patch Matrix report, introduced in SP3, provides information about patches that have been applied to the environments you specify.

Figure 3-15 shows the Submit Report window you use to specify which data you want to see in the SAP - Patch Matrix report. *Table 3-18* describes the fields.

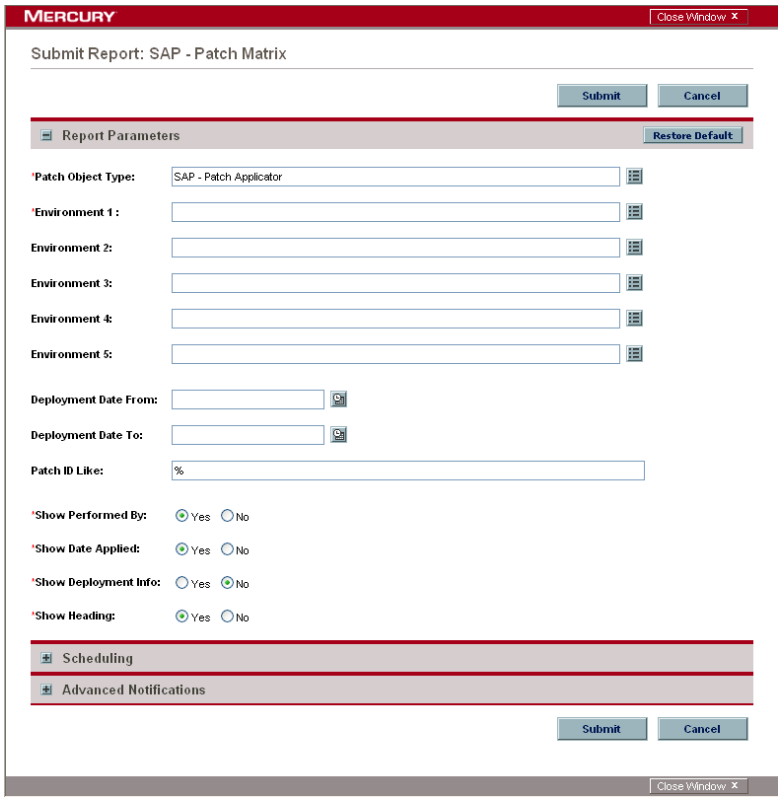


Figure 3-15. SAP - Patch Matrix report

Table 3-18. SAP - Patch Matrix report field descriptions

Field Name	Description
Patch Object Type	Object type for which to obtain patch information. The default is SAP - Patch Applicator.
Environment 1	Environment to be reported on.
Environment 2 *through* Environment 5	Other environments to report on.

Table 3-18. SAP - Patch Matrix report field descriptions [continued]

Field Name	Description
Deployment Date From	Earliest date of the patch deployments to be listed in the report.
Deployment Date To	Latest date of the patch deployments to be listed in the report.
Patch ID Like	Patch IDs to be listed in the report. The percent sign (%) is used as a wildcard symbol, as in `SAPKFH%`.
Show Performed By	Whether or not to display the name of the user who executed the package.
Show Date Applied	Whether or not to display the date the patch was applied to the system.
Show Deployment Info	Whether or not to display package or release information.
Show Heading	Whether or not to display row titles for the above three fields and for a field that indicates whether the patch has been imported to the destination environment.

SAP - Component Information Report

The SAP - Component Information report, introduced in SP3, provides information about the specified environment's components, their releases, and their patch levels.

Figure 3-16 shows the Submit Report window you use to specify the environment for which you want to see information in the SAP - Component Information report. *Table 3-19* describes the field.

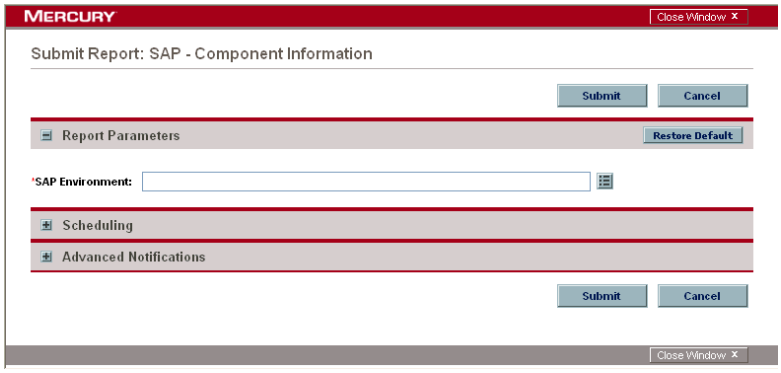


Figure 3-16. SAP - Component Information report

Table 3-19. SAP - Component Information report field description

Field Name	Description
SAP Environment	The environment for which you want to obtain component information.

For the specified environment, the report lists each installed component, its release, and its patch level.

Object Types

This section describes the object types that are included in SP3. They were introduced in SP1, SP2, or SP3, as indicated.

SAP - Transport Migration using JCo Object Type

The SAP - Transport Migration using JCo object type, introduced in SP1, is used for standard migrations. It is shown in *Figure 3-17* when adding a package line and its fields are described in *Table 3-20*. In particular, see the descriptions for the SAP Module, Client Dependence, and Transport Function Type fields you specify.

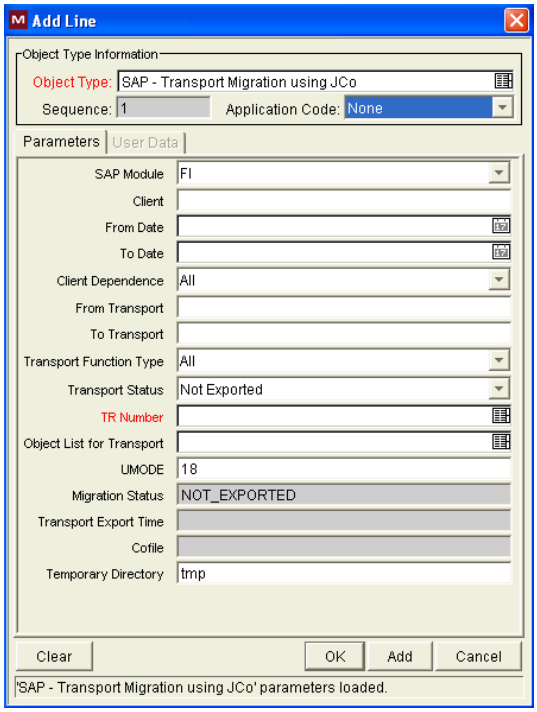


Figure 3-17. SAP - TR Migration using JCo object type

Table 3-20. SAP - TR Migration using JCo object type field descriptions

Field Name	Description
SAP Module	The SAP® module being migrated.
Client	The SAP® client.
From Date	Filters for the earliest date of package line creation.
To Date	Filters for the latest date of package line creation.
Client Dependence	The clients of the migration: Client Specific for client-dependent changes, Client Independent for client-independent changes, or All.
From Transport	Starting transport number.

Table 3-20. SAP - TR Migration using JCo object type field descriptions

Field Name	Description
To Transport	Ending transport number.
Transport Function Type	Transport type: Transportable Change Request (Workbench), Customizing Request, Local Package, or All.
Transport Status	Transport status: Exported, Not Exported, or All.
TR Number	Transport request number to be migrated, where the auto-complete list is limited by the selection criteria specified in other fields.
Object List for Transport	Object list for the transports.
UMODE	Unconditional Mode. See *Table 3-21*. You can enter multiple values, but do not separate them with any characters. For example, 18 is a valid value.
Migration Status	Status field reflecting the state of the migration.
Transport Export Time	Time when the transport request was exported.
Cofile	Cofile from which the export time is taken.
Temporary Directory	Temporary folder to calculate such values as export time.

Table 3-21. Unconditional Mode values

Value	Description
0	Import from buffer without deleting and then use unconditional mode 1 to allow another import into the correct location.
1	During export, ignore any incorrect status of the transport control file. During import, execute the request even if it has already been imported.
2	During import, overwrite original objects.
3	During import, overwrite system-specific objects.
4	Import into system other than the target system that was defined in the transport request.
6	During import, overwrite objects that are unconfirmed repairs.
8	During import, ignore transport restrictions based on table classes.
9	Import into system even if it is locked against this type of transport.

SAP - Deploy J2EE Archives Object Type

The SAP - Deploy J2EE Archives object type, introduced in SP2, deploys J2EE archives from one J2EE server to another J2EE server. *Table 3-22* lists the supported file types and their associated SAP® platform.

Table 3-22. Supported SAP® file types and platform

Supported SAP® File Types	SAP® Platform
Enterprise Archive files (`.ear`)	NetWeaver™ 6.40
Software Component Archive files (`.sca`)	NetWeaver™ 6.40
Software Deployment Archive files (`.sda`)	NetWeaver™ 6.40

The SAP - Deploy J2EE Archives object type is designed to be used with the SAP - Transport and J2EE Deployments workflow, which determines the source and destination J2EE servers, typically from DEV to QAS. This object type calls the special command `ksc_sap_j2ee_deploy_command` to perform the actual migration.

Note

The SAP - Deploy J2EE Archives object type requires that the KINTANA_SERVER environment be configured.

The SAP - Deploy J2EE Archives object type is shown in *Figure 3-18* when adding a package line and its fields are described in *Table 3-23*.

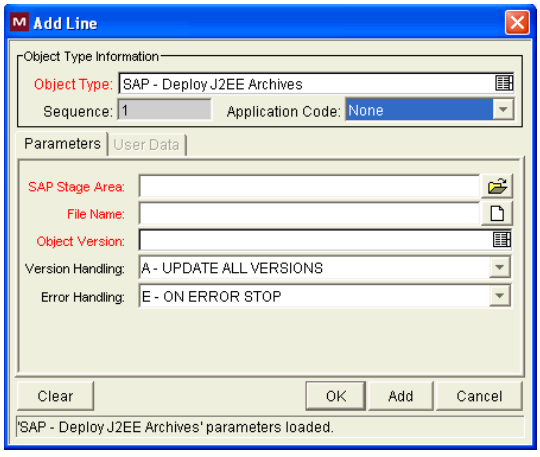


Figure 3-18. SAP - Deploy J2EE Archives object type

Table 3-23. SAP - Deploy J2EE Archive object type field descriptions

Field Name	Description
SAP Stage Area	The temporary or staging directory on the Mercury IT Governance Server where the SAP® J2EE archive is copied, typically `<ITG_Home>/SAP_Stage`.
File Name	The name of the J2EE archive file in the SAP Stage Area.
Object Version	The SAP® J2EE archive version.
Version Handling	The version handling to use in the destination. The possible values are: • A - UPDATE ALL VERSIONS (the default) • L - UPDATE LOWER VERSIONS ONLY • S - UPDATE SAME AND LOWER VERSIONS ONLY
Error Handling	The action to be taken when an error is encountered. The possible actions are: • E - ON ERROR STOP (the default) • I - ON ERROR IGNORE • S - ON ERROR SKIP DEPENDING

SAP - Undeploy J2EE Archives Object Type

The SAP - Undeploy J2EE Archives object type, introduced in SP2, performs standard J2EE file undeployments from a J2EE server. *Table 3-24* lists the supported file types and their associated SAP® platform.

Table 3-24. Supported SAP® file types and platform

Supported SAP® File Types	SAP® Platform
Enterprise Archive files (`.ear`)	NetWeaver™ 6.40
Software Component Archive files (`.sca`)	NetWeaver™ 6.40
Software Deployment Archive files (`.sda`)	NetWeaver™ 6.40

The SAP - Undeploy J2EE Archives object type is designed to be used with the SAP - Undeploy J2EE Archives workflow, which determines the J2EE server that is the target of the undeployment, typically QAS or PRD. This object type calls the special command `ksc_sap_j2ee_undeploy_command` to perform the actual undeployment.

When adding a package line to a Mercury Change Management package, you must select the SAP - Undeploy J2EE Archives object type for that package line. At the same time, you must select the file to be undeployed from QAS or PRD.

The SAP - Undeploy J2EE Archives object type is shown in *Figure 3-19* when adding a package line and its fields are described in *Table 3-25*.

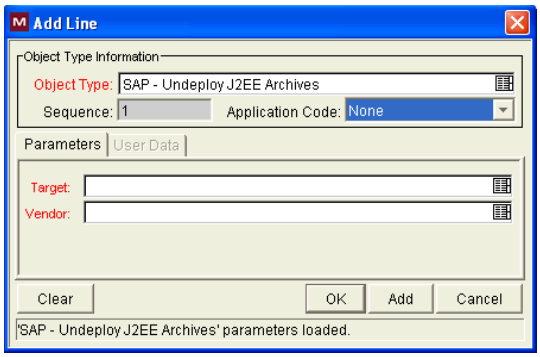


Figure 3-19. SAP - Undeploy J2EE Archives object type

Table 3-25. SAP - J2EE Undeploy Archive object type field descriptions

Field Name	Description
Target	The target system defined for the undeployment.
Version	The version of the J2EE undeployment archive.

SAP - Patch Applicator Object Type

The SAP - Patch Applicator object type, introduced in SP3, specifies a patch you want to apply (or simulate), corresponding to a package line. The package lines in the package you build represent a series of patches to be applied.

The SAP - Patch Applicator object type is shown in *Figure 3-20* when adding a package line and its fields are described in *Table 3-26*.

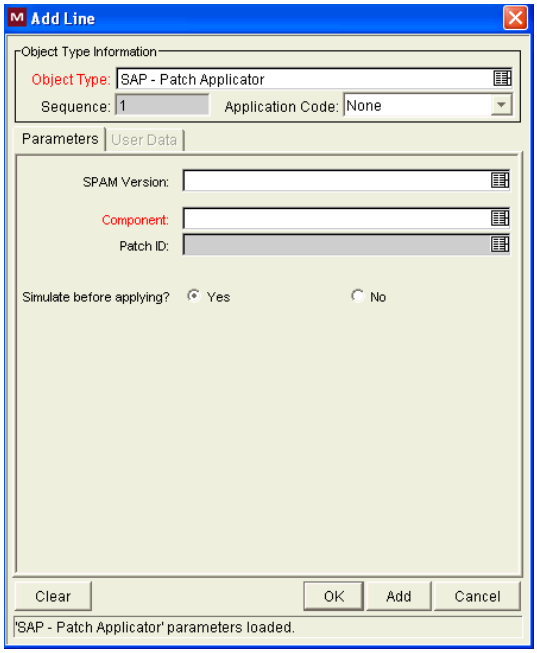


Figure 3-20. SAP - Patch Applicator object type

Table 3-26. SAP - Patch Applicator object type field descriptions

Field Name	Description
SPAM Version	The version of SAP® Support Package Manager (SPAM) installed on the SAP® system. An auto-complete field retrieved from the SAP® system by the Extension.
Component	The components installed on the SAP® system. An auto-complete field retrieved from the SAP® system by the Extension.
Patch ID	The patches available for the selected Component. An auto-complete field retrieved from the SAP® system by the Extension.
Simulate before applying	Whether or not application of the selected patch should be simulated to identify potential issues, before it is actually applied.

This object type is associated with the SAP - Patch Deployment Workflow. For more information, see *SAP - Patch Deployment Workflow and Its Subworkflows* on page 59.

Workflows

This section describes the workflows that are included in SP3. They were introduced in SP2 or SP3, as indicated.

SAP - Transport and J2EE Deployments Workflow

The SAP - Transport and J2EE Deployments workflow, introduced in SP2, migrates transports and deploys J2EE archives. For transports, this workflow works with the SAP - Transport Migration Using JCo object type. For J2EE archives, this workflow works with the SAP - Deploy J2EE Archives object type.

The SAP - Transport and J2EE Deployments workflow is shown in *Figure 3-21*. It determines the source and destination servers, typically DEV and QAS. When selecting the source and destination environments, you must select SAP® J2EE environments that have already been created in the Environments Workbench.

The workflow starts with a review of the package. After the package is reviewed and approved, it moves to the next step, where the type of change (transports or J2EE) is determined. The subsequent workflow step depends on that result. If any warnings are generated, approval is needed to proceed. Over time, all package lines accumulate in a release that becomes ready for import into the production environment, upon QA approval.

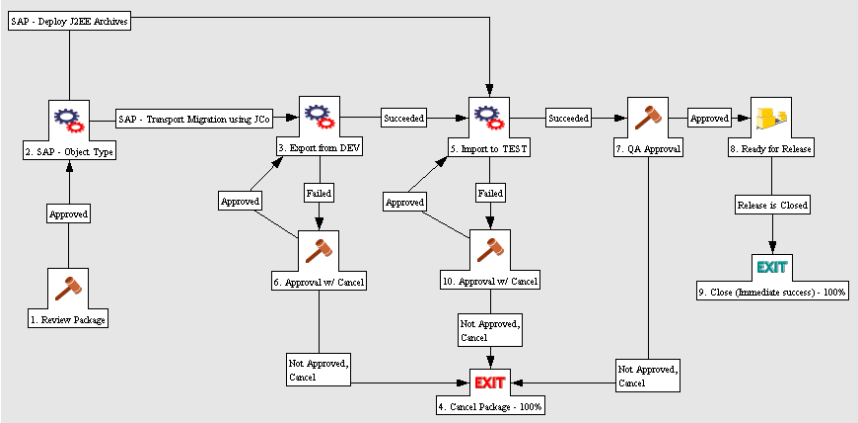


Figure 3-21. SAP - Transport and J2EE Deployments workflow

SAP - Undeploy J2EE Archives Workflow

The SAP - Undeploy J2EE Archives workflow, introduced in SP2, undeploys J2EE files from a J2EE server. This workflow works with the SAP - Undeploy J2EE Archives object type. The SAP - Undeploy J2EE Archives workflow determines the J2EE server that is the target of the undeployment, typically QAS or PRD. When selecting the environment, you must select an SAP® J2EE environment that has already been created in the Environments Workbench.

The SAP - Undeploy J2EE Archives workflow in shown in *Figure 3-22*. It starts with a review of the package. After the package is reviewed and approved, it moves to an execution step, where the package is undeployed from a test system. If the undeployment is successful, the package moves to a QA approval step before moving on to the final execution step. In the final execution step, the package is undeployed from a production system. If an error occurs during the workflow, the package moves to a decision step, where the package can be considered and closed.

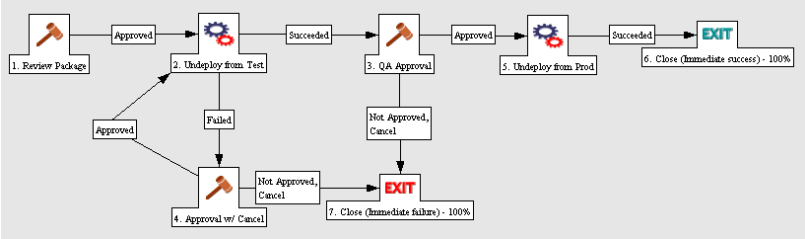


Figure 3-22. SAP - Undeploy J2EE Archives workflow

SAP - Patch Deployment Workflow and Its Subworkflows

Maintaining an SAP® component involves deploying and tracking patches. SAP® systems include capabilities to install patches to SAP® components such as FI (Finance) and HR (Human Resources) while adhering to any required patching prerequisites and sequences.

Patches are applied independently to each SAP® system, typically to a DEV (development) system first, then to a QAS (QA system) system, then to a PRD (production) system.

The SAP® Support Package Manager (SPAM) software component manages the installation of patches on an SAP® system. The SPAM component might need to be patched before any components are patched.

SP3 introduces the SAP - Patch Deployment Workflow and three subworkflows that enable you to perform SAP's patching functions from the Mercury IT Governance Server. Using these workflows, SP3 imports patches in SAP® systems and tracks and audits the various approvals in the patching process.

Mercury recommends that you run the SAP - Component Information report to determine which components and patch levels are installed on an SAP system that you plan to patch. See *SAP - Component Information Report* on page 50.

Figure 3-23 shows the SAP - Patch Deployment Workflow. Its steps are described later in this section.

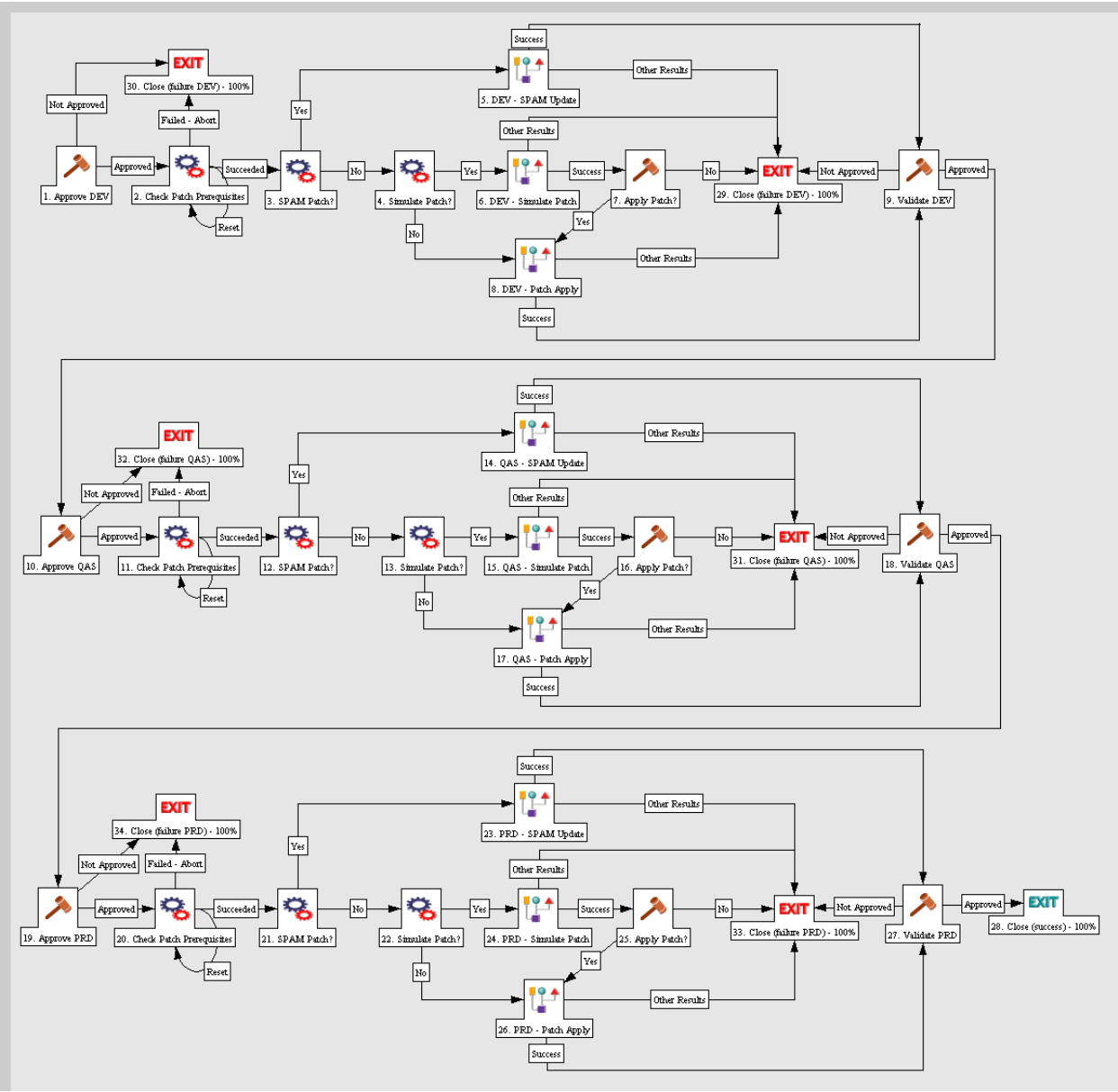


Figure 3-23. SAP - Patch Deployment Workflow

The steps for patching the components of interest in an SAP® system are as follows:

1. Enable and configure the SAP - Patch Deployment Workflow (or your customization of it):

   a. Specify the same Dest Environment for each step that requires one (for example, steps 2–6 and 8 in the DEV environment).

      The workflow replicates steps 1–9 and 29–30 to enable you to patch a succession of environments—DEV, QAS, and PRD—if you want.

   b. Specify the security and notifications for each step as desired.

   c. In the Environment Workbench, verify that the KINTANA_SERVER environment is enabled.

      (If the com.kintana.core.server.SERVER_ENV_NAME parameter in the `server.conf` file has been changed to specify an environment other than KINTANA_SERVER, then enable that environment instead.)

2. Enable the SAP - Patch Applicator object type.

3. Create a package that uses the SAP - Patch Deployment Workflow and the SAP - Patch Applicator object type, and add one package line per patch:

   a. In the Mercury IT Governance Workbench, create a new package.

   b. In the Workflow field, select the SAP - Patch Deployment Workflow.

   c. Click **New Line** to generate a new package line.

      The Add Line window opens.

   d. Click the auto-complete button for the Object Type field.

      The SAP - Patch Applicator object type is automatically selected.

   e. Click the auto-complete button for the SPAM Version field.

      The Extension communicates with the SAP® system specified in the workflow and completes the field with the current version of SPAM installed on that system.

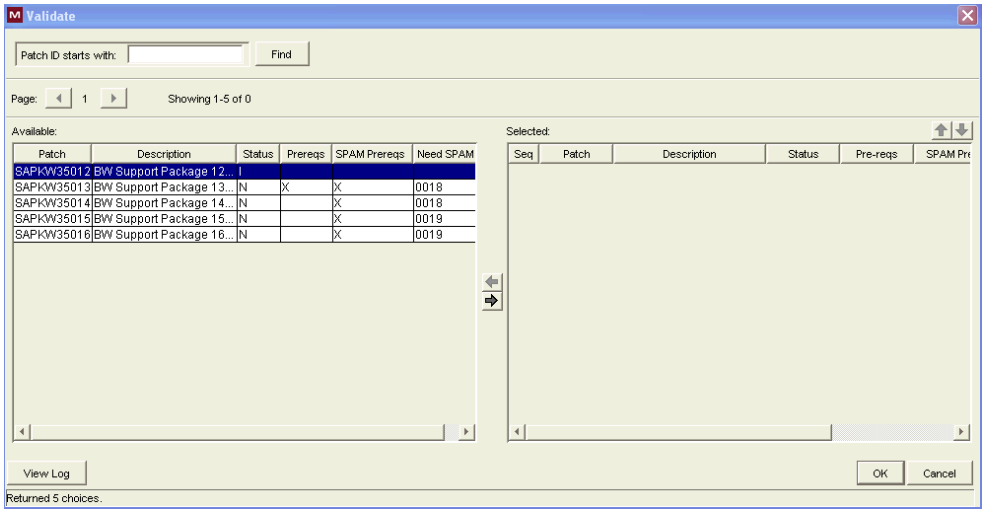
f. Click the auto-complete button for the Component field.

The Extension communicates with the SAP® system and opens the Validate window with a list of the components installed on the system.

g. Select the component for which you want to apply or simulate patches.

h. Click the auto-complete button for the Patch ID field.

The Extension communicates with the SAP® system and, based on the component you chose in step g, lists the patches that are available for that component in the Validate window.



In this example, the installed SPAM version was found to be 0019 in step e. (The example window was stretched and column widths in the **Available** section were adjusted to show the columns described below; you can scroll to the right in the **Available** section to see them.) The table shows one patch per row.

A status of **I** in the **Status** column indicates that the patch has already been imported to the system. Prerequisite information is not indicated because it is not applicable, as in the first patch (SAPKW35012).

A status of **N** in the **Status** column indicates that the patch has not been imported. Certain prerequisite status is also indicated as follows:

- For an uninstalled patch, if an **X** appears in the **Prereqs** column or the **SPAM Prereqs** column, *there are no unmet prerequisites* of that type (non-SPAM or SPAM) for that patch.

- For an uninstalled patch, if the **Prereqs** column or the **SPAM Prereqs** column is blank, *there are unmet prerequisites* of that type for that patch. They will be identified in a later step.

In the example shown, because SPAM version 0019 is installed and all the uninstalled patches require either version 0018 or 0019, the SPAM prerequisite is met in all cases, so the **SPAM Prereqs** column for each uninstalled patch shows an **X.**

In the example, only the first uninstalled patch (SAPKW35013) has its non-SPAM prerequisites met, as indicated by the **X** in the **Prereqs** column.

i. From the available patches, select one or more that have not been imported (click the right arrow to move them to the **Selected** section) and click **OK.**

The patch or patches are added to the Patch ID field in the Add Line window.

j. In the Simulate before applying option in the Add Line window, specify whether or not you want to simulate applying the patches before actually applying them, to identify potential issues such as the possibility that the patch could overwrite customizations of SAP® objects. Mercury recommends selecting this option.

k. Click **OK** to close the Add Line window and add the lines to the package.

l. If this is the first package line, click **Submit** to submit the package. For subsequent lines, click **Save** to save the package.

m. To begin processing a patch (package line) through the workflow, as described later in the workflow details, approve it (workflow step 1) and then check patch prerequisites (workflow step 2). Workflow step 2 communicates with the SAP® system, which automatically identifies all the prerequisites (met and unmet) for the patch in the Line Exec Log.

If no unmet prerequisites were found, the package line succeeds at workflow step 2 and can proceed through the workflow.

If any unmet prerequisites were found, the **Check Patch Prerequisites** column on the **Status** tab in the package window for that patch says **Failed,** and the package line does not proceed beyond workflow step 2. View the associated Line Exec Log to see a list of the specific unmet prerequisites.

n. **Important:** If there are any unmet prerequisites, you must add them to the package and rearrange the package line sequence (using the up and down arrows) accordingly. This process can become iterative if SAP® identifies further prerequisites to the initial prerequisites.

   The package line will not proceed beyond workflow step 2 until all of its prerequisites are met.

o. Repeat step c through step n for each package line (patch) you want to add to the package.

4. Use the SAP - Patch Deployment Workflow and its three subworkflows to manage the installation or simulation of one patch at a time in the sequence specified in the package. Refer to:

   - *Figure 3-23* on page 60 for the SAP - Patch Deployment Workflow.
   - *Figure 3-24* for the SAP - SPAM Update Subworkflow.
   - *Figure 3-25* for the SAP - Patch Simulation Subworkflow.
   - *Figure 3-26* for the SAP - Patch Application Subworkflow.
   - The descriptions of the workflow and subworkflow steps after *Figure 3-26*.

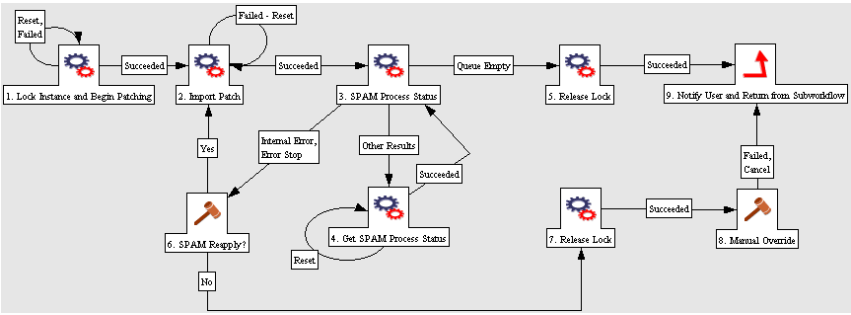


Figure 3-24. SAP - SPAM Update Subworkflow

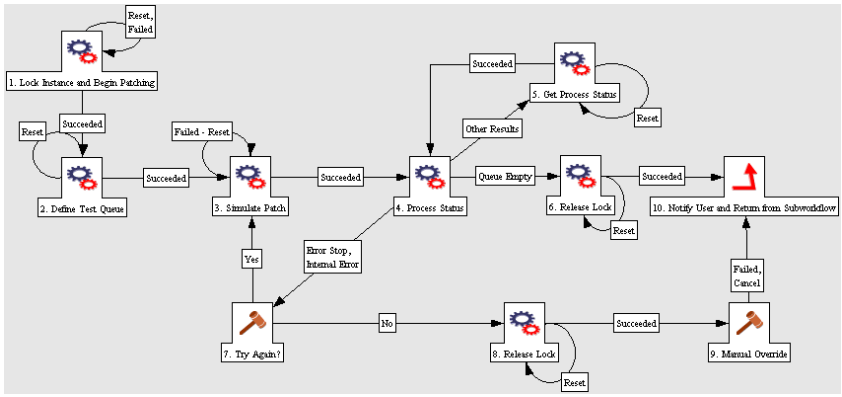


Figure 3-25. SAP - Patch Simulation Subworkflow

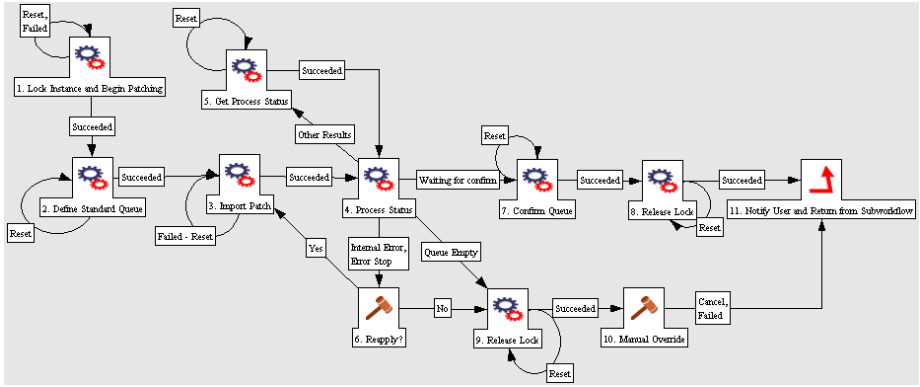


Figure 3-26. SAP - Patch Application Subworkflow

The patches are processed one by one through the SAP - Patch Deployment workflow and subworkflow steps as follows:

1. Approve DEV. At this step, you manually approve proceeding with the applying a patch to the DEV environment.

2. Check Patch Prerequisites. At this step, the Extension communicates with SAP® to identify any prerequisites that must be met to install a particular patch, represented by a package line, on the specified DEV environment. The package line does not proceed through the workflow until all prerequisites for a patch are met.

3. SPAM Patch? At this step, the workflow branches to step 5 if this is a SPAM patch or step 4 if it is not.

4. Simulate Patch? At this step, the workflow branches to step 6 if the Simulate before applying field in the object type for this patch is set to Yes, or to step 8 if the field is set to No.

5. DEV - SPAM Update. At this step, the SPAM patch is updated by invoking the SAP - SPAM Update Subworkflow. If the subworkflow is successful, proceed to step 9.

The SAP - SPAM Update Subworkflow steps are as follows (see *Figure 3-24* on page 64):

5.1. Lock Instance and Begin Patching. At this step, you manually lock the SAP® system and initiate applying the SPAM patch. No other package line can lock that system until the lock is released.

5.2. Import Patch. At this step, the SPAM patch is imported to the system.

5.3. SPAM Process Status. At this step, the status of the import process is determined. If the patch has been successfully installed (the queue is empty), proceed to subworkflow step 5. If there was an error in applying the patch, proceed to subworkflow step 6. For other errors, proceed to subworkflow step 4.

5.4. Get SPAM Process Status. At this step, the status is monitored until it is successful, then the subworkflow returns to step 3.

5.5. Release Lock. At this step, the lock for the SAP® system is released and the subworkflow is set up for successful return to the workflow.

5.6. SPAM Reapply? At this step, you indicate whether the subworkflow should attempt to import the patch again (subworkflow step 2) or proceed to release the lock (subworkflow step 7) with a manual override.

5.7. Release Lock. At this step, the lock for the SAP® system is released so that, even though importing the SPAM patch failed, other patches in the package can be applied or simulated.

5.8. Manual Override. At this step, you set up the subworkflow for return to the workflow with a failure status to indicate that the SPAM patch was not applied.

5.9. Notify User and Return from Subworkflow. At this step, the specified user is notified that the SPAM patch was or was not successfully installed, and the subworkflow returns to the workflow.

6. DEV - Simulate Patch. At this step, installation of the patch is simulated for the DEV system by calling the SAP - Patch Simulation Subworkflow. If the subworkflow is successful, proceed to step 7.

The SAP - Patch Simulation Subworkflow steps are as follows (see *Figure 3-25* on page 65):

6.1. Lock Instance and Begin Patching. At this step, you manually lock the SAP® system and initiate simulating the patch. No other package line can lock that system until the lock is released.

6.2. Define Test Queue. At this step, the patch to be simulated is set up in test mode.

6.3. Simulate Patch. At this step, the patch is simulated.

6.4. Process Status. At this step, the status of the simulation is determined. If the patch has been successfully simulated (the queue is empty), proceed to subworkflow step 6. If there was an error in simulating the patch, proceed to subworkflow step 7. For other errors, proceed to subworkflow step 5.

6.5. Get Process Status. At this step, the status is monitored until it is successful, then the subworkflow returns to step 4.

6.6. Release Lock. At this step, the lock for the SAP® system is released and the subworkflow is set up for successful return to the workflow.

6.7. Try Again? At this step, you indicate whether the subworkflow should attempt to simulate the patch again (subworkflow step 3) or proceed to release the lock (subworkflow step 8) with a manual override.

6.8. Release Lock. At this step, the lock for the SAP® system is released so that, even though the simulation failed, other patches in the package can be applied or simulated.

6.9. Manual Override. At this step, you set up the subworkflow for return to the workflow with a failure status for the patch simulation.

6.10. Notify User and Return from Subworkflow. At this step, the specified user is notified that the patch was or was not successfully simulated, and the subworkflow returns to the workflow.

7. Apply Patch? At this step, you decide whether to apply this particular patch after a successful simulation.

8. DEV - Patch Apply. At this step, if the patch was not to be simulated, or if it was successfully simulated and is now to be applied, the patch is applied to the DEV system by calling the SAP - Patch Application Subworkflow. If the subworkflow is successful, proceed to step 9.

The SAP - Patch Application Subworkflow steps are as follows (see *Figure 3-25* on page 65):

8.1. Lock Instance and Begin Patching. At this step, you manually lock the SAP® system and initiate applying the patch. No other package line can lock that system until the lock is released.

8.2. Define Standard Queue. At this step, the patch to be applied is set up in standard mode.

8.3. Import Patch. At this step, the patch is imported.

8.4. Process Status. At this step, the status of the patch application is determined. If the patch has been successfully applied, the status is "waiting for confirmation," and the subworkflow proceeds to step 7. If the status is "queue empty," an external operation has disturbed the queue; this is an error condition that sends the subworkflow to step 9. If there was an error in applying the patch, proceed to subworkflow step 6. For other errors, proceed to subworkflow step 5.

8.5. Get Process Status. At this step, the status is monitored until it is successful, then the subworkflow returns to step 4.

8.6. Reapply? At this step, you indicate whether the subworkflow should attempt to import the patch again (subworkflow step 3) or proceed to release the lock (subworkflow step 9) with a manual override.

8.7. Confirm Queue. At this step, the subworkflow waits until the patch application is reported as successful, then proceeds to subworkflow step 8.

8.8. Release Lock. At this step, the lock for the SAP® system is released and the subworkflow is set up for successful return to the workflow.

8.9. Release Lock. At this step, the lock for the SAP® system is released so that, even though importing the patch failed, other patches in the package can be applied or simulated.

8.10. Manual Override. At this step, you set up the subworkflow for return to the workflow with a failure status for the patch application.

8.11. Notify User and Return from Subworkflow. At this step, the specified user is notified that the patch was or was not successfully imported, and the subworkflow returns to the workflow.

9. Validate DEV. At this step, at the SAP® DEV system, perhaps using regression tests, you verify that installation of the patch was successful and did not cause any issues. If you approve this step, the provided workflow proceeds to analogous steps for the QAS system, then the PRD system.

(A simplified custom workflow that installs patches on only the DEV system would, upon approval of this step, close this package line with a successful status, exit the workflow, and proceed to process the package's next line, that is, its next patch.)

29. and 30. Close (failure DEV). At these steps, various failures during the workflow cause it to exit with failure status and close the package line.

10.–18. and 31.–32. These steps are analogous to steps 1–9 and 29–30, but for the QAS system. If the patch installation is verified as successful at step 18, the workflow proceeds to analogous steps for the PRD system.

19.–27. and 33.–34. These steps are analogous to steps 1–9 and 29–30, but for the PRD system. If the patch installation is verified as successful at step 27, the workflow proceeds to step 28.

28. Close (success). Upon successful completion of the workflow, the package line is closed and the workflow is exited, ready to process the package's next line, that is, its next patch.

Environments

As part of SP2, the **SAP** subtab of the **Extension Data** tab in the Environments Workbench (see *Figure 3-27*) was modified to include fields for the SAP® J2EE application server. *Table 3-27* describes all the fields to specify an SAP® environment.

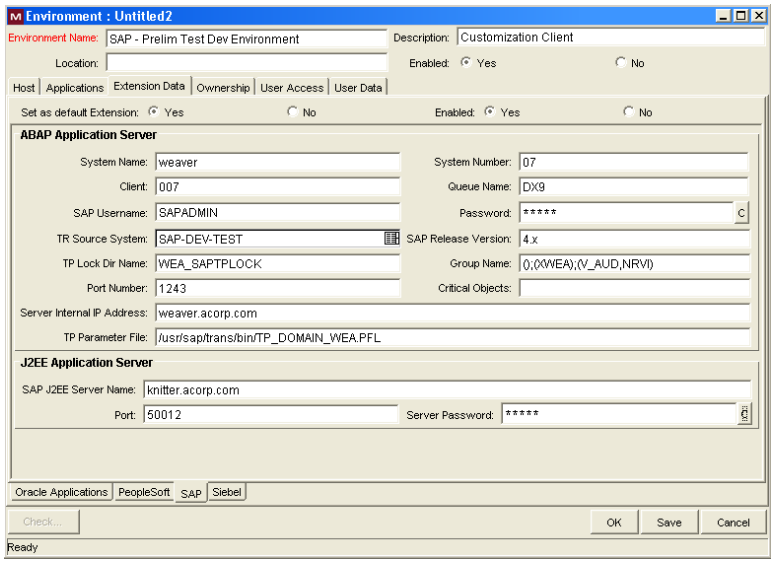


Figure 3-27. SAP Extension Data tab

Table 3-27. SAP Extension Data tab field descriptions

Field Name	Description
ABAP Application Server section	
Set as default Extension	Whether or not **SAP** is the default subtab to show for this window's **Extension Data** tab.
Enabled	Whether or not the fields on this tab are available to be configured.
System Name	Name of the SAP® system represented by this environment.
System Number	System number for the SAP® system.
Client	Client name.
Queue Name	Queue name for the SAP® system.
SAP Username	Username (in the SAP® system) to be used for all migrations to or from this environment.

Table 3-27. SAP Extension Data tab field descriptions [continued]

Field Name	Description
Password	Password corresponding to the SAP Username.
TR Source System	List of environments defined in Mercury IT Governance products. Set this field to the environment that corresponds to the TR Source System for this particular SAP® system.
SAP Release Version	SAP® release number.
TP Lock Dir Name	Name of the Lock Directory. Contains the log file that includes the Package ID and the Line ID that define this lock.
Group Name	SAP® Router String, to be specified with the -g parameter of the startrfc call to the RFC.
Port Number	Port number at which the SAP® server can be reached when the server is behind a firewall and accessed through a gateway, to be specified with the -x parameter of the startrfc call to the RFC.
Critical Objects	An environment-specific list used to identify objects of transports that are not allowed for that environment.

Server Internal IP Address	Internal IP address of the SAP® Application Server used when the server is behind a firewall and accessed through a gateway. A slash (/) is used as a delimiter. For example:
	`62.2.175.166/162.166.60.162`
	If you are using startrfc, the -h parameter of the startrfc call to the RFC must be specified. A slash (/) is used as a delimiter. For example:
	`/H/62.2.175.166/H/162.166.60.162`

TP Parameter File	Full pathname of the TPPARAM file, used in case the file is not stored in the default location. In SAP® 46C and later versions, this file is named `TP_DOMAIN_<SID>.PFL`.
J2EE Application Server section (introduced in SP2)	
SAP J2EE Server Name	Name of the SAP® J2EE server represented by this environment.
Port	Port number at which the SAP® J2EE server can be reached.
Server Password	Password for the SAP® J2EE server.

Special Commands

The special commands included in SP3 are listed in *Table 3-28*. They were introduced in SP1, SP2, or SP3, as indicated.

Table 3-28. Special commands in SP3

Special Command	Description
ksc_sap_rfc_call (Introduced in SP1.)	Makes a connection to the SAP® system using JCo and passes parameters to the remote function calls (RFCs). This special command can be used in object types and validations to call the RFCs provided by Mercury. The sets of parameters, (tokens), and descriptions are: • SAPENV, (DEST_ENV.ENVIRONMENT_NAME), the SAP® environment where the RFC should be executed. • XMLINPUT, (XMLINPUT), the input XML. • OUTPREFIX, (OUTPREFIX), the prefix for the output file.
ksc_sap_j2ee_deploy_command (Introduced in SP2.)	Connects to the SAP® SDM server to deploy J2EE archives.
ksc_sap_j2ee_undeploy_command (Introduced in SP2.)	Connects to the SAP® SDM server to undeploy J2EE archives.
ksc_sap_rfc_xsltransform (Introduced in SP3.)	Makes a connection to the SAP® system and runs the RFC. The output of the RFC is transformed using XSL.

Validations

The validations included in SP3 are listed in *Table 3-29*. They were introduced in SP1, modified or introduced in SP2, or introduced in SP3, as indicated.

Table 3-29. Validations in SP3

Validation Name	Description
SAP - Object List using JCo (Introduced in SP1.)	Makes use of the special command `ksc_sap_rfc_call` to make connection to the SAP® systems and get the object lists of transport requests.
SAP - Transport List using JCo (Introduced in SP1.)	Makes use of the special command `ksc_sap_rfc_call` to make connection to the SAP® systems and get the list of transport requests that have to be migrated to target SAP® systems.
SAP Module (Modified in SP2.)	Returns a drop-down list of SAP® modules.
SAP - Determine Object Type (Introduced in SP2.)	Determines if the application being migrated is ABAP (a Transport Migration using JCo) or a J2EE migration.
SAP - Error Handling (Introduced in SP2.)	Describes the action to be taken when an error is encountered. The possible actions are: • E - ON ERROR STOP (the default) • I - ON ERROR IGNORE • S - ON ERROR SKIP DEPENDING
SAP - Get Archive vendor (Introduced in SP2.)	Returns the vendor of the archive during a undeployment.
SAP - Get Archive version (Introduced in SP2.)	Returns the version number of the archive during a deployment.
SAP - Object Types (Introduced in SP2.)	Returns a list of enabled SAP® object types.
SAP - Package Line Status (Introduced in SP2.)	Returns a list of package line statuses to be used in portlets.
SAP - Target Undeployments (Introduced in SP2.)	Returns a list of the objects to be undeployed.

Table 3-29. Validations in SP3 [continued]

Validation Name	Description
SAP - Version Handling (Introduced in SP2.)	Defines the version handling to use in the destination. The possible values are: • A - UPDATE ALL VERSIONS (the default) • L - UPDATE LOWER VERSIONS ONLY • S - UPDATE SAME AND LOWER VERSIONS ONLY
SAP - Patch Components (Introduced in SP3.)	Returns a list of SAP® components.
SAP - Patch List (Introduced in SP3.)	Returns a list of patches for the specified components.
SAP - Patch Process Status (Introduced in SP3.)	Returns a list of statuses during the patch process.
SAP - Patch SPAM Version (Introduced in SP3.)	Returns the current SPAM version for the SAP® system.
SAP - Patch Subworkflow (Introduced in SP3.)	Returns the set of valid codes for the subworkflow to present to the workflow.
SAP - Y/N (Introduced in SP3.)	Returns the values Yes and No for a drop-down list.

Tokens

The tokens included in SP3 are listed in *Table 3-30*. They were all introduced in SP2.

Table 3-30. Tokens in SP3

Prefix	Token	Description
ENV.AC (Introduced in SP2.)	SAP_J2EE_PASSWORD	An encrypted password corresponding to the SAP_ USERNAME for a particular J2EE server.
ENV.AC (Introduced in SP2.)	SAP_J2EE_PORT	The port number corresponding to a particular J2EE server.
ENV.AC (Introduced in SP2.)	SAP_J2EE_SERVER	The server name of a particular J2EE server.

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