ORACLE
PeopleSoft

PeopleTools 8.57: Change Assistant and Update Manager

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Contents

Preface

Understanding the PeopleSoft Online Help and PeopleBooks

The PeopleSoft Online Help is a website that enables you to view all help content for PeopleSoft Applications and PeopleTools. The help provides standard navigation and full-text searching, as well as context-sensitive online help for PeopleSoft users.

PeopleSoft Hosted Online Help

You access the PeopleSoft Online Help on Oracle's PeopleSoft Hosted Online Help website, which enables you to access the full help website and context-sensitive help directly from an Oracle hosted server. The hosted online help is updated on a regular schedule, ensuring that you have access to the most current documentation. This reduces the need to view separate documentation posts for application maintenance on My Oracle Support, because that documentation is now incorporated into the hosted website content. The Hosted Online Help website is available in English only.

Note: Only the most current release of hosted online help is updated regularly. After a new release is posted, previous releases remain available but are no longer updated.

Locally Installed Help

If you are setting up an on-premises PeopleSoft environment, and your organization has firewall restrictions that prevent you from using the Hosted Online Help website, you can install the PeopleSoft Online Help locally. If you install the help locally, you have more control over which documents users can access and you can include links to your organization's custom documentation on help pages.

In addition, if you locally install the PeopleSoft Online Help, you can use any search engine for full-text searching. Your installation documentation includes instructions about how to set up Elasticsearch for full-text searching. See *PeopleSoft 9.2 Application Installation* for your database platform, "Installing PeopleSoft Online Help." If you do not use Elasticsearch, see the documentation for your chosen search engine.

Note: See Oracle Support Document 2205540.2 (PeopleTools Elasticsearch Home Page) for more information on using Elasticsearch with PeopleSoft.

Note: Before users can access the search engine on a locally installed help website, you must enable the Search field. For instructions, go to your locally installed PeopleSoft Online Help site and select About This Help >Managing Locally Installed PeopleSoft Online Help >Enabling the Search Button and Field in the Contents sidebar.

Downloadable PeopleBook PDF Files

You can access downloadable PDF versions of the help content in the traditional PeopleBook format. The content in the PeopleBook PDFs is the same as the content in the PeopleSoft Online Help, but it has

a different structure and it does not include the interactive navigation features that are available in the online help.

Common Help Documentation

Common help documentation contains information that applies to multiple applications. The two main types of common help are:

- Application Fundamentals
- Using PeopleSoft Applications

Most product families provide a set of application fundamentals help topics that discuss essential information about the setup and design of your system. This information applies to many or all applications in the PeopleSoft product family. Whether you are implementing a single application, some combination of applications within the product family, or the entire product family, you should be familiar with the contents of the appropriate application fundamentals help. They provide the starting points for fundamental implementation tasks.

In addition, the *PeopleTools: Applications User's Guide* introduces you to the various elements of the PeopleSoft Pure Internet Architecture. It also explains how to use the navigational hierarchy, components, and pages to perform basic functions as you navigate through the system. While your application or implementation may differ, the topics in this user's guide provide general information about using PeopleSoft Applications.

Field and Control Definitions

PeopleSoft documentation includes definitions for most fields and controls that appear on application pages. These definitions describe how to use a field or control, where populated values come from, the effects of selecting certain values, and so on. If a field or control is not defined, then it either requires no additional explanation or is documented in a common elements section earlier in the documentation. For example, the Date field rarely requires additional explanation and may not be defined in the documentation for some pages.

Typographical Conventions

The following table describes the typographical conventions that are used in the online help.

Typographical Convention	***Description***
Key+Key	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For Alt+W, hold down the Alt key while you press the W key.
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (|).
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.

Typographical Convention	*Description*
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.
⇒	This continuation character has been inserted at the end of a line of code that has been wrapped at the page margin. The code should be viewed or entered as a single, continuous line of code without the continuation character.

ISO Country and Currency Codes

PeopleSoft Online Help topics use International Organization for Standardization (ISO) country and currency codes to identify country-specific information and monetary amounts.

ISO country codes may appear as country identifiers, and ISO currency codes may appear as currency identifiers in your PeopleSoft documentation. Reference to an ISO country code in your documentation does not imply that your application includes every ISO country code. The following example is a country-specific heading: "(FRA) Hiring an Employee."

The PeopleSoft Currency Code table (CURRENCY_CD_TBL) contains sample currency code data. The Currency Code table is based on ISO Standard 4217, "Codes for the representation of currencies," and also relies on ISO country codes in the Country table (COUNTRY_TBL). The navigation to the pages where you maintain currency code and country information depends on which PeopleSoft applications you are using. To access the pages for maintaining the Currency Code and Country tables, consult the online help for your applications for more information.

Region and Industry Identifiers

Information that applies only to a specific region or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a region-specific heading: "(Latin America) Setting Up Depreciation"

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in the PeopleSoft Online Help:

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in the PeopleSoft Online Help:

- USF (U.S. Federal)
- E&G (Education and Government)

Translations and Embedded Help

PeopleSoft 9.2 software applications include translated embedded help. With the 9.2 release, PeopleSoft aligns with the other Oracle applications by focusing our translation efforts on embedded help. We are not planning to translate our traditional online help and PeopleBooks documentation. Instead we offer very direct translated help at crucial spots within our application through our embedded help widgets. Additionally, we have a one-to-one mapping of application and help translations, meaning that the software and embedded help translation footprint is identical—something we were never able to accomplish in the past.

Using and Managing the PeopleSoft Online Help

Click the Help link in the universal navigation header of any page in the PeopleSoft Online Help to see information on the following topics:

- What's new in the PeopleSoft Online Help.
- PeopleSoft Online Help accessibility.
- Accessing, navigating, and searching the PeopleSoft Online Help.
- Managing a locally installed PeopleSoft Online Help website.

Change Assistant and Update Manager Related Links

Hosted PeopleSoft Online Help

PeopleSoft Information Portal

My Oracle Support

Oracle University

PeopleSoft Video Feature Overviews

Patches&Updates

PeopleSoft Update Manager Home Page [ID 1641843.2]

Upgrading PeopleSoft? Start Here. [ID 1587686.2]

Contact Us

Send your suggestions to PSOFT-INFODEV_US@ORACLE.COM. Please include release numbers for the PeopleTools and applications that you are using.

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Part I

Configuring and Working With Change Assistant

Chapter 1

Getting Started with PeopleSoft Change Assistant

PeopleSoft Change Assistant Overview

Oracle's PeopleSoft Change Assistant is a standalone Java program that orchestrates the process of updating or upgrading your PeopleSoft system. Environment Management Framework is used for non-PUM-enabled updates and for deploying files with Update Manager.

Change Assistant provides these main benefits:

- Automates many of the steps in an upgrade or update process.
- Provides a clear step-by-step definition of the process for applying maintenance or performing an upgrade. Whether the process is automated or manual, as long as you complete each step, you will successfully apply the application maintenance or perform the upgrade.
- Provides in-line documentation for each of the steps in the process.
- Is integrated with the PUM application and uses the change package definitions created in the PeopleSoft Update Image.

The Environment Management Framework performs these key tasks:

- Crawls local drives and directory paths to discover and validate the components associated with a given PeopleSoft environment.
- Deploys files to various components in the PeopleSoft environment.

Related Links

Environment Management Framework

Change Assistant Actions

Change Assistant supports the following actions:

Apply Updates	Any systems that are not Update Manager enabled will use the Apply Updates to apply updates downloaded from My Oracle Support.
Update Manager	Update Manager contains 4 sets of tasks: • Update Manager Tasks Update Manager is used for application patching and updates for PeopleSoft PUM-enabled applications(all 9.2

applications and Interaction Hub 9.1). This option allows you to select the updates from the PeopleSoft Update Image and create a custom change package that includes only the updates and any calculated requisites you want to apply to your application.

- Application Upgrade Tasks

  Application Upgrade is used to perform an upgrade to 9.2 application release.

- PeopleTools Tasks

  PeopleTools tasks include applying the database changes required with PeopleTools patches, PeopleTools upgrades and PeopleTools delta packages.

- Other tasks

  Other tasks include exporting and importing Change Assistant settings.

Review Managed Object or Merge Select Object Types

Provides the ability to copy and compare Managed Object projects in Change Assistant. You also have the ability to view and merge PeopleCode, SQL and XSLT.

Create or Modify Templates

Change Assistant templates are composites of all the possible steps that apply to an update or upgrade. The templates are delivered as part of the change package or upgrade. Once you select a change package or upgrade, the template is loaded into the Change Assistant internal storage. You can edit the template or add additional chapters, tasks and steps, if needed.

Installation

Prior to using Change Assistant the following items must be in place:

Step	***Reference***
Install PeopleTools, database client software and any database client connect information.	*PeopleTools Installation* for your platform
Install your PeopleSoft application	Your PeopleSoft application installation guide
Install Change Assistant	*PeopleTools Installation* for your platform *: Installing PeopleSoft Change Assistant*

Quick Start

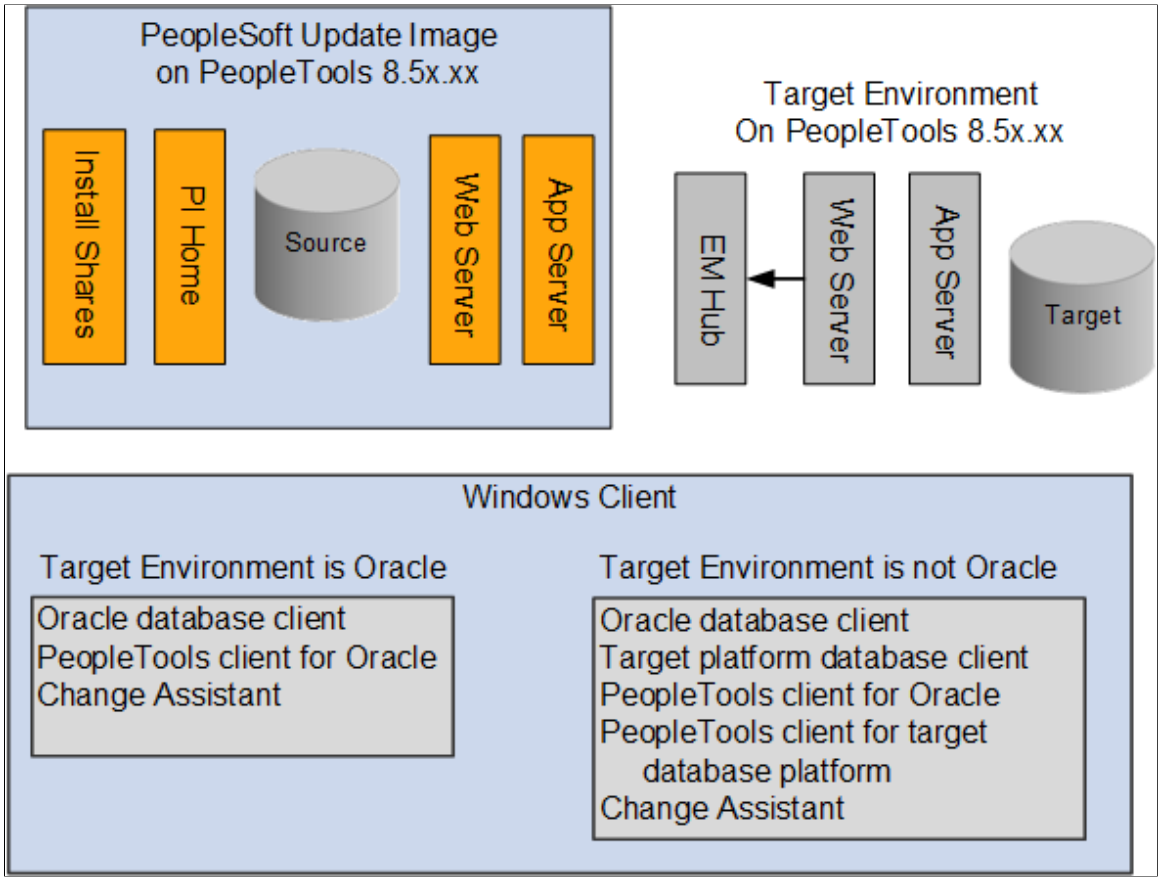
The following items provide a quick start reference for the main steps and concepts related to the implementation and use of Change Assistant. This list is designed to help get you up and running with Change Assistant as well as to help you to understand the main functions for which Change Assistant was designed.

PeopleSoft Update Manager (PUM) Enabled Updates

The steps appear in the logical order that you would perform them, and the links point to the location where the information for a specific task is provided. PUM enabled applications include all 9.2 applications and Interaction Hub 9.1

Image: PUM Environment

This diagram illustrates the PUM environment which includes the PeopleSoft Update Image, the target environment and the windows client.



Note: If the target environment is Oracle database on a lower PeopleTools release than the PeopleSoft Update Image, the configuration will be the same as the target on a non-Oracle database.

Step	***Reference***
1. Use My Oracle Support (MOS) to find the current PeopleSoft Update Image and download it.	See PeopleSoft Update Manager Home Page [ID 1641843.2]
2. Install the PeopleSoft Update Image. **Note:** The PeopleSoft Update Image may be at a different release/patch level than your target environments.	See *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.57)*.
3. (Optional) Configure and start the PSEMAgent on every server within your PeopleSoft target environment. **Note:** EMF is only run on the target environments not on the PeopleSoft Update Image. EM Hub is only used for file deploy in PUM-enabled applications.	See Configuring an Environment Management Agent.
4. Map your Windows client to the PeopleSoft Update Image shared drives. Mapping can be done using the PeopleSoft Update Image IP address. **Note:** The IP address can be identified using the ifconfig Linux command on the VirtualBox.	See Configuring the Microsoft Windows Client Running Change Assistant
5. Configure Microsoft Windows client running Change Assistant.	See Configuring the Microsoft Windows Client Running Change Assistant
6. Install Change Assistant on Windows client at the same release/patch level as the PeopleSoft Update Image.	See Installing Change Assistant
7. Start Change Assistant. Click Next on Welcome page, then select *Update Manager* action.	See Selecting Update Manager Action
8. In Change Assistant, select Update Manager > Define Change Package. The Change Assistant Wizard will lead you through the setup pages.	See Defining Change Package
9. Use PeopleSoft Update Manager PIA application in the PeopleSoft Update Image environment to search for updates you need, review the update impact, and define your update change package. **Note:** Update change packages can also be created in Change Assistant using standard search criteria.	See Defining Update Change Packages
10. Use Change Assistant to create the change package from your custom change package definition created with PeopleSoft Update Manager PIA application, analyze the change impact, and apply the updates.	See Packaging Updates.
11. Use Change Assistant to apply the change package.	See Applying Change Package

Note: Use the PeopleSoft Update Image Home Pages tab from the PeopleSoft Update Manager Home Page [ID 1641843.2] to access the PeopleSoft Update Image for your application. The Update Image Home page for your application will contain links to all the relevant information for the PeopleSoft Update Image you are downloading. The Installation Documentation section on the page contains a link to the installation guide for the Image.

Applying Individual PeopleSoft Release Patchset (PRP) to PeopleSoft Update Image

The steps appear in the logical order that you would perform them, and the links point to the location where the information for a specific item exists within this PeopleBook.

Step	*Reference*
1. Search MOS for the PRP.	See PeopleSoft Update Manager Home Page [ID 1641843.2]
2. Download the PRP to a local directory.	See Applying Downloaded PeopleSoft Release Patchset to PeopleSoft Image
3. Apply the PRP to the PeopleSoft Update Image using Update Manager action Apply Downloaded Individual Posting to PeopleSoft Update Image.	See Applying Downloaded PeopleSoft Release Patchset to PeopleSoft Image
4. Use the Update Manager process to search for and apply the new individual fix to your target databases.	See PeopleSoft Update Manager (PUM) Enabled Updates

Traditional (Non-PUM Enabled) Updates

The steps appear in the logical order that you would perform them, and the links point to the location where the information for a specific item exists within this PeopleBook.

Step	*Reference*
1. Configure and start the PSEMHUB within your PeopleSoft environment.	See Configuring the Environment Management Hub.
2. Configure and start the PSEMAgent on every server within your PeopleSoft environment.	See Configuring an Environment Management Agent.
3. Install and configure Change Assistant, specifying the proper directories for file download and storage, and ensuring it can connect to the PSEMHUB.	See Installing Change Assistant.
4. Use My Oracle Support (MOS) to identify the bundles and updates that need to be applied to your specific environment.	See Discovering Updates Using My Oracle Support.
5. Download the required bundles and updates.	See Downloading Updates From My Oracle Support.
6. Use Change Assistant to apply the bundles and updates.	See Applying Updates To A Target Environment.

Application Upgrade

Application Upgrade is only used to upgrade from a previous application release to application release 9.2. The steps appear in the logical order that you would perform them, and the links point to the location where the information for a specific item exists within this PeopleBook.

Step	***Reference***
1. Install new PeopleTools release, if necessary.	See *PeopleSoft PeopleTools 8.5x Deployment Packages Installation*
2. Use My Oracle Support (MOS) to find the current PeopleSoft Upgrade Source Image and download it. **Note:** Or install the Demo database for the Upgrade Certified new release from the media pack or CD, available on Oracle Software Delivery Cloud (classic method).	See PeopleSoft Upgrade Source Image Home Page (ID: 1552580.1).
3. Install the PeopleSoft Upgrade Source Image. **Note:** The PeopleSoft Upgrade Source Image may be at a different release/patch level than your target environments.	See *PeopleSoft Deployment Packages Installation (PeopleSoft PeopleTools 8.5x)*.
4. Use My Oracle Support (MOS) to find the current PeopleSoft Update Image and download it.	See PeopleSoft Update Manager Home Page [ID 1641843.2]
5. Install the PeopleSoft Update Image. **Note:** The PeopleSoft Update Image may be at a different release/patch level than your target environments.	See *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.5x)*.
6. Create an upgrade change package.	See Defining an Upgrade Package
7. Upgrade to new application release.	See Upgrading Application

Other Sources of Information

This section provides information to consider before you begin to use PeopleSoft Change Assistant. In addition to implementation considerations presented in this section, take advantage of all PeopleSoft sources of information, including the installation guides, release notes, PeopleBooks, and training courses and your PeopleSoft application upgrade documentation.

Related Links

Application Designer Developer’s Guide

Lifecycle Management Guide

Change Impact Analyzer

Chapter 2

Understanding The Environment Management Framework and PeopleSoft Change Assistant

Environment Management Framework

Environment Management Framework (EMF) is a collection of software elements that gathers and publishes PeopleSoft installation, configuration, and update information. It enables you to identify and view data about PeopleSoft environments. You can use EMF to obtain a snapshot of configuration and setup information about the file servers, the web servers, the application servers, the individual hosts, and the PeopleSoft Process Scheduler servers that comprise your PeopleSoft system. EMF also provides a vehicle to carry out commands remotely on different machines on the network, directed by Change Assistant, which uses EMF to apply updates to PeopleSoft installations and configurations.

EMF is used with Change Assistant to deploy files contained in an upgrade package. For traditional updates (non PUM-enabled applications), EMF is required to identify PeopleSoft environments, for all other Change Assistant actions configuring and running EMF is optional.

EMF consists of the following core elements:

- The Environment Management hub (PSEMHUB)
- Environment Management Agent (PSEMAgent)
- The Environment Management viewer

Environment Management Hub

The Environment Management hub is a web application that is installed with the PeopleSoft Internet Architecture and portal. It is started along with the rest of the web applications when the user boots the web server. The hub is the broker for all communication between peers.

The Environment Management hub handles:

- Peer registration.

  The hub registers all of the information that is published by the agents. It also assigns a unique peer ID for every peer that engages in a dialogue with the hub.

- Maintenance of configuration information.

  The hub handles updates to configuration information, the correlation of information, and the grouping into environments based on the information that is published by the agents.

- Agent health monitoring.

The hub keeps track of the state or "health" information of the managed components. It shows whether a peer is still running remotely or not.

- Message brokering.

  The hub services message service requests and responses from peers. The messages can be delivered to the respective peers even if the peers are not currently running. They are picked up the next time the peers “call in” to the hub. Typical messages include requests to deploy files to managed servers. It's recommended that the managed server agents be left up and running at all times to listen for messages from the hub. This is critical when applying software updates.

The Environment Management hub is installed as part of the standard PeopleSoft Internet Architecture installation. It supports both single-server and multi-server installations. The Environment Management hub is deployed in the J2EE containers as web application modules. They can be managed like any of the standard web application modules.

Environment Management hub directories are created on the J2EE container for the hub. For Oracle WebLogic, the directory is *PIA_HOME*\webserv*domain*\applications\peoplesoft\PSEMHUB

The required JAR files for the Environment Management hub are installed in the WEB-INF\lib subdirectory.

Agents

An Environment Management agent is a Java executable installed on the servers in a PeopleSoft environment, such as application servers, Process Scheduler servers, web servers, and so on. The Environment Management agent initiates communication with the hub and is assigned a unique peer ID. This ID persists and is reused for later connections by the agent.

The primary function of the agent is crawling the managed servers to identify manageable components. The metadata of the search results of the crawling are saved to the local hard disk. On startup, if the agent detects missing metadata, it recrawls the hard disk for manageable components. You can configure the drives and directory paths used for crawling.

The agent also publishes managed server information to the hub. After detecting a manageable component, the agent reads the non-sensitive information from configuration files of the component. Some relevant information that is related to environment and patch levels is also fetched from the database with which the application server or Process Scheduler communicates. The agent publishes this information to the hub upon initial connection and upon a recrawl or revalidate.

The agent also determines heartbeat and command execution. On every heartbeat, the agent pings the server to determine whether it has any pending messages. If there are pending messages for the agent, the messages are retrieved from the hub and carried out locally on the agent machine.

Note: You install the Environment Management agent by running the PeopleTools CD installation. The Environment Management agent is installed in the PSEMAgent directory in your *PS_HOME* with the server installation. If additional components are installed in the same *PS_HOME* location, the installer warns you that existing software may be overwritten.

Note: Multiple EM Agents can be run, but they must be run using a different agentport.

See *PeopleTools installation* documentation for your database platform.

Viewer

The Environment Management viewer is a command-line tool enabling you to view data stored on the Environment Management hub. This data is saved in an XML file that contains data that is specific to individual customer sites—such as, information about environments, software updates, hosts, file servers, application servers, PeopleSoft Process Scheduler servers, and web servers. Users can view this static data in HTML.

The Environment Management viewer may only be executed on PeopleSoft web servers, from its installed location in *PS_HOME*\PSEMViewer. You don't have to carry out any additional installation steps to install the viewer.

EMF Terminology

The following terms relate to Environment Management:

Manageable component	A component that can be individually managed from the Environment Management hub. A manageable component for PeopleSoft is typically a file server, an application server, a web server, individual hosts, or a PeopleSoft Process Scheduler server.
Peer	A manageable component that is involved in a transaction with one or more peers in the Environment Management by using the hub as the intermediary. A peer may also be responsible for delegation of management responsibility to a collection of manageable components. Examples of peers are agents, Change Assistant, and the Environment Management viewer.
Heartbeat	“I am alive messages” sent by every peer to the hub. The default interval is configurable. On every heartbeat, the peer pings the server to see if it has any pending messages. If it does, the messages are taken and carried out.
Environment	All of the manageable components in the enterprise that share the same globally unique identifier (GUID) in the database. There can be more than one instances of a type of managed component in an environment. For example, development environments can contain several application servers, Process Schedulers, and web servers.
GUID	Uniquely identifies a particular PeopleSoft system. PeopleSoft assigns a unique value, referred to as a GUID, to each PeopleSoft application installation. This value can't be customized. When an Environment Management agent notifies the hub that it has found a manageable component belonging to an environment, if the GUID of the environment is not recognized, the hub creates a new environment representation.
Crawling	The process of scanning the hard disk for known PeopleSoft patterns for manageable components. The hub has a set of configurable parameters by which the recrawl intervals can be altered. Based on this, the hub can issue a recrawl command

to the agents to discover information about newly installed or changed configurations.

Note: During crawling, the Environment Management Framework uses the psserver property in the peopletools. properties file within each PS_HOME installation to determine the type of server(s) installed. For example, APP is application server, BATCH is Process Scheduler, DB is database server, WEB is web server, and FILE is file server.

Note: Recrawling includes revalidating.

Revalidate

The process of checking whether the last set of managed components that have been discovered is still valid. The agent iterates through the list of components that have been discovered from the last recrawl. It then checks whether the current set of configuration parameters for the managed components have changed the management scope for the component. If so, the information is updated. If the new set of configuration options has made the component not usable, it is removed from the list of managed components. This information is updated in the hub the next time the agent communicates with the hub.

Change Assistant

Change Assistant is a standalone application that enables you to assemble and organize the steps necessary to apply updates and fixes for PeopleSoft application maintenance updates as well as performing upgrades. Change Assistant automates many of the steps, but will prompt you and guide you through any manual steps with embedded documentation.

You use Change Assistant for these situations:

- Selecting and applying updates related to PeopleSoft application maintenance. Change packages are automatically created based on the customers selection of the updates to apply.
- Performing upgrades, which includes PeopleTools-only upgrades and PeopleSoft application-only upgrades.
- Applying database changes for PeopleTools patches.

Note: You use Change Assistant to apply updates that have a .ZIP extension. You *do not* use Change Assistant to apply updates that have an .EXE extension.

You can use PeopleSoft Update Manager for select applications releases to search for updates you may need for your environment and to review the potential impact of the selected changes. PeopleSoft Update Manager will automatically include requisite updates based on the items you select; it will show you what has already been applied to your target environment; and, it will let you review the changes included

with each update before selecting it. You can then create a custom change package definition with your selected updates.

Important! The change package definition created only guarantees the requisites for the specific target selected. If the same change package is applied to a different target, you may encounter errors or warnings if the environment is not at the same level as the target specified when the package definition was created.

Understanding Change Assistant Versions

You can use a newer version of Change Assistant than the version of PeopleTools you are using. However, the environment management agents and hub should be at the same release level as Change Assistant.

For PUM , your PeopleTools version for target database could be at 8.54.03, but you can run Change Assistant at the 8.57.03 level, in this case the environment management hub and agents would run on 8.54.03.

For non PUM-enabled environments, the environment management agents and hub must be at the same release/patch level as Change Assistant, in order to apply updates. For example, your PeopleTools version could be at 8.53.09, but you can run Change Assistant at the 8.53.14 level as long as the agents and hub are also at the 8.53.14 level.

Maintaining Change Assistant for PUM Enabled Updates

When you install a new PUM Source, you will need to install the new Change Assistant version for that PUM image. Change Assistant is installed from the tools_client directory using SetupPTClient.bat.

See Configuring the Microsoft Windows Client Running Change Assistant

Maintaining Change Assistant for Non-PUM Enabled Updates

Periodically, Oracle provides patches for PeopleTools that supply fixes to critical defects. With each PeopleTools patch version, Oracle provides the following updates in executable format:

Executable	***Description***
version.exe For example, 85014.exe	Contains all current fixes to the entire PeopleTools product, including those fixes to the software update technology, which includes Change Assistant and all environment management elements (agents, hub, and so on).
version-PSCA.exe For example, 85014-PSCA.exe	Contains *only* the current fixes for Change Assistant and all environment management elements (agents, hub, and so on). The software update technology runs independently from the rest of PeopleTools. **Important!** This only applies to non PUM_enabled applications.

Note: If you install a complete PeopleTools patch, you do not need to apply the -PSCA patch individually. Apply the -PSCA patch individually only if you are running non PUM-enabled applications and interested in just the fixes for the software update tools and not the fixes for the entire PeopleTools product.

The -PSCA patch enables you to apply only the latest fixes to Change Assistant and the environment management framework without applying the latest full PeopleTools patch. By doing so, you can avoid the regression testing that typically occurs after applying a full PeopleTools patch.

PeopleSoft Update Manager

PeopleSoft Update Manager (PUM) is a tool which runs on the PeopleSoft Update Image database.

PeopleSoft Update Images (PI) are fully functioning instances of the PeopleSoft environment. There is one PeopleSoft Update Image per product family (database instance) and they will be released periodically according to the image schedule posted on the PeopleSoft Update Manager Home Page. The PeopleSoft Update Image is the master source environment from which you will pull the updated objects, create a custom change package, and apply updates to your environment. The PeopleSoft Update Image for your application is cumulative so you will download the most current PeopleSoft Update Image and get all of the updates that you need.

There are two types of downloads for your PeopleSoft Update Image:

- *VirtualBox*: Use this download to deploy the PeopleSoft Update Image using a VirtualBox Virtual Machine. This is similar to the installation process used with images using PeopleTools 8.53 and 8.54.
- *NativeOS*: This download is for Linux and Windows customers. This download allows you to apply your PeopleSoft Update Image directly to your OS or a virtualization platform without having to use VirtualBox.

The PeopleSoft Update Manager PIA Application and the PeopleSoft Update Image work together; the PeopleSoft Update Image contains the updates and the PeopleSoft Update Manager PIA Application is the searching tool and custom change package definition generator. PeopleSoft Change Assistant orchestrates the entire process flow. Change Assistant is the tool used to analyze and compare changes, to apply the changed objects to your environment, to add in your customizations, and to generate custom change packages.

Software Update Process

The software *update* process refers to applying updates to your PeopleSoft application. The procedure for applying updates depends on whether the PeopleSoft application is PUM enabled.

PUM Enabled PeopleSoft Systems

All PeopleSoft updates for a product family are made available on a PeopleSoft Update Image. The PeopleSoft Update Image contains the very latest PeopleSoft working database, applications, managed objects, codeline, and the data and metadata required to use the PeopleSoft Update Manager. The PeopleSoft Update Image is posted and downloaded from My Oracle Support (MOS). The schedule for images will be posted in advance on MOS for each PeopleSoft application database instance.

Software update tools include:

- Environment Management Framework

  Used to collect environment information.

  See Running the Environment Management Hub

- Change Assistant

  Used to upload target database information to the PeopleSoft Update Image, create change packages from the change package definitions created using PeopleSoft Update Manager, and to the apply change packages to target databases.

  See Applying Updates To A Target Environment

- PeopleSoft Update Manager PIA Application

  The Update Manager Dashboard provides a central location for all update tasks including:

  - PUM Analytics
  - Defining Change Packages

    Wizards are used to search for updates and create custom change package definitions.

  - Update Manager Utilities
  - Maintaining Customizations Repository
  - Maintaining Test Repository

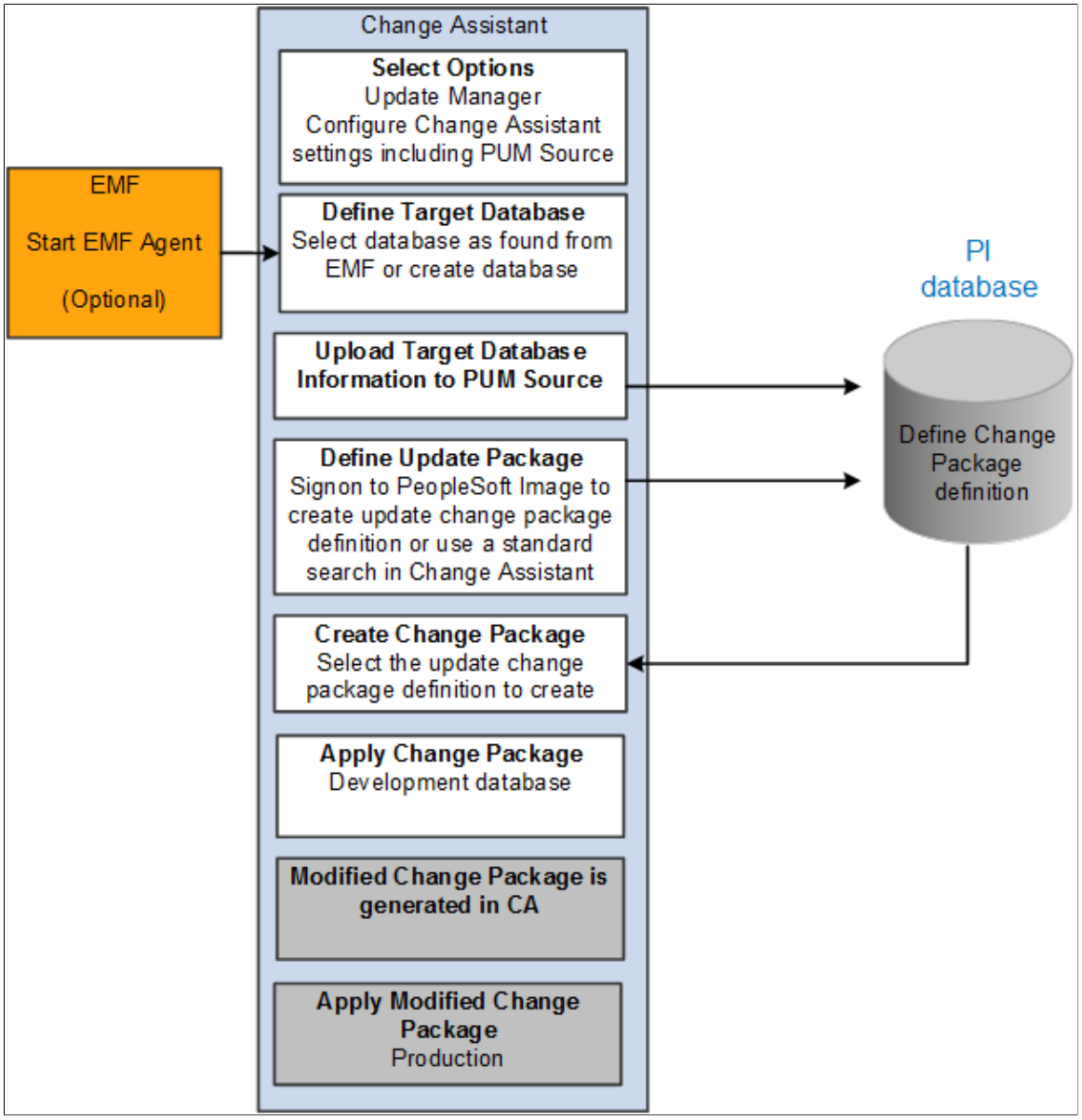
  See Update Manager Dashboard Overview

- Change Packager

  Creates the change package in Change Assistant based on the change package definition created in PUM.

Image: Software Update Process in Change Assistant

This diagram illustrates the Software Update process steps for the initial pass.



Steps Used in Software Update Process

This table lists the steps used to search for and apply updates to your development or target database.

Step	*Description*
1	Download and install the latest PeopleSoft Update Image from MOS.
2	Configure your windows client to access the PeopleSoft Update Image (PI) database.
3	(Optional)Install and configure EMF on the target environment.

Step	Description
4	Install Change Assistant on the windows client.
5	(Optional) Start EMF Agent.
6	Start Change Assistant and configure for Update Manager. This includes defining the PUM Source. **Note:** Update Manager action.
7	In Change Assistant, Select Tools, Upload Target Database Information to PUM Source.
8	In Change Assistant, Select Tools, Define Change Package to create a change package. From this option, you can either: • Sign on to the PeopleSoft Update Image and use PUM PIA application to search for desired updates, review potential update impacts and changes, and generate your update change package definition. • Create a change package in Change Assistant based on available search criteria.
9	In Change Assistant, Select Tools, Create Change Package to create the change package based on the change package definition defined in step 8.
10	In Change Assistant, Select Tools, Apply Change Packages to create the change package and apply it to your target database. Use the *Initial Pass* option to identify your customizations and adjust the project accordingly. Reapply any customizations as necessary.
11	As part of the initial pass process, Change Assistant will create a new change package with all of your customizations that can be applied to your other environments, using the *Subsequent Pass* or *Move to Production Pass* option.

Non-PUM Enabled PeopleSoft Systems

This software update process is only used for PeopleSoft systems that are not PeopleSoft Update Manager enabled. For PUM enabled systems refer to the previous section.

This software *update* process refers to applying change packages, bundles, and maintenance packs to your non-PUM enabled PeopleSoft application. For example, PeopleSoft application development teams periodically post change packages containing fixes to various application elements, such as pages and PeopleCode programs, that you can download and apply to your PeopleSoft system. You use Change Assistant to apply software updates.

Step	Description
1	Install and configure Change Assistant and the Environment Management components.
2	Use My Oracle Support (MOS) to search for updates.

Step	Description
3	Download the Change Packages from MOS.
4	After you have downloaded the change packages, you can then apply them in a batch or individually. If prerequisites or post-requisites are required, they will be included in the list as well.

Software Upgrade Process

Selective adoption process for application maintenance was introduced with PeopleSoft 9.2. The last application upgrade needed for your database will be to upgrade the application to 9.2. The software *upgrade* process involves installing a new version of PeopleTools and a new version of an existing PeopleSoft application.

This process uses Change Assistant, and the Environment Management Framework when running remote upgrade processes. If you are upgrading to PeopleSoft 9.2 consult your specific application's install and upgrade documentation.

Source and Target Databases

In various places within this PeopleBook, as well as any PeopleSoft documentation related to upgrades or database compares, the terms *source* and *target* are used. Knowing the meanings of these terms helps you to understand the context of a description or step.

During a PeopleSoft update or upgrade, in most cases, you copy application definitions (such as pages and records) from a *source* database to a *target* database. The definitions of these terms are:

source database The source database is the database *from which* the new changes are coming.

target database The target database is the database *to which* you are moving the new changes.

Note: Depending on whether you are performing an upgrade or update, and the stage within the process you are, these terms are relative and can refer to different databases.

Change Assistant Databases and Terminology

The database definition will include:

- Database name
- Database type
- User Ids and passwords
- SQL query executable

- SQR Settings
- Products

  Change Assistant will query the database for the products.
- Languages

  Change Assistant will query the database for the languages.
- Paths to the current home directories.
  - PS_HOME
  - PS_APP_HOME
  - PS_CUST_HOME
- For upgrades, the database will also include paths to the new home directories.

Paths to Home Directories

The order by which the PeopleTools runtime will pick up objects from the file system is as follows:

1. PS_CUST_HOME
2. PS_APP_HOME
3. PS_HOME

Change Assistant will loop through the paths in order of precedence until it finds the first instance of the file object at which time it will execute the step.

Databases Used for Each Action

Action	***Databases and Paths Used***
Apply Update	Target database with path for current environment.
Update Manager	Target database with path for current environment. Source database (PeopleSoft Update Image) with path for current environment.
Application Upgrade	PeopleSoft Update Image with path for current environment. Certified Upgrade Source Image with path for current environment. Copy of Production with path for current environment and new PS homes. Production database with path for current environment and new PS homes.

Action	***Databases and Paths Used***
Upgrade PeopleTools	Target database with path for current environment and a path for the new PeopleTools home.
Copy/Compare Managed Objects or Merge Selected Object Types	Multiple databases can be copied, compared and merged. Compare and copy use a source and target database with paths for the current environment. 3 Way Merge uses a a parent database and 2 child databases, all with a path for the current environment.

Chapter 3

Configuring and Running Environment Management Components

Configuring the Environment Management Hub

Before you can run the Environment Management hub, you must ensure that it's properly configured.

The hub issues automatic recrawl and revalidate commands to the agents, and it can be configured to accept automatic updates from Change Assistant. You configure the hub by setting appropriate parameters in its configuration file, which is located in *PIA_HOME*\webserv*domain*\applications\peoplesoft\PSEMHUB\envmetadata\config\configuration.properties.

The following table describes the primary configuration.properties parameters for the hub:

Configuration Parameter	***Description***	***Default Value***
recrawlinterval	The interval, in hours, between two successive recrawl commands that have been issued to a peer. The server issues recrawl commands only to agents that are connected to the hub and have no pending messages in the queue. This configuration parameter is ignored by the agent.	*24* hours **Note:** A *0* value means that it will not recrawl. Recrawling includes a revalidating.
revalidateinterval	The maximum time, in hours, between two successive automatic revalidates that the hub issues.	*6* hours **Note:** A *0* value means that it will not revalidate.

Hub Security Considerations

Environment Management framework does not support HTTPS connections. The agent and hub communicate using standard HTTP only.

For a single server configuration on WebLogic, PSEMHUB is a web application running within PIA. If PIA is configured to be accessed using HTTPS, you need to configure a separate server instance for the hub to enable the HTTP connections between agents and hub.

Configuring Hub Logging

The Environment Management hub logs are located in *PIA_HOME*\webserv*domain*\applications\peoplesoft\PSEMHUB\envmetadata\logs.

Edit the .....\PSEMHUB\envmetadata\config\Logconfig.properties to configure logging for the hub. The following two Logconfig.properties parameters, which determine the maximum size of each log file, and the amount of log files rolled over, can be changed:

- log4j.appender.R.MaxFileSize=1024KB
- log4j.appender.R.MaxBackupIndex=1"

Running the Environment Management Hub

This section discusses how to:

- Run the hub on a single server.
- Run the hub on multiple servers.

Before you run the Environment Management agent, you must first ensure that it's properly configured in the hub's configuration.properties file.

Running the Hub on a Single Server

On a single server, the PSEMHUB starts within PIA, so use the command you use for your web server to start PIA.

Running the Hub on Multiple Servers

Environment Management also supports multi-server installs. However, the Environment Management hub does not support clustering. The Environment Management hub persists metadata into the file system on the J2EE container. This is not replicated in a clustered environment. You experience erroneous behavior when you attempt to run the Environment Management hub in a clustered environment.

The Environment Management hub deals with large binary files that Change Assistant sends to the agents by using the hub as the intermediary dispatcher. This can create significant overhead to a production system that is running on a multi-server clustered environment. Therefore, PSEMHUB must always run on separate servers dedicated to the Environment Management hub requests.

Starting PSEMHUB on Multiple Servers on WebLogic

In a multiple server configuration, the PSEMHUB server listens on port *8081*, by default.

Use the following steps to start the WebLogic hub:

1. Configure the Environment Management hub to run on a server that is different from the PeopleSoft Internet Architecture servers.
2. Configure the reverse proxy to redirect any network traffic with a uniform resource identifier (URI) of PSEMHUB to the server running the Environment Management hub.

   On the machine from which the RPS application runs, access the HttpProxyServlet folder.

   Select PSEMHUBHttpProxyServlet and click the Init Params tab. Replace WebLogicHost , WebLogicPort with the host and port from which your PSEMHUB server listens.

Note: Save your new configuration.

Use the following commands in sequence to start the Environment Management hub in a multi-server installation:

```
...\StartWebLogicAdmin.cmd (start the admin server)
...\StartManagedWebLogic.cmd RPS
...\StartManagedWebLogic.cmd PSEMHUB
```

Then use the following URL to access PSEMHUB: http://*RPS host*:*RPS port*/PSEMHUB/hub.

Note: For a single server install using a reverse proxy, this additional step needs to be performed in order for the Environment Management hub to be able to process the PSEMHUB requests. You need to edit: *PIA_HOME*\webserv*domain*\applications\HttpProxyServlet\WEB-INF\web.xml. In the PSEMHUBHttpProxyServlet section, change the default port from 8001 to 80.

The following is a sample configuration:

```
- <servlet>
  <servlet-name>PSEMHUBHttpProxyServlet</servlet-name>
  <servlet-class>weblogic.servlet.proxy.HttpProxyServlet</servlet-class>
- <init-param>
  <param-name>WebLogicHost</param-name>
  <param-value>localhost</param-value>
  </init-param>
- <init-param>
  <param-name>WebLogicPort</param-name>
  <param-value>80</param-value>
  </init-param>
 </servlet>
```

Stopping the PSEMHUB on Multiple Servers on WebLogic

In a multiple server environment, target the server which is dedicated to PSEMHUB then execute *PIA_HOME*\webserv*domain*\stopWebLogic.cmd PSEMHUB on Windows and *PS_HOME*/webserv/*domain*/stopWebLogic.sh PSEMHUB on UNIX. This will only stop the server servicing PSEMHUB requests. The other servers will still be up processing PIA requests.

The following is a sample XML configuration file for the WebLogic multi-server installation:

```
1.1 Sample XML configuration file for WebLogic Multiserver installation
<UriGroup Name="default_host_server1_st-lnx06_Cluster_URIs">
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid" Name="/*" />
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid"
Name="/PSIGW/*" />
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid"
Name="/PSINTERLINKS/*" />
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid"
Name="/PSOL/*" />
</UriGroup>
- <UriGroup Name="default_host_server1_pt-lnx03_Cluster_URIs">
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid" Name="/*" />
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid"
Name="/PSIGW/*" />
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid"
Name="/PSINTERLINKS/*" />
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid"
Name="/PSOL/*" />
</UriGroup>
- <UriGroup Name="default_host_server1_pt-ibm15_Cluster_URIs">
  <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid"
Name="/PSEMHUB/*" />
```



```
</UriGroup>
```

Configuring an Environment Management Agent

Before you can run an environment management agent, you must ensure that it's properly configured. You configure the agent by making appropriate entries in its configuration.properties file, which is located under:

PS_HOME\PSEMAgent\envmetadata\config

The following table describes the configuration.properties parameters for the Environment Management agent:

Configuration Parameter	***Description***	***Default Value***
hubURL	The URL that contains the host name and the port number of the machine on which the Environment Management hub is running (inside a J2EE container).	http://*hostname*:*port*/PSEMHUB/hub.
agentport	A port that the agent uses for internal life cycle management.	5283.
pinginterval	The interval, in milliseconds, between two successive attempts that the peer makes to contact the hub. All peers that access this configuration file have the same ping interval.	10000 (in milliseconds for the heartbeat). **Note:** The minimum required pinginterval value is 1000.
windowsdrivestocrawl	On Microsoft Windows, the set of local drives or directory paths where PS_HOME, PS_CFG_HOME, PS_APP_HOME , and PIA_HOME are located. Separate the drive letters or directory paths with spaces and a pipe symbol (|).	c: | d: **Note:** Do not leave a trailing '/' or '\' character at the end of the path.
unixdrivestocrawl	On UNIX, the set of local drives or directory paths where PS_HOME, PS_CFG_HOME, and PIA_HOME are located. **Note:** The environment variable for PS_APP_HOME should be set in the application server/batch server configuration.	$HOME **Note:** Do not leave a trailing '/' or '\' character at the end of the path.
chunksize	Only applicable to large files, which may be chunked when sent. The chunksize represents the maximum size in bytes of each chunk.	1048576 (1 MB) (used for large file transfers).

Configuring Agent Logging

The Environment Management agent's logs are located under *PS_HOME*\PSEMAgent\envmetadata\logs.

Edit *PS_HOME*\PSEMAgent\envmetadata\config\Logconfig.properties to configure the logging for the agent.

The following parameters determine the maximum size of each log file and the amount of log files rolled over. You can change the values of these parameters.

- log4j.appender.R.MaxFileSize=1024KB
- log4j.appender.R.MaxBackupIndex=1"

Configuring PS Agent Home

If the environment variable PS_AGENT_HOME is not set, EMF writes to PS_HOME, which restricts the ability to run multiple agents specific to each application simultaneously on a shared PS_HOME. This also poses a security concern as users under which the EM Agent runs must have write access to PS_HOME.

Set the environment variable PS_AGENT_HOME to the directory where you want to write the environment management metadata. When you launch PSEMAgent, the system will check for the PS_AGENT_HOME location and copy the necessary files to the PS_AGENT_HOME directory and log all activity in that directory.

Note: If you are using a Portable PS_HOME, you must set the PS_AGENT_HOME variable to your Portable PS Home location.

Configuring Agents With a Secure PS_HOME

Change Assistant deploys the updates to the PS_HOME using the agents running on the managed servers. Therefore, the agent running on a server should have write access to the PS_HOME and its subdirectories.

Note: While specifying the crawl path in configuration.properties, make sure that the decoupled configuration home (PS_CFG_HOME) is also included.

Related Links

"Working with the Default PS_CFG_HOME" (PeopleTools 8.57: System and Server Administration)
"Securing PS_HOME on UNIX" (PeopleTools 8.57: System and Server Administration)
"Securing PS_HOME on Windows" (PeopleTools 8.57: System and Server Administration)

Running an Environment Management Agent

This section discusses how to:

- Run an agent.
- Start an agent automatically in Windows.

Running an Agent

Before you run an Environment Management agent, you must ensure that it's properly configured in the agent's configuration.properties file.

Starting the Agent

At a command prompt, navigate to *PS_HOME*\PSEMAgent.

Use one of these scripts to start the Environment Management agent:

- On Microsoft Windows, run *PS_HOME*\PSEMAgent\StartAgent.bat.

  Note: If you want the agent to start automatically when the machine starts, use the Microsoft Windows service that's delivered as part of PeopleTools. Or, you can add the script to the startup applications.

- On UNIX, run *PS_HOME*/PSEMAgent/StartAgent.sh.

  Note: If you want the Environment Management agent to start automatically on UNIX when the machine starts, add StartAgent.sh to the login/boot scripts.

The first time an agent starts, it crawls the machine to locate PeopleSoft elements on that machine. The results of searching the hard disk are saved in the PS_AGENT_HOME\envmetadata\data\search-results.xml file.

Note: When starting an agent manually from the command prompt or from a script, the command prompt will continue to stay open, and it is normal to see the output of the periodic heartbeat events ("sending pulse") in the command prompt as the agent communicates with the hub. By default these "pulses" are every 10 seconds, except when environment information is being uploaded to the hub. You can configure the agent to run in the background using the provided Windows service, and on UNIX by using the `nohup` command. These options are documented in other sections of this PeopleBook.

Note: Only one Environment Management agent can be started per machine. If an agent is already started, you may receive error messages indicating that the agent cannot be started because there is already one running on the machine.

See Starting an Agent in the Background on UNIX.

See Starting an Agent With PSEMAgent Windows Service.

Starting the Agent on a Secure PS_HOME

On Microsoft Windows:

1. Create a new shortcut from the desktop (right-click, New, Shortcut).
2. In the Type the location of the item enter:

   <PS_HOME>\PSEMAgent\StartAgent.bat -u :<domainname>\<username>

   For example:

   c:\ptinstalls\pt851\PSEMAgent\StartAgent.bat -u :example.com\user

Where the user specified has write access to PS_HOME.

Note: When you run <PS_HOME>\PSEMAgent\StartAgent.bat -u :<domainname>\<username>, the %TEMP% directory is used. Both the user that runs the command and the "runas" user need write/execute access to the %TEMP% directory.

---

3. Click Next, and enter a name for the shortcut.
4. Use this shortcut to start the agent.

On UNIX:

1. Log in as the user who has write access to the PS_HOME.
2. PS_HOME/PSEMAgent/StartAgent.sh.

See "Securing PS_HOME on UNIX" (PeopleTools 8.57: System and Server Administration).

Stopping the Agent

Use one of these scripts to stop the Environment Management agent:

- On Microsoft Windows, run *PS_HOME*\PSEMAgent\StopAgent.bat.
- On UNIX, run *PS_HOME*/PSEMAgent/StopAgent.sh.

Recrawl

If you install new software components, the running Environment Management agent doesn't automatically detect them. This is because, to improve performance, the agent doesn't crawl every time it starts up. Instead it crawls only if the search-results.xml file does not exist.

You can force a recrawl and make the new components manageable by reissuing the StartAgent command with the recrawl option:

1. Open a new command line window.
2. Change directories to *PS_HOME*\PSEMAgent.
3. Issue the following command:

   ```
   StartAgent recrawl
   ```

   This forces a recrawl and creates a new search-results.xml file. If an agent is already running, it publishes the results to the hub.

If the running Environment Management agent is connected to the hub constantly, the recrawl interval occurs every 24 hours by default. If the agent has not been connected to the hub for a few days, the hub requests the agent to recrawl when the agent contacts the hub the next time.

Note: Recrawling includes revalidating.

Note: The recrawl process assumes the Environment Management agent is running. If it is not running, you may see error messages in the output. It is recommended that before running a recrawl, you make sure the agent is running.

Revalidate

If the Environment Management agent does not recognize any of the installed components, the search-results.xml file may not exist or may contain only an entry for Host. The problem may be that the agent needs to have permission to read directories as well as execute programs. Grant these permission for the agent. Also check whether the agent has permission to create a file on the local file system. Finally, check whether the disk is full. The agent might have no disk space to create a search-results.xml file.

If the hub is not running, you may receive the following error messages in the agent log or console:

- Broken connection - attempting to reconnect.
- RemoteException while connecting to server - retrying attempt 1.
- RemoteException while connecting to server - retrying attempt 2.
- RemoteException while connecting to server - retrying attempt 3.

  Once the Environment Management hub is back up, the agent will successfully connect. There's no need to stop and restart the agent.

Note: If you are performing a recrawl, you don't need to separately revalidate.

Command-Line Arguments for the Agent

You can run these command-line arguments with the startAgent.bat (or startAgent.sh) script.

Argument	***Description***	***Sample Output***
version	Returns the version of the agent.	Version:8.45 Build Number: 109

shutdown	Shuts down a previous instance of the agent if it is running.	If the agent does not exist:
		`Shutting down Agent....`
		`Unable to detect a running agent...`
		`Instance does not exist`
		If the agent exists:
		`Shutting down Agent....`
		`Shut down normally`

url	Prints the URL of the hub with which the agent is configured to communicate.	http://192.0.2.1:80/PSEMHUB/hub
validate	Validates the current set of managed components that have been discovered from the last crawling by the agent.	Not applicable (NA)

Argument	*Description*	*Sample Output*
recrawl	Recrawls the hard disk to detect new configurations. Recrawls the detected database environments to update database information. The current search-results.xml file is backed up. **Note:** Recrawling includes revalidating.	NA
isrunning	Returns true if an agent is already running and false if an agent is not already running.	NA
remove	Removes the peer and all its registered components from the hub.	Removal Completed- PeerID 2 has been removed. Removal Failed- PeerID 2 could not be removed from the hub.

Starting an Agent in the Background on UNIX

Use the UNIX `nohup` command with the StartAgent.sh script to start an agent automatically and run in the background. This enables you to avoid having a command prompt open at all times showing the constant heartbeat of the agent. You can specify an output file to store heartbeat information.

For example,

```
nohup ./StartAgent.sh > agent_output.log &
```

Starting an Agent With PSEMAgent Windows Service

You can set an Environment Management agent to start automatically when your Environment Management machine boots and run in the background. This enables you to avoid having a command prompt open at all times showing the constant heartbeat of the agent.

For this option, use the *PSEMAgent* Windows service that's delivered as part of PeopleTools.

Installing the PSEMAgent Service

You install the PSEMAgent service from a command prompt. Copies of the install program are located in two places:

PS_HOME\bin\client\winx86

PS_HOME\bin\server\winx86

To install the PSEMAgent service:

1. At a command prompt, change to either location of the install program.
2. Enter the following command:

PSEMAgentService /install *PS_HOME*\PSEMAgent

Where *PS_HOME* is the PeopleTools installed location.

The PSEMAgent service is now installed, but not started. It's configured by default to start automatically when the system boots, and to log on using the local system account. You can start it manually, or wait for the next reboot.

Note: The PSEMAgent service is configured to start as an automatic service, by default. However, the Hub must be running prior to the PSEMAgent service attempting to start, or the PSEMAgent service will not start successfully. It is recommended to set the PSEMAgent service to manual start in the Windows Services interface. Then, to start the PSEMAgent service, start it manually from the Services interface.

Starting the PSEMAgent Service

You can start the PSEMAgent service from a command prompt, or from the Windows Services control panel. The name of the service follows this convention: *PeopleSoft Environment Management Agent-<release>*.

- To start the PSEMAgent service from a command prompt, use the NET START command. For example:

  ```
  NET START "PeopleSoft Environment Management Agent-8.50"
  ```

- To start the PSEMAgent service from the Windows Services control panel:

  1. Open the Windows Control Panel, then double-click Administrative Tools, then Services.
  2. In the Services control panel, right-click the *PeopleSoft Environment Management Agent* entry and select Start.

Stopping the PSEMAgent Service

You can stop the PSEMAgent service from a command prompt, or from the Windows Services control panel.

- To stop the PSEMAgent service from a command prompt, use the NET STOP command. For example:

  ```
  NET STOP "PeopleSoft Environment Management Agent-8.50"
  ```

- To stop the PSEMAgent service from the Windows Services control panel:

  1. Open the Windows control panel, then double-click Administrative Tools, then Services.
  2. In the Services control panel, right-click the PeopleSoft Environment Management Agent entry and select Stop.

Uninstalling the PSEMAgent Service

You uninstall the PSEMAgent service from a command prompt.

To uninstall the PSEMAgent service:

1. At a command prompt, change to either location of the uninstall program.

   Copies of the uninstall program are located in two places:

   PS_HOME\bin\client\winx86

   PS_HOME\bin\server\winx86

2. Enter the following command:

   PSEMAgentService /uninstall

   PSEMAgentService determines if the service is currently started, and automatically stops it before completing the uninstall operation. You'll see messages reporting on the status of the operation.

   Note: If the service is currently stopped, you'll see an error message indicating that it can't be stopped. Regardless of this, the uninstall operation completes normally.

Running the Viewer

To view data from the Environment Management hub:

1. Run a Java program to connect to the hub and retrieve the information in XML format.

   Run the appropriate script for your environment in from *PS_HOME*\PSEMViewer. You will be prompted for the web server's listening port.

   - UNIX: ./GetEnvInfo.sh
   - Windows: GetEnvInfo.bat

   Note: For security reasons, the Java program connects only to the local host.

2. Open *PS_HOME*\PSEMViewer\envmetadata\data\viewer.html to view the information in the generated XML file.

Configuring and Starting an Environment Management Agent on z/OS

To run an agent on z/OS, you must have installed JRE delivered with PeopleTools on the z/OS machine.

To configure and start the agent on z/OS:

1. Edit the configuration.properties file (*PS_HOME*/PSEMAgent/envmetadata/config).
2. Edit hubURL and define the hub machine name and hub port.
3. Edit unixdrivestocrawl and set it to the set of directories that need to be crawled.

4. Edit StartAgent.sh.

   On the first line, replace PS_HOME with your *PS_HOME* location.

   Edit the last line to point to your JRE location.

5. Edit StopAgent.sh.

   On the first line, replace PS_HOME with your *PS_HOME* location.

   Edit the last line to point to your JRE location.

The default charset on z/OS is EBCDIC. If you wish to view the content of *PS_HOME*/PSEMAgent/envmetadata/data/search-results.xml, you need to run the following commands:

```
cd PS_HOME/PSEMAgent/envmetatda/data
. PS_HOME/psconfig.sh
PS_HOME/bin/psuniconv utf-8 search-results.xml ccsid1047 result.txt
```

Note: To change the newline characters, use one of transformations - NewLine LF, NewLine CR, or NewLine CRLF at the end of the command. This utility is available to use in the bin directory.

This comment is also true for *PS_HOME*/PSEMAgent/envmetadata/data/matchers.xml.

You can find a viewable version of the results in result.txt. You can also FTP (binary) these files to a different machine running a different operating system and view them in any editor.

Chapter 4

Configuring Change Assistant

Installing Change Assistant

Change Assistant runs on supported Microsoft Windows workstations and limited use on Linux.

Complete installation instructions for Change Assistant appear in your PeopleSoft 9.2 Application Installation guide.

See *PeopleSoft 9.2 Application Installation* for your database platform: Installing PeopleSoft Change Assistant

For hardware and software requirements, consult *My Oracle Support, Certifications*.

Microsoft Windows

Change Assistant can be installed from:

- PeopleTools Client DPK

  See Installing Change Assistant from PeopleTools Client DPK

- PeopleTools Client DPKs in Update Manager Mode

  See Installing Change Assistant for PUM

- Setup.bat

  See Installing Change Assistant Using Setup.bat

- silentInstall.bat

  See Installing Change Assistant in Silent Mode

Note: A new version of Change Assistant is delivered with each PeopleTools patch.

PeopleSoft Change Assistant installation includes the following features:

- You can install multiple instances of PeopleSoft Change Assistant (PeopleTools 8.55 and above) on one physical machine.

  Note: Multiple Instances of Change Assistant can run in parallel starting with PeopleTools 8.56, however you can not run multiple instances against the same target database. See Running Multiple Instances of Change Assistant

  ---

- You must install each PeopleSoft Change Assistant instance in a separate installation location.

- You can remove or upgrade each PeopleSoft Change Assistant instance separately.

- When you remove an installation instance, you have the option to save the existing configuration information in a group of files gathered in a zip archive. You can configure Change Assistant at a later time by importing the zip file.

Linux

When you install the PeopleTools DPK for Linux, you can select to install Change Assistant.

Linux supports a command line version of Change Assistant.

Change Assistant on Linux is not supported for target databases that are below PeopleTools 8.55.16.

Installing Change Assistant from PeopleTools Client DPK

PeopleTools Client deployment is documented in *PeopleSoft PeopleTools 8.57 Deployment Packages Installation*, Task 2-5: Deploying the PeopleTools Client DPK. The directions here only refer to the Change Assistant portion.

When you deploy PeopleTools Client in standalone mode using (`SetupPTClient.bat -t`), you will be prompted whether or not to install Change Assistant.

```
Do you want to install Change Assistant? [Y/N]:
```

If you answer y (yes), specify the installation directory, or accept the default, C:\ProgramFiles \PeopleSoftChange Assistant:

```
Please specify the directory to install Change Assistant [C:\Program Files\PeopleSo⇒
ft\Change Assistant]:
```

If you enter a directory where a previous version of Change Assistant is installed, it will upgrade that version to the new PeopleTools release/patch. If you enter a new directory, a new instance of Change Assistant will be installed.

Installing Change Assistant for PUM

Windows Client Installation is documented in *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.57),* Task 2-6: Deploying the PeopleTools Client DPKs in Update Manager Mode.

When you deploy PeopleTools Client in Update Manager Mode from the tools_client directory using (`SetupPTClient.bat`), Change Assistant is always installed for PeopleTools release of the PUM Source.

Installing Change Assistant Using Setup.bat

Setup.bat is located in the *PS_HOME*\setup\PsCA directory.

You can use Setup.bat to create a new instance of Change Assistant, update an existing instance or delete an existing instance.

Installing a New Instance of Change Assistant using Setup.bat

To install a new instance of Change Assistant:

1. From the *PS_HOME*\setup\PsCA directory, run Setup.bat.

   Note: If you have existing instances of Change Assistant and select to install a new instance the same wizard is used.

2. Enter 1 on the PeopleSoft Change Assistant menu.

3. Accept the default Destination Folder or enter the path for Change Assistant. The default destination folder is C:\PS\Change Assistant.

```
--------------------------------
PeopleSoft Change Assistant
--------------------------------
  1) New Installation
  2) Maintain or Update
  q) Quit
Command to execute (1-2, q):1

PeopleSoft will install Change Assistant to the following directory .
Destination Folder [C:\PS\Change Assistant] :
```

   If the installer detects an existing installation in the destination folder that you specified, you see a message telling you to uninstall the instance.

```
Change Assistant already installed in this path. Please uninstall it before ne⇒
w installation Exiting installer after deteciting old installation
```

4. When the copy is complete, a shortcut to the new Change Assistant will appear on your desktop.

Uninstalling PeopleSoft Change Assistant Instances in the Current Release

To uninstall an instance of Change Assistant:

1. From the *PS_HOME*\setup\PsCA directory, run Setup.bat.

2. Enter 2 on the PeopleSoft Change Assistant menu.

```
--------------------------------
PeopleSoft Change Assistant
--------------------------------
  1) New Installation
  2) Maintain or Update
  q) Quit
Command to execute (1-2, q):2
```

3. Select the installed instance you want to uninstall.

```
Please select the instance of Change Assistant :
1) Change Assistant  2 PT856.07 C:\Program Files\PeopleSoft\Change Assistant
2) Change Assistant  3 PT857.01 C:\CA

q)Quit
Command to execute (1-2, q):1
```

4. Enter 2 to uninstall the selected instance.

```
Please select the activity :
1) Upgrade Selected Instance
2) Uninstall Selected Instance
q)Quit
Command to execute (1-3, q):2
```


5. When you uninstall an instance of Change Assistant, you have the option of retaining the existing configuration. If you select 2, you will see a message that gives the name of the backupconfiguration file, such as changeassistantcfgbak.zip, and the installation location where you can find it, for example C:\Program Files\PeopleSoft\Change Assistant.

```
Please select the activity :
1)Without Retaining existing configuration
2)Retaining existing configuration
q)Quit
Command to execute (1-3, q):1
```

Updating Existing Instance of Change Assistant

To update an existing instance of Change Assistant:

1. From the *PS_HOME*\setup\PsCA directory, run Setup.bat.

2. Enter 2 on the PeopleSoft Change Assistant menu.

```
--------------------------------
PeopleSoft Change Assistant
--------------------------------
  1) New Installation
  2) Maintain or Update
  q) Quit
Command to execute (1-2, q):2
```

3. Select the installed instance you want to update.

```
Please select the instance of Change Assistant :
1) Change Assistant  1 PT856.07 C:\ca856
2) Change Assistant  4 PT857.01 C:\PS\Change Assistant

q)Quit
Command to execute (1-2, q):1
```

4. Select to upgrade the selected instance.

```
Please select the activity :
1) Upgrade Selected Instance
2) Uninstall Selected Instance
q)Quit
Command to execute (1-3, q):1
```

5. Select if you want to retain the existing configuration.

```
Please select the activity :
1)Without Retaining existing configuration
2)Retaining existing configuration
q)Quit
Command to execute (1-3, q):2
```

   If you retain the existing configuration, the configuration will be automatically imported when you open the Change Assistant instance.

Installing Change Assistant in Silent Mode

You can carry out a silent installation of PeopleSoft Change Assistant by supplying command-line parameters to a script. With silent installation there is no user interaction after you begin the installation.

You can use install and upgrade PeopleSoft Change Assistant instances in silent mode for the current PeopleSoft PeopleTools release. In addition, you can use silent mode to remove installations from the

current or earlier PeopleSoft PeopleTools releases. For example, running the silent mode installation from PeopleSoft PeopleTools 8.56 will remove a Change Assistant installation from PeopleSoft PeopleTools 8.54 or earlier, and also install the 8.56 version of Change Assistant.

The PeopleSoft Change Assistant installer includes the following files in the directory PS_HOME\setup \PsCA:

- silentInstall.bat — Use this script to upgrade or remove an existing PeopleSoft Change Assistant instance or install a new instance.

  Do not edit this file. The file includes instructions in the header portion. For more information see PeopleSoft 9.2 Application Installation on Oracle (PeopleSoft PeopleTools 8.57), “Using the Silent Mode Script”.

- CA-silentInstall-ResultCodes.rtf — Review this file to interpret the results seen in the PS_HOME \setup\psCA\setup.log file after installation.

  The file is in Rich Text Format (RTF), and is most easily read if you open it with word processing software such as Microsoft Word.

Using the Silent Mode Script

The PeopleSoft Change Assistant silent mode script requires the following command-line parameters:

- Install Home

  Specify the installation location for the PeopleSoft Change Assistant instance. If the location includes spaces, surround it with double quotes, such as "C:\Program Files\PeopleSoft\Change Assistant". You must specify a different installation location for each instance.

- Install Type

  - Specify *NEW* to create a new PeopleSoft Change Assistant instance.
  - Specify *UPGRADE* to upgrade an existing instance that was installed from the current PeopleSoft PeopleTools release.
  - Specify *UNINSTALL* to remove an existing PeopleSoft Change Assistant instance.

- Backup Config

  - Specify *BACKUP* to create a zip file containing files with configuration information. The backup file, changeassistantcfgbak.zip, is saved in the installation location.
  - Specify *NOBACKUP* if you do not want to create a backup file with the configuration information.

To use the PeopleSoft Change Assistant silent installation script:

1. In a command prompt, go to *PS_HOME*\setup\PsCA.

   Note: Do not move the file to another location.

2. Run the following command:

```
silentInstall.bat [Install Home] [Install Type] [Backup Config]
```

You must include all three parameters. For example:

- To install a new instance without retaining a configuration file.

```
silentInstall.bat "C:\Program Files\PeopleSoft\Change Assistant" NEW NOBA⇒
CKUP
```

- To upgrade an existing instance, and retain a configuration file:

```
silentInstall.bat "C:\Program Files\PeopleSoft\Change Assistant 3" UPGRAD⇒
E BACKUP
```

- To remove an existing instance, and retain a configuration file:

```
silentInstall.bat D:\CA UNINSTALL BACKUP
```

Define Environment Identification

In the browser, navigate to the PeopleTools Options page (PeopleTools, Utilities, Administration, PeopleTools Options) and make sure that the Environment Long Name and Environment Short Name are specified correctly.

The Environment Management Framework and Change Assistant use these values, along with the GUID, to identify an environment and associate environment information with a particular named environment. Likewise, it enables you to search for updates for a specific environment.

Related Links

Cloned Databases Not Being Unique

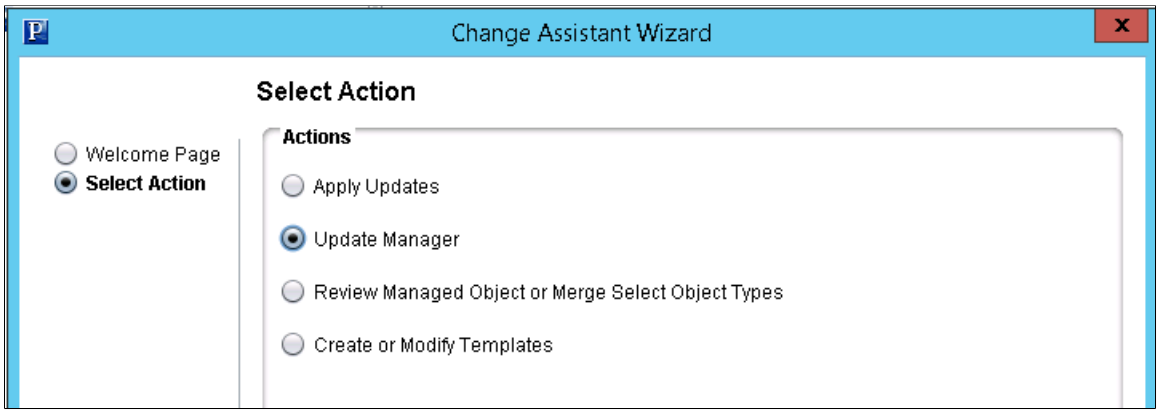
Opening Change Assistant the First Time

The first time you open Change Assistant after installing it, you will be presented with the Welcome menu. You can select not to display this page again.

Click Next to view the Change Assistant Options.

Image: Change Assistant Wizard – Select Action page

This example illustrates the fields and controls on the Change Assistant Wizard – Select Action page. You can find definitions for the fields and controls later on this page.



Depending on the action you select, the Change Assistant Wizard will guide you through the steps. Each of these actions has a topic that will provide details.

Apply Updates

Any systems that are not PUM enabled, will use the Apply Updates option to apply updates downloaded from My Oracle Support.

Apply Updates can be used with any non-PUM change packages.

See Applying Updates To A Target Environment

This option is also used for *Required For Install* fixes in PUM releases.

Update Manager

Update Manager is used to create and apply PUM Change Packages and PUM PeopleSoft Release Patches (PRP). PeopleSoft Update Images (PI) are fully functioning instances of the PeopleSoft environment that contain the updates for a PeopleSoft application. The PeopleSoft Update Manager PIA application is used in the PeopleSoft Update Image to search for updates, review potential change impact, and create a custom change package definition that is based on the updates you selected for your environment.

Update Manager action is also used to apply PeopleTools patches and upgrade PeopleTools release.

Note: Update Manager is only available for PUM enabled applications patching.

See Update Manager Action Overview

Review Managed Object or Merge Select Object Types

Provides the ability to copy and compare Managed Object projects in Change Assistant. You also have the ability to view and merge PeopleCode, SQL and XSLT.

Create or Modify Templates

Change Assistant templates are composites of all the possible steps that apply to an update or upgrade. The templates are delivered as part of the change package. Once you select a change package, the template is loaded into the Change Assistant internal storage. You can edit the template or add additional chapters, tasks and steps, if needed.

Note: In order to modify a template, you need to import the template from the change package. After making any modifications, you need to export the template into the same change package as the import in order for the template to be usable in a job.

Specifying Change Assistant Options

When you first start change Assistant, you will need to define options necessary for the selected action. Only the options related to the Change Assistant Action you selected will be displayed. Many of the options apply to all actions. If you are using the Change Assistant Wizard, after you select an action and click Next, the General Options page will be displayed.

Option	*Description*
General	The General Options define the Change Assistant PS Homes and directory paths used with associated action. Depending on the action selected, only the paths relating to that action are displayed.
PUM Source Options	The PUM Source is only used with Update Manager, to define the PeopleSoft Update Image that will be used for applying application and PeopleTools updates. For all other actions, PUM Source Options are skipped.
EM Hub Options	For Update Manager, the Environment Management Hub is used to deploy files. If you are deploying files manually, leave the Define EM Hub checkbox deselected. EM Hub is only required for traditional updates (Apply Update action).
Additional Options	Additional options include email notifications and proxy information. These options are optional and available with all actions.

Note: Once the environment has been configured, you can use Tools >Options to make any changes to the environment options.

Defining Databases

Each source or target database that is used with Change Assistant needs to be defined. When you create the database definition, the system will query the database for details including:

- If the database is Unicode
- Products
- Product Line
- Industry
- Languages
- Base Language
- PeopleTools Version

To create a new database:

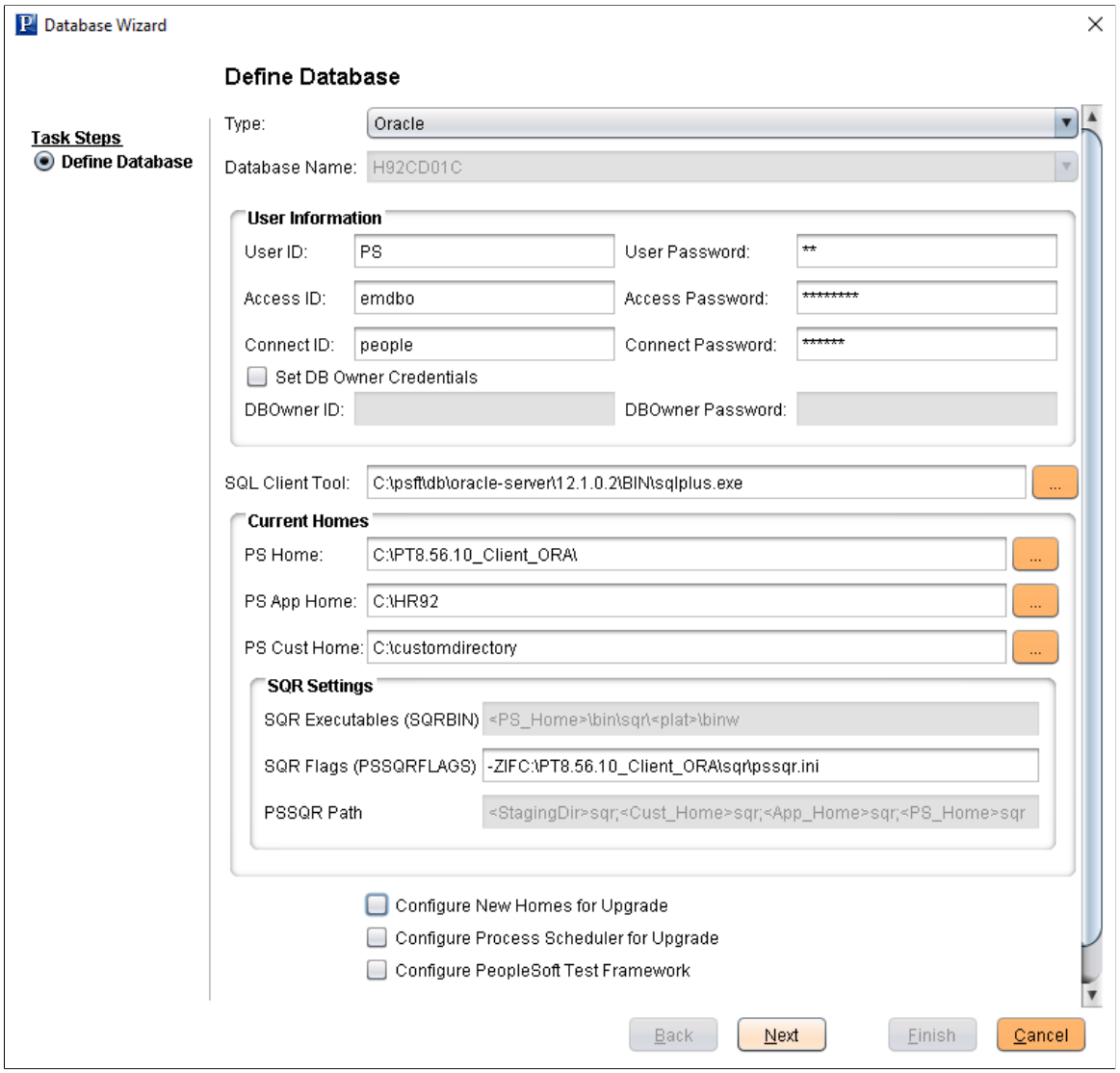
1. Access the Database Wizard using one of the following methods:
   - Directly from the Change Assistant menu, select File, New Database.
   - From another Wizard or PeopleTools Options page that includes the Create button for the database. Click Create.
2. On the Define Database page, enter the information for the database you are defining. Depending on the action you selected and the database type, complete the fields necessary.
3. Click Next.

   Change Assistant will query the database and gather additional database information.

   Note: Change Assistant will verify the connection to the database, including User ID/password, Access ID/password, and Connect ID/password. You will need to correct any errors before continuing to define the database.
4. The information is then displayed on the Additional Database Details page.
5. Click Next and the Confirm Settings page is displayed.
6. Click Finish.

Image: Database Wizard - Define Database page

This example illustrates the fields and controls on the Database Wizard - Define Database page. You can find definitions for the fields and controls later on this page.



The Database Configuration Wizard provides a separate configuration page for each database type, containing these settings:

Database Type

Select a database platform from the list. Based on signon requirements for the database platform that you select in this field, other fields will be disabled or become available for entry.

Database Name

Enter a name of up to 8 characters for the database.

If EMF is configured and running, you can select a database from Hub.

Database Server Name

Only applies to Informix, Microsoft SQL Server and Sybase.

If applicable, enter a name of up to 256 characters for the database server name.

Owner ID

(Used for DB2 z/OS only). Enter the owner ID used for the tables.

User ID and **Password**

Enter the PeopleSoft user ID and password for the database that will be used to perform the upgrade. Examples of user IDs are VP1 and PS.

Access ID and **Password**

The access ID has full access to all objects in the database.

Your access ID is *not* a PeopleSoft user ID, such as *VP1* or *PS*. Examples of access IDs are *sa* or *sysadm*.

Note: For Microsoft SQL Server the access ID must also have System Administrator privileges.

Note: The IDs and passwords are case-sensitive.

Note: The access ID is often the database owner. It is not normally the same value as the connect ID, which has limited access to the database.

See "Access IDs" (PeopleTools 8.57: Security Administration).

Connect ID and Password

Enter the connect ID and password for the target database. The default connect ID is people.

Set DB Owner Credentials

If this check box is select, then the DB Owner ID and DB Owner Password Fields are required fields.

The DB Owner is only used with the step type SQLScript-DBO. When the SQLScript-DBO step executes, the *Set DB Owner Credentials* option is checked prior to issuing the commandline. If the attribute is disabled, the job will exit with an error stating the credentials are not set, rather than attempting to execute the command and failing.

DB Owner ID and Password

Enter the Database Owner ID and password for the target database.

SQL Client Tool

Select the correct executable for the database platform. Valid SQL query executables for each platform are:

- DB2: db2cmd.exe
- Microsoft SQL Server: sqlcmd.exe
- Oracle: sqlplus.exe
- Informix: dbaccess.exe

- Sybase: isql.exe

Note: Change Assistant uses the command line version of the .exe, not the GUI version. For example, sqlplus.exe is used for an Oracle database, rather than sqlplusw.exe.

Important! *Oracle Database Customers:* For systems running on the Oracle database, by default, Change Assistant copies the generated SQL script files to the location specified as the TEMP User variable on the Environment Variables dialog box. So, on Oracle, the generated SQL script files will actually exist in two locations: the specified Change Assistant output directory, and the TEMP directory. This behavior is in place because some versions of Oracle SQL Plus do not support pathnames longer than 79 characters. It is recommended that you ensure that the value specified for the TEMP User variable is set to a path short enough so that the string comprising the path and generated SQL file will not exceed 79 characters.

Current Homes**PS Home**

Enter the location of your current PS_HOME.

Note: Oracle recommends using a mapped drive.

Current Homes **PS App Home**

Enter the location of your current PS_APP_HOME.

Note: Oracle recommends using a mapped drive. Do not enter your PS_HOME directory.

Current Homes **PS Cust Home**

Enter the location of your current PS_CUST_HOME.

Note: Oracle recommends using a mapped drive. Do not enter your PS_HOME directory.

SQR Settings**SQR Executables (SQRBIN)**

The SQRBIN value is read only and derived from the PS Home and platform setting.

SQR Settings **SQR Flags (PSSQRFLAGS)**

By default , the -ZIF parameter is to set the full path and name of the SQR initialization file, SQR.INI. Make any necessary changes or add additional SQL parameters if needed.

SQR Setting **PSSQR Path**

This field is read-only and will contain the path that is used in Change Assistant:

1. StagingDirectory\SQR
2. PS_CUST_HOME\SQR
3. PS_APP_HOME\SQR
4. PS_HOME\SQR

Each path is separated by a “;” (semi-colon).

The static display is: “<StagingDir>\SQR;<Cust_Home>\SQR;<App_Home>\SQR;PS_Home>\

Configure New Homes for Upgrade Select this option to define new PeopleSoft Homes for an upgrade.

See Using Change Assistant to Upgrade PeopleTools,

Enable Process Scheduler Select this option to define up to two Process Scheduler servers to run ProcessScheduler steps during the upgrade job run.

This option only applies in an application upgrade.

See Specifying Database Process Scheduler Settings

Enable PeopleSoft Test Framework Select this option if the upgrade contains PTF steps or if you want to incorporate PTF scripts into your template.

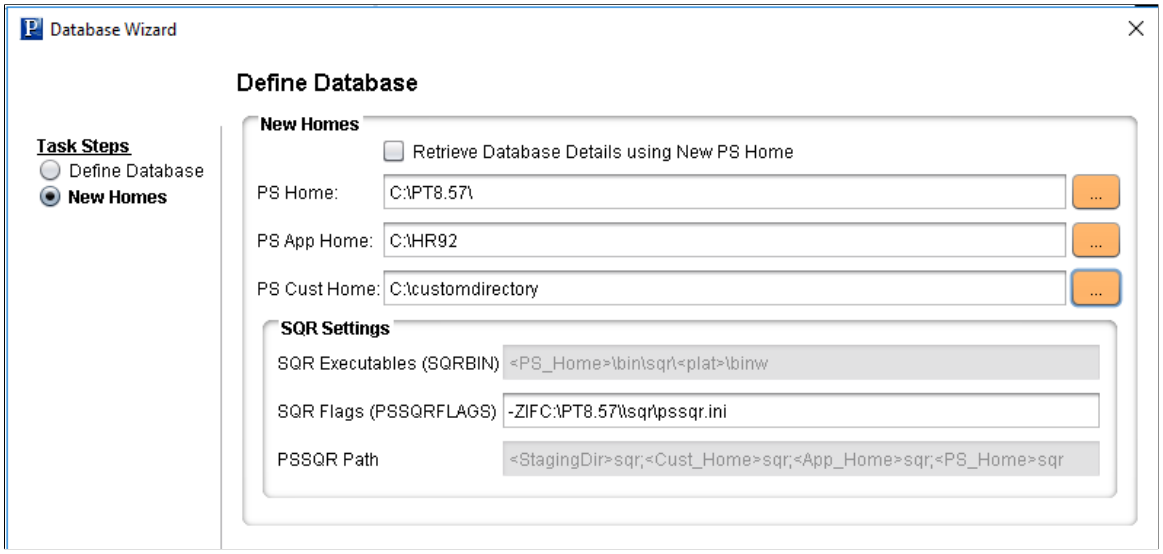
See Specifying PeopleSoft Test Framework Settings

Configuring New Homes for Upgrade

If you have selected the Configure New Homes for Upgrade check box for an applicable database definition, you must enter the required information for the new homes.

Image: Database Wizard – New Homes page

This example illustrates the fields and controls on the Database Wizard – New Homes page. You can find definitions for the fields and controls later on this page.



Retrieve Database Details using New PS Home When performing a PeopleTools upgrade, initially you will connect to your target database using your current PS Home. Once the target database is updated to the new release, the rest of the steps will require you to connect using the New PS Home.

Select this checkbox if you need to edit the database after the database has been upgraded to the new PeopleTools release.

PS Home

Enter the location of new PS_HOME.

Note: Oracle recommends using a mapped drive.

PS App Home

Enter the location of your new PS_APP_HOME.

Note: Oracle recommends using a mapped drive. Do not enter your PS_HOME directory.

PS Cust Home

Enter the location of your new PS_CUST_HOME.

Note: Oracle recommends using a mapped drive. Do not enter your PS_HOME directory.

SQR Executables (SQRBIN)

The SQRBIN value is read only and derived from the PS Home and platform setting.

SQR Flags (PSSQRFLAGS)

By default , the -ZIF parameter is to set the full path and name of the SQR initialization file, SQR.INI. Make any necessary changes or add additional SQL parameters if needed.

PSSQR Path

This field is read-only and will contain the path that is used in Change Assistant:

1. StagingDirectory\SQR
2. PS_CUST_HOME\SQR
3. PS_APP_HOME\SQR
4. PS_HOME\SQR

Each path is separated by a “;” (semi-colon).

The static display is: “<StagingDir>\SQR;<Cust_Home>\SQR;<App_Home>\SQR;PS_Home>\.

Specifying Database Process Scheduler Settings

If you have selected the Enable Process Scheduler check box for an applicable database definition, you must enter the required information for the host machine and the Process Scheduler server definitions associated with that database that will be running the ProcessScheduler steps. You assign an existing Process Scheduler server to either the SERVER1 or SERVER2 slots. When defining a ProcessScheduler step type, you specify which server will run the step, SERVER1 or SERVER2.

Machine name or IP

Enter the host name or the IP address of the application server where the appropriate Process Scheduler server domain is running (PSPRCSRV.EXE and so on).

JSL Port	Enter the domain's JSL port (listener port).
Domain Connection Password	Enter the domain connection password for the application server.
Server Name	Enter the name of the Process Scheduler server definition, such as PSUNIX.
Method of retrieving Process Scheduler logs	You can download and view the Process Scheduler logs from within Change Assistant so that you don't need to monitor the processes separately using Process Scheduler monitoring and logging. Similar to other Change Assistant log files, the downloaded Process Scheduler log files are saved to the Change Assistant output directory. • None: Disables the ability to view Process Scheduler log information from within Change Assistant. • FTP: Select if Process Scheduler is running on a UNIX server. • File Copy: Select if Process Scheduler is running on a Windows server. **Note:** If you have configured multiple Process Scheduler servers within your upgrade environment, and they each run processes within the job, as needed, note that the log information will reside in two locations, with each location containing the log information associated with the processes run on that server.
Machine Name or IP	(Applies only to FTP option). Enter the machine name or IP address of the FTP server where the Process Scheduler logs are located.
Log/output Directory	(Applies to File Copy and FTP option). Enter the path to where the Process Scheduler logs are located on the server. • For the FTP option, enter the absolute path on the FTP server. • For the File Copy option, this is the (mapped) path on the Change Assistant workstation.
User ID and **User Password**	(Applies only to FTP option). Enter the user ID and password required for connecting to the UNIX server (as if an FTP client were connecting).

Specifying PeopleSoft Test Framework Settings

If you selected the Enable PeopleSoft Test Framework option, you will need to supply PTF connection settings.

Server:Port

Enter the server name and port for the environment. Contact your Integration Broker administrator or system administrator for the correct values.

The format for the Server:Port field is:

```
<machine_name>:<https_port>
```

For example:

```
rtdc79614.example.com:443
```

If the https port is the default 443 the port is optional.

You can also enter a complete https URL in this format:

```
https://<machine_name>:<https_port>/PSIGW/HttpListening⇒
Connector
```

For example:

```
https://rtdc79614.example.com:443/PSIGW/HttpListeningCo⇒
nnector
```

Node ID

This field is required if more than one database is connected to the server. Enter the name of the PeopleSoft node with which the integration gateway is to communicate.

Contact your Integration Broker administrator or system administrator for the correct values.

Execution Options

Specify the name of the Execution Options configuration to use.

Path to PTF Client

Specify the path to the PTF client executable.

The default location is `C:\Program Files\PeopleSoft \PeopleSoft Test Framework.`

Use Proxy Options

Select this option to enter details for the proxy server. When you select this option, the proxy information fields are enabled.

Proxy Information

Enter the following information for the proxy server:

- Server: Enter the server name.
- Port: Enter the server port.
- User: Enter the user ID for the proxy server.

  If you use network authentication, use the DOMAIN\USER format.
- Password: Enter the password.

Chapter 5

Working With Change Assistant

Understanding The Change Assistant Interface

Change Assistant enables you to run, view, and modify Change Assistant templates. You open Change Assistant on a Windows workstation by selecting Start, Programs, PeopleSoft Change Assistant 8.5x.xx, Change Assistant.

Change Assistant enables you to:

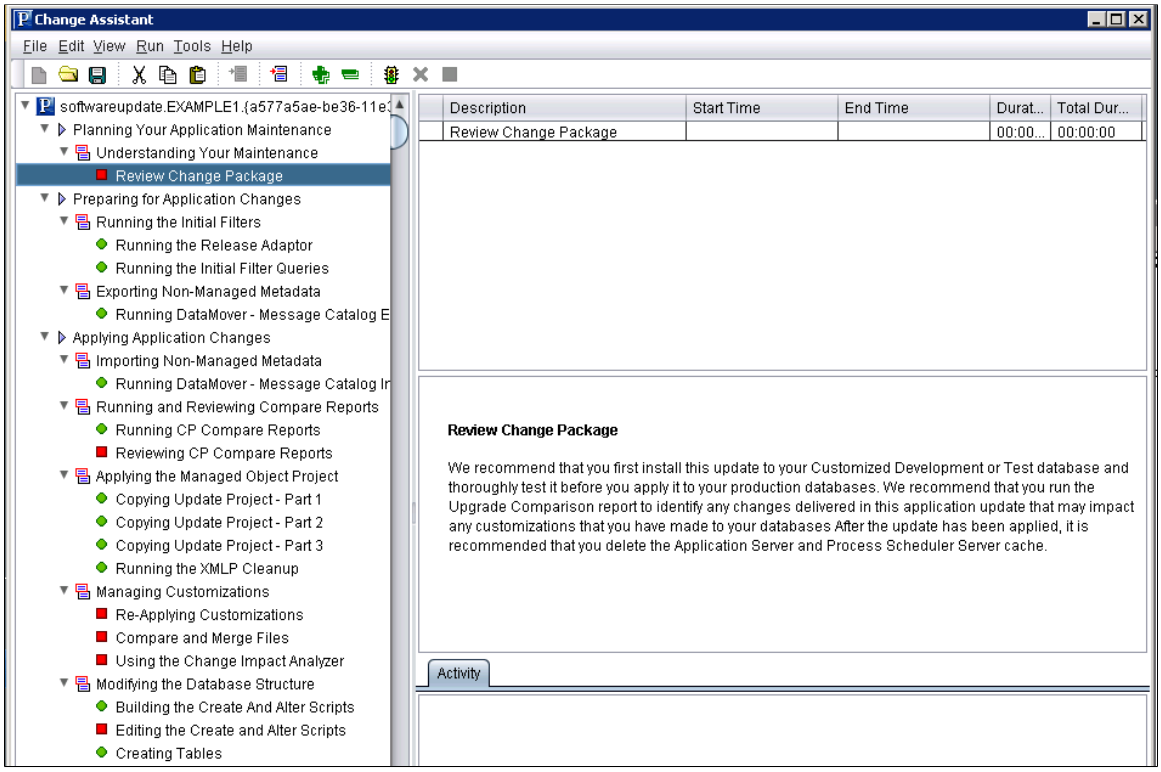
- View, modify, and create Change Assistant templates or jobs.
- Run PeopleSoft update and upgrade jobs.

Select and configure the action and task to perform. A Change Assistant job is created from the change package selected.

Note: Before starting and running Change Assistant, application servers, Process Scheduler servers, and web servers should be running. If you are planning to use EM Hub for file deploy or using the Apply Updates (non-PUM) action, then ensure all agents running on the servers are running and sending pulses.

Image: Job open in Change Assistant

This example illustrates the fields and controls on the Change Assistant interface. You can find definitions for the fields and controls later on this page.



When you have a Change Assistant template or job open, you use these areas in the project workspace:

Interface Area	***Description***
Template tree	The template tree section displays distinct nodes for the chapters, tasks, and steps within a template. • Chapters are section dividers that group and display the tasks. • Tasks are section levels that contain one or more steps. • Steps are the actual update actions that complete the processing of your update job. **Note:** Properties are assigned at the step level in the template, not the task or chapter level.

Interface Area	*Description*
Properties box	Depending on what is selected in the template tree, the properties box displays the properties associated with that node. For the Create or Modify Templates action, the properties box displays the properties assigned to the step when it was defined. For a job, the properties box displays information related to the progress of a step, such as start time, end time, total duration, and so on.
Documentation box	Each template contains its own built-in documentation to provide guidance for a chapter, task, or step. The documentation exists in separate HTML files, but it appears in this box for each selected node on the template tree.
Activity box	The Activity box displays the processing and status messages associated with a step, when a job is running in Change Assistant. This is similar to the Output window in the Application Designer workspace.

Working With Change Assistant Menu Options

This section describes the menu options available when using Change Assistant.

Note: Some menu options are enabled only during a specific Change Assistant action, which is determined in the Change Assistant Actions dialog box.

File Menu

The File menu contains some generic Windows options, plus these specific Change Assistant options:

Menu Option	*Description*
New Template	Creates a new Change Assistant template.
Open Template	Opens a template from the Change Assistant storage (internal database).
Save Template	Saves the template into the Change Assistant storage (internal database).
Save Template As	Saves the new template with the name you specify.
New Job	Creates a new Change Assistant job.
Open Job	Opens a job from the Change Assistant storage (internal database).

Menu Option	***Description***
Save Job	Saves the job into the Change Assistant storage (internal database).
Save Job As	Saves the job with the name you specify.
Close	Closes the current template or job.
Import Template	Imports an existing template into Change Assistant. **Note:** Any modifications to the current template will not affect the original template that you imported. If you want others to obtain a copy of your modified template, you need to export it out of Change Assistant.
Delete Template	Removes the template from Change Assistant. When you delete a template, you also delete all the jobs associated with the template. **Note:** Press and hold the CTRL key to select multiple templates for deletion.
Export Template	Exports a copy of the template out of Change Assistant so others can use it.
Export Job	Exports a copy of the job out of Change Assistant so others can use it.
Delete Job	Removes a job associated with the current template.
New Database	Launches the Database wizard for creating a new database. Change Assistant uses these settings to locate *PS_HOME* directories, connect to the Target database, and so on.
Open Database	Opens a defined database.
Import Database	Imports an existing database.
Delete Database	Deletes an existing database.
Exit	Exits Change Assistant. **Note:** This option is disabled when a Change Assistant step is running. To exit Change Assistant while a process is running, you must first kill the process (select Run, Kill). When you relaunch Change Assistant you can resume at the point where you killed the process.

Edit Menu

The Edit menu contains some generic Windows options, plus these specific Change Assistant options:

Menu Option	***Description***
Insert Chapter	Inserts a new chapter. A chapter serves as a section head for multiple tasks.
Insert Task	Inserts a new task within a chapter. A task serves as a section head for one or more steps.
Insert Step	Inserts a new step within a task.
Step Properties	When a step is selected, launches the Step Properties dialog.
Rename	Renames an existing chapter, task, or step.
Run	Runs the selected step.
Stop	Stops the selected step.
Restart	Restarts certain types of steps that you have stopped or have failed. Restart is supported for these step types: • Application Engine • SQL Application Engine programs can keep track of the state of a program run, and when restarted, they can pick up where a previous run stopped. When restarting SQL steps, Change Assistant generates a separate log file and numbers them incrementally, as in *logfile*_2, *logfile* 3, and so on.
Complete	Marks the selected step as complete. Often used when setting a manual step to complete, indicating that the manual work is done.
View Log	Opens the current job processing log.
View Script	Opens the script associated with the selected step.
Job Properties	Enables you to set properties for the job.
Set Documentation Directory	Specifies the directory into which your upgrade documentation is saved. Change Assistant loads the documentation for viewing when you open a template or job.

Menu Option	*Description*
Edit Documentation	Enables you to modify the documentation associated with the selected chapter, task, or step.
Finalize Documentation	Generates the HTML files.

View Menu

The View menu contains these specific Change Assistant options:

Menu Option	*Description*
Step Details	Displays the step properties box in the Change Assistant workspace.
Documentation	Displays the documentation box in the Change Assistant workspace.
Activity	Displays the Activity box in the Change Assistant workspace.
Expand All	Expands all chapters, tasks, and steps.
Collapse All	Collapses all chapters, tasks, and steps.
Steps Not Yet Completed	Filters steps to show steps not yet completed.
Steps Completed by System	Filters to show steps completed by the system. Deselect this option if you want to hide all the steps that have been completed.
Steps Completed Manually	Filters to show the steps that were manually completed. Deselect this option if you want to hide all the steps that have been manually completed.
Steps Filtered By Filter Query	Filters to show the steps that were filtered using a query filter. Deselect this option if you want to hide all the steps that have been filtered by a filter query.
Steps Filtered at the Job Level	Filters to show the steps that were filtered at the job level. Deselect this option if you want to hide all the steps that have been filtered at the job level.

Run Menu

The Run menu contains these specific Change Assistant options:

Menu Option	*Description*
Run	Begins the execution of a Change Assistant job.
Cancel	Stops the processing of a Change Assistant job *after* the currently running process completes.
Kill	Stops the processing of a Change Assistant job completely and immediately, *including* the step that's currently running.

Tools Menu

The Tools menu contains these specific Change Assistant options:

Note: If the menu option does not apply to the action selected, it will be grayed out.

Menu Option	*Description*
Upload Target Database Information to PUM	Enabled when action type is Update Manager. Uploads the target database information to the PUM source.
Upload Customer Data to Image	Enabled when action type is Update Manager. Allows you to upload customer data (customization project) to the PUM source. See Using Customization Repository
Define Change Package	Enabled when action type is Update Manager. Allows user to define a new change package in either Update Manager Dashboard or Change Assistant using standard searches. See Defining Change Package
Create Change Package	Enabled when action type is Update Manager. Opens Change Assistant Wizard to select your database information and leads you through the process to create a change package.
Apply Change Package	Enabled when action type is Update Manager. Opens Change Assistant Wizard to lead you through the process to apply a change package. See Applying Change Package

Menu Option	***Description***
Apply Tools Delta Package	Enabled when action type is Update Manager. Opens Change Assistant Wizard to lead you through the process to apply a delta change package. See Creating and Applying Tools Delta Package
Apply Translation Delta Package	Enabled when action type is Update Manager. Opens Change Assistant Wizard to lead you through the process to apply a translation delta change package. See Applying Translations Delta Package
Apply PeopleSoft Release Patchset	Enabled when action type is Update Manager. Opens Change Assistant Wizard to guide you through applying PeopleSoft release patchset to the PeopleSoft Update Image. See Applying Downloaded PeopleSoft Release Patchset to PeopleSoft Image
Apply PeopleTools Patch	Enabled when action type is Update Manager. Open Change Assistant wizard to guide you through applying a PeopleTools patch. See Using Change Assistant to Apply PeopleTools Patch
Upgrade PeopleTools	Enabled when action type is Update Manager. Open Change Assistant wizard to guide you through upgrading your database for the new PeopleTools release. See Using Change Assistant to Upgrade PeopleTools
Upgrade Application	Enabled when action type is Update Manager. Open Change Assistant wizard to guide you through upgrading your application for the new application release. See Upgrading Application
Validate	Validates the Change Assistant settings for EM Hub to ensure that the required elements are up and running, and that Change Assistant can connect to them.
Export &Import Settings	Allows you to export Change Assistant settings to a file and import Change Assistant settings either from another Change Assistant directory or from a backup configuration. See Exporting and Importing Change Assistant Settings

Menu Option	*Description*
Migrate PUM Data	Enabled when action type is Update Manager. Allows you to migrate user metadata (PUM customization Information, test information and package definition information from one PUM Image to a new PUM Image. See Migrating PUM Data
Merge PeopleCode/SQL/XSLT	Enabled when action type is Review Managed Object or Merge Select Object Types. Allows you to start a new merge session or open an existing session.
Default Merge Rules	Enabled when action type is Review Managed Object or Merge Select Object Types. Opens the Default merge Rules dialog box.
Project Administration	Enabled when action type is Review Managed Object or Merge Select Object Types. Opens Project Administration page.
Scan Configuration	Searches the Change Assistant workstation for tools and utilities required to perform updates and upgrades. For example, this process locates the local SQL tool, Data Mover, Application Designer, and so on.
Change Actions	Opens Change Assistant Wizard Select Action page. See Opening Change Assistant the First Time
Options	Opens the Change Assistant Options dialog box, enabling you to select Change Assistant configuration options.

Exporting and Importing Change Assistant Settings

Change Assistant settings can be exported and imported using one of the following processes:

- Exporting Configuration
  1. Change Assistant Installer exports configuration when *Retain existing configuration* is selected during the install.

     See Installing Change Assistant Using Setup.bat
  2. User exports configuration manually in Change Assistant GUI.

See Exporting Change Assistant Setting in Change Assistant

3. User exports configurations using Change Assistant command line.

   See Installing Change Assistant in Silent Mode or *PeopleTools Installation* for your database platform: Installing PeopleSoft Change Assistant, Installing PeopleSoft Change Assistant in Silent Mode.

- Importing Configuration

  1. Change Assistant Installer imports configuration when an existing Change Assistant instance is upgraded and *Retain existing configuration* is selected.

     See Installing Change Assistant Using Setup.bat

  2. User imports configuration using Change Assistant GUI through menu item.

     See Importing Change Assistant Setting in Change Assistant

  3. User imports configuration to Change Assistant using command line.

     See *PeopleTools Installation* for your database platform: Installing PeopleSoft Change Assistant, Installing PeopleSoft Change Assistant in Silent Mode

Change Assistant settings are exported to configuration backup files. A configuration backup is a zip file. It consists of the following XML files:

- Configuration backup property file (cfgbak_prop.xml)
- Options file (settings.xml)
- Database definitions backup file (cfgbak_dblist)

Configuration Backup Property File

Configuration backup property file (cfgbak_prop.xml) contains the following content:

- ToolsVersionCA

  The value is the Tools version of Change Assistant which is used to generated this backup file.

- Creator

  The value is *Installer* or *CA*.

- ImportType

  The value is *Auto*, *Confirm*, or *Manual*.

- OptionsIncluded

  The value is true or false.

- DBDefnNum

The value is the number of database definitions included in the export file.

- DB definition list

  The database list will be used as a pre-check to determine if the database definition already exists in Change Assistant when user imports the configuration.

Exporting Change Assistant Setting in Change Assistant

Use the Export/Import Change Assistant Setting option to export or import settings.

Navigation

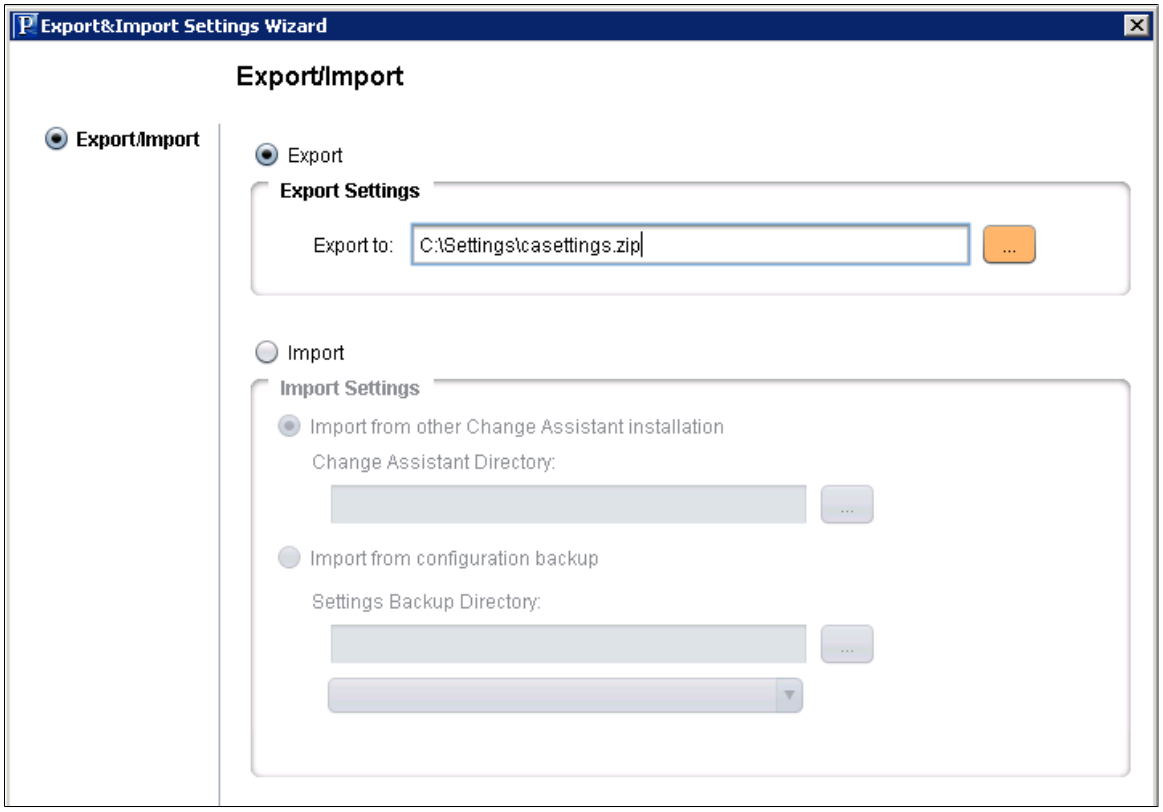
In Change Assistant, select Tools, Export/Import Change Assistant Settings

or

In Change Assistant, select Tools, Change Actions, Update Manager, Export/Import Change Assistant Settings

Image: Export&Import Settings Wizard – Export/Import page

This example illustrates the fields and controls on the Export&Import Settings Wizard – Export/Import page with the Export radio button selected.



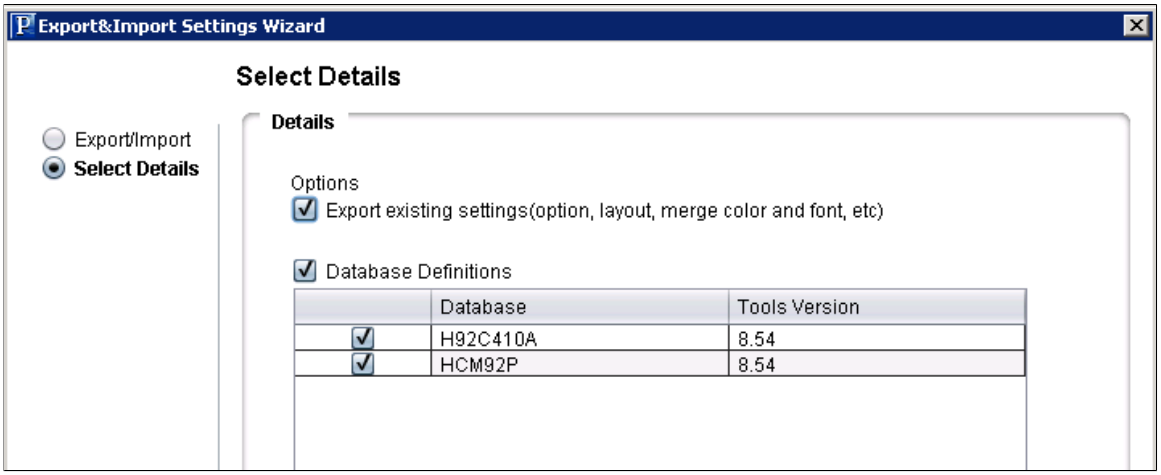
Exporting Change Assistant Settings

To export Change Assistant Settings:

1. In Change Assistant, select Tools, Export/Import Change Assistant Settings.
2. Select the Export radio button.
3. Enter the destination directory and file name.
4. Click Next.
5. On the Select Details page, select if you want to export the settings, as well as the databases.

   Image: Export&Import Settings Wizard – Select Details page

   This example illustrates the fields and controls on the Export&Import Settings Wizard – Select Details page. You can find definitions for the fields and controls later on this page.

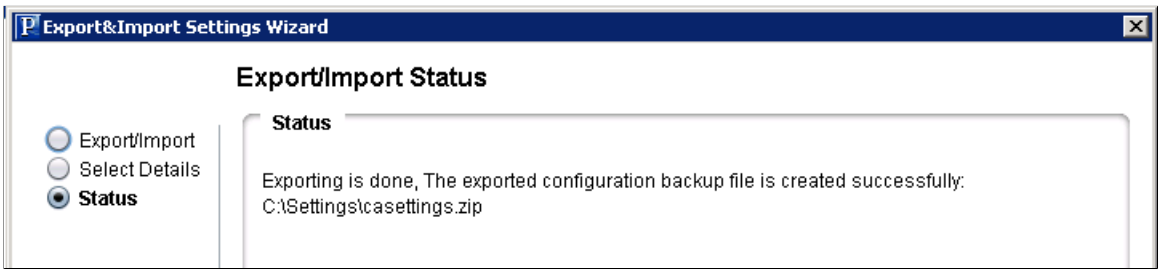


Export existing settings(option, layout, merge color and font, etc)	Select this option to export CA settings.
Database Definitions	Select this option to export database definitions. When this option is selected, the databases defined in CA will be listed and you can choose which databases to export.

6. Click Next. The status is displayed with the path to the configuration backup file.

   Image: Export&Import Settings Wizard – Export/Import Status page

   This example illustrates the fields and controls on the Export&Import Settings Wizard – Export/Import Status page.



7. Click Finish.

Importing Change Assistant Setting in Change Assistant

Use the Export/Import Change Assistant Setting option to export or import settings.

Navigation

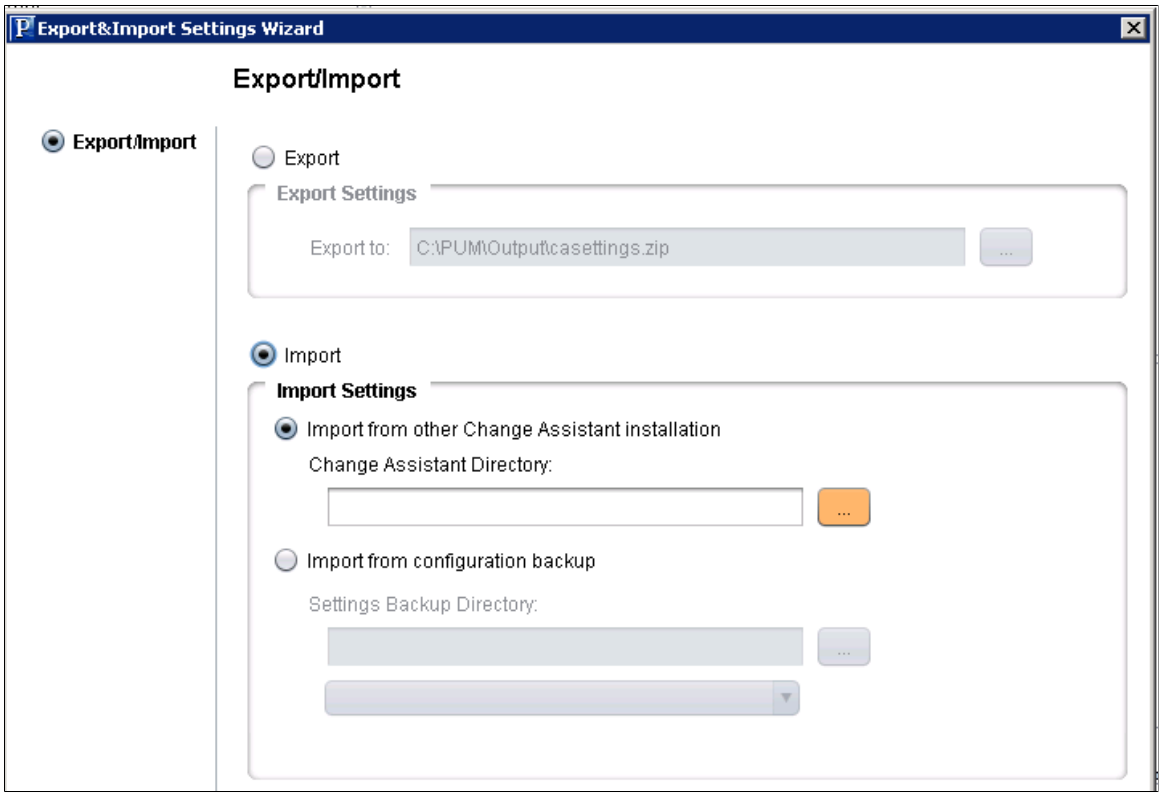
In Change Assistant, select Tools, Export/Import Change Assistant Settings

or

In Change Assistant, select Tools, Change Actions, Update Manager, Export/Import Change Assistant Settings

Image: Export&Import Settings Wizard – Export/Import page

This example illustrates the fields and controls on the Export&Import Settings Wizard – Export/Import page with the Import radio button selected.



Importing Change Assistant Settings

You can import Change Assistant Settings from either another instance of Change Assistant or from a configuration backup file.

To import Change Assistant settings:

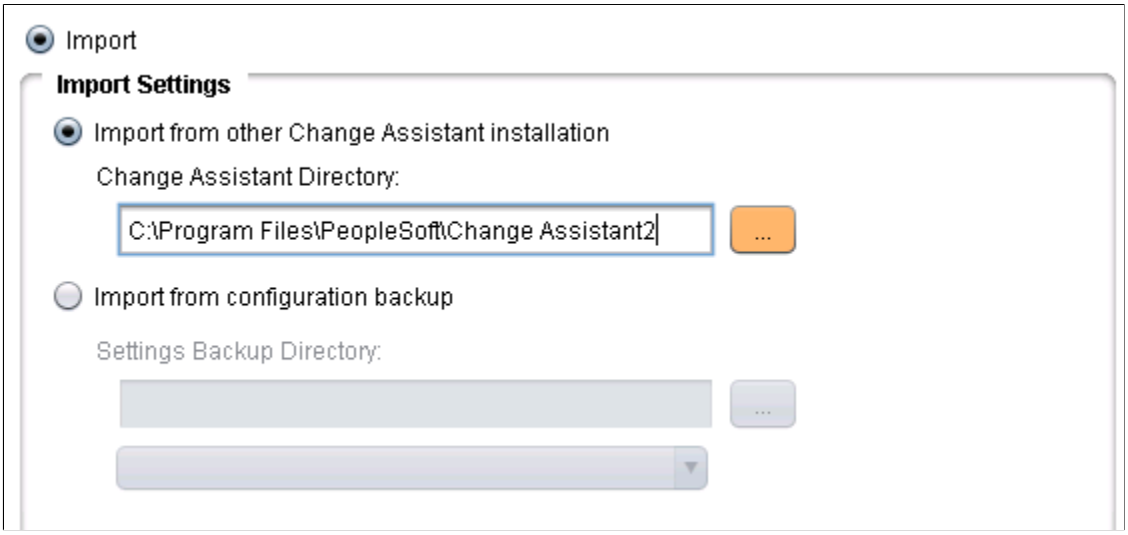
1. In Change Assistant, select Tools, Export/Import Change Assistant Settings.
2. Select the Import radio button.
3. Select the import option to use:

- Import from other Change Assistant Installation

  Select the Change Assistant directory for the instance.

  Image: Import from other Change Assistant Installation

  This example illustrates the fields and controls on the Import from other Change Assistant Installation option.

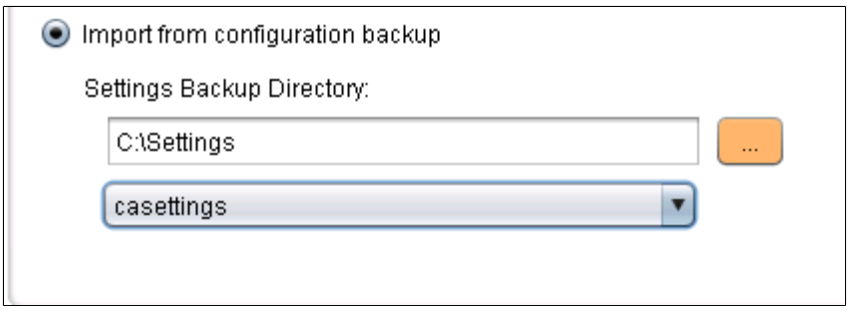


- Import from configuration backup

  Select the directory and file.

  Image: Import from configuration backup

  This example illustrates the fields and controls on the Import from configuration backup option.



4. Click Next. A progress bar is displayed as Change Assistant retrieves the information.

   - If Import from other Change Assistant installation is selected, Change Assistant will check the Tools version of the selected Change Assistant instance. If the Tools version is available, it will call the selected Change Assistant instance to export the configuration to a temporary folder. The configuration is then retrieved from the temporary configuration backup file.

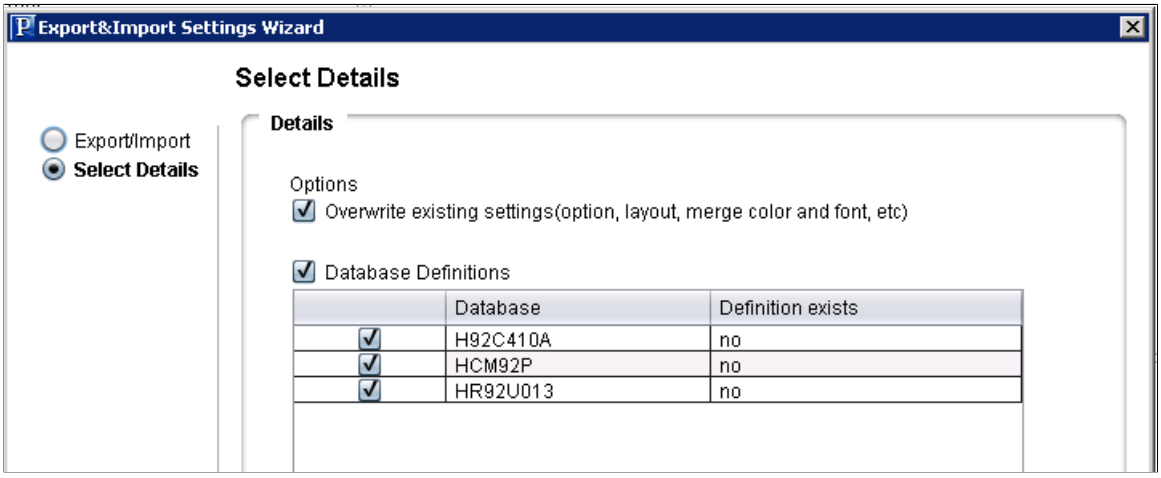
   - If Import from configuration backup is checked, Change Assistant will retrieve the configuration from the selected configuration backup file.

- If there is a problem with retrieving the configuration, a warning message is displayed.

5. Click Next. On the Select Details page, select if you want to import the options and which databases you want to import.
   - If settings have already been configured on this instance of Change Assistant, the Overwrite existing settings check box will be cleared.
   - If this instance of Change Assistant has not been configured, the Overwrite existing settings check box is selected.
   - If a database definition already exists in Change Assistant, the check box for the database is cleared.
   - If a database definition does not exists in Change Assistant, the check box for the database is selected.
   - If a database definition is being used in a job, the check box for the database is cleared.

   Image: Example Select Details page for option Import from configuration backup

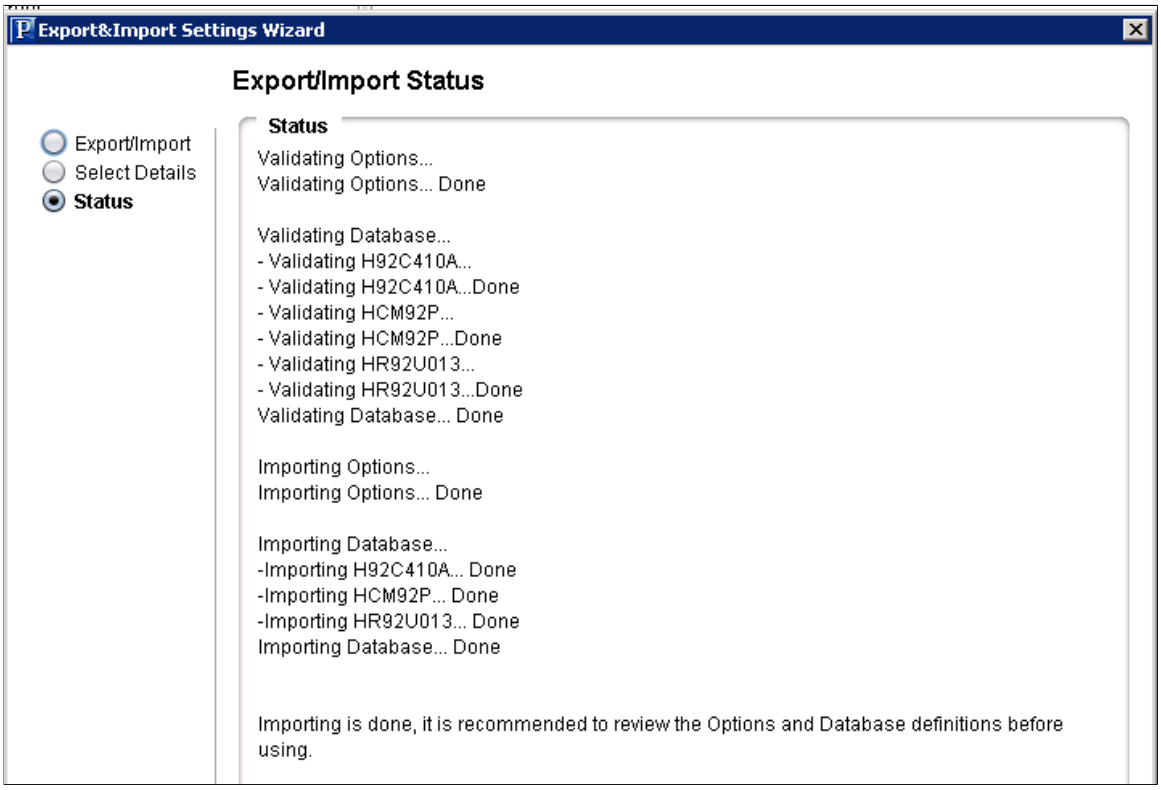
   This example illustrates the fields and controls on the Export&Import Settings Wizard- Select Details page where the new instance of Change Assistant does not contain any settings.



6. Click Next. Change Assistant will validate the settings and display the status.

Image: Export/Import Status showing import complete

This example illustrates the fields and controls on the Export/Import Status showing import complete.



7. Click Finish.

   If the validation showed any issues with the options settings, Change Assistant will launch the Options window automatically when you click Finish, in order to make the corrections.

Migrating PUM Data

Change Assistant provides the ability to migrate metadata from the current PUM Source to the new PUM Source. The following data types can be migrated:

- PUM Customization Information

  See Using Customization Repository

- Test Information

  See Using the Test Repository

- Package Definition Information

  Package definition information refers to all of the metadata for Change Packages that were created on the PUM Source. Only Created change packages are migrated.

Importing the Change Package definitions into the new PUM Source provides change package history. The change package definitions can be viewed in the new PUM Source, but can not be used to directly create a change package.

Exporting PUM Data from Current PUM Source

To export PUM data on the current PUM source:

1. In Change Assistant, select the task Migrate Customer Data from the Tools menu.

   Alternatively, select Tools, Change Actions, Update Manager, Migrate Customer Data.

2. Select Export PUM(User) Metadata From Existing PUM Source.

3. Select the current PUM database.

4. Select the metadata to export.

   See Using PUM Data Migration Page

5. Select the export directory in the Export To field.

   The export file is a data mover DAT file. By default the name is customerdata.DAT.

6. Deselect Import PUM(User) Metadata to New PUM Source.

7. Click Import/Export.

   Change Assistant will check that the database is a PUM Source, if it is not, you will receive an error message.

8. A message is displayed that the export was successful.

Importing PUM Data into New PUM Source

To import PUM Data from a DAT file into a new PUM Source:

1. Install a new Change Assistant instance for the new Update Image.

2. In the new Change Assistant instance, select the task Migrate Customer Data from the Tools menu.

3. Deselect Export PUM(User) Metadata From Existing PUM Source.

4. Select Import PUM(User) Metadata to New PUM Source.

5. Either select the new PUM Source database or click the Create button to open the Define Database Wizard and define the database.

6. Select the metadata to export.

   See Using PUM Data Migration Page

7. Select whether to overwrite existing data or ignore duplicates.

8. Select Specify.

9. In the Import From field select the path and file for the DAT file exported from the old PUM Source.

10. Click Import/Export.

Migrating PUM Data

If both your old PUM source and new PUM source are available, you can export and import at the same time.

To migrate PUM data:

1. Download and deploy new Update Image.
2. Install Change Assistant from the PS Home that matches the new PUM Source.

   Note: Change Assistant Settings can be retained from the existing instance of Change Assistant. See Installing Change Assistant

3. In Change Assistant, configure database definitions for the old PUM source database and the new PUM source database.
4. Select the task Migrate Customer Data from the Tools menu.
5. Select the metadata to import and export.

   See Using PUM Data Migration Page

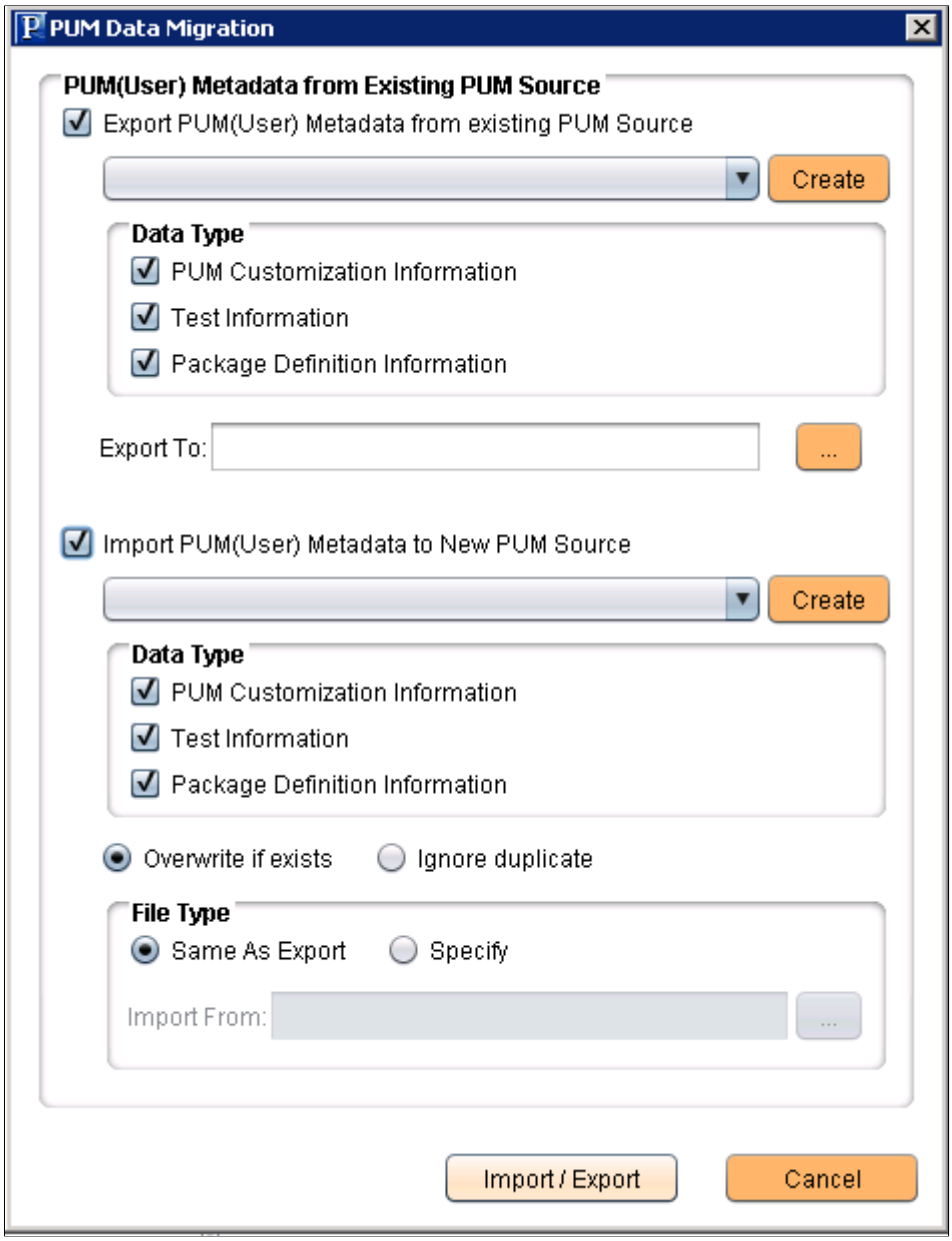
6. Click Import/Export.
7. Change Assistant performs a compatibility check.
8. If the compatibility check passes, a Migration Summary report is displayed.
9. Click Finish.

Using PUM Data Migration Page

In Change Assistant, select Tools, Migrate Customer Data.

Image: PUM Data Migration page

This example illustrates the fields and controls on the PUM Data Migration page. You can find definitions for the fields and controls later on this page.



Export PUM(User) Metadata From Existing PUM Source	Select to enable the export.
Database	Select the old PUM source database. If the database has not been defined in this instance of Change Assistant, use the Create button to launch the Define Database wizard.
PUM Customization Information	Select to export the customization repository.
Test Information	Select to export the test repository.

Package Definition Information	Select to export change package definitions.
Export To	Enter the path and file name for the export.
Import PUM(User) Metadata to New PUM Source	Select to enable import.
Database	Select the new PUM source database. If the database has not been defined in this instance of Change Assistant, use the Create button to launch the Define Database wizard.
PUM Customization Information	Select to import customization repository.
Test Information	Select to import test repository.
Package Definition Information	Select to import change package definitions.
Overwrite if exists	Select to overwrite data if the data already exists.
Ignore duplicate	Select to ignore duplicate data.
Same as Export	The file specified in the Export To field is used.
Specify	Select if you have an existing file to import.
Import From	Enter the path and file name for the import.

Compatibility Checks

When PUM Source data is exported, the only check performed is Check 1: Check if the old PUM source is a real source database.

When PUM source data is imported, the following checks are performed:

1. Check 1: Check if the old PUM source is a real source database.
2. Check 2: Check if there are duplicate definitions in the PUM source database.
3. Check 3: Product line of PUM Source.
4. Check 4: Image Version of PUM Source. New PUM source must be greater than or equal the old PUM source.

Working with Change Assistant Templates and Jobs

Whether you are performing an update or an upgrade, you work with Change Assistant templates and jobs. The *templates* are composites of all possible steps that apply to an update or upgrade, whether they apply to your environment or not.

The source of the template is dependant on the action you are performing in Change Assistant. This table lists the template source for each Change Assistant action.

Change Assistant Action	*Template*
Apply Update	Change Assistant template comes in the change package downloaded from MOS. For change packages created in Application Designer, the template is generated when you select Generate New Template.
Update Manager	Change Assistant template is either generated from the change package when you select to apply the change package or delivered from PeopleSoft if you are applying a PeopleSoft Release Patchset (PRP). For PeopleTools patches, the change package is located in PSHOME\PTP directory for the new PeopleTools patch. For PeopleTools upgrades, the change package is located in the PSHOME\PTU directory for the new PeopleTools release. For Upgrade to a New Application Release, the change package is generated in the PUM Image.

After you specify the required settings in Change Assistant regarding your environment, you use Change Assistant to build a *job* tailored to your environment. When building the job, Change Assistant filters the steps so that the job contains only the steps applicable to your implementation. For example, the resulting Change Assistant job will have only steps that apply to your database type, your installed products, your languages, and so on.

When you apply updates or run an upgrade, Change Assistant automatically loads the template into the Change Assistant internal storage system. You can add additional chapters, tasks, and steps to the template, if needed. In the job, you can not modify steps that have been filtered, however you can modify non-filtered steps, delete or add new steps.

Templates can also be modified from the Create or Modify Templates mode, specified on the Change Assistant Options dialog box. If you modify templates using this option, you must import the template from the change package zip file, open and modify the template, then export the template back to the change package zip file.

Examples of custom steps that might be added include, dropping indexes, adding indexes, backing up a database, adding PTF steps, and so on.

Note: In most cases, it is not necessary (or recommended) to modify a delivered template. Any changes that you make to the imported template won't affect the original template that you downloaded. Any changes made to the template in the initial pass or subsequent pass are exported and added to the updated change package at the end of the apply process and will be used in future applies. However, if you choose to edit a template, keep a backup of the original.

Creating New Template Elements

You can add chapters, tasks and steps to an existing template.

To insert a template element:

1. Highlight the location where you want to add the element.

If you want to add a chapter above the existing first chapter in the template, highlight the template root node (template name) at the top of the template tree.

2. From the Edit menu (or toolbar) select the appropriate option: Insert Chapter, Insert Task, Insert Step.
3. Enter a unique name for your new element.

   Note: Each chapter in the update template must have a unique name, each task within a chapter must have a unique name, and each step within a task must have a unique name.

4. Click OK.

   When creating new steps, Change Assistant displays the Step Properties dialog box for specifying step options.

Deleting Template Elements

To delete a chapter, task, or step:

1. Highlight the chapter, task, or step that you want to delete.

   Note: Press and hold the CTRL key to select multiple steps for deletion.

   Warning! If you delete a chapter, Change Assistant deletes all the tasks and steps within the chapter. If you delete a task, Change Assistant deletes all the steps within the task.

2. Select from the following:
   a. If you want to delete a chapter, select Edit, Delete Chapter.
   b. If you want to delete a task, select Edit, Delete Task.
   c. If you want to delete a step, select Edit, Delete Step.
3. Change Assistant deletes the chapter, task, or step and updates the template.
4. Save the template.

Exporting Templates

In order for others to use the template that you create or modify, you need to export it from Change Assistant. If you want to overwrite an existing template file, enter the name of the original template.

To export a template:

1. Open the template in Change Assistant by selecting File, Open Template.
2. Select File, Export Template.

   The Export Template dialog box appears.

3. Navigate to the folder in which you want to save the template.

4. Enter the name of the template.

   Note: If you want to overwrite the original template that you downloaded, enter the original name of the template.

5. Click Save.

Exporting Jobs to XML, HTML, or Microsoft Excel Format

Change Assistant allows you to export jobs to XML, HTML, or Microsoft Excel file formats.

To export a job:

1. Select File, Export Job.
2. Enter the desired exported filename and the select the desired file type format.

You can use this option to enable other implementation team members, who do not have access to the machine on which Change Assistant is running, to *view* the job. Exporting the job to Microsoft Excel enables you to view the timings in a spreadsheet format.

Note: You can not export a Change Assistant job and either import it or open it on another machine with Change Assistant installed and then run or modify the job on that other machine.

Working with Steps

This section discusses how to:

- Set step properties.
- Set filter queries.
- View step status.

Setting Step Properties

PeopleSoft delivers update templates with default settings and steps to perform updates. If needed, you can modify the steps, or create new steps, based on the conditions that apply when you run the update process.

To modify the step properties, highlight the step for which you want to modify the step properties, then double-click on the step or select Edit >Step Properties. After making any changes to step properties, click OK, and save your template.

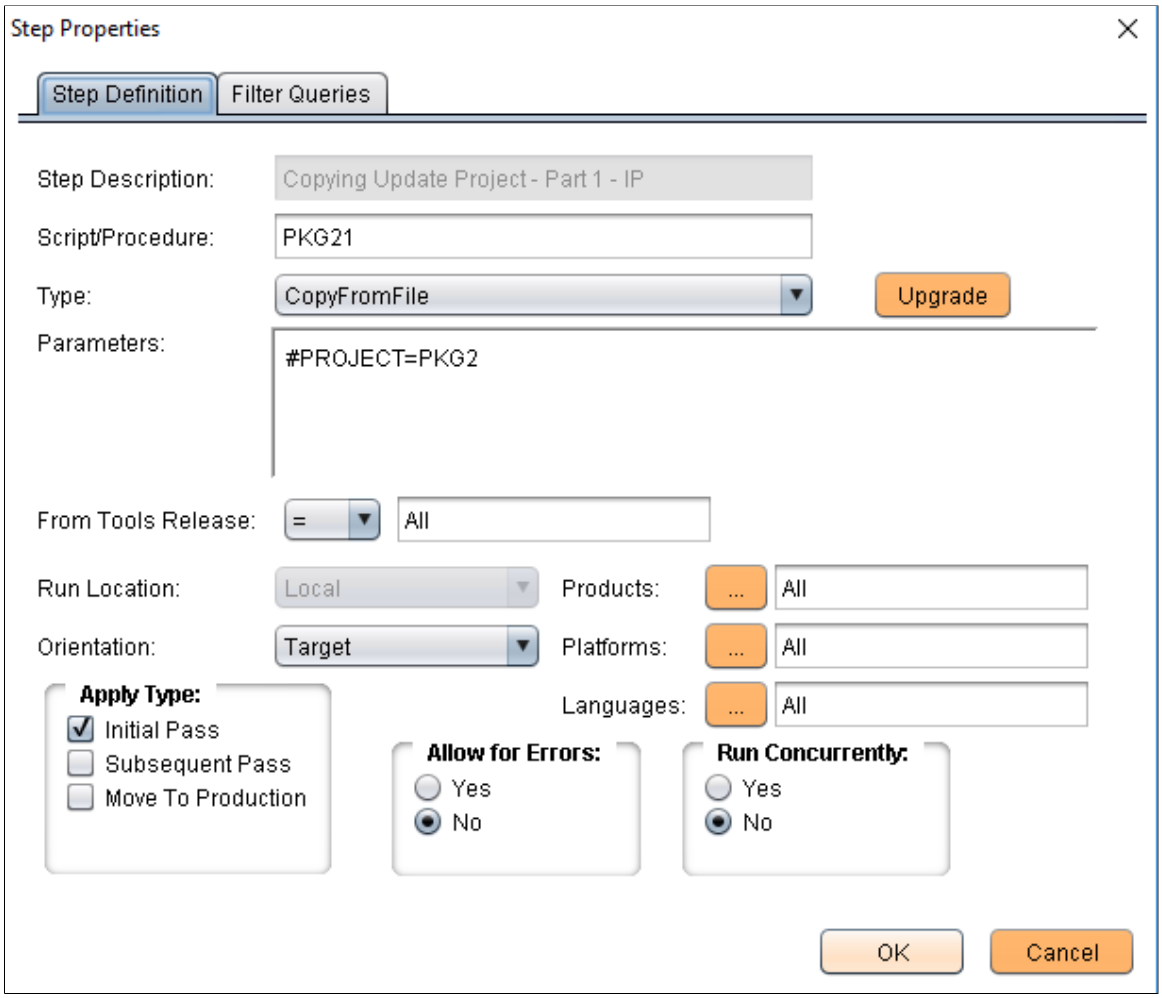
Note: Depending on what mode you are in, some of the fields may be disabled.

Note: Under normal circumstances, it is recommended that you do not modify or edit the step properties in your delivered template.

This section describes fields and options on the Step Properties dialog box. You can modify step properties for a step when adding or editing steps in the template.

Image: Step Properties dialog box

This example illustrates the fields and controls on the Step Properties dialog box. You can find definitions for the fields and controls later on this page.



Step Description

This field displays the current step.

Script/Procedure

Enter the name of the script, procedure, project, or program name to which you want to assign the properties of the step. For example, enter *SYSAUDIT*.

This field is required for all step types except manual stop.

Type

Select a step type. This selection defines the type of action to be performed by the step. For example, if you are running the SYSAUDIT SQR report, select *SQRReport*.

Detailed information related to each step type appears elsewhere in this PeopleBook.

See Step Types

Parameters

Enter additional parameters that you may need to run the step. For example, for SQL commands, you enter the actual SQL command in this field. In other cases, you use this edit box to override various environment settings or other parameters so that the step completes successfully.

Detailed information related to the parameter options for each step type appears elsewhere in this PeopleBook.

See Step Parameters

From Tools Release

Specify the PeopleTools releases to which a step applies. Use the associated operator drop-down list box to indicate ranges of releases. The default values are *All* with the = operator.

The operator drop-down list box enables you to express greater than, less than, equal to, and 'in' relationships.

The *in* operator enables you to specify more specific ranges, such as 'in' 8.48 and 8.49, as opposed to 'greater than' 8.48. When adding multiple release numbers, separate the values with a comma (,). For example:

8.48,8.49

Note: If you enter more than one From Tools Release value, the system assumes the 'in' operator.

Change Assistant uses these values to filter the steps when creating the upgrade job so that only the steps necessary for a particular environment remain.

Run Location

For Application updates and PeopleTools-only upgrades, steps run locally.

Orientation

Specify which database the step needs to be run against. Options will vary based on the action selected, but may include:

- *Source*
- *Target*
- *Copy of Current Demo*
- *Production*
- *Not Applicable*

Step type and type of upgrade determine valid orientation settings.

See Source and Target Databases.

Products

Click the Products icon. Change Assistant displays the Select Products dialog box, which enables you to select the product

line, the industry, and the products to which your step should be run against (for example, FIN/SCM, Commercial, Asset Management).

Note: You must select at least one product.

Apply Type

Specify the type of upgrade to which this step applies:

- *Initial Pass*: refers to the initial application of a change package a target database.
- *Subsequent Pass* refers to any passes to additional target databases before moving to production.
- *Move to Production*: refers to the application of a change package to your production database.

Note: When the job is created, the system filters the template steps to be executed by the apply type specified. For example, if *Move to Production* is specified as the apply type, only steps in the template specified as Move to Production will be included in the job.

Allow for Errors

Indicates how the system should react to any errors that may arise during a step run. If set to *Yes*, if the step encounters errors the system does not perform any error handling and continues on to the next step.

Default is set to *No*.

Run Concurrently

Enables you to set multiple steps (programs, processes, and so on) to run simultaneously.

If you select this option for two or more consecutive steps, Change Assistant starts those processes concurrently, until the job reaches:

- a step with Run Concurrently set to *No*.
- a step type of *Manual Stop*.
- the Maximum Concurrent Processes value, as set on the Change Assistant Options dialog box.

By setting Run Concurrently to *Yes*, you are indicating to Change Assistant that this step can run concurrently with the following step. The total number of processes that can run concurrently is determined by the Maximum Concurrent Processes setting on the Change Assistant Options dialog box.

Some examples are shown here, these examples use 3 AE steps and CA concurrency set to 2:

- Example 1

Steps:

- AE1 Concurrent=Yes
- AE2 Concurrent=Yes
- AE3 Concurrent=No
- Manual Stop

In this example, AE1 and AE2 will run in parallel. When both finish, AE3 will then run. Job will stop when ManualStop is encountered.

- Example 2:

  Steps:

  - AE1 Concurrent=Yes
  - AE2 Concurrent=Yes
  - AE3 Concurrent=Yes
  - Manual Stop

  In this example, AE1 and AE2 will run in parallel, when either AE1 or AE2 finish, AE3 will run. Job will stop when ManualStop is encountered.

- Example 3

  Steps:

  - AE1 Concurrent=Yes
  - AE2 Concurrent=Yes
  - Manual Stop
  - AE3 Concurrent=No

  In this example, AE1 and AE2 will run in parallel, the job will stop when ManualStop is encountered. AE3 will run after the user completes the ManualStop.

- Example 3

  Steps:

  - AE1 Concurrent=Yes
  - AE2 Concurrent=No
  - AE3 Concurrent=Yes

- Manual Stop

  In this example, AE1 will run, when AE1 finishes, AE2 will run, when AE2 finishes AE3 will run. Job will stop when ManualStop is encountered.

Running steps concurrently is a strategy reserved for application upgrades to save time when running the following step types on Process Scheduler:

- Application Engine
- SQL
- Data Mover

Concurrent processing is not enabled in any circumstances for these step types:

- DBTSFIX
- Load Base Data
- Upgrade PeopleTools
- Manual Stop

Note: If a step is dependent on a previous step, it is not recommended to set it to run concurrently with that step.

Note: Steps set to run concurrently can span across multiple consecutive tasks or chapters, and can be of different step types.

Note: In an application upgrade, do not run the "Update PeopleTools System Tables" step concurrently, and, unless specifically instructed to do so, do not run any of the steps in the "Apply PeopleTools Changes" chapter concurrently.

See the upgrade documentation for your specific upgrade for recommendations on specific steps within that upgrade that can be run concurrently.

Setting Filter Queries

Filter queries provide the ability to add ad-hoc step filtering criteria to a template to further improve applicability of job to the customer and where possible remove unnecessary manual steps.

See Adding Filter Queries

Viewing Step Status

When working with templates and jobs, you see these status icons to the left of steps:

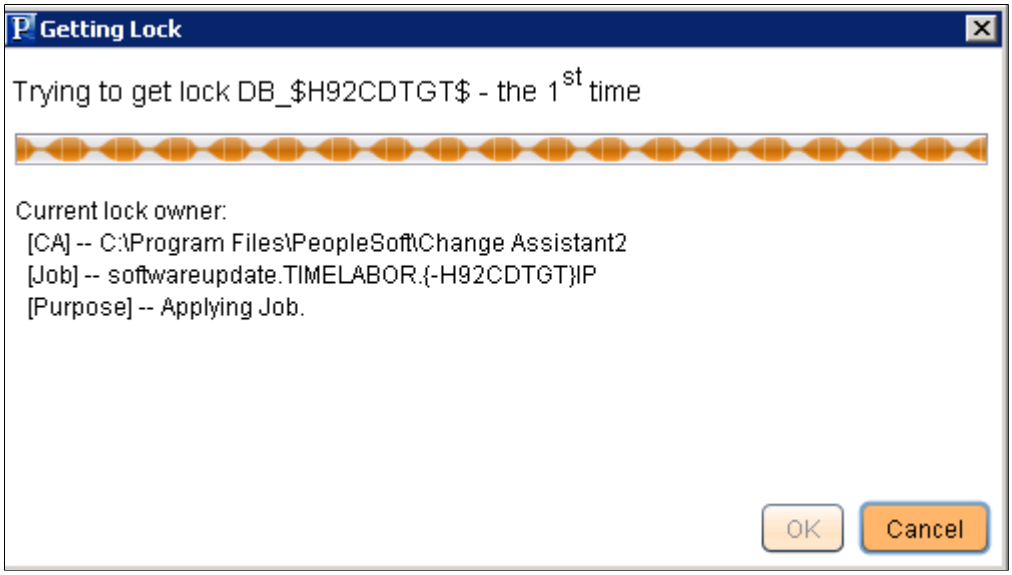
Run	Indicates that Change Assistant runs this step or process automatically without manual intervention.
Stop	Indicates that Change Assistant stops on this process. It also indicates that there may be manual steps to perform for this step. Review the documentation window for further instructions. After completing the work described in a manual step, you must set the status to *Complete.*
Restart	Indicates a restart process. If a step failed and you corrected the problem, you can set the step to restart from the point of failure.
Processing	Indicates that the process is running.
Failure	Indicates a failure has occurred that needs immediate attention. This appears if a Data Mover script, SQL script , or project copy step fails. Resolve the error before continuing with processing.
Warning	Indicates a warning for this step which does not need immediate attention. The job continues processing with no adverse affects. After the job completes, review the steps in a warning state and evaluate for further action.
Complete	Indicates that the step was completed by the system.
Manually Complete	Indicates this step was completed manually.
Filter	Indicates this step is filtered at the job level. Steps filtered at the job level will not execute and are equivalent to Complete. To hide these steps, select View, and deselect Steps Filtered at the Job Level.
Filter Query	Indicates this step is filtered by a filter query. Steps filtered by filter query will not execute and are equivalent to Complete. To hide these steps, select View, and deselect Steps Filtered by Filter Query.

Running Multiple Instances of Change Assistant

Beginning with PeopleTools 8.56 multiple instances of Change Assistant can run in parallel, however you can not run multiple instances against the same target database. This CA functionality is available independent of the Tools Release of the Target Databases, however, some calls on some older Tools Releases do not support parallel processing and therefore locking will occur. If locking occurs, a message will be displayed in Change Assistant showing the lock.

Image: Change Assistant Lock message

This is an example of a Change Assistant lock message.



Adding Filter Queries

Filter queries provide the user with the ability to add ad-hoc step filtering criteria to a template in order to improve the applicability of a job to the customer and where possible remove unnecessary manual steps.

This section discusses how to:

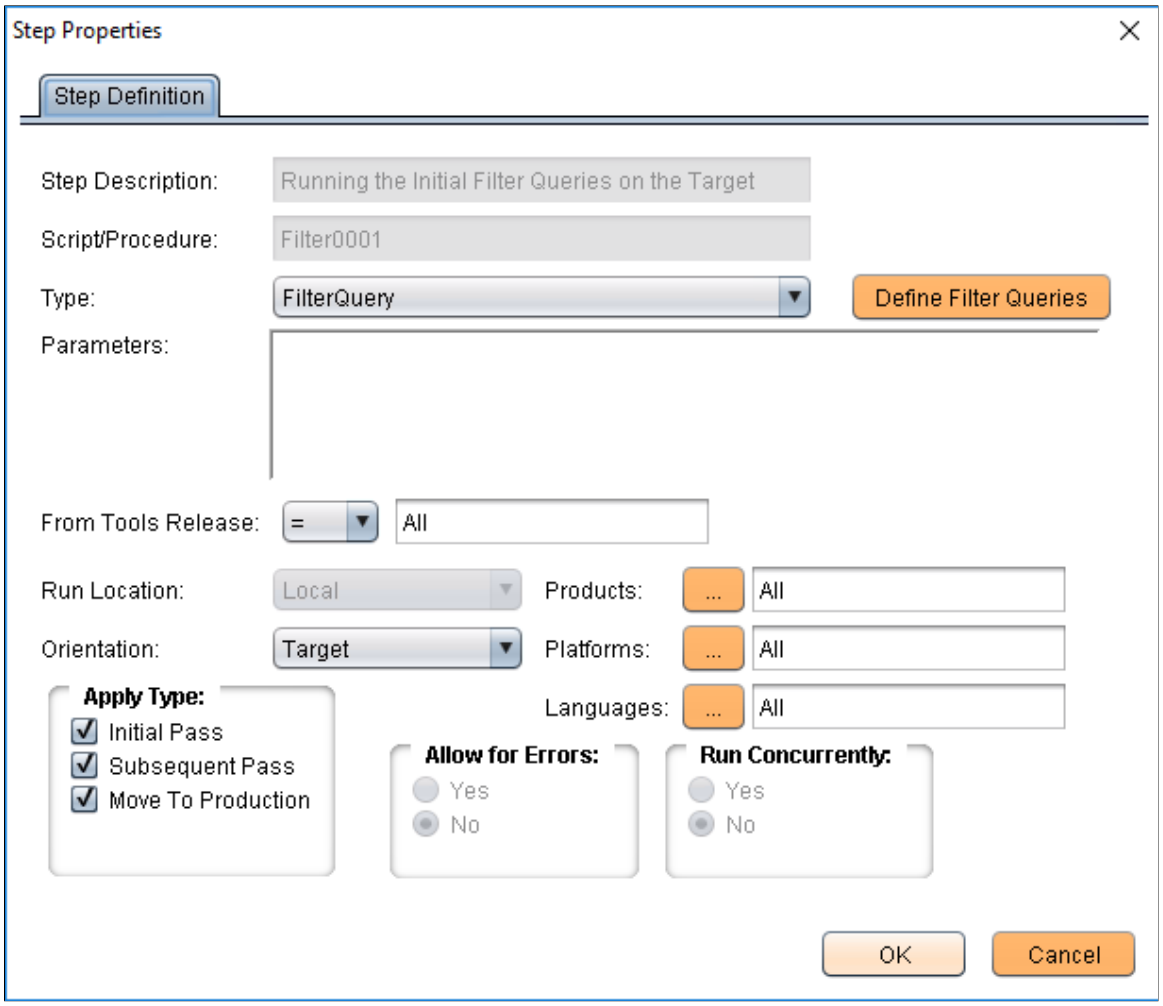
- Create Filter Query Step type.
- Assign Filter Query to a step.
- Cut and Paste filter queries
- Create and execute jobs that include filter queries.

Creating Filter Query Step Type

A template can have 0–n Filter Query steps defined and they can be defined at any position in the template. The location of the filter query step will determine when the filter queries associated to that step will be executed.

Image: Step Properties for Type FilterQuery

This example illustrates the fields and controls on the Step Properties for Type FilterQuery. You can find definitions for the fields and controls later on this page.



Script/Procedure

The Script/Procedure is defaulted to Filter<n+1> where n is set to 0 for a new template and incremented by 1 each time a Filter Query step type is added and saved.

The first Filter Query step created in a template will be named Filter0001, the second will be named Filter0002, and so on.

These values must be unique, deletion of a filter query step, will not change the n value. When a filter query step is deleted, the value is never reused within the current template.

Define Filter Query

Use this button to access the Define Filter Queries dialog box.

The following step attributes can be set for Filter Query step type:

- From Tools release
- Orientation
- Products

- Platforms
- Languages
- Apply Type

Setting Step Properties

The following step attributes cannot be changed and will be greyed out.

- Parameters — not required for Query Filter step type
- Run Location (Default = Local)
- Allow for Errors (Default = No)
- Run Concurrently (Default = No)

Note: A filter query step cannot be filtered by it's own query. A filter query step can not be filtered by a filter query defined in another step.

Defining Filter Queries

The Define Filter Queries page is used to define the actual filter queries. The grid is displayed in read-only mode and always contains a minimum of one row in the view.

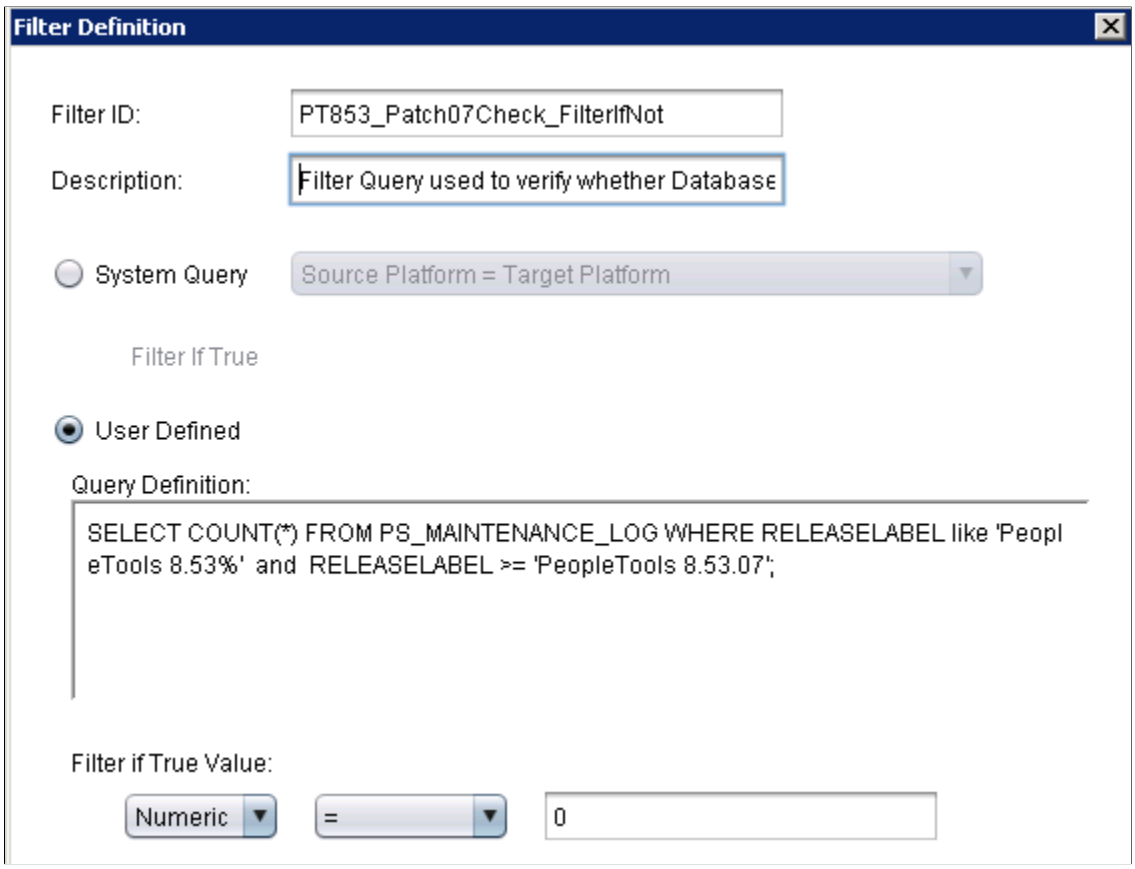
- To add a new filter query, right-click and select Add New Filter Query.
- To delete an existing filter query, right-click on the row and select Delete Selected Filter Query.
- To update an existing filter query either:
  - Right-click on the row and select Edit Selected Filter Query.
  - Double click on the row.

Defining Filter

Use the Filter Definition dialog box to define the filter.

Image: Filter Definition dialog box

This example illustrates the fields and controls on the Filter Definition dialog box. You can find definitions for the fields and controls later on this page.



Filter ID

The Filter ID must be unique within the Filter Query step. The Filter ID value in conjunction with the Script/Procedure name is used to ensure uniqueness within the template. For example: Filter1–AP Check.

Description

Enter a description for the filter query.

System Query

Select this radio button to use a system queries. System queries include:

- Source Platform = Target Platform
- Source Platform != Target Platform
- Database EM Hub Enabled = Yes
- Database EM Hub Enabled = No
- Unicode Database = Yes
- Unicode Database = No
- Last Job in Jobset = Yes
- Last Job in Jobset = No

- Scripts File Exists
- Scripts File Does not Exist
- SQR File Exists
- SQR files Does not Exist
- MO Project Exists
- MO Project Does not Exist
- ADS Project Exists
- ADS Project Does not Exist

User Defined

Select this radio button to type your own query definition.

Query Definition

Enter the SQL statement for the query.

Special filter queries are also available as described in the next section.

Note: The SQL statement must be a select statement, however the select statement is not validated.

Filter if True Value

The Filter if True Value can be a numeric or a string. Valid operator are:

- Numeric

  =, <, >, >=, <=, <>

- String

  Contains, Does Not Contain

For a single filter query, when the *Filter if True Value* is True then the associated step will be filtered.

Assigning Filter Query to a Step

To use a filter query, the filter query must be assigned to a step. The following rules apply:

- The drop down list of filter queries will be restricted to filter queries that are defined in the template at a position ahead or above the step being updated.
- Steps can only be associated to Filter Queries that would execute prior to the step being executed.
- Steps cannot be associated to the same Filter Query twice.

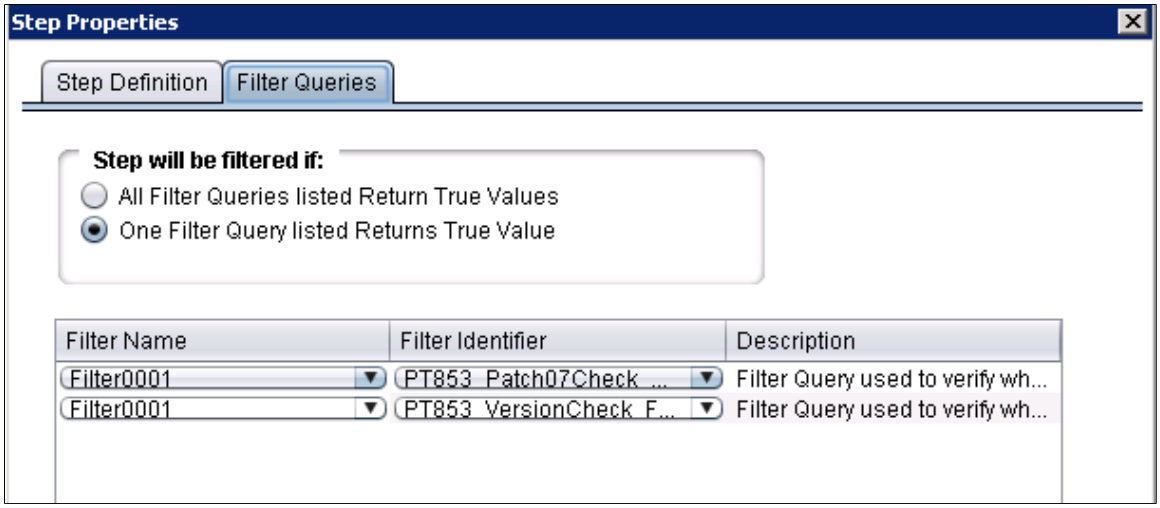
Adding a Filter Query to a Step

To add a filter query to a step:

1. Double-click on the step to open the Step properties.
2. Select the Filter Queries tab.

Image: Filter Queries dialog box

This example illustrates the fields and controls on the Filter Queries dialog box. You can find definitions for the fields and controls later on this page.



Step will be filtered if: Select when filtering will be done.

- All Filter Queries listed Return True Values

  AND condition

- One Filter Query listed returns True value

  OR condition

Filter Name Select the Filter name from the drop down list.

To add additional filter queries, right-click and select Insert Query.

Filter Identifier Select the Filter Identifier from the drop down list.

Note: The drop down list will contain all of the Filter IDs for the selected Filter Name. This field will be grayed out if a Filter name has not been specified.

To add additional Filter Queries, right-click on a row and select Insert Query.

Deleting a Filter Query from a Step

To delete a filter query:

1. Double-click on the step to open the Step properties.
2. Select the Filter Queries tab.
3. Right-click on the row with the filter and select Delete Query.

4. Click OK.

Cutting and Pasting Filter Queries

Once Filter Query Step types have been defined and used as filters for additional steps, you must take care in deleting or moving the steps in the template. Keep in mind the following points:

- Deleting a Filter Query Step

  If you delete a Filter Query step from the template, you will receive a warning that the deletion will result in all references to all filters defined in that step will be deleted. If you choose to continue, the process will remove all step references to the deleted Script/Procedure + Filter ID values.

- Cutting and pasting a Filter Query Step to another location in the template
  - Pasting to a position above or ahead of the original position has no impact.
  - Pasting to a position below the original position will result in a warning message indicating that moving step will result in removal of references to the current filter query step above it's new position if any exist.

    If you choose to continue, the process will remove all step references to the moved Script/Procedure + Filter ID values in steps that precede it in the revised template.

- Cutting and pasting a non-filter query step
  - Pasting to a position below the original position has no impact.
  - Pasting to a position above the original position will result in a warning message indicating that moving the step will result in removal of references to filter queries below it's new position if any exist.

    If you choose to continue, the process will remove all step references to the impacted Script/Procedure + Filter ID values within the relocated step.

Creating and Executing Jobs that Include Filter Queries

This section discusses how filter queries affect:

- Job Creation
- Job Execution

Job Creation

At the time of job creation, Filter Query steps can be filtered by any of the standard attributes (such as Platforms) as is the case for any other Step type. The filtering of a Filter Query step in this manner does not invalidate or cause steps that reference the filter query to filtered.

At job creation all Filter Queries defined within the template will be set to a default value of Null or No Value. No Step will be filtered by an Ad-Hoc Filter Query at job creation, because no Filter queries have been run at that time. The earliest these Filter Queries can be executed is in the first step of the template/job.

Job Execution

On Filter Query step execution, results are retrieved for all filter query ID' s defined within that specific Filter Query step. These results are written to the Change Assistant database.

- The execution accounts for the orientation of the Filter Query step.
- The return values for each Filter Query are noted in the CA log listing the Filter Identifier, Filter ID, the Hide if True Condition, the return value and whether the Hide if True Condition was met.
- In the event of a SQL error, an error message is written to the CA log and the step is marked as *Failed*.
- In the event that the SQL returns a value of the wrong type (numeric as string) ,an error message is written to the CA log and the step is marked as *Failed*.

Upon completion of this execution, the template is refreshed and as part of this action filtering of steps will occur. Filtering of steps by filter query can only occur where all associated Filter Identifier's have been resolved and are not in the Null or no value state. This is true even when only a single FALSE is required to filter a step. All the filter query results are also written to a log file. Each filter step generates a log file with results named to match the filter value for example filter0001_out.log.

When a Job is opened or refreshed – the filter query filtering will execute to ensure that all required filtering has occurred. All steps filtered by Filter query are listed in the job.log file.

Working with Embedded Documentation

Each delivered Change Assistant template comes with embedded documentation to help guide you through an update or upgrade job, especially for manual steps. Typically, full upgrades have significantly more documentation than updates.

The documentation for any chapter, task, or step resides in a separate HTM file with the same name as the template element. For upgrade templates a master HTML file stores the compilation of the separate HTM files displayed in an order matching the template.

When working with Change Assistant documentation, you:

- Set the documentation directory.
- View documentation.
- Create and edit documentation.
- Finalize documentation.

Setting the Documentation Directory

You set the documentation directory before an upgrade and prior to customizing documentation. The documentation directory contains the documentation HTM files.

To set the documentation directory:

1. Select Edit, Set Documentation Directory.

2. Navigate to the directory where you want to store the documentation.
3. Click Open.

Viewing the Documentation

To view the embedded documentation associated with a particular template element:

1. Select the template node.
2. View the documentation in the documentation box.

To view the compiled documentation:

1. Navigate to the documentation directory.
2. Open the *template_name*.HTM file.

Creating and Editing Documentation

To create or edit documentation:

1. Select the desired element node.
2. Select Edit > Edit Documentation.
3. In the edit box on the Edit Documentation dialog box, insert your cursor, and add new content or modify existing content.

   Click Attach to incorporate additional files, such as graphics or additional text files. Attaching files moves that file into the documentation directory and inserts a link to that file in the embedded documentation.
4. Click OK.

Finalizing Documentation

After modifying any documentation for individual template elements, select Edit > Finalize Documentation to compile the individual documentation changes into the master HTM file.

Maintaining Change Assistant Directories

After you download and apply change packages, it's not uncommon for there to be a number of files left in the local Change Assistant directories. This section describes when it's safe to remove the files and what to consider if you want to remove any of the files.

Directory	***Maintenance Consideration***
Download	Location where the system stores your downloaded bundles and change packages. After the updates have been applied to all environments, you may delete the updates from this directory. This can be advantageous when applying change packages by keeping the list of change packages on the Select Change Packages page of the Apply Change Packages wizard at a manageable length. However, keep in mind that if you delete the updates, and then you need to recreate another environment, you will need to download the update again.
Staging	A temporary holding place for files needed during the application of a change package. It is safe to delete files in this directory after a change package has been successfully applied to all target databases.
Output	Contains all the logs related to the processing of a change package. The files in this directory should be kept as long as it is feasible in case problems are detected later. The logs contain valuable information for troubleshooting.
PeopleSoft Update Manager Directory	This is a network share that maps to the PI_HOME share of the image. Do not delete these files. **Note:** The PI_HOME directory requires read and write access to apply PeopleSoft Release Patchsets (PRPs).
PS_HOME\Maint	Contains script files and other files that are only required during the application of the change package. It is safe to delete files in this directory after a change package has been successfully applied.

Chapter 6

Running Change Assistant from Command Line

Running Change Assistant Job from the Command Line

Change Assistant jobs can be run from the command line to automate applying updates to multiple environments. There are 2 modes available AU and UM.

- Update Manager Mode (UM)
- Traditional Apply Updates Mode (AU)

To get command line help:

- Enter `Changeassistant.bat ?` to get a list of the actions.
- To get help on a specific action enter `Changeassistant.bat -MODE UM -ACTION <action>` for example `Changeassistant.bat -MODE UM -ACTION CPAPPLY`.

Update Manager Mode

Update Manager mode supports the following actions:

- ENVIMP = Import Environment
- ENVCREATE = Create Environment
- ENVUPDATE = Update Environment
- EMFVAL = Validate EMF Settings
- OPTIONS = Set General Options
- UPLDTGT = Upload Target database to PUM Source
- CPAPPLY = Apply Previously Created (non-PRP) Change Package
- CPDEFINE = Define a New Change Package
- PRPAPPLY = Apply PRP
- PTPAPPLY = Apply a patch to your Current PeopleTools Release
- PTUAPPLY = Upgrade to a New Release of PeopleTools
- UPGAPPLY = Apply Application Upgrade

- DLTAPPLY = Apply Tools Delta Package
- TDPAPPLY = Apply Translation Delta Package
- RFUAPPLY = Apply Required for Upgrade Package
- CPCREATE = Create Change Package
- EXPCFG = Export configuration
- IMPCFG = Import configuration
- IMPCUSTDATA = Import customer data from the data file to the new PUM source
- EXPCUSTDATA= Export customer data from existing PUM source and save it as a data file
- UPLDCUSTDATA = Upload customer metadata and test data.

Constructing Command Lines for Configuring Change Assistant

Configuring Change Assistant includes the following:

- ENVIMP = Import Environment
- ENVCREATE = Create Environment
- ENVUPDATE = Update Environment
- EMFVAL = Validate EMF Settings
- OPTIONS = Set General Options
- EXPCFG = Export configuration
- IMPCFG = Import configuration
- UPLDTGT = Upload Target Database

Command Line for Uploading Change Assistant Environments that were Previously Exported

The action ENVIMP is used to import an environment that was previously exported.

Command line format:

```
changeassistant.bat -MODE UM -ACTION ENVIMP -FILEPATH <location of xml file> -FILE ⇒
<xml file name> -REPLACE <Y or N>
```

or

```
changeassistant.bat -MODE UM -ACTION ENVIMP -INI <path to ini file>
```


Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) ENVIMP = Import Environment
-FILEPATH	Location of xml file to be uploaded. (Required) Example: -FILEPATH C:\pt8.53
-FILE	Name of xml file to be uploaded. (Required)] Example: -FILE PT903R1.xml
-REPLACE	Replace existing data if it exists (Optional) • Y = Replace existing values if they exist. (default) • N = Do not replace values if they exist.
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Creating Environment

The action ENVCREATE is used to create an environment using the command line.

Command line format:

```
changeassistant.bat -MODE UM -ACTION ENVCREATE -TGTENV <target database> -OUT <log ⇒
path> -REPLACE <Y or N> -EXONERR <Y or N> -CKYN <Y or N> -CT <database type> -CS <d⇒
atabase server name> -OID <owner ID> -UNI <unicode> -CA <access id> -CAP <access id⇒
 password> -CO <user id> -CP <user password> -CI <connect id> -CW <connect id passw⇒
ord> -CZYN <Y or N> -CZ <DB owner> -CZP <DB owner password> -SQH <path to SQL Query⇒
 tool> -INP <products> -PL <product line> -IND <industry> -INL <languages> -INBL <B⇒
ASE LANGUAGE> -PSH <path to PS Home> -PAH <path to PS App Home> -PCH <path to PS Cu⇒
st Home> -SQRF <SQR flags> -NPYN <Y or N> -NPSH <path to new PS Home> -NPAH <path t⇒
o new PS App Home> -NPCH <path to new PS Cust Home> -NSQRF <new SQR Flags>
```

or

```
changeassistant.bat -MODE UM -ACTION ENVCREATE -INI <path to ini file>
```

The parameters for ENVCREATE action are:

Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager

Parameter	***Description***
-ACTION	Action name (Required) ENVCREATE = Create Environment
-TGTENV	Name of target database. (Required)
-OUT	Path of log file (Optional) If the log directory is not specified it uses the default defined under General Options.
-REPLACE	Replace existing data if it exists (Optional) • Y = Replace existing values if they exist. (default) • N = Do not replace values if they exist.
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-CKYN	Validate database connection and retrieve information from database (Optional) Y = Validate (by default) N = Do not validate
-CT	Database Type (Required) Database type is a number: 1 – DB2 zOS 2 – Oracle 3 – Informix 4 – DB2 LUW 6 – Sybase 7 – Microsoft SQL Server
-CS	Database Server Name (Optional)
-OID	Owner ID (Optional)
-UDI	Unicode (Required) • Y = Yes • N = No
-CO	User ID (Required)

Parameter	***Description***
-CP	User Password (Required)
-CA	Access ID (Required)
-CAP	Access Password (Required)
-CI	Connect ID (Required)
-CW	Connect Password (Required)
-CZYN	Set DB Owner Credentials (Optional) • Y = Yes • N = No (default)
-CZ	DBOwner ID (Required if –CZYN is Y)
-CZP	DBOwner Password (Required if –CZYN is Y)
-SQH	SQL Query Tool (Required)
-INP	Installed Products (Required) Specify either *all* , a single or multiple products. For example: • -INP all • -INP FMA • -INP FMA.REA,SMA
-PL	Product Line (Optional)
-IND	Industry (Required) Specify either *all* , or a specific industry. For example: • -IND all • -IND Commercial
-INL	Languages (Required) Specify either *all* , or a specific languages. For example: • -INL all • -INL ENG,FRA
-INBL	Base language (Required)

Parameter	*Description*
-PSH	PS Home (Required)
-PAH	PS App Home (Required)
-PCH	PS Cust Home (Required)
-SQRF	SQR Flags (Optional)
-NPYN	Enable new PS Home (Optional) • Y = Yes • N = No (default)
-NPSH	New PS Home (Required if –NPSH is Y)
-NPAH	New PS App Home (Required if –NPSH is Y)
-NPCH	New PS Cust Home (Required if –NPSH is Y)
-NSQRF	New SQR Flags (Optional)
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Updating Environment

The action ENVUPDATE is used to set options using the command line.

The command line for updating the environment uses the same parameters as creating an environment (ENVCREATE), except -REPLACE is not included.

Command Line for Setting Options

The action OPTIONS is used to set options using the command line.

Command line options are available for the General Options, EM Hub Options, and PUM Source Options. Additional options are not supported via command line.

Command line format:

```
changeassistant.bat -MODE UM -ACTION OPTIONS -OUT <path to output log> -REPLACE <Y ⇒
or N> -EXONERR <Y or N> -SWP <True or False> -MCP <maximum concurrect processes> -P⇒
SH <path to PS Home> -STG <staging directory> -OD <output directory> -DL <download ⇒
directory> -SQH <path to SQL Query tool> -EMYN <Y or N) -EMH <server host name> -EM⇒
P <server host port> -EMC <chunck size> -EMPING <ping interval> -EMDRV <drives to c⇒
rawl> -SRCYN <Y or N> -SRCENV <PUMsource database name> -PUH <PUM PS Home> -PIA <PU⇒
M PIA URL>
```

or

```
changeassistant.bat -MODE UM -ACTION OPTIONS -INI <path to ini file>
```


The parameters for OPTIONS action are:

Parameter	***Description***
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) OPTIONS = Set General Options
-OUT	Path of log file (Optional) If the log directory is not specified it uses the default defined under General Options.
-REPLACE	Replace existing data if it exists (Optional) • Y = Replace existing values if they exist. (default) • N = Do not replace values if they exist.
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-SWP	Show Welcome Menu (Optional) • True = Show welcome page • False = Do not show welcome page
-MCP	Maximum Concurrent Processes (Optional)
-PCH	PS Home (Optional)
-PAF	PS App Home (Optional)
-PCH	PS Cust Home (Optional)
-STG	Staging Directory (Optional)
-OD	Output Directory (Optional)
-DL	Download Directory (Optional)
-PUH	PeopleSoft Update Directory (Optional)
-SQH	SQL Query Tools (Optional)

Parameter	*Description*
-EMYN	Configure EM Hub for file deploy (Optional) • Y = Yes • N = No (default)
-EMH	Server Host Name (Required if –EMYN is Y)
-EMP	Server Host Port (Required if –EMYN is Y)
-EMC	Chunk Size (Required if –EMYN is Y)
-EMPING	Ping Interval (Required if –EMYN is Y)
-EMDRV	Drives to Crawl (Required if –EMYN is Y)
-SRCYN	Configure PUM Source (Optional) • Y = Yes • N = No (default)
-SRCENV	PUM Source Database Name (Required if –SRCYN is Y)
-PUH	PUM PS Home Directory (Required if –SRCYN is Y)
-PIA	PUM Source PIA URL (Required if –SRCYN is Y)
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line to Validate EMF Settings

The action EMFVAL is used to validate EMF using the command line.

Note: In Linux/UNIX, the user running validating EMF settings should have write permission to PS_APP_HOME.

Command line format:

```
changeassistant.bat -MODE UM -ACTION EMFVAL -OUT <path to log file>  -EXONERR <Y or⇒
 N>
```

or

```
changeassistant.bat -MODE UM -ACTION EMFVAL -INI <path to ini file>
```

The parameters for EMFVAL action are:

Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) EMFVAL = Validate environment
-OUT	Path to log file. (Optional)
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-INI	Path to INI file. See Using a Configuration File with Changeassistant.bat

Command Line to Upload Target Database

The action UPLDTGT is used to a target database using the command line.

Command line format:

```
changeassistant.bat -MODE UM -ACTION UPLDTGT -OUT <path to log file>  -EXONERR <Y o⇒
r N>
```

or

```
changeassistant.bat -MODE UM -ACTION UPLDTGT -INI <path to ini file>
```

The parameters for UPLDTGT action are:

Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) UPLDTGT = Upload target database
-TGTENV	Target database (Required)
-OUT	Path to log file. (Optional)

Parameter	*Description*
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Constructing Command Lines to Create and Apply Change Packages

Apply commands include:

- CPDEFINE = Define a New Change Package
- CPAPPLY = Apply Previously Created (non-PRP) Change Package
- PRPAPPLY = Apply PRP
- PTPAPPLY = Apply a patch to your Current PeopleTools Release
- PTUAPPLY = Upgrade to a New Release of PeopleTools
- UPGAPPLY = Application Upgrade
- DLTAPPLY = Apply Tools Delta Package
- TDPAPPLY = Apply Translation Delta Package
- RFUAPPLY = Apply Required for Upgrade Package

When you run the command line, the error codes are as follows:

- 0 = Success
- 1 = Failure
- 2 = Manual Stop encountered
- 3 = Failed to get lock

The RESUMEJOB parameter has the following limitations:

- COMPLETECONTINUE cannot be used for a failed Filter Query step

  If the pending job is stopped by a failed Filter Query step, -RESUMEJOB can only have the value of RESTARTCONTINUE or READYTORUNCONTINUE. If the value is COMPLETECONTINUE , an error message is reported.

- RESTARTCONTINUE| READYTORUNCONTINUE cannot be used for a manual stop step.

  If the pending job is stopped by a manual stop step, -RESUMEJOB can only have the value of COMPLETECONTINUE. If the value is RESTARTCONTINUE or READYTORUNCONTINUE, an error message is reported.

- The job must exist in Change Assistant Database in order to use RESUMEJOB.

  If there is no job set in progress when the CA apply command line is run with the parameter -RESUMEJOB, a warning message is reported.

- RESUMEJOB cannot be used when the parameter RESETJOB is Y.

  If there is a job in progress and the -RESETJOB parameters is set as Y or not set (the default value is Y) a warning message is reported as *The resuming job can't be reset*.

- All other parameters need to be consist with the parameters of existing job

  If there is a job in progress but the job parameters are not consistent with the ones in CA apply command line; a warning message is reported as *The pending job can't be resumed by the inconsistent parameter values.*

Command Line for Defining a Change Package

You can use the command line to define a change package using a standard system search or a customer saved search.

Command line format:

```
changeassistant.bat -MODE UM -ACTION CPDEFINE -TGTENV<TARGET ENVIRONMENT> -UPD <cha⇒
nge package> -SEARCHNAME <SYSTEM SEARCH NAME OR CUSTOMER SEARCH NAME> -PKGDESC <PAC⇒
KAGE DESCRIPTION> -EXONERR <Y or N>
```

or

```
changeassistant.bat -MODE UM -ACTION CPDEFINE -INI <path to ini file>
```

The parameters for CPCREATE action are:

Parameter	***Description***
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) CPDEFINE =Define Change Package
-TGTENV	Target environment (Required) Example: -TGTENV H92CD540
-UPD	Update ID of change package. (Required)] Example: -UPD 11111

Parameter	*Description*
-SEARCHNAME	Specify the System search name or customer search name. (Required) Available system search names: • MMC = All Updates Not Applied • PO = All Critical Updates Not Applied • IP = All Unapplied Updates for Installed Products • POI= All Critical Unapplied Updates for Installed Products • TAX = All Tax Updates Not Applied • TR= All True Requisites Not Applied
-PKGDESC	Specify a Change Package description. (Optional)
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Creating Change Package

The action CPCREATE is used to upgrade to a new PeopleTools release using the command line.

Command line format:

```
changeassistant.bat -MODE UM -ACTION CPCREATE  -UPD <change package> -OUT <path to ⇒
log file>  -EXONERR <Y or N>
```

or

```
changeassistant.bat -MODE UM -ACTION CPCREATE -INI <path to ini file>
```

The parameters for CPCREATE action are:

Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) CPCREATE =Create Change Package

Parameter	*Description*
-UPD	Update ID of change package. (Required)] Example: -UPD PTU854
-OUT	Path to log file. (Optional)
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying PUM Updates

The action CPAPPLY is used to apply a change package that was created using PUM.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION CPAPPLY -TGTENV <target database> -UPD <change⇒
 package> -TYPE <initial pass or move to production> -SYNCTYPE <y OR n> -OUT <log f⇒
ile directory> -WARNINGSOK <Yor N> -RESETJOB <Y or N> -EXONERR <launch GUI Y or N> ⇒
-RESUMEJOB [COMPLETECONTINUE|RESTARTCONTINUE| READYTORUNCONTINUE]
```

or

```
Changeassistant.bat -MODE UM -ACTION CPAPPLY -INI <path to ini file>
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION CPAPPLY  -TGTENV HC920001 – UPD PKG1
```

In this example the target database is named HC920001and the change package to apply is PKG1. All of the other parameters will use the default.

Parameter	*Description*
-MODE	Change Assistant mode (Required) UM
-ACTION	Change Assistant action (Required) CPAPPLY = Apply Previously Created (non-PRP) Change Package
-TGTENV	Target database

Parameter	***Description***
-UPD	The Change Package to apply. (Required) Specify either *all* , a single or multiple Change Packages to apply to the specified environment. For example: • -UPD all • -UPD PKG1 • -UPD PKG1,PKG2
-TYPE	Apply Type. (Optional) • IP = Initial Pass (All steps) (default) • MTP = Move to production • IPSRC = Source only initial pass • IPTGT = Target only initial pass
-SYNCTYPE	Synchronize target metadata. (Optional) • Y = Yes (default if type is IP) • N = No (default if type is not IP)
-OUT	Path of log file (Optional) If the log directory is not specified it uses the default defined under General Options.
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-RESETJOB	Specify whether or not to reset the job if the job fails the first time it is run. • Y = Delete existing job and create a new job • N = Do NOT delete existing job and continue running the existing job. (default)

Parameter	*Description*
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying Downloaded PRP to PeopleSoft Update Image

The action PRPAPPLY is used to apply a previously downloaded PRP to the PeopleSoft Update Image.

In order to apply a PRP from the command line, you must run 2 commands, first identify the PUM source using the Options action and then apply the PRP.

1. This is an example of the command line to set the PUM environment.

   ```
   Changeassistant.bat -MODE UM -ACTION OPTIONS -SRCYN Y -SRCENV HR92U016 -PUH D:⇒
   \psft\pt\pi_home\ -PIA http://machine.example.com:8000/ps/signon.html -OUT d:\⇒
   temp\PRP.LOG -EXONERR Y
   ```

   In this example, Configure PUM Source (SRCYN) is set to Y, the PUM Source database (-SRCENV) is HR92U016 , the PI home directory (-PUH) is set to D:\psft\pt\pi_home\, the PIA URL (-PIA) is set to http://edddr32p1.example.com:8000/ps/signon.html.

   See the section on Command Line for Setting Options for additional details on setting General Options.

2. This is an example for applying the PRP.

   ```
   changeassistant.bat  -MODE UM -ACTION PRPAPPLY -UPD PRJ22534037
   ```

   In this example the change package to apply is PRJ22534037 (name of the downloaded PRP change package). All of the other parameters will use the default.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION PRPAPPLY  -UPD <change package> -OUT <log file⇒
 directory> -WARNINGSOK <Y or N> -REPLACE <Y or N> -EXONERR <launch GUI Y or N> -RE⇒
SETJOB <Y or N>
```

or

```
Changeassistant.bat -MODE UM -ACTION PRPAPPLY -INI <path to ini file>
```


Parameter	***Description***
-MODE	Change Assistant mode (Required) UM = Update Manager
-ACTION	Action name (Required) PRPAPPLY = Apply PRP
-UPD	Update ID of Change Package to apply. (Required)
-OUT	Path of log file (Optional) If the log directory is not specified it uses the default defined under General Options.
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.
-REPLACE	Replace existing data if it exists (Optional) • Y = Replace existing values if they exist. (default) • N = Do not replace values if they exist
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-RESETJOB	Specify whether or not to reset the job if the job fails the first time it is run. • Y = Delete existing job and create a new job • N = Do NOT delete existing job and continue running the existing job. (default)
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job

Parameter	*Description*
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying PeopleTools Patch

The action PTPAPPLY is used to apply a PeopleTools Patch using the command line.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION PTPAPPLY -TGTENV <target database> -UPD <chang⇒
e package>
```

or

```
Changeassistant.bat -MODE UM -ACTION PTPAPPLY -INI <path to ini file>
```

The parameters for applying a PeopleTools patch are:

Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) PTPAPPLY =Apply PTP
-TGTENV	Target environment (Required)
-UPD	Update ID of change package. (Required)] Example: -UPD PTP85401
-OUT	Path to log file. (Optional)
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)

Parameter	Description
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying PeopleTools Upgrade

The action PTUAPPLY is used to upgrade to a new PeopleTools release using the command line.

Command line format:

```
changeassistant.bat -MODE UM -ACTION PTUAPPLY -TGTENV <target database> -UPD <chang⇒
e package> -OUT <path to log file> -WARNINGOK <Y or N> -EXONERR <Y or N>
```

or

```
changeassistant.bat -MODE UM -ACTION PTUAPPLY -INI <path to ini file>
```

The parameters for PTUAPPLY action are:

Parameter	Description
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) PTUAPPLY=Apply PTU
-TGTENV	Target environment (Required)
-UPD	Update ID of change package. (Required)] Example: -UPD PTU854
-OUT	Path to log file. (Optional)

Parameter	*Description*
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying Application Upgrade

The action UPGAPPLY is used to upgrade to 9.2 application release using the command line.

Command line format:

```
changeassistant.bat -MODE UM -ACTION UPGAPPLY -TGTENV <target database> -UPD <chang⇒
e package> -OUT <path to log file> -WARNINGOK <Y or N> -EXONERR <Y or N>
```

or

```
changeassistant.bat -MODE UM -ACTION UPGAPPLY -INI <path to ini file>
```

The parameters for PTUAPPLY action are:

Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager

Parameter	***Description***
-ACTION	Action name (Required) UPGAPPLY=Apply PTU
-TGTENV	Target environment (Required)
-UPGSRC	Upgrade source environment (Required)
-UPD	Update ID of change package. (Required)] Example: -UPD HCM91TO92UPG
-RFU	Required for upgrade change package (Optional) • Y Yes (apply) • N No(not apply)
-PTU	PeopleTools upgrade change package (Optional) Example: -PTU PTU856
-TYPE	Apply Type. (Optional) • IP = Initial Pass (All steps) (default) • MTP = Move to production • SP= Subsequent Pass
-SYNCTYPE	Synchronize Target Metadata (Optional) • Y Yes (default if type is IP) • N No(default if type is not IP)
-OUT	Path to log file. (Optional)
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.
-RESETJOB	Reset Job Set before applying (Optional) • RESETJOB Y = Reset Job Set before applying (default) • RESETJOB N = Do Not Reset Job Set before applying
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)

Parameter	*Description*
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job
-FS	Specify either the file servers or ini path. File servers hostname#configPath (Optional) • -FS all (default) • -FS slc06ejv#c:\pt8.53-102-r1 • -FS slc06ejv#c:\pt8.53-102-r1;slc08eyu#c:\pt8.53-103-r1
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying Tools Delta Package

The action DLTAPPLY is used to apply a Tools Delta change package that was created using PUM.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION DLTAPPLY -TGTENV <target database> -UPD <chang⇒
e package> -TYPE <initial pass or move to production> -SYNCTYPE <y OR n> -OUT <log ⇒
file directory> -WARNINGSOK <Yor N> -RESETJOB <Y or N> -EXONERR <launch GUI Y or N>⇒
 -RESUMEJOB [COMPLETECONTINUE|RESTARTCONTINUE| READYTORUNCONTINUE]
```

or

```
Changeassistant.bat -MODE UM -ACTION DLTAPPLY -INI <path to ini file>
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION DLTAPPLY  -TGTENV HC920001 – UPD PKG1
```

In this example the target database is named HC920001and the change package to apply is PKG1. All of the other parameters will use the default.

Parameter	***Description***
-MODE	Change Assistant mode (Required) UM
-ACTION	Change Assistant action (Required) DLTAPPLY = Apply Tools Delta Change Package
-TGTENV	Target database (Required) Optional if TYPE is IPSRC
-UPD	The Change Package to apply. (Required) Specify either *all* , a single or multiple Change Packages to apply to the specified environment. For example: • -UPD all • -UPD PKG1 • -UPD PKG1,PKG2
-TYPE	Apply Type. (Optional) • IP = Initial Pass (All steps) (default) • MTP = Move to production • IPSRC = Source only initial pass • IPTGT = Target only initial pass
-SYNCTYPE	Synchronize target metadata. (Optional) • Y = Yes (default if type is IP) • N = No (default if type is not IP)
-OUT	Path of log file (Optional) If the log directory is not specified it uses the default defined under General Options.
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)

Parameter	*Description*
-RESETJOB	Specify whether or not to reset the job if the job fails the first time it is run. • Y = Delete existing job and create a new job • N = Do NOT delete existing job and continue running the existing job. (default)
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job
-FS	Specify either the file servers or ini path. File servers hostname#configPath (Optional) • -FS all (default) • -FS slc06ejv#c:\pt8.53-102-r1 • -FS slc06ejv#c:\pt8.53-102-r1;slc08eyu#c:\pt8.53-103-r1
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying Translation Delta Package

The action DLTAPPLY is used to apply a Tools Delta change package that was created using PUM.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION TDPAPPLY -TGTENV <target database> -UPD <chang⇒
e package> -TYPE <initial pass or move to production> -SYNCTYPE <y OR n> -OUT <log ⇒
file directory> -WARNINGSOK <Yor N> -RESETJOB <Y or N> -EXONERR <launch GUI Y or N>⇒
 -RESUMEJOB [COMPLETECONTINUE|RESTARTCONTINUE| READYTORUNCONTINUE]
```

or

```
Changeassistant.bat -MODE UM -ACTION TDPAPPLY -INI <path to ini file>
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION TDPAPPLY  -TGTENV HC920001 – UPD PKG1
```


In this example the target database is named HC920001and the change package to apply is PKG1. All of the other parameters will use the default.

Parameter	***Description***
-MODE	Change Assistant mode (Required) UM
-ACTION	Change Assistant action (Required) TDPAPPLY = Apply Translation Delta Change Package
-TGTENV	Target database (Required) Optional if TYPE is IPSRC
-UPD	The Change Package to apply. (Required) Specify either *all* , a single or multiple Change Packages to apply to the specified environment. For example: • -UPD all • -UPD PKG1 • -UPD PKG1,PKG2
-TYPE	Apply Type. (Optional) • IP = Initial Pass (All steps) (default) • MTP = Move to production • IPSRC = Source only initial pass • IPTGT = Target only initial pass
-SYNCTYPE	Synchronize target metadata. (Optional) • Y = Yes (default if type is IP) • N = No (default if type is not IP)
-OUT	Path of log file (Optional) If the log directory is not specified it uses the default defined under General Options.
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.

Parameter	*Description*
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-RESETJOB	Specify whether or not to reset the job if the job fails the first time it is run. • Y = Delete existing job and create a new job • N = Do NOT delete existing job and continue running the existing job. (default)
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job
-FS	Specify either the file servers or ini path. File servers hostname#configPath (Optional) • -FS all (default) • -FS slc06ejv#c:\pt8.53-102-r1 • -FS slc06ejv#c:\pt8.53-102-r1;slc08eyu#c:\pt8.53-103-r1
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line for Applying Required for Upgrade Package

The action RFUAPPLY is used to apply a Tools Delta change package that was created using PUM.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION RFUAPPLY -TGTENV <target database> -UPD <chang⇒
e package> -TYPE <initial pass or move to production> -SYNCTYPE <y OR n> -OUT <log ⇒
file directory> -WARNINGSOK <Yor N> -RESETJOB <Y or N> -EXONERR <launch GUI Y or N>⇒
 -RESUMEJOB [COMPLETECONTINUE|RESTARTCONTINUE| READYTORUNCONTINUE]
```


or

```
Changeassistant.bat -MODE UM -ACTION RFUAPPLY -INI <path to ini file>
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION RFUAPPLY  -TGTENV HC920001 – UPD PKG1
```

In this example the target database is named HC920001and the change package to apply is PKG1. All of the other parameters will use the default.

Parameter	***Description***
-MODE	Change Assistant mode (Required) UM
-ACTION	Change Assistant action (Required) RFUAPPLY = Apply Required for Upgrade Change Package
-TGTENV	Target database (Required) Optional if TYPE is IPSRC
-UPD	The Change Package to apply. (Required) Specify either *all* , a single or multiple Change Packages to apply to the specified environment. For example: • -UPD all • -UPD PKG1 • -UPD PKG1,PKG2
-TYPE	Apply Type. (Optional) • IP = Initial Pass (All steps) (default) • MTP = Move to production • IPSRC = Source only initial pass • IPTGT = Target only initial pass
-SYNCTYPE	Synchronize target metadata. (Optional) • Y = Yes (default if type is IP) • N = No (default if type is not IP)
-OUT	Path of log file (Optional) If the log directory is not specified it uses the default defined under General Options.

Parameter	***Description***
-WARNINGSOK	Proceed with apply even if warnings are found. (Optional) • Y = Proceed with apply even if warnings are found. (default) • N = Stop apply when warnings are encountered.
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-RESETJOB	Specify whether or not to reset the job if the job fails the first time it is run. • Y = Delete existing job and create a new job • N = Do NOT delete existing job and continue running the existing job. (default)
-RESUMEJOB	Specify the parameter value: • COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETE and continue the job. • RESTARTCONTINUE To mark the first failed step or manual stop step to status RE-START and continue the job • READYTORUNCONTINUE To mark the first failed step or manual stop step to status READYTORUN and continue the job
-FS	Specify either the file servers or ini path. File servers hostname#configPath (Optional) • -FS all (default) • -FS slc06ejv#c:\pt8.53-102-r1 • -FS slc06ejv#c:\pt8.53-102-r1;slc08eyu#c:\pt8.53-103-r1
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Constructing Command Lines for Migrating and Uploading Customer Data

Commands for migrating and uploading customer data include:

- IMPCUSTDATA = Import customer data from the data file to the new PUM source
- EXPCUSTDATA= Export customer data from existing PUM source and save it as a data file
- UPLDCUSTDATA = Upload customer metadata and test data.

In order to migrate customer data, you will need to:

1. Export the customer data from the old PUM source database and save it as a data file.
2. Import the customer data from the selected data file to the new PUM source database.

Command Line to Export Customer Data

The action EXPCUSTDATA is used to Export the customer data from the old PUM source Database and save it as a data file.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION EXPCUSTDATA -SRCENV <old PUM DB> -PUMDATATYPE ⇒
<type> -FILEPATH <file path> -FILE <file name>
```

or

```
Changeassistant.bat -MODE UM -ACTION EXPCUSTDATA -INI <path to ini file>
```

The parameters for EXPCUSTDATA action are:

Parameter	***Description***
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) EXPCUSTDATA = Export the customer data
- SRCENV	Name of the old PUM source Database. (Required)

Parameter	*Description*
-DATATYPE	The definition type to export. There are 3 type definitions: Package Definitions, Customization Repository and Test Repository. (Optional) • ALL = Select all the types. (default) • PKGDEFN = Export package definitions. • CUSTRPST = Export customization repository • TESTRPST = Export test repository You can specify multiple data type by separating them by semicolon. For instance -DATATYPE PKGDEFN;CUSTRPST;TESTRPST
- FILEPATH	Specify the configuration backup file location (optional) If the file path is not specified, the Output Directory is used.
- FILE	Specify the configuration backup file name (Optional) If the backup file name is not specified, customerdata.DAT is used.
-INI	Path to ini file. See Using Change Assistant to Upgrade PeopleTools

Command Line to Import Customer Data

The action IMPCUSTDATA is used to Import the Change Package definition from the selected data file to the new PUM source Database.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION IMPCUSTDATA -NEWTGTENV <new PUM DB> -PUMDATATY⇒
PE <type> -FILEPATH <file path> -FILE <file name> -OVERWRITE <Y|N>
```

or

```
Changeassistant.bat -MODE UM -ACTION IMPCUSTDATA -INI <path to ini file>
```

The parameters for IMPCUSTDATA action are:

Parameter	*Description*
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) IMPCUSTDATA = Import Customer data from the selected data file to the New PUM Source

Parameter	*Description*
-NEWSRCENV	Name of the new PUM source Database. (Required)
-DATATYPE	The definition type to export. There are 3 type definitions: Package Definitions, Customization Repository and Test Repository. (Optional) • ALL = Select all the types. (default) • PKGDEFN = Export package definitions. • CUSTRPST = Export customization repository • TESTRPST = Export test repository You can specify multiple data type by separating them by semicolon. For instance -DATATYPE PKGDEFN;CUSTRPST;TESTRPST
- FILEPATH	Specify the configuration backup file location (optional) If the file path is not specified, the Output Directory is used.
- FILE	Specify the configuration backup file name (Optional) If the backup file name is not specified, customerdata.DAT is used.
- OVERWRITE	Overwrite the Change Package definition if it exists (Optional) • Y = Overwrite if exists. • N = Ignore duplicate. (default)
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Command Line to Upload Customer Data

The action UPLDCUSTDATA is used to Import the Change Package definition from the selected data file to the new PUM source Database.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -RPSTTYPE <CUST|TEST> -PRJTYPE <M⇒
O|ADS> -PRJFROMDB <DB:project> -PRJFROMFILE <file name> -NEWPRJ <DB:project> -REPLA⇒
CE <Y|N> -ERRORCONTINUE <Y|N>
```

or

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -INI <path to ini file>
```

This is an example of a command line to upload the database project MY_CUSTOMIZATIONS from the database H92CD855 to the PUM Source.

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -RPSTTYPE CUST -PRJTYPE MO -PRJFR⇒
OMDB H92CD855:MY_CUSTOMIZATIONS
```


The parameters for UPLDCUSTDATA action are:

Parameter	***Description***
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) IMPCUSTDATA = Import Customer data from the selected data file to the New PUM Source
-RPSTTYPE	Target Repository Type (Required) • CUST • TEST
-PRJTYPE	Select the customer metadata type (Required) • MO = Managed Object Project • ADS = ADS Project **Note:** If the repository type is TEST, MO is the only valid option.
-PRJFROMDB	Select Existing Database Project(s) Example: -PRJFROMDB DB1:custprj1;DB2:custprj2 **Note:** Use this option if the project exists in the database.
-PRJFROMFILE	Select Existing Project File(s) Example: -PRJFROMFILE c:/temp/custprj1;c:/temp/custprj2. **Note:** Use this option if the project has been copied to file.
-NEWPRJ	Create new database project Example: -NEWPRJ DB1:custprj1
-REPLACE	Replace existing data if it exists (Optional) • Y = Replace Existing Values if they Exist (default) • N = Do Not Replace Values if they Exist
-ERRORCONTINUE	Proceed with Uploading Customer Data even if errors are found (Optional) • Y = Proceed with Apply even if Errors found (default) • N= Stop apply when Errors encountered

Parameter	Description
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Constructing Command Line to Apply Traditional Updates (non-PUM-enabled)

CPAPPLY (Apply Change Package) is the only action available for the mode AU (Apply Updates).

Command Line for Non PUM-Enabled Environments

For Non PUM-enabled environments (PeopleSoft Update Image is not available), use the following command line format:

```
Changeassistant.bat -MODE AU -ACTION CPAPPLY -ENV <target database>  - UPD <change ⇒
package> -FS <file server> -CA <access id> -CAP <access password> -CO <user id> -CP⇒
 <user password> -DL <download directory> -BLD <manual or auto> -OUT <log file dire⇒
ctory> -EXONERR <launch GUI Y or N>
```

or

```
Changeassistant.bat -MODE AU -ACTION CPAPPLY -INI <path to ini file>
```

Note: EMF Agent must be running.

The parameters for CPAPPLY action are:

Parameter	Description
-MODE	Change Assistant Action (Required) AU = Apply Updates
-ACTION	Action name (Required) CPAPPLY = Apply Change Package
-ENV	Target database. (Required)
-UPD	The Change Package to apply. (Required) Specify either *all* , a single or multiple Change Packages to apply to the specified environment. For example: • -UPD all • -UPD PKG1 • -UPD PKG1,upd222222

Parameter	***Description***
-FS	File Server path to apply the Change Package to the specific environment. (Required) Select either *all* or list a specific file server configuration path in order. For example: • -FS all • -FS c:\pt8.53 -FS c:\pt8.53,c:\pt8.53–903
-CA	Access id for the environment. (Required)
-CAP	Access password for the environment. (Required)
-CO	User id for the environment. (Required)
-CP	User password for the environment. (Required)
-DL	Download directory for the environment. (Optional) If the directory is not specified it uses the default defined under General Options.
-BLD	Specify whether to create the Build scripts and execute them automatically or have the DBA run the scripts automatically. (Optional) • 0 = Manual • 1 = Automatically (default)
-OUT	Path of log file (Optional)
-EXONERR	Specify whether or not to launch GUI if an error or manual stop is encountered. (Optional) • Y = Do not Launch • N= Launch (default)
-INI	Path to ini file. See Using a Configuration File with Changeassistant.bat

Using a Configuration File with Changeassistant.bat

You can create a configuration file that contains the parameters and then run the command line using –INI parameter which contains the path to the ini file. For example, if you created an ini file named config.ini in the C:\temp folder, you would run the following command.

```
changeassistant.bat -INI C:\temp\config.ini
```

Note: For security reasons, the ini file is deleted immediately after CA has loaded the parameters.

The ini file needs to contain the General parameters and the parameters specific to the action.

Example ini File for Creating an Environment

```
[GENERAL]
MODE=UM
ACTION=ENVCREATE
OUT=d:\aaa.log
EXONERR=Y

[ENVCREATE]
TGTENV=T2D85501
CT=2
UNI=Y
CA=emdbo
CAP=password
CO=PTTRN
CP=password
CI=people
CW=password
CZYN=N
SQH=D:\psft\db\oracle-server\12.1.0.2\BIN\sqlplus.exe
INP=All
PL=PEOPLETOOLS
IND=ALL
INL=All
INBL=ENG
PSH=D:\PT8.55.04_Client_ORA
PAH=D:\PT8.55.04_Client_ORA
PCH=D:\PT8.55.04_Client_ORA
REPLACE=N
```

Example ini File for Creating a Change Package

```
[GENERAL]
MODE=UM
ACTION=CPCREATE
OUT=d:\CREATEPKG4.log
EXONERR=N

[CPCREATE]
UPD=PKG4
```


Part II

Using Change Assistant with PeopleSoft Update Manager

Chapter 7

Understanding Update Manager Action

Update Manager Action Overview

This section provides an overview of the Update Manager action.

Understanding Update Tools

This section describes the tools used in applying updates with the PeopleSoft Update Manager (PUM). In a typical update process, you will use these tools to:

1. Locate, download, and install the PeopleSoft Update Image for your PeopleSoft application. This is the PUM Source environment.
2. Set up a Microsoft Windows client with Change Assistant, PeopleTools client and database client utilities for your environment.
3. Enable the Environment Management Framework on the target environment.
4. Configure Change Assistant with information about the source and target environments, and define a new change package.
5. Use the PeopleSoft Update Manager PIA Application to search for updates and create a custom change package.

See Quick Start for a list of steps and links.

PeopleSoft Update Image

PeopleSoft Update Images (PI) are fully functioning instances of the PeopleSoft environment made up of PeopleSoft deployment packages (DPKs). They can be deployed using Oracle VM VirtualBox to host the PeopleSoft (DPKS). Alternatively, you can install and configure PeopleSoft environments on Microsoft Windows or Linux hardware or virtualization platforms using the DPKs. The DPKs that are deployed using Oracle VM VirtualBox are referred to as "VirtualBox DPK," and those that are deployed directly onto Microsoft Windows, Linux, AIX or Solaris operating systems are referred to as "Native OS DPK."

Oracle delivers a complete and current PeopleSoft Update Image on a regular schedule for each PeopleSoft application database instance, for example: FSCM, HCM. The delivery schedules and the PI will be posted on My Oracle Support (MOS). Customers must download the image and deploy the image locally before they can run Update Manager or create a custom change package.

The most current PeopleSoft Update Image will be delivered on the most current PeopleTools release. It is not necessary to upgrade PeopleTools on your target environment in order to use the current Image. The PeopleSoft Update Image supports multiple releases.

Note: It is recommended that customers download PeopleSoft Update Images when they are available, this will avoid the need to do a large download when a current image is needed to resolve a critical production issue.

The PeopleSoft Update Manager Home Page(My Oracle Support, Document 1641843.2) is the central location for all things related to PeopleSoft Update Manager (PUM) and PeopleSoft Update Images (PIs).

- Hardware and Software Requirements are available from the left-hand side of the PeopleSoft Update Manager Home Page.
- The PeopleSoft Update Image Home Pages tab provides links for you to locate the PeopleSoft Image and additional information for your application.

  The Update Image Homepage for your application will contain links to all the relevant information for the PI you are downloading. The Installation Documentation section on the page contains a link to the installation documentation for the Image.
- The Best Practices provides information to help you plan for and determine the maintenance strategy and best practices your organization.

See Installing PeopleSoft Update Imageand Configuring the Microsoft Windows Client Running Change Assistant.

Change Assistant

Install Change Assistant on the Microsoft Windows client machine. The Update Manager action in Change Assistant is used to:

- Upload Target Database information to the PeopleSoft Update Image, including products and maintenance logs. Once the database information is uploaded, the database will be available in PeopleSoft Update Manager as a target database.
- Define a change package using standard search criteria or previously defined searches.
- Create a custom change package based on the change package definition created in PUM. Since Change Assistant has all of the target database information, this custom change package is automatically filtered for database platform and installed products.
- Apply updates to the target database.
- Create the reconciled or modified change package that can then be applied without compare into all other customized environments, assuming these customized environments are at the same release/patch level.
- Deploy updates to additional target environments using the reconciled change package.
- Update PeopleSoft Update Image with PeopleSoft Release Patchsets (PRP).
- Apply change package for PeopleTools patch.
- Apply change package for new PeopleTools release.
- Apply application upgrade.

See Opening Change Assistant the First Time

Environment Management Framework (Optional)

Environment Management Framework (EMF) gathers and publishes configuration and setup information about the file servers, the web servers, the application servers, the individual hosts, and the PeopleSoft Process Scheduler servers that comprise your PeopleSoft system. Change Assistant uses the information gathered by EMF to identify the available target databases when applying updates.

Configuring and running EMF is optional, EMF is only required to automate the file deploy process. If EMF is not configured and running, you will need to deploy files manually when you apply an application update.

See Configuring the Environment Management Hub

PeopleSoft Update Manager PIA Application

The PeopleSoft Update Manager PIA application runs on the PeopleSoft Update Image (PI) virtual machine. The Update Manager Dashboard provides pivot grids to determine the current status of your target databases and also provides folders with links to the Update Manger pages. The Define Change Package folder contains links to wizards that will lead you through the process of selecting updates and defining custom change packages for your environment. It provides a wide array of search options for selecting the updates to apply to your environment. It lets you review the details of the changes for each update before creating the change package definition, shows you what has already been applied to your environment, and automatically includes requisite updates based on what you selected and what is already applied to your environment.

Once the Target information has been uploaded to the PI, you can directly signon to the PI at any time to search for updates and create change package definitions without using Change Assistant. However, when you access Update Manager PIA application directly, the maintenance log details of that target will not be updated. Target database details are updated when:

- The task Upload Target Database Information to PUM Source is run.
- The step *SyncDatabaseInfoToPUMSource* in the change package template is executed.

  Note: This step is included in the change package if the option Synchronize Target Metadata (Requires Source) is selected on the Change Package Settings page when apply the update.

Change Assistant is updated when:

- The database is defined.
- The step *SyncDatabaseInfoToCA* in the change package template is executed.

When you are ready to create and apply the change package, the change package definition will be available from Change Assistant.

Understanding Update Manager Action

Update Manager Action includes the following sections:

- Update Manager Tasks

  These are the tasks associated with defining and applying application updates from the PeopleSoft Update Image. The tasks include:

  - Validate Change Assistant EMF Settings
  - Upload Target Database Information to PUM Source
  - Upload Customer Data to Image
  - Migrate Customer Data
  - Define Change Package
  - Create Change Package
  - Apply Change Package
  - Apply Translation Delta Package
  - Apply Downloaded PeopleSoft Release Patchset to PeopleSoft Update Image

- Application Upgrade Tasks
  - Upgrade to New Application Release
  - Apply Required For Upgrade Package

- PeopleTools Tasks

  These are the tasks associated with applying PeopleTools patches and upgrades. The tasks include:
  - Apply a Patch to Your Current PeopleTools Release
  - Upgrade to a New Release of PeopleTools
  - Apply Tools Delta Package

- Other Tasks

  Export/Import Change Assistant Settings

Validate Change Assistant EMF Settings

EMF is used with the Update Manager action to identify the file servers for your target environment. If you configured the EM Hub option for your environment, use this to validate the EMF settings.

Upload Target Database Information to PUM Source

The Upload Target Database Information to PUM Source is used to upload the target database information to the PeopleSoft Update Image, including products and maintenance logs. Once the database information is uploaded, the database will be available in PeopleSoft Update Manager as a target database.

Note: In previous releases of Change Assistant, the target information was uploaded to the PUM source when you were creating a new change package in Change Assistant or when the *PUMMaintenanceLogSync* step was executed in Change Assistant. The *PUMMaintenanceLogSync* step has been replaced by the steps *SyncDatabaseInfoToPUMSource* and *SyncDatabaseInfoToCA*.

Upload Customer Data to Image

The Upload Customer Data to Image option is used to upload the customization and test projects to the PeopleSoft Update Image.

See Uploading Customer Data to Image and Uploading Customer Data to Image

Migrate Customer Data

The Migrate Customer Data option provides the ability to migrate metadata from the current PUM Source to the new PUM Source.

See Migrating PUM Data

Define Change Package

The Define Change Package option provides 2 options for defining a Change Package.

1. Use the link provided to open a browser session to the PeopleSoft Update Image database (PUM source). Define change package definition using PeopleSoft Update Manager PIA application on the PeopleSoft Update Image.
2. Use a standard or saved search to create the change package in Change Assistant.

See Defining Change Package

Create Change Package

The Create Change Package option is used to:

- Create the change package in Change Assistant.
- Apply the change package to the target database.

See Creating Change Package

Apply Change Package

The Apply Change Package option is used to:

- Apply the custom change package to a target environment.
- Apply custom change package to additional target environments.

See Applying Change Package

Apply Translation Delta Package

The Apply Translation Delta Package option is used to:

- Apply translation delta package to a target environment.
- Apply translation delta package to additional target environments.

See Applying Translations Delta Package

Apply Downloaded PeopleSoft Release Patchset to PeopleSoft Image

The Apply Downloaded PeopleSoft Release Patchset to PeopleSoft Update Image is used to apply PeopleSoft Release Patches (PRP) to the PeopleSoft Update Image.

See Applying Downloaded PeopleSoft Release Patchset to PeopleSoft Image

Upgrade to New Application Release

The Upgrade to New Application Release is used to upgrade to application 9.2.

Apply a Patch to Your Current PeopleTools Release

PeopleTools patches deliver fixes between PeopleTools minor releases. PeopleTools patches are posted to My Oracle Support, as they become available. PeopleTools patches are cumulative. They include all fixes from all previous patches for the specified release.

A PeopleTools patch contains the PeopleTools binaries and database changes. The database changes are delivered in a change package located in the PS_HOME\PTP directory. The Apply a Patch to Your Current PeopleTools Release option is used to apply this change package.

Upgrade to a New Release of PeopleTools

A PeopleTools upgrade consists of the new PeopleTools release and PeopleTools upgrade change package that contains all the database changes. After installing the new release and downloading the upgrade change package, this option is used to apply the upgrade change package.

Apply Tools Delta Package

The Apply Tools Delta Package option is used to:

- Apply the tools delta package to a target environment.
- Apply the tools delta package to additional target environments.

See Creating and Applying Tools Delta Package

Chapter 8

Setting Up the Client, Source, and Target Environments

Installing PeopleSoft Update Image

To prepare your environment, you must install the PeopleSoft Update Image and configure the client machine that runs PeopleSoft Change Assistant to communicate with the PI.

To install the PeopleSoft Update Image see *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.5x)*

Configuring the Microsoft Windows Client Running Change Assistant

Change Assistant needs to be run from a Microsoft Windows client. It is highly recommended that you dedicate a Microsoft Windows client machine that is not used for other PeopleSoft purposes for each PeopleSoft Update Image (PI). It is necessary to configure this Microsoft Windows client machine to access your target environment, as well as the PI. This setup is necessary for Change Assistant to communicate with the PI and target databases in 2-tier mode in order to correctly install updates.

In setting up the Microsoft Windows client, be sure to review the software versions listed on the My Oracle Support home page for the PI you are using, as these will impact your setup.

Note: This documentation uses "release/patch" to refer to the PeopleSoft PeopleTools release, for example, 8.54, and patch number, for example 06. This release/patch example is written as 8.54.06.

The Microsoft Windows client needs to include:

- Oracle Database Client at a version level that is certified for the PeopleSoft PeopleTools release included on the PI.

  See My Oracle Support, Certifications

- Database Client for target database platform (if the target RDBMS is not Oracle).

  - For a target database that is not Oracle, you must always install the database client for your database platform.

  - For a target database that is Oracle, it may be necessary to install a second Oracle Database Client if the target database is not at the same PeopleTools release level as the PI.

    For example, PeopleTools 8.53 uses a 32–bit client and PeopleTools 8.54 requires a 64–bit client.

- PeopleTools Client for Oracle database platform at the same version level of the PI.

  Note: The PeopleTools client will work with all your target databases that are on the same PeopleTools release as the PI in carrying out PUM-enabled maintenance as long as the PeopleTools client is installed from the tools_client shared drive. If your target database is on a different PeopleTools release, you will need to install a second PeopleTools Client for that PeopleTools release.

- PeopleTools Client for target database platform at a version level supported by the PI.

  Note: The supported PeopleTools client installer is available in the tools_client share. It is not necessary to upgrade the target database to the supported PeopleTools release patch level. The target database will work with the PeopleTools client.

- Change Assistant installed from the *PS_HOME* directory for the PeopleSoft Update Image on the Microsoft Windows client. However if the target database is at a higher release level than the PeopleSoft Image, then the latest tools version must be used to install Change Assistant. For example, the customer upgrades the target database to 8.56 and the latest PeopleSoft Image is still on 8.55, the customer must use Change Assistant 8.56 to apply updates.

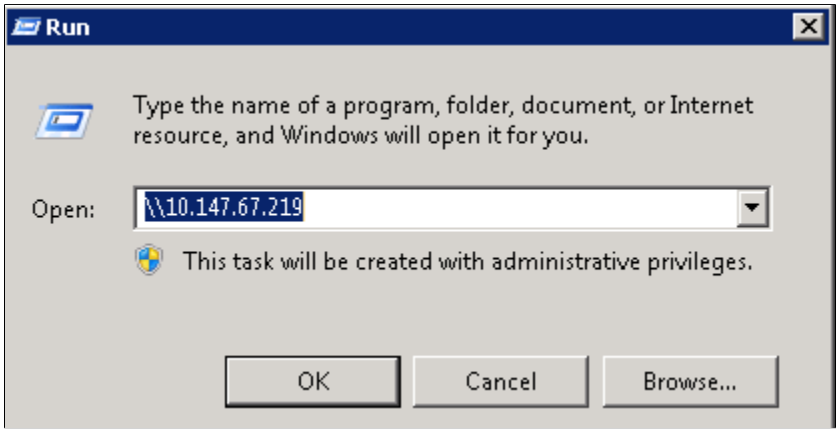
  Note: This use of *PS_HOME* refers to the location created by the client installation. You may need more than one client *PS_HOME* location, when you configure the Microsoft Windows Client. This documentation also uses "PS Home" in some cases to match the syntax on the Change Assistant UI.

After you install and initialize the PI, you access a shared drive which makes the folders from the image accessible to the host (Microsoft Window OS).

From Windows Explorer access the virtual appliance file system from your Microsoft Windows host by selecting Start, Run, and entering the Microsoft Windows UNC path containing your virtual machine IP address.

Image: Microsoft Windows Run dialog box with IP address

This example illustrates the fields and controls on the Microsoft Windows Run dialog box with IP address.



The shared drive includes 2 folders:

Image: Shared Drive Folders

This example illustrates the fields and controls on the Shared Drive Folders. You can find definitions for the fields and controls later on this page.

The pi_home folder contains all files needed for patching.

The tools-client folder includes the following:

- client-855

  The client-855 folder includes a Readme file, a manifest with version information, archives, and scripts for deployment of the PeopleSoft PeopleTools 8.55 client home folder.

- client-856

  The client-856 folder includes a Readme file, a manifest with version information, archives, and scripts for deployment of the PeopleSoft PeopleTools 8.56 client home folder.

- client-857

  The client-857 folder includes a Readme file, a manifest with version information, archives, and scripts for deployment of the PeopleSoft PeopleTools 8.57 client home folder.

- oracle-client

  The oracle-client folder includes a Readme file, a manifest with version information, archives, and scripts for deployment of the Oracle 12c database client home folder.

- SetupPTClient.bat — Interactive script that installs the PeopleSoft PeopleTools components such as Application Designer and Change Assistant.

  You supply information such as the PeopleSoft PeopleTools release and the RDBMS platform.

- source.properties — A text file that includes information required for the setup. Do not edit this file. The information is supplied by the setup scripts.

- tnsnames.ora — Oracle database connectivity file. The file includes the information for the source (PI) database.

Configuring the Microsoft Windows Client Configuration

You will use the SetupPTClient.bat file to configure the client. When you run the setup script, you will be prompted for information about your environment.

For detailed information on the setting up the client see the PeopleSoft PeopleTools Deployment Packages installation guide on the PeopleSoft PeopleTools Patches Home Page, My Oracle Support, Doc ID 2062712.2.

The script uses the information you supplied and carries out the following validations and deployments:

- Oracle 12c database client for the Update Image source database (PI). The setup process determines whether a 64-bit Oracle 12c database client is present on the Microsoft Windows client machine for connectivity to the source database. If not, the setup process installs it.
- Oracle 12c database client for the target database. If the target is an Oracle database, the setup process determines whether the correct Oracle database client is present. PeopleSoft PeopleTools 8.54 and above require a 64-bit Oracle 12c database client installation. PeopleSoft PeopleTools 8.53 requires the 32-bit Oracle 12c database client. If the correct Oracle database client is not present, the setup process installs it.
- PeopleSoft PeopleTools Client for the source (PI). The source client tools are installed in C:\Peoplesoft\PSHOME\Client<release_number>, where <release_number> refers to the PeopleSoft PeopleTools release and patch, such as 8.55.02.
- PeopleSoft PeopleTools Client for the target. The target client tools are installed in C:\Peoplesoft\PSHOME\Client<release_number>, .where <release_number> refers to the PeopleSoft PeopleTools release and patch, such as 8.54.14.
- Change Assistant installation Change Assistant is installed in C:\Program Files\Peoplesoft\Change Assistant. If there is an earlier Change Assistant installation on the machine, the setup script removes it.

Understanding the Microsoft Windows Client Configuration

After running the SetupPTClient, you will need to update the tnsnames.ora file located in your oracle_home directory with the tnsname entry from the tools_client folder. If your target database is also Oracle, you will also need to add the target databases tnsnames entry. To update the tnsnames.ora file:

1. Open the tnsnames.ora file in the tools_client directory.
2. Copy the entry in the tnsnames.ora file to the tnsnames.ora file located in your oracle_home directory.

   Depending on your installation, the location of the tnsname.ora file in the oracle_home directory will vary. If you installed the oracle client using SetupPTClient, the tnsnames.ora file is located in oracle_home\network\admin\tnsnames.ora; for example: C:\oracle\product\12.1.0\client_1\network\admin\tnsnames.ora:
3. If your target database is on Oracle, copy the tnsnames entry for your target database into the tnsnames.ora file

   The location of the tnsnames.ora file will vary depending on the Windows client installation. If SetupPTClient detects an existing Oracle DB Client 12c with 64-bit installation, it will use that version of Oracle Database, if SetupPTClient needs to install the DB Client 12c , the default location is: *C:\oracle\product\12.1.0\client_1*.

   The tnsnames entry for your target databases must use the SERVICE_NAME in order for your PeopleTools or Change Assistant clients to connect to the PUM source database within the 12c database server. This is an example of the entry:

```
PT855GA1 =
  (DESCRIPTION =
     (ADDRESS = (PROTOCOL = TCP)(HOST = hostname.domain)(PORT = 1521))
     (CONNECT_DATA =
```



```
        (SERVER = DEDICATED)
        (SERVICE_NAME = PT855GA1)
      )
    )
```

4. Save the file.

This table describes the Windows client configuration based on the database client and PeopleTools release of the target environment where the PUM source is on PeopleTools 8.56.

Target Environment	***Microsoft Windows client machine install***	***PS Homes on Microsoft Windows Client Machine***
Oracle database on PeopleTools 8.53	1. Oracle database 32-bit client 2. Oracle database 64-bit client. 3. PeopleTools 8.53.xx client. 4. PeopleTools 8.56 client 5. Enter the tnsnames entry into the tnsnames.ora file. See Example Target Environment on Oracle Database PeopleTools Release 8.53	For this scenario you will have two client PS Homes — one on PeopleTools 8.53 and one on PeopleTools 8.56.
Oracle database on PeopleTools 8.54	1. Oracle database 64-bit client 2. PeopleTools 8.54 client 3. PeopleTools 8.56 client 4. Enter the tnsnames entry into the tnsnames.ora file. See Example Target Environment on Oracle Database PeopleTools Release 8.54	For this scenario you will have two client PS Homes — one on PeopleTools 8.54 and one on PeopleTools 8.56.
Oracle database on PeopleTools 8.55	1. Oracle database 64-bit client 2. PeopleTools 8.55 client 3. PeopleTools 8.56 client 4. Enter the tnsnames entry into the tnsnames.ora file.	For this scenario you will have two client PS Homes — one on PeopleTools 8.55 and one on PeopleTools 8.56.
Oracle database on PeopleTools 8.56	1. Oracle database 64-bit client 2. PeopleTools 8.56 client 3. Enter the tnsnames entry into the tnsnames.ora file. See Example Target Environment on Oracle Database	For this scenario you will have one client PS Home that is used by both the source and the target.

Target Environment	*Microsoft Windows client machine install*	*PS Homes on Microsoft Windows Client Machine*
Non-Oracle database on PeopleTools 8.53	1. Oracle database 64-bit client 2. Install target database client from the target environment and set up database connectivity. 3. PeopleTools 8.56 client **Note:** The PeopleTools install is for Oracle database platform. 4. PeopleTools 8.53 client **Note:** The PeopleTools install is for your target database platform. 5. Enter the tnsnames entry into the tnsnames.ora file. See Example Target Environment Not on Oracle Database	For this scenario you will have two PS Homes—one for the source (Oracle RDBMS) at PeopleTools release 8.56 and one for the target (non-Oracle) at PeopleTools release 8.53.
Non-Oracle database on PeopleTools 8.54	1. Oracle database 64-bit client 2. Install target database client from the target environment and set up database connectivity. 3. PeopleTools 8.56 client **Note:** The PeopleTools install is for Oracle database platform. 4. PeopleTools 8.54 client **Note:** The PeopleTools install is for your target database platform. 5. Enter the tnsnames entry into the tnsnames.ora file. See Example Target Environment Not on Oracle Database	For this scenario you will have two PS Homes—one for the source (Oracle RDBMS) at PeopleTools release 8.56 and one for the target (non-Oracle) at PeopleTools release 8.54.

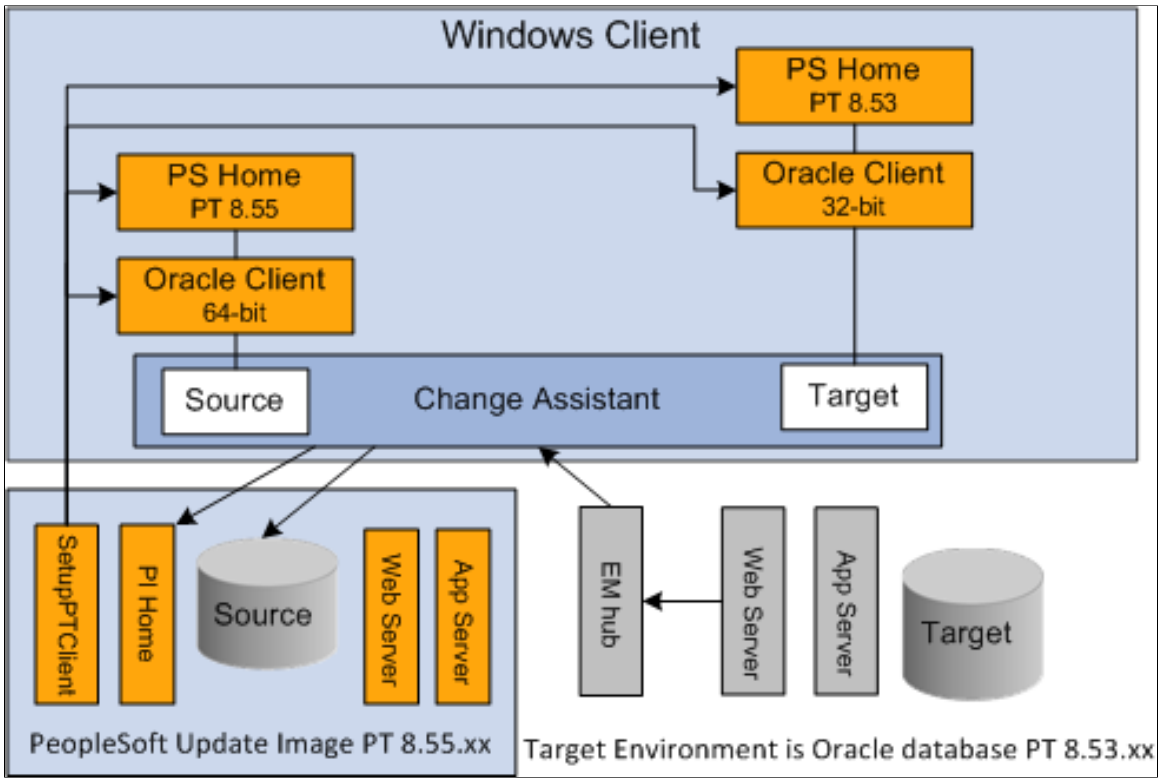
Target Environment	*Microsoft Windows client machine install*	*PS Homes on Microsoft Windows Client Machine*
Non-Oracle database on PeopleTools 8.55	1. Oracle database 64-bit client 2. Install target database client from the target environment and set up database connectivity. 3. PeopleTools 8.56 client **Note:** The PeopleTools install is for Oracle database platform. 4. PeopleTools 8.55 client **Note:** The PeopleTools install is for your target database platform. 5. Enter the tnsnames entry into the tnsnames.ora file. See Example Target Environment Not on Oracle Database	For this scenario you will have two PS Homes—one for the source (Oracle RDBMS) at PeopleTools release 8.56 and one for the target (non-Oracle) at PeopleTools release 8.55.
Non-Oracle database on PeopleTools 8.56	1. Oracle database 64-bit client 2. Install target database client from the target environment and set up database connectivity. 3. PeopleTools 8.56 client **Note:** The PeopleTools install is for Oracle database platform. 4. PeopleTools 8.56 client **Note:** The PeopleTools install is for your target database platform. 5. Enter the tnsnames entry into the tnsnames.ora file. See Example Target Environment Not on Oracle Database	For this scenario you will have two PS Homes — one for the source (Oracle RDBMS) and one for the target (non-Oracle).

Example Target Environment on Oracle Database PeopleTools Release 8.53

If your target database is on Oracle database and PeopleTools 8.53, you will have 2 PS Homes and 2 Oracle clients.

Image: Target Database on PeopleTools 8.53 and database platform is Oracle

This diagram illustrates the relationship between the Microsoft Windows client running Change Assistant and the PI when your target database is on PeopleTools 8.53 and the database platform is Oracle.

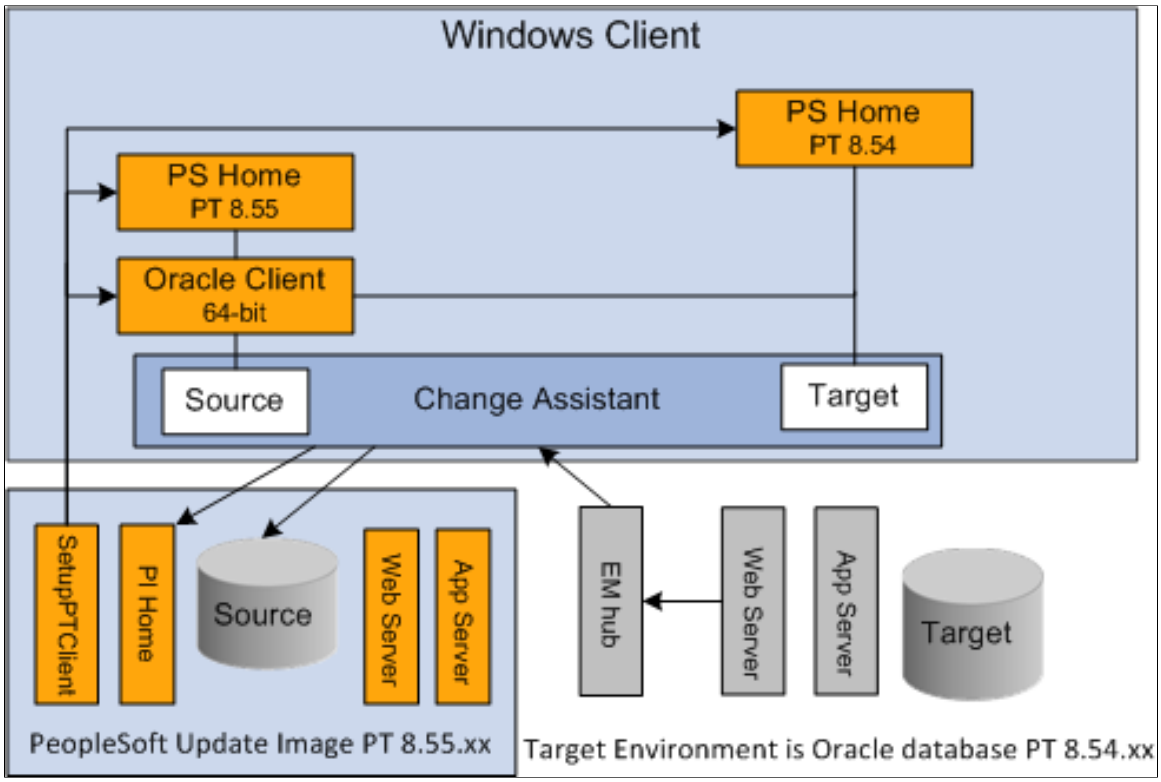


Example Target Environment on Oracle Database PeopleTools Release 8.54

If your target database is on Oracle database and PeopleTools 8.54, you will have 2 PS Homes and 1 Oracle client.

Image: Target Database on PeopleTools 8.53 and database platform is Oracle

This diagram illustrates the relationship between the Microsoft Windows client running Change Assistant and the PI when your target database is on PeopleTools 8.54 and the database platform is Oracle.

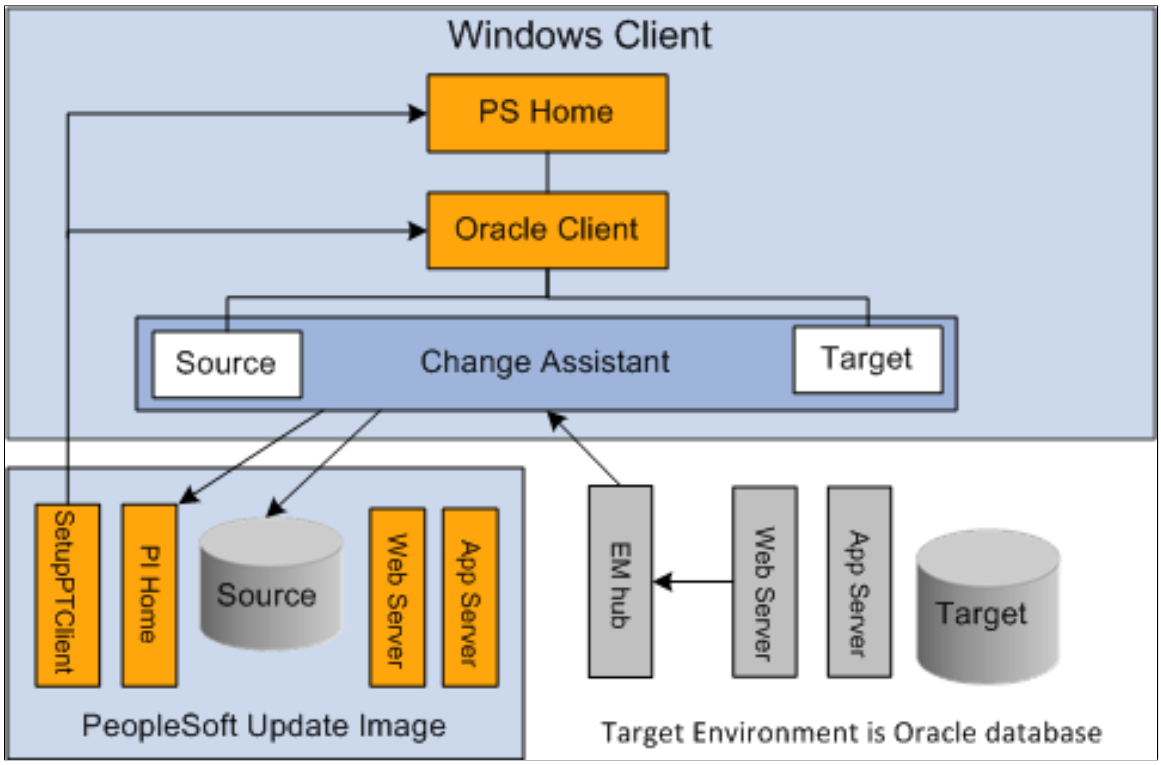


Example Target Environment on Oracle Database

If your target database is on Oracle database and PeopleTools 8.55, you will have 1 PS Home and 1 Oracle client.

Image: Target Environment on Oracle Database

This diagram illustrates the relationship between the Microsoft Windows client running Change Assistant and the PI when your target database platform is Oracle.

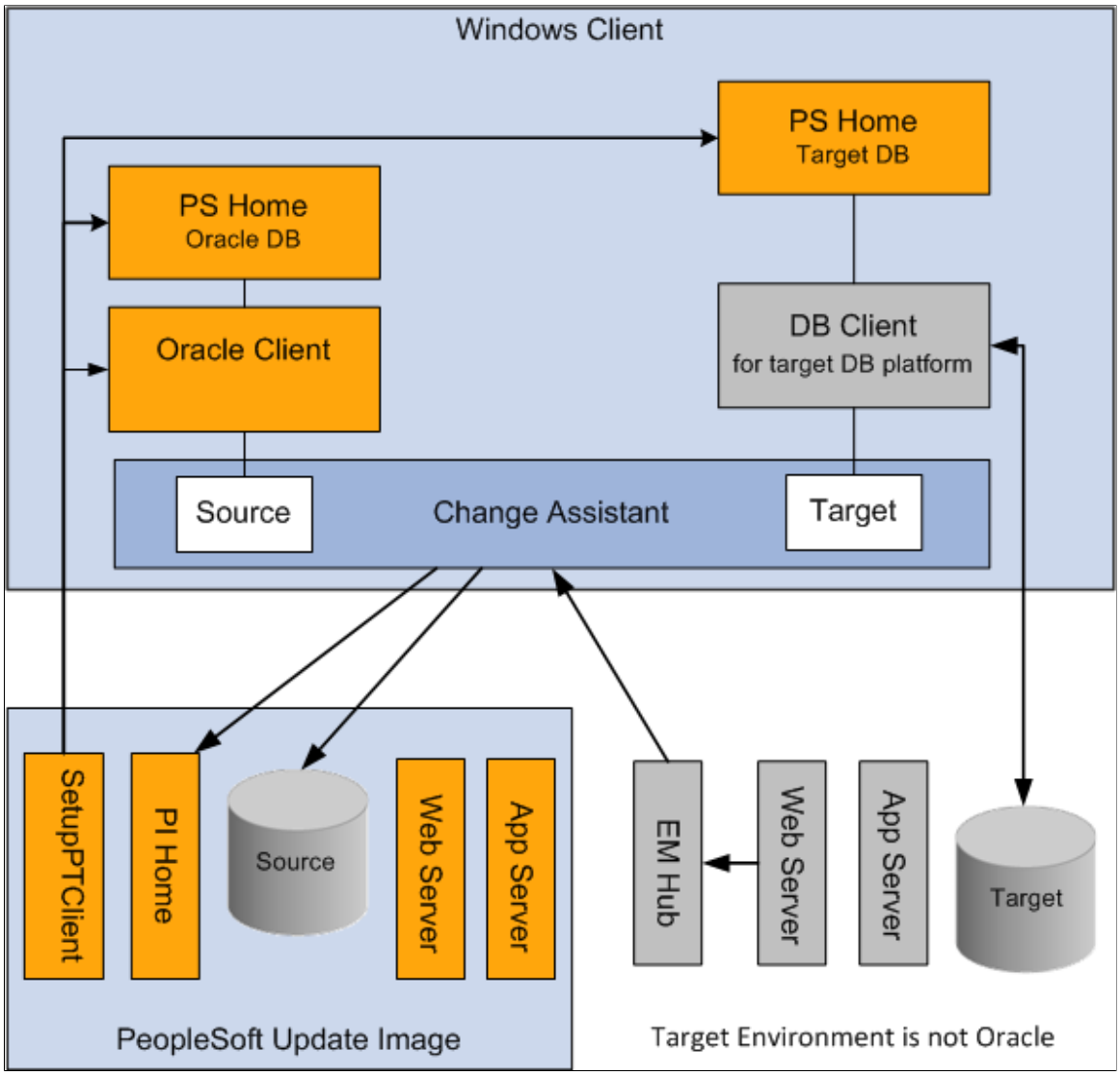


Example Target Environment Not on Oracle Database

When the target environment is not on Oracle database, you will always have 2 PS Homes and 2 database clients (one for Oracle and one for the target database platform). The PS Home for the PUM Source database will be on PeopleTools 8.55 and the Target PS Home will be on the same release as the target database.

Image: Target Environment Not on Oracle Database

This diagram illustrates the relationship between the Microsoft Windows client running Change Assistant and the PI when your target database is not Oracle.



Chapter 9

Using Update Manager Action

Selecting Update Manager Action

The Update Manager action is used to selectively apply updates (bug fixes, patches, enhancements or new features) to your system. Before you can select this action, the following prerequisites must be configured and installed.

1. Download the latest PeopleSoft Update Image (PI) from My Oracle Support and install it locally.

   See PeopleSoft Update Manager Home Page [ID 1641843.2]

2. Configure the Microsoft Windows Client running Change Assistant.

   See Installing PeopleSoft Update Image and Configuring the Microsoft Windows Client Running Change Assistant

Setting Up Target Environment

To set up the target environment:

- Configure the Environment Management Framework (EMF) for your environment.

  EMF is required for the file deploy feature. This feature will automatically deploy files in change packages to different servers.

  Note: If Environment Management Framework is not configured, the file deploy steps will be excluded from the change package and any files included in the change package will require manual deployment.

  Change Assistant 8.55 is compatible with EMF on all releases.

  See Configuring an Environment Management Agent

- Start the EMF Agent on the target environment.

  To verify that the EMF Agent is running, enter the hubURL into a browser. You should see a window with a message similar to this: "Sending pulse from 'com.peoplsoft.emf.peer: id 1'"

  See Running an Environment Management Agent

- Set user ID access.

  In Change Assistant, the user ID for the target database needs to have Full data admin access defined for Build/Data Admin on the Tools Permissions page for PeopleTools on one of the assigned permission lists. With the Full data admin access permission assigned, Change Assistant has access to all the build and copy options. Application Data Set (ADS) objects represent another security issue, because they contain actual rows of application data and there may be instances where this data is not

suitable for compare or copy. In order to compare and copy ADS definitions, the user ID must have Full Access to compare and copy defined on the Copy Compare Permissions page for Data Migration on one of the assigned permission lists.

See "Setting PeopleTools Permissions" (PeopleTools 8.57: Security Administration), "Setting Data Migration Permissions" (PeopleTools 8.57: Lifecycle Management Guide), and Administering Projects

Starting Change Assistant

To start Change Assistant:

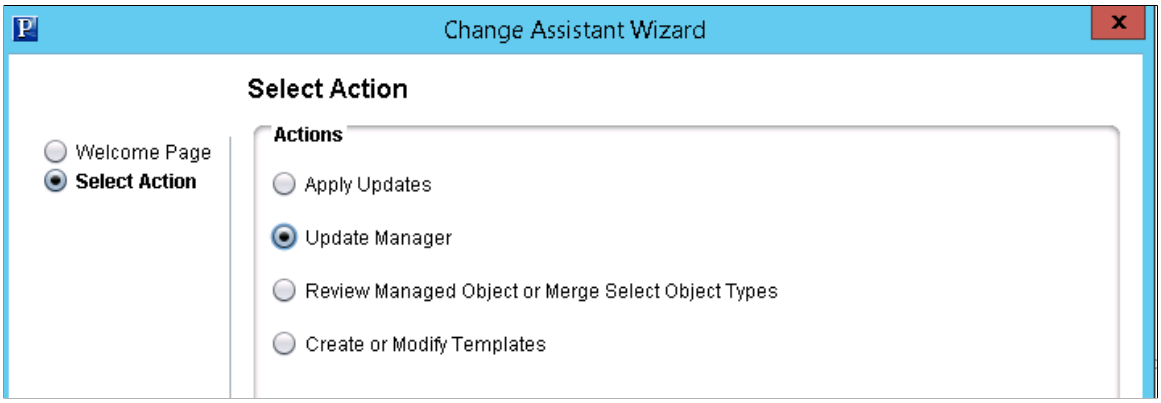
1. Select Start, Programs, PeopleSoft Change Assistant 8.57.xx, where *xx* refers to the release/patch number.

2. Depending on your preferences, you may or may not see a Welcome dialog box. If the Welcome dialog box is displayed, click Next.

   The Select Action page is displayed.

   Image: Change Assistant Wizard - Select Action page

   This example illustrates the fields and controls on the Change Assistant Wizard - Select Action page.



3. Select Update Manager and click Next.

Note: You must select Update Manager for PUM-enabled maintenance.

Configuring Change Assistant for Update Manager

If this is the first time you are selecting Update Manager, the Wizard will guide you through the environment setup. As you click Next you will complete the following pages:

1. General Options
2. PUM Source Options
3. EM Hub Options
4. Additional Options

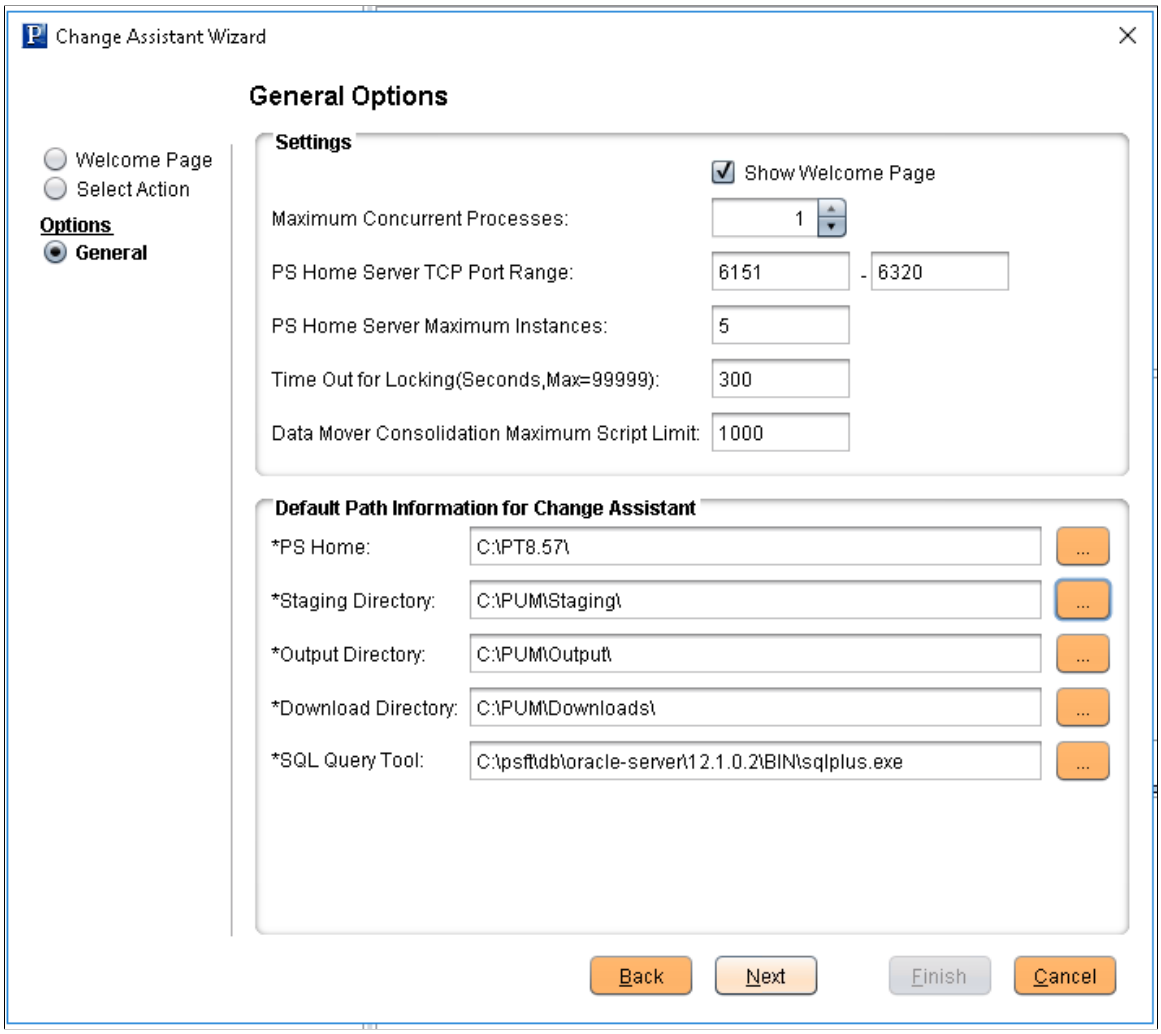
5. Select Task

Note: After the environment has been configured, you can use Tools >Options to make any changes to the environment options.
Change Assistant settings can be exported and imported, therefore the options only need to be set once. See Exporting and Importing Change Assistant Settings.

General Options

Image: General Options page

This example illustrates the fields and controls on the Update Manager General Options page. You can find definitions for the fields and controls later on this page.



Maximum Concurrent Processes Specifies the maximum number of processes that can be executed concurrently on the local machine. The default is 1.

PS Home Server Starting Port Specify the port number for the first PS Home server.

Change Assistant uses this port number to communicate with Change Assistant PS Home servers. The default starting port number is 6151. If you enter a port number that is already in use, you see an error message. You must change to a port

number that is not in use, and then restart Change Assistant for the change to take effect.

PS Home Server Maximum Instances

Enter a number between 1 and 10 for the maximum number of PS Home servers.

Use this value for environments with more than one PS_HOME. For each server instance, Change Assistant increments the PS Home Server Starting Port number by 1 up to the maximum number of instances. For example, with a PS Home Server Starting Port value of 6151 and a PS Home Server Maximum Instances value of five, the port numbers would be 6151, 6152, 6153, 6154, and 6155. The default is 5.

If you change this value, you must restart Change Assistant for the change to take effect.

Time Out for Locking(Seconds,Max=99999)

Specify the time out for locking.

- Max value is 99999 = 27.8 hours
- Default value is 300 = 5 minutes

See Running Multiple Instances of Change Assistant

Data Mover Consolidation Maximum Script Limit

The valid Limit range is [0, 15000].

0 and 1 mean there is no consolidation for data mover steps.

The default is 1000.

See Consolidating Data Mover Scripts

PS Home

Enter the full path in which you installed PeopleTools client on the Windows Client machine.

Note: Specify the PS_HOME location you used to install Change Assistant.

Staging Directory

Enter the directory in which you would like to stage all the Change Assistant update files. This is the location that Change Assistant will store files to be used during the apply update process.

Output Directory

Enter the directory in which you want the log files generated by the update process to reside.

Download Directory

Enter the full path of the location to which you want to download your change packages.

SQL Query Tool

Select the correct executable for the database platform that matches the PS_HOME defined for CA.

Note: The SQL Query tool must align with the installed Change Assistant version..

This value is used as the default when creating databases. Each database contains separate settings and therefore, you can change this executable for a specific database.

Valid SQL query executables for each platform are:

- DB2: db2cmd.exe
- Microsoft SQL Server: sqlcmd.exe
- Oracle: sqlplus.exe

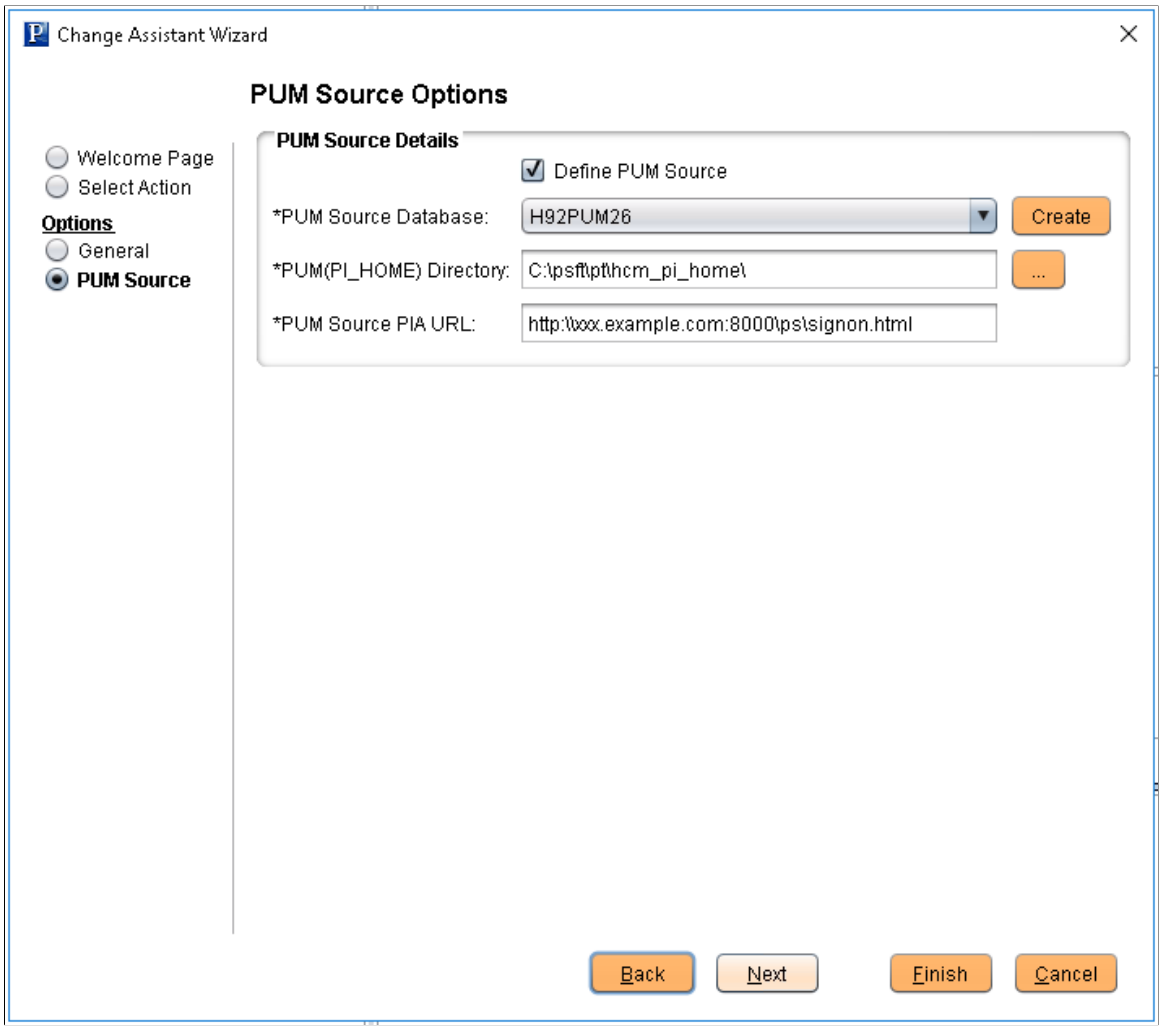
Note: Change Assistant uses the command line version of the .exe, not the GUI version. For example, sqlplus.exe is used for an Oracle database, rather than sqlplusw.exe.

Important! *Oracle Database Customers:* For systems running on the Oracle database, by default, Change Assistant copies the generated SQL script files to the location specified as the TEMP User variable on the Environment Variables dialog box. So, on Oracle, the generated SQL script files will actually exist in two locations: the specified Change Assistant output directory, and the TEMP directory. This behavior is in place because some versions of Oracle SQL Plus do not support pathnames longer than 79 characters. It is recommended that you ensure that the value specified for the TEMP User variable is set to a path short enough so that the string comprising the path and generated SQL file will not exceed 79 characters.

PUM Source Options

Image: Change Assistant - PUM Source Options page

This example illustrates the fields and controls on the Change Assistant - PUM Source Options page. You can find definitions for the fields and controls later on this page.



Define PUM Source

Select this checkbox to define the PUM Source.

Note: Not all Change Assistant actions require a PUM Source.

PUM Source Database

If the database has already been defined, it will be available from the drop-down list. After you select a database that has already been configured, the database information on the remainder of the page will be displayed in read-only mode.

If the database has not been defined yet, click Create which will launch the Database Wizard.

See Defining Databases

PUM(PI_HOME) Directory

Enter the path to the pi_home share on the PI. The pi_home share contains all files needed for patching.

Note: The drive is a path mapped to the pi_home share folder.

PUM Source PIA URL Enter the URL to sign on to the PUM Source.

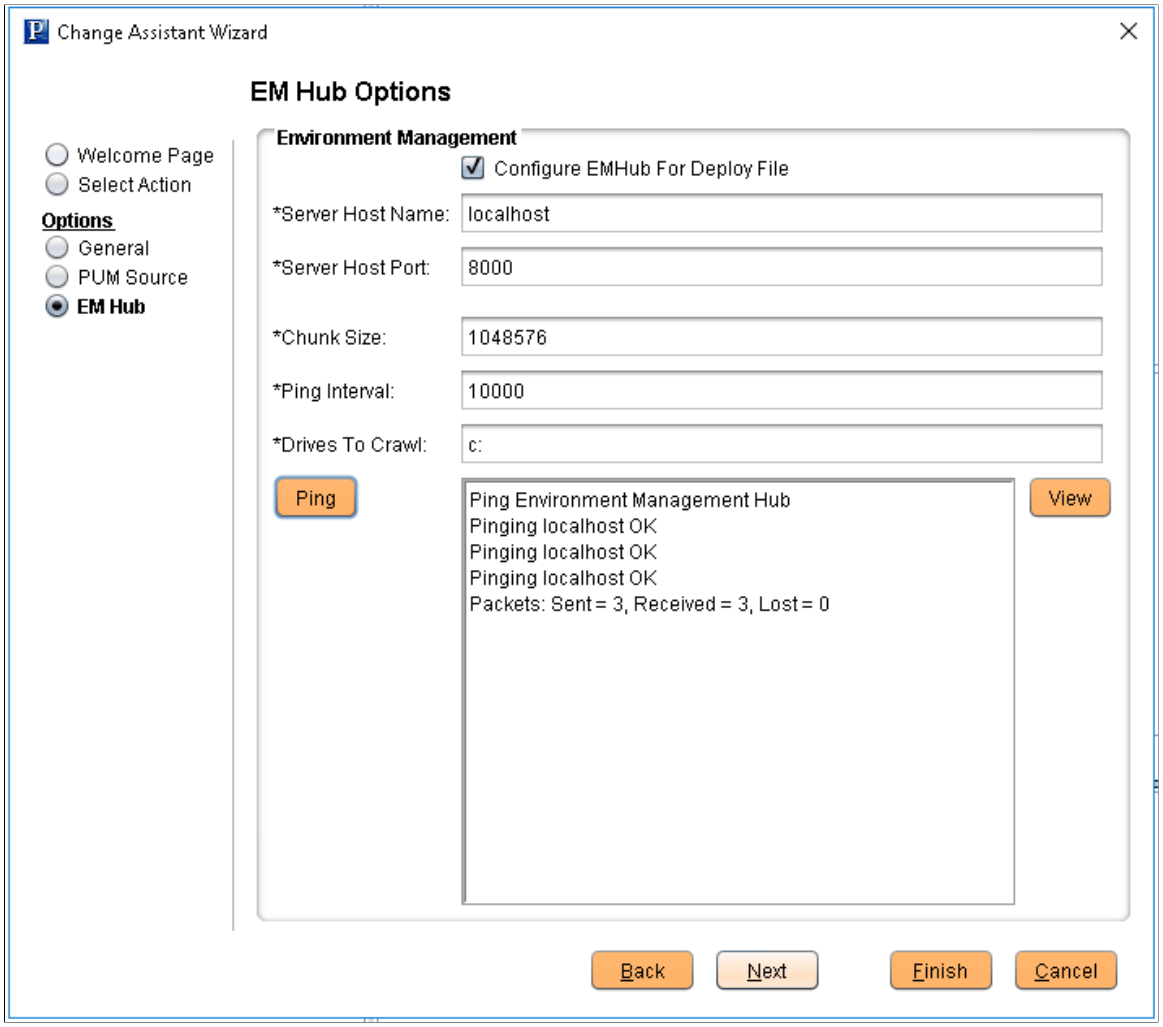
When you click OK, Change Assistant will validate the connection to the PUM Source database.

EM Hub Options

Use this page to configure the EM Hub options for the target database.

Image: Change Assistant - EM Hub Options page

This example illustrates the fields and controls on the Change Assistant - EM Hub Options page. You can find definitions for the fields and controls later on this page.



Configure EMHub For Deploy File Select this checkbox if you want to use EMHub for file deploy.

Note: In order to use this option EMF must be configured and running.

Server Host Name The hostname of the server in which the Environment Management HUB resides.

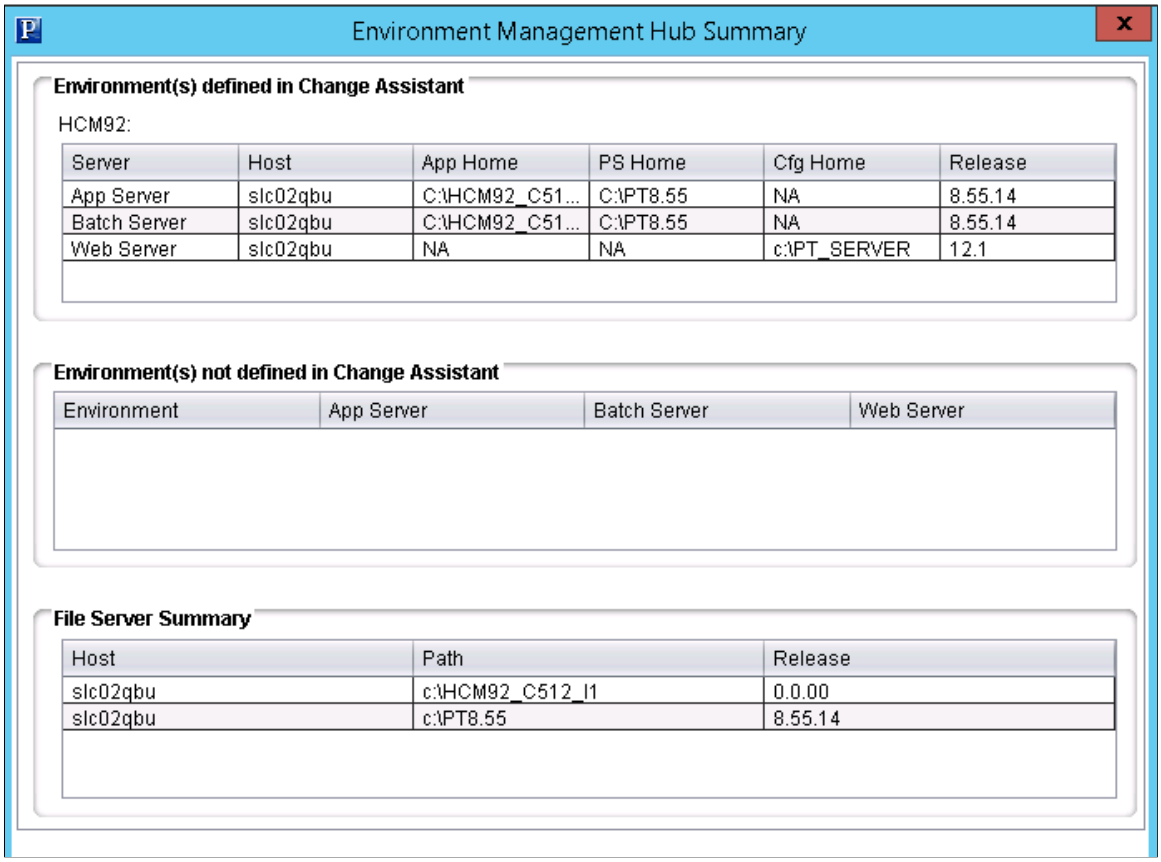
Server Host Port	Indicates the port in which to connect to the Environment Management hub.
Chunk Size	Used for deploying files during a software update. Default is 1024 * 1024 bytes. Typically this does not need to be changed unless there are a significant number of files greater that 1024KB in a software update.
Ping Interval	Ping interval is in milliseconds for Change Assistant to contact the hub for new messages.
Drives to Crawl	Setting of drives to crawl to identify the configuration of the Change Assistant machine. Windows directories need to use the forward slash (/) character. Include your local drive in this setting so that Change Assistant can locate the SQL Query tool used for automating steps. Also include the path of the SQL Query tool. **Note:** For PUM-enabled applications Change Assistant EM Hub is only used to deploy files. Change Assistant uses the SQL Client Tools path defined for the database definition. If you receive a validation error when applying changes packages that EMF did not find any SQL Query Tools, you can ignore it.
Ping	Click to verify a valid server URL. If you see *Service is off* to the right of this button, then you must correct the server URL and ping again until you see *Service is on.*
View	Click to display the list of all PeopleSoft components discovered and registered in the Environment Management Hub.

Environment Management Hub Summary

When you click the View button, the Environment Manager Hub Summary page is displayed.

Image: Change Assistant -Environment Management Hub Summary

This example illustrates the fields and controls on the Environment Management Hub Summary page. You can find definitions for the fields and controls later on this page.

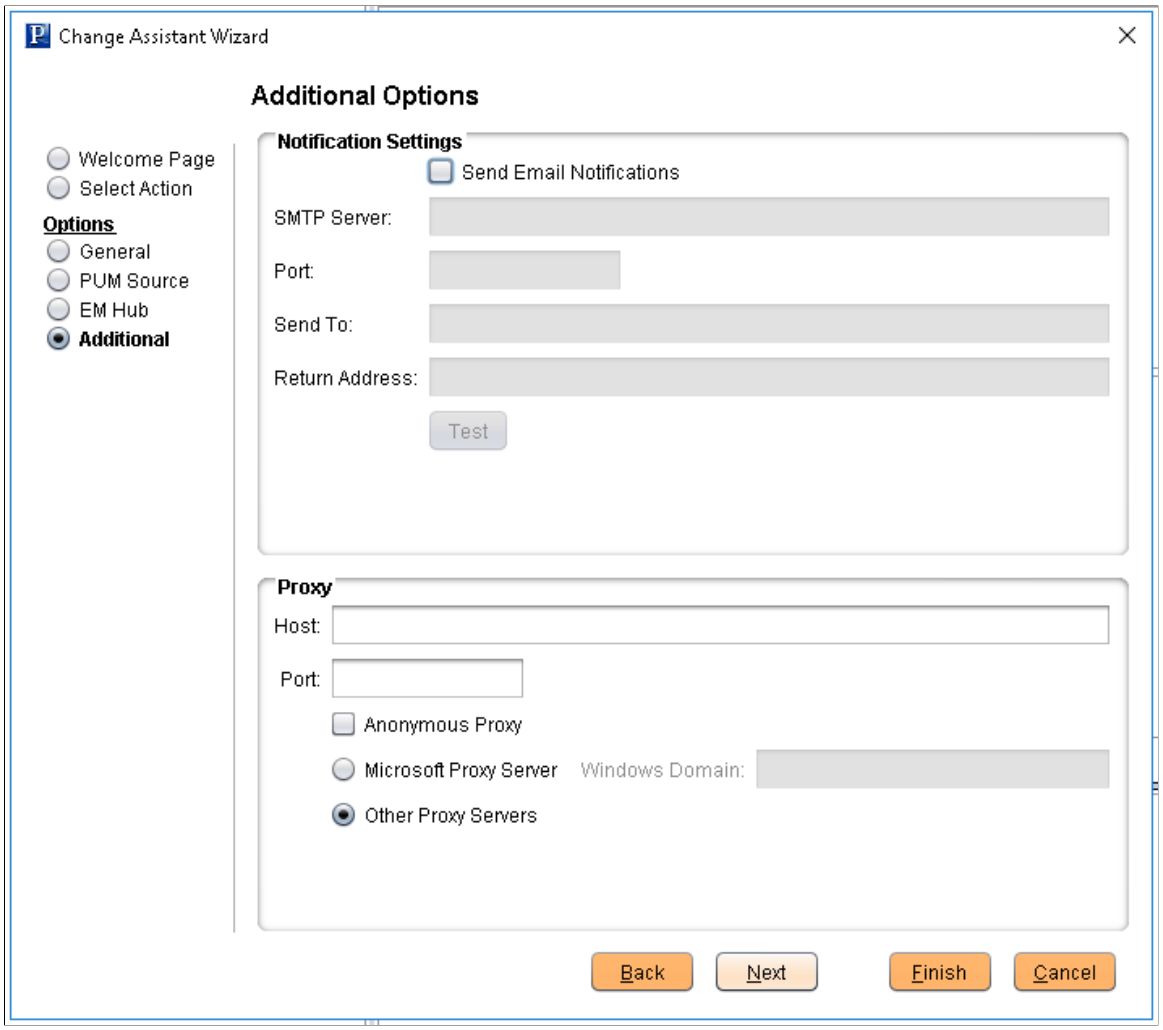


Environment(s) defined in Change Assistant	If the database has been defined in Change Assistant, the grid will display the Server, Host, App Home, PS Home, Cfg Home and Release for each database that is discovered by EMF and defined in Change Assistant.
Environment(s) not defined in Change Assistant	If EM Hub is running and it discovers databases , that have not yet been defined in Change Assistant, they will be listed.
File Server Summary	Lists the file servers discovered by EM Hub.

Additional Options

Image: Change Assistant - Additional Options page

This example illustrates the fields and controls on the Change Assistant - Additional Options page. You can find definitions for the fields and controls later on this page.



Notification Settings Section

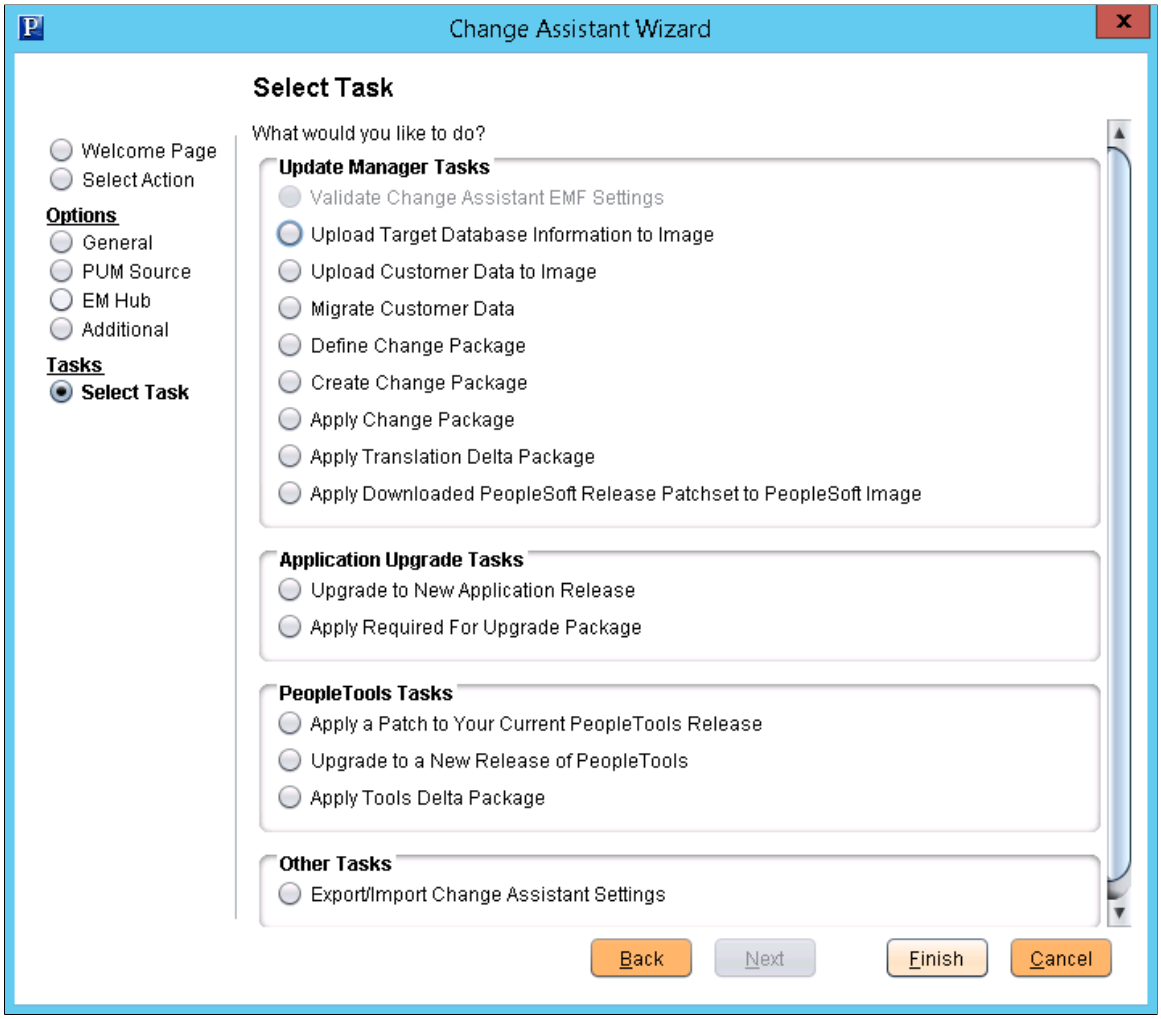
Send Email Notifications	Select this check box to receive email notifications if there are errors in the update process. Change Assistant also sends you a completion message when it encounters a Stop in the update process.
SMTP Server	Enter the SMTP mail server from which you receive the error or completion messages.
Port	Enter the port from which you want to access the email.
Send To	Enter the address to which you want the email sent.
Return Address	Enter the email address of the sender. Use this to identify who sent the notification.

Test	Validates that email is sent to the designated recipients and is working correctly. **Note:** Ensure that your SMTP server is installed and configured correctly.
Proxy Section	
Host	(Optional) Enter the name of the proxy server if you want to run Change Assistant behind the firewall using a proxy server.
Port	(Optional) Enter the port number for the proxy server.
Anonymous Proxy	Indicates that you are using a proxy server that does not require authenticated connections.
Microsoft Proxy Server	Indicates that you are using a proxy server with Windows authentication.
Windows Domain	The network domain in which the system runs.
Other Proxy Servers	Indicates you are using non-Microsoft proxy servers.

Select Task

Image: Change Assistant Wizard - Select Task page

This example illustrates the fields and controls on the Change Assistant Wizard - Select Task page. You can find definitions for the fields and controls later on this page.



Depending on the options configured, some tasks may be not be enabled. For example if EM Hub is not defined, Validate Change Assistant EM Settings will be grayed out.

Validate Change Assistant EMF Settings

Select to validate the settings. Change Assistant validates settings by:

- Locating valid SQL query tools required to run SQL scripts.
- Testing the Environment hub and ensuring Change Assistant can communicate with it.

See Validating Change Assistant EMF Settings

Upload Target Database Information to PUM Source

Select to upload the target database information to the PUM source database.

	Once the database information is uploaded, the database will be available in PeopleSoft Update Manager as a target database. See Uploading Target Database Information
Upload Customer Data to Image	Select to upload customization and test projects to the PUM source database. See Creating Customization Repositoryand Creating Test Repository
Migrate Customer Data	Select to migrate user metadata (PUM customization Information, test information and package definition information) from one PUM Image to a new PUM Image. See Migrating PUM Data
Define Change Package	Select to open the Wizard that will guide you through the process of defining a change package. Change packages can be defined using Update Manager Dashboard or Change Assistant. See Defining Change Package
Create Change Package	Select to open the Wizard that will guide you through the process of creating a change package based on defined change package. See Creating Change Package
Apply Change Package	Select after the custom change package has been created to apply the change package to your target database. See Applying Change Package
Apply Downloaded PeopleSoft Release Patchset to PeopleSoft Image	Select to apply a PRP to the PeopleSoft Update Image. See Applying Downloaded PeopleSoft Release Patchset to PeopleSoft Image
Upgrade to New Application Release	Select to upgrade your target database to a new application release. See Upgrading Application
Apply a Patch to Your Current PeopleTools Release	Select to apply a PeopleTools patch change package. See Using Change Assistant to Apply PeopleTools Patch
Upgrade to a New Release of PeopleTools	Select to apply a new release of PeopleTools change package. See Using Change Assistant to Upgrade PeopleTools
Export/Import Change Assistant Settings	Select to export or import Change Assistant Settings. See Exporting and Importing Change Assistant Settings

From this page, you also have the ability to go directly to other pages by selecting the radio button on the left:

Welcome Page	Select to go to the Welcome page.
Select Action	Select to go to the Select Actions page.
General	Select to go to the General Options page.
PUM Source	Select to go to the PUM Source Options page.
EM Hub Options	Select to go to the EM Hub Options page.
Additional	Select to go to the Additional Options page.
Select Task	This radio button is selected by default to lead you through the wizard for the option selected on the right.

Validating Change Assistant EMF Settings

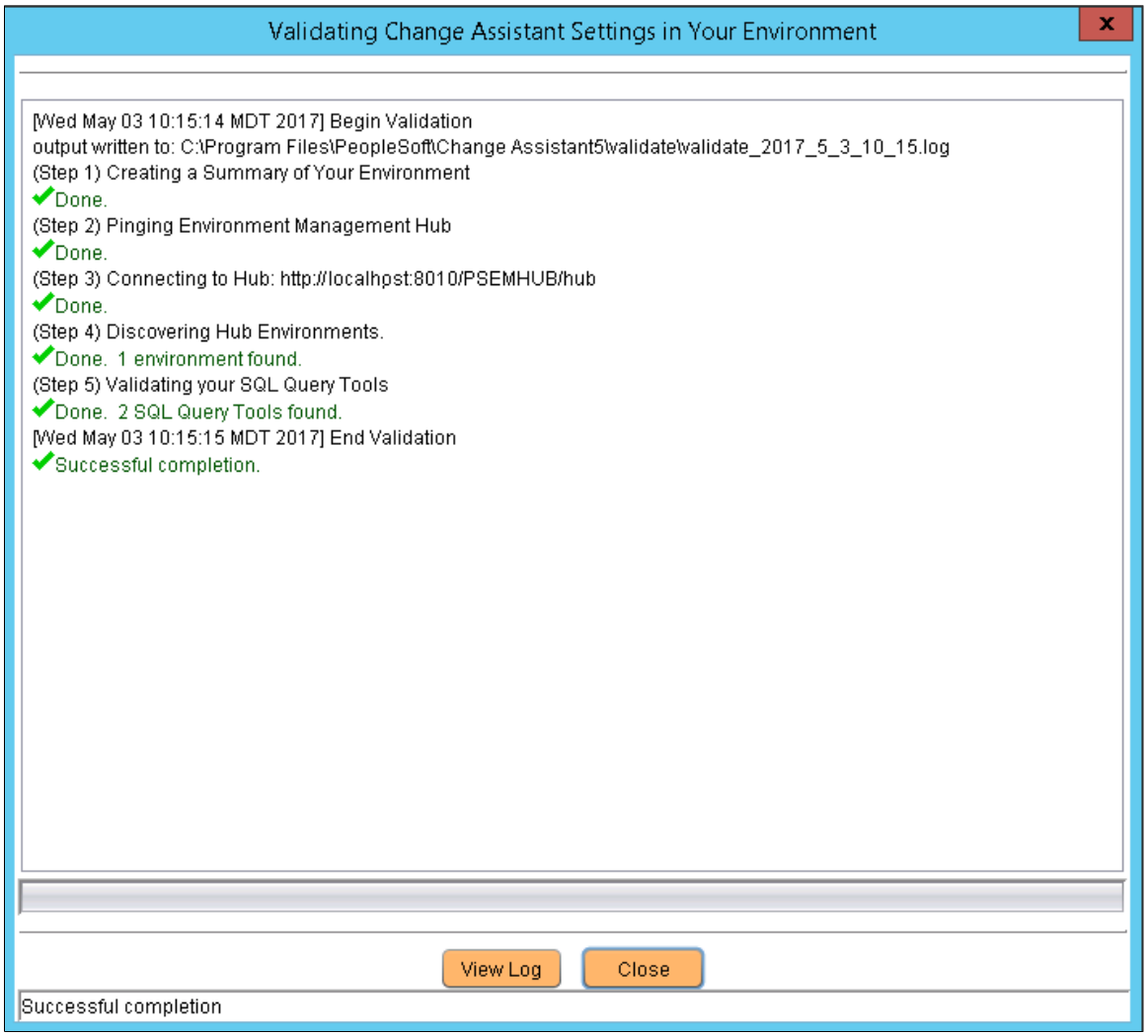
After you have set up and configured Change Assistant and the Environment Management components, you should validate your Change Assistant and environment settings. To validate your environment:

1. Select the Validate Settings radio button.
2. Click Finish.
3. Click Start Validation.

When the validation is complete, a completion message appears. To view the log, click the View Log button. The log will contain information about any steps that were not successful.

Image: Validating Change Assistant Settings in Your Environment dialog box

This example illustrates the fields and controls on the Validating Change Assistant Settings in Your Environment dialog box.



Note: SQL Query Tool discovered by EM Hub is only used for traditional (non-PUM enabled) updates. If you receive a validation error for the SQL Query Tool, you can ignore it.

Defining Target Database

The Define Database page is used to define all databases. See Defining Databases.

When defining the target database to use with PUM, make sure that the various PS homes are properly configured based on your database platform and release.

Important! You only need to define the database once. When you install a new instance of Change Assistant the existing settings can be maintained. See Exporting and Importing Change Assistant Settings.

PS Home

PS Home needs to be set to the PeopleTools release/patch for your target database.

When you set up your windows environment, you may have installed 2 PS Homes. One for Oracle on the PUM image release/patch, which is used for the PUM Source PS Home and one for your target database platform at the supported release/patch level for your target environment. Make sure you select the PS Home for your target environment.

PS App Home

PS App Home is the location where you installed your PeopleSoft application files for your target environment. If you needed to install a new PS Home to use with the PUM image, it will not contain your application files. Make sure you select the path where your application files reside.

PS Cust Home

If you are using PS_CUST_HOME (PeopleSoft Customization Home) to identify and store your site's customized files, you need to specify the path PS Cust Home.

Uploading Target Database Information

In order to use the Update Manager actions, the PUM Source must contain all of the information about your target database. The upload may take several minutes. This information includes:

- Database name
- Database user defined in Change Assistant for this database.

  Note: Change Packages are associated with both database and user ID. The user ID on the target database must match the user ID used to signon to the PUM source in PIA when you create a define a change package.

- Products
- Languages

  Note: If you have multiple target databases with different languages, you will need to install separate PeopleSoft Update Images for each language combination.

To upload the target database information:

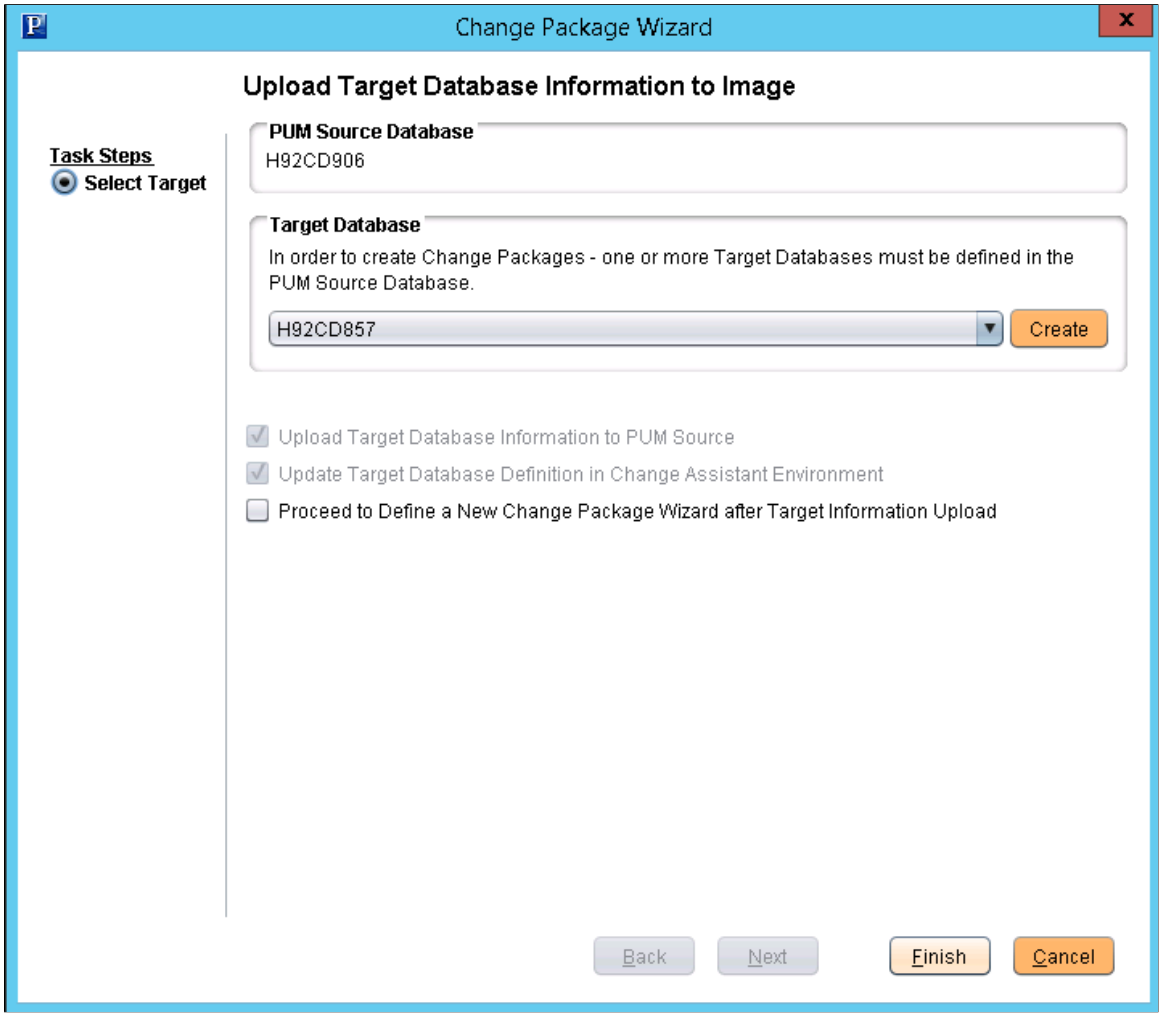
1. In Change Assistant, select Tools, Change Actions.
2. Select Update Manager and click Next.
3. Select Upload Target Database Information to PUM Source and click Finish.

   Note: The PUM Source must be defined before this option is available to select.

4. Select or Create the target database to upload.

Image: Upload Target Database Information to PUM Source page

This example illustrates the fields and controls on the Upload Target Database Information to PUM Source page. You can find definitions for the fields and controls later on this page.



Target Database	Select an existing target database or create a new target database using the Create button. See Defining Databases
Upload Target Database Information to PUM source	This check box is always selected and read only. This option upload the target database information to the PUM Source.
Update Target Database Information in Change Assistant Environment	This check box is always selected and read only. This option updates Change Assistant with the target database information.
Proceed to Define New Change Package Wizard after Target Information Upload	Select this check box to open the Define a New Change Package Wizard after target information is uploaded.

Note: After upgrading the target database tools release, it is necessary to update the target database in Change Assistant and upload the upgraded target database information to the PeopleSoft Update Image database. In Change Assistant, select File, Open Database and update the target database. After updating the target database, select Tools, Upload Target Database Information to PUM Source.

Defining Change Package

In order to define a new change package, the following steps must be completed:

- PUM Source Database defined.
- Target Database defined.
- Target Database uploaded to the PUM Source.

See Selecting Update Manager Action

Use the Define Change Package action to create the change package definition. Change packages can be created using Update Manager Dashboard or Change Assistant.

To define a new change package:

1. In Change Assistant, select the Update Manager action.

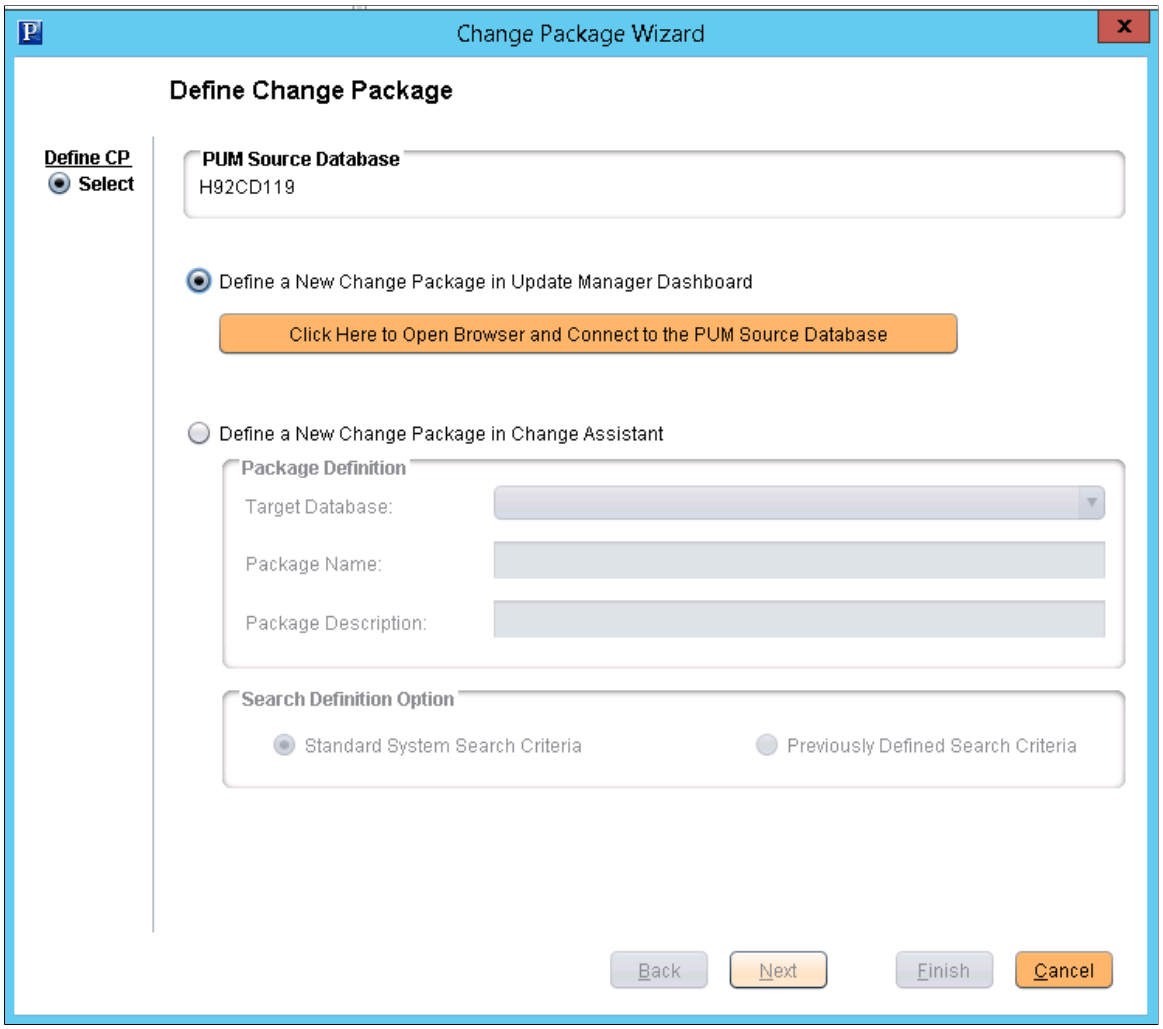
   The Update Manager action is available from:

   - The menu by selecting Tools, Change Actions.
   - Clicking Next on the Welcome page.

2. Select Define Change Package and click Finish.

Image: Define Change Package

This example illustrates the fields and controls on the Define Change Package. You can find definitions for the fields and controls later on this page.



Select the method to use for creating the Change package.

Defining a New Change Package in Update Manager Dashboard

Select the *Click Here to Open Browser and Connect to PUM Source Database* button to define the change package in PIA.

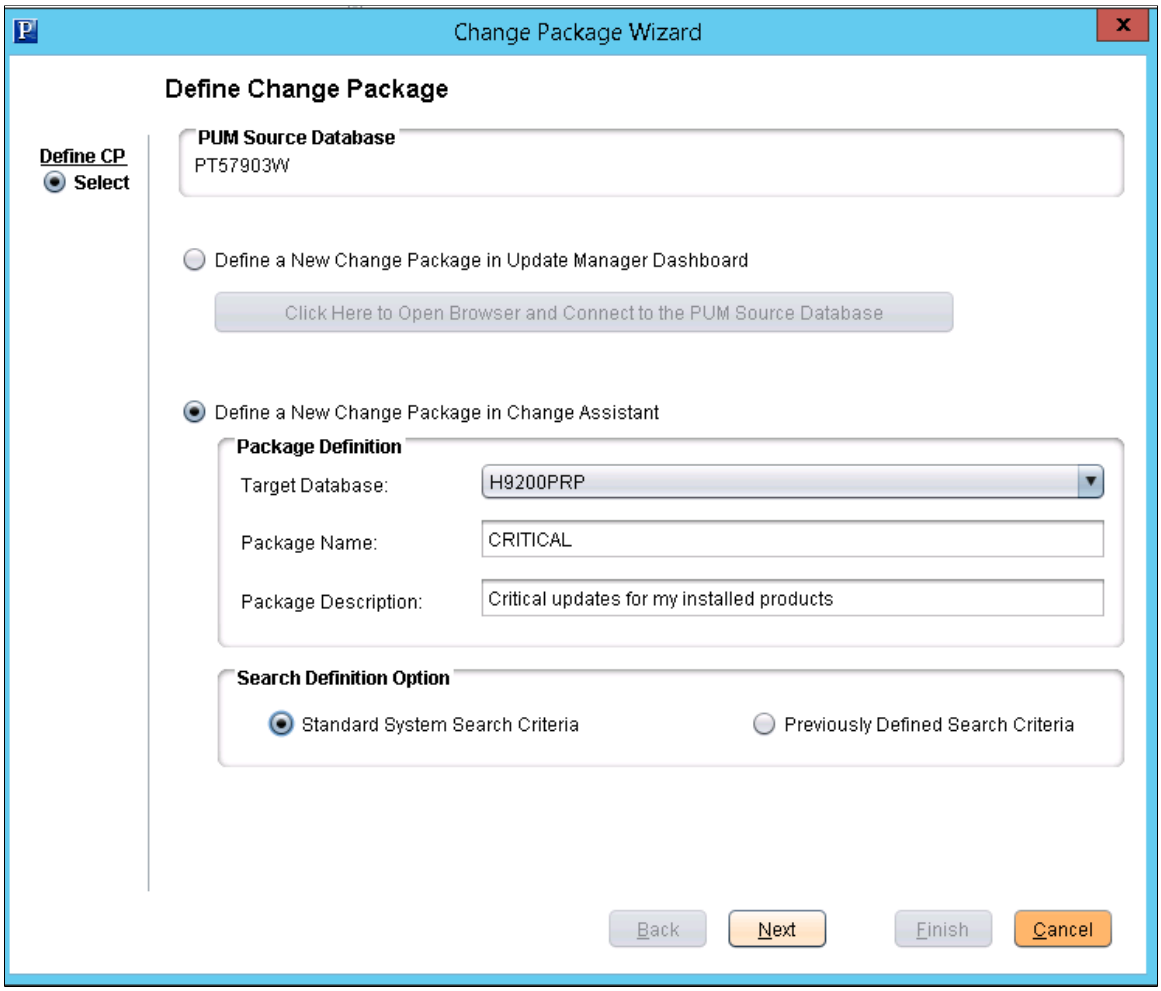
Use the PeopleSoft PIA application to create the change package definition. See Defining Update Change Packages

Defining a New Change Package in Change Assistant

Standard search options are available for common use cases. Customers also have the option to create their own commonly used search criteria.

Image: Define a New Change Package in Change Assistant

This example illustrates the fields and controls on the Define a New Change Package in Change Assistant page. You can find definitions for the fields and controls later on this page.



Target Database Select the target database.

Package Name Enter a package name.

Package Description Enter a package description (Optional)

Search Definition Option Select the type of search definition.

- Standard System Search Criteria

  When you click Next, the standard system searches will be displayed.

- Previously Defined Search Criteria

  When you click Next, your previously defined searches will be displayed.

Standard Search Options

The same standard system search options available from the Update Manager Dashboard are available in Change Assistant. These include:

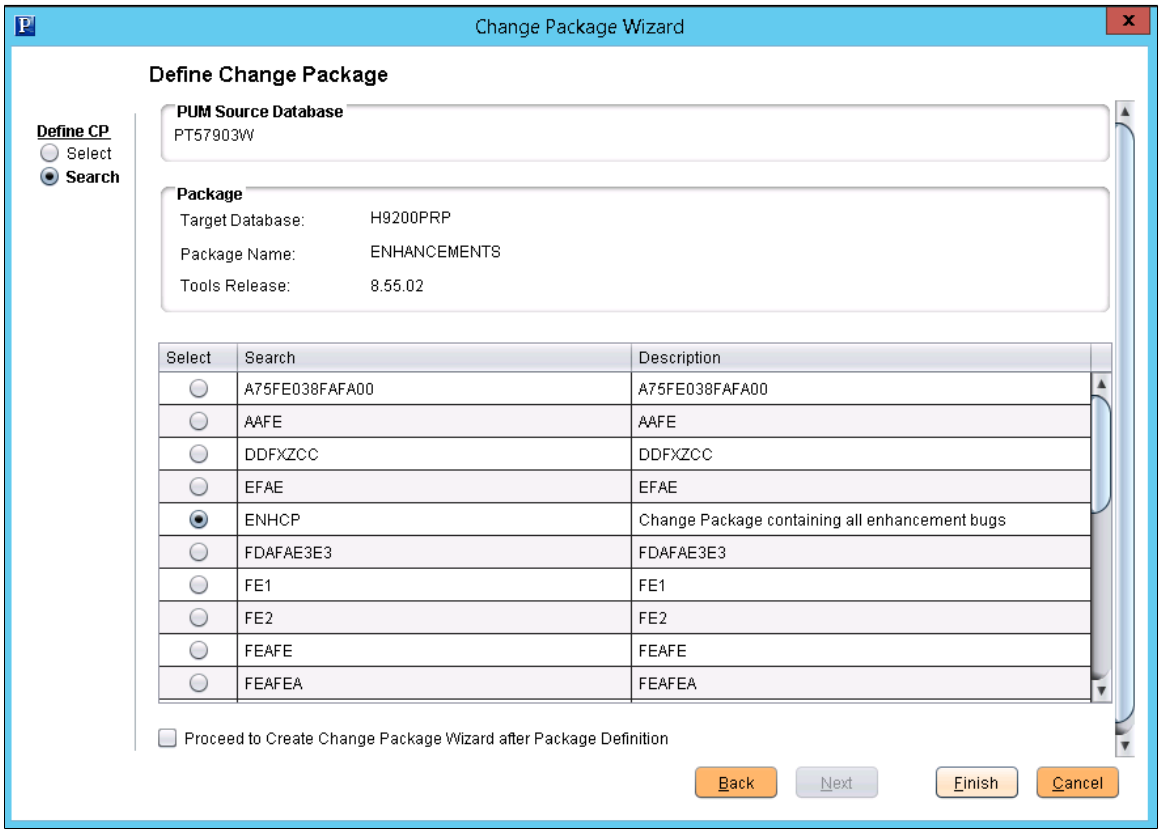
- All Unapplied Updates for Installed Products
- All Critical Unapplied Updates for Installed Products
- All Critical Updates Not Applied
- All Tax Updates Not Applied
- All True Requisites Not Applied
- All Updates Not Applied

Previously Defined Search Criteria

If you select Previously Defined Search Criteria and click Next, the list will include all Change Package definitions with a status of Complete in the PUM source database.

Image: Previously Defined Search Criteria

This example illustrates the fields and controls on the Previously Defined Search Criteria page.



Select the checkbox if you want to proceed to create the change package when the package is defined. Click either Finish or Next (if you selected to proceed to create change package) to define the change package.

Creating Change Package

Use the Create Change Package action to create the change package in Change Assistant. The Change Package definition must have a status of complete in order for it to be available in Change Assistant.

To create a change package:

1. In Change Assistant, select the Update Manager action.

   The Update Manager action is available from:

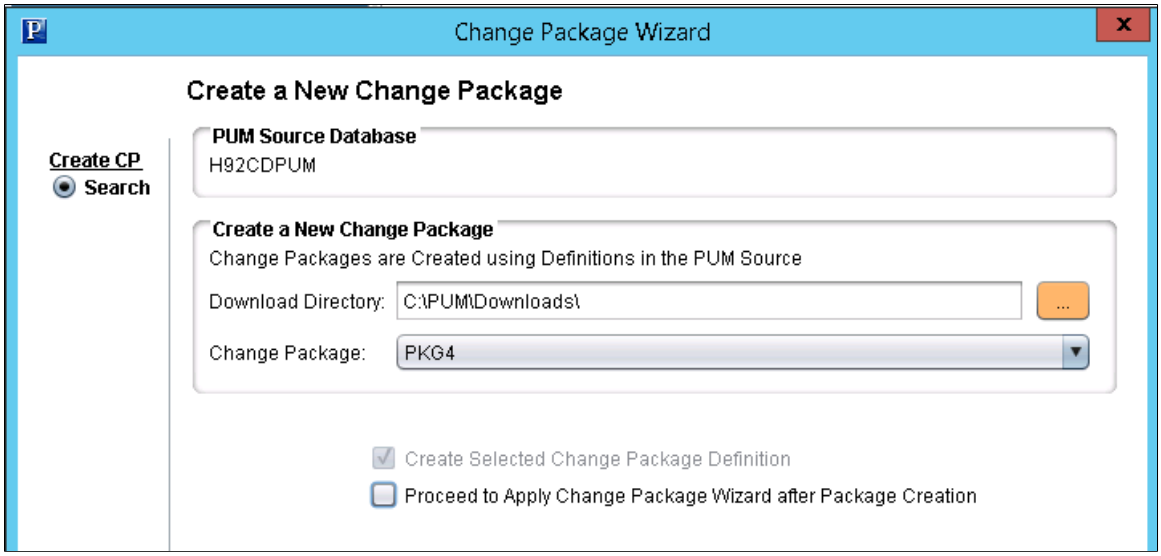
   - The menu by selecting Tools, Change Actions.
   - Clicking Next on the Welcome page.

2. Select Create Change Package and click Finish.
3. Select the change package to create and click Finish.

   The Change Package Wizard will generate the change package. When the package is created you will receive a message indicating the change package was successfully created.

Image: Create a New Change Package page

This example illustrates the fields and controls on the Create a New Change Package page. You can find definitions for the fields and controls later on this page.



Download Directory	Select the download directory to use for this change package. The default is the download directory defined on the Options page.
Change Package	Select the change package from the drop down of available change package definitions.
Proceed to Apply Change Package Wizard after Package Creation	Select this check box to proceed to the Apply Change Package Wizard when the package is created.

Chapter 10

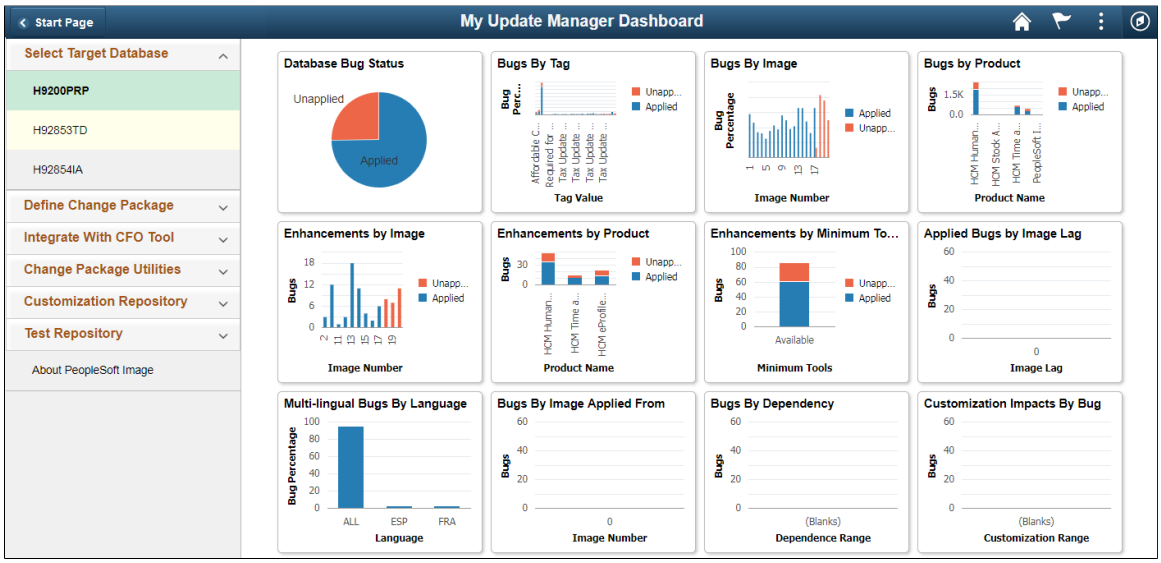
Using Update Manager Dashboard

Update Manager Dashboard Overview

The Update Manager Dashboard provides a central location for all update tasks. The dashboard provides analytics for PUM (PeopleSoft Update Manager) that assist in determining your current level of maintenance. The various pivot grids provided on the dashboard, provide access into the maintenance logs and bug information for each database uploaded to the PeopleSoft Update Image. After drilling down onto a specific pivot grid, you can select bugs to include in a change package.

Image: Update Manager Dashboard

This example illustrates the fields and controls on the Update Manager Dashboard. You can find definitions for the fields and controls later on this page.



By default the Update Manager Dashboard has twelve tiles with the following pivot grids:

1. Database Bug Status
2. Bugs by Tag
3. Bugs by Product
4. Bugs by Image
5. Enhancements by Image
6. Enhancements by Product
7. Enhancements by Minimum Tools

8. Applied Bugs by Image Lag
9. Multi-lingual Bugs by Language
10. Bugs by Image Applied From
11. Bugs by Dependenency
12. Customization Impacts by Bug

See Using PeopleSoft Update Manager (PUM) Analytics

The left navigation pane of the Update Manager Dashboard provides links to Update Manager features and pages. When you select a link from the left navigation pane, the corresponding page appears in the target content area. The following folders make up the Update Manager Dashboard.

Folders	***Description***
Select Target Database	This folder contains a list of all the target database that have been uploaded to the PUM Source. When you select a database Push Notifications is used to refresh the Pivot Grid tiles in the dashboard. See Using PeopleSoft Update Manager (PUM) Analytics
Define Change Package	This folder contains links to the various types of change packages. See Defining Change Package
Update Manager Utilities	This folder contains links to Update Manager utilities. See Using Update Manager Utilities
Customization Repository	This folder contains links to the tasks necessary to manage the customization repository. See Understanding Customization Repository
Test Repository	This folder contains links to the tasks necessary for managing test repository. See Understanding Test Repository
About PeopleSoft Image	Use the About PeopleSoft Image page to display information about the PeopleSoft Image.

Information for working with and customizing Dashboards is provided elsewhere in PeopleTools product documentation. See the product documentation for PeopleTools 8.57: Using PeopleSoft Applications

About PeopleSoft Image

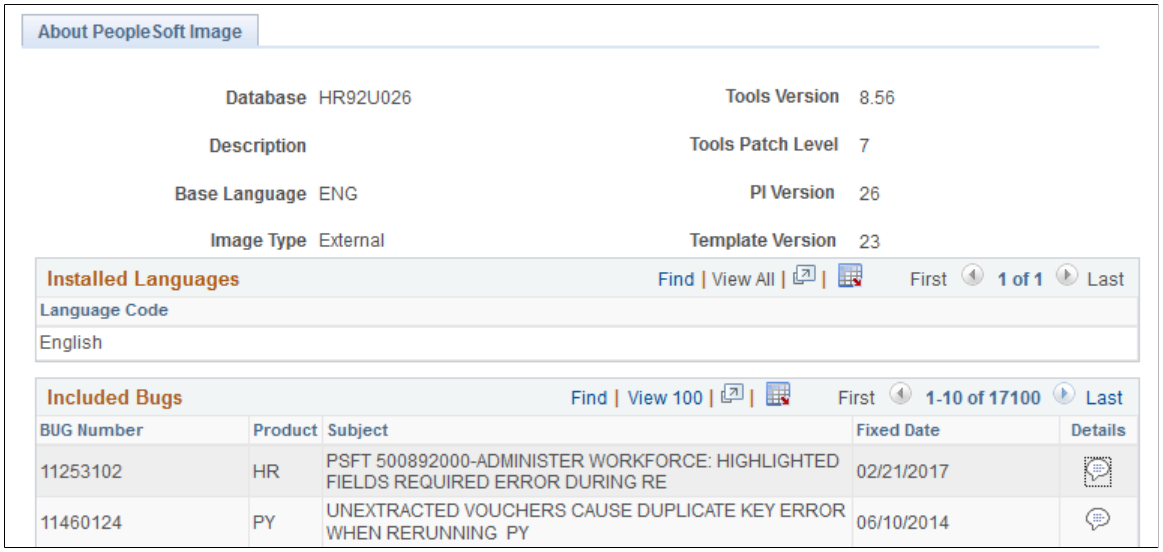
Use the About PeopleSoft Image page to display information about the PeopleSoft Image.

Navigation

Select PeopleTools >Lifecycle Tools >Update Manager Dashboard > About PeopleSoft Image

Image: About PeopleSoft Image page

This example illustrates the fields and controls on the About PeopleSoft Image page.



Using PeopleSoft Update Manager (PUM) Analytics

The Update Manager Dashboard provides analytics for PUM (PeopleSoft Update Manager) that assist in determining your current level of maintenance. The Update Manager Dashboard is available on the PeopleSoft Update Image. The various pivot grids provided on the dashboard, provide access into the maintenance logs and bug information for each database uploaded to the PeopleSoft Update Image.

By default the Update Manager Dashboard has twelve tiles with the following pivot grids:

1. Database Bug Status
2. Bugs by Tag
3. Bugs by Product
4. Bugs by Image
5. Enhancements by Image
6. Enhancements by Product
7. Enhancements by Minimum Tools
8. Applied Bugs by Image Lag
9. Multilingual Bugs by Language
10. Bugs by Image
11. Applied From Bugs by Dependency

12. Customization Impacts by bug

Bugs are categorized by into four distinct groups:

- Applied Bug Fixes for installed products

  All bug fixes that have been applied to the target database for installed products.

- Applied Bug Fixes for non-installed products

  All bug fixes that have been applied to the target database for non-installed products.

- Unapplied Bug Fixes for installed products

  Use the unapplied bug fixes for installed products to determine how far behind the target database is compared to the current PeopleSoft Update Image. If there are no unapplied bug fixes for installed products, the target database is current.

- Unapplied Bug Fixes for non-installed products

  Unapplied bug fixes for non-installed products will not have any effect on target database.

Reviewing Bugs and Enhancements Using the Pivot Grid

Displaying Analytics

To display analytics for a specific target database and pivot grid:

1. Expand the Select Target Database folder and click the link for the database to display.
2. Click on one of the pivot grid tiles to open Pivot Grid Viewer.
3. Use the Show Filters icon to display the available filters on the left-hand side of the pivot grid.
4. The grid showing the bugs that match the filter criteria is displayed.

Applying Filters

Use the Show Filters icon to display the available filters on the left-hand side of the pivot grid. Once you select a filter, the pivot grid will be refreshed with the current filters. The following filters are available for the pivot grids:

- Bug Status

  Applied or Unapplied

- Image
- Bug Severity
- Product
- Product Installed
- Component

- Sub Component

Reviewing the Grid

Once you open a pivot grid and apply the filters, all of the bugs meeting the specified criteria are displayed with the following columns:

- Action check box
- Database
- Bugs
- Image Number
- Subject
- Bug Severity
- Bug Status
- Product Name
- Product Installed
- Component
- Sub Component
- Posted date

Certain pivot grids have additional columns:

- *Bugs by Tag* includes columns for Tag Name and Tag Value.
- *Enhancements by Minimum Tools* includes a column for Minimum Tools.
- *Applied Bugs by Image Lag* includes a column for Image Lag.

Image: Example Grid

This example illustrates the fields and controls on the grid. You can find definitions for the fields and controls later on this page.

Actions | Select All | Clear

Actions	Database	Bugs	Image Number	Subject	BUG Severity	Bug Status	Product Name	Product Installed	Bug Type	Com
	H92CDTGT	22762096	18	NOT ALL ELEMENTS ARE PRESENT IN FORECAST DETAILS IN SS EXTENDED ABSENCE PAGE	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
	H92CDTGT	24373484	19	ABSENCE CANCELATION - MODIFICATION FOR EXISTING ADMINISTRATOR OBJECTS	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
	H92CDTGT	24405541	19	NEW CODE FOR ABSENCE CANCELATION	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
	H92CDTGT	24405978	19	ABSENCE CANCELATION NEW OBJECTS FOR ADMINISTRATORS	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
	H92CDTGT	24451507	19	ABSENCE CANCELATION FROM ADMINISTRATOR AWE EVENT ENTRY FOR 854	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
	H92CDTGT	24406140	19	ABSENCE CANCELATION NEW OBJECTS FOR FLUID	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
	H92CDTGT	24417952	19	ABSENCE CANCELATION FROM CLASSIC PAGES FOR 854	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse

Actions	After selecting bugs, by checking the Actions column in the grid, use the Actions drop down to select Add to Change Package.
Select All	Click this button to select all bugs.
Clear All	Click this button to clear all bugs.

Creating a Change Package From the Pivot Grid

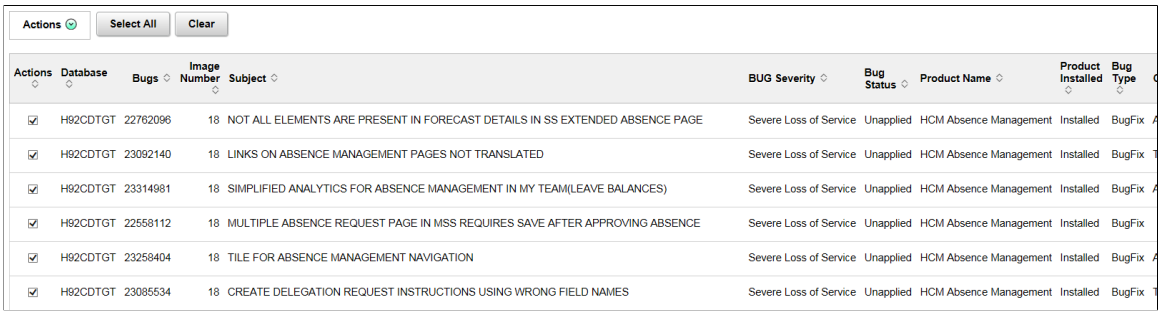
To use the pivot grid to select bugs for your change package:

1. Double-click the pivot grid.
2. Set the filters to use.

   You may want to include the filter for Unapplied.
3. Review the bugs listed in the grid and select the Action check box for the bugs you want to include in your Change Package.

   Image: Selecting bugs from the grid

   This example illustrates bugs selected to add to a change package.

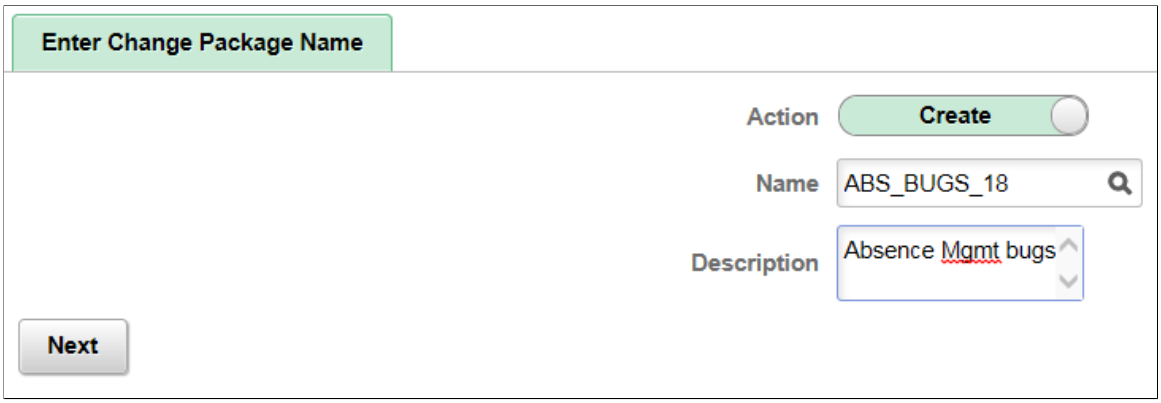


Actions	Database	Bugs	Image Number	Subject	BUG Severity	Bug Status	Product Name	Product Installed	Bug Type
☑	H92CDTGT	22762096	18	NOT ALL ELEMENTS ARE PRESENT IN FORECAST DETAILS IN SS EXTENDED ABSENCE PAGE	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix
☑	H92CDTGT	23092140	18	LINKS ON ABSENCE MANAGEMENT PAGES NOT TRANSLATED	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix
☑	H92CDTGT	23314981	18	SIMPLIFIED ANALYTICS FOR ABSENCE MANAGEMENT IN MY TEAM(LEAVE BALANCES)	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix
☑	H92CDTGT	22558112	18	MULTIPLE ABSENCE REQUEST PAGE IN MSS REQUIRES SAVE AFTER APPROVING ABSENCE	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix
☑	H92CDTGT	23258404	18	TILE FOR ABSENCE MANAGEMENT NAVIGATION	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix
☑	H92CDTGT	23085534	18	CREATE DELEGATION REQUEST INSTRUCTIONS USING WRONG FIELD NAMES	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix

4. Click the Actions drop down and select Add to Change Package.
5. The Enter Change Package Name page is displayed.

Image: Enter Change Package Name

This example illustrates the fields and controls on the Enter Change Package Name. You can find definitions for the fields and controls later on this page.



Action	By default the action is Create. If you want to add the bugs to an existing Change Package that has not been applied, select Edit.
Name	Enter a name for the change package. If the action is Edit, select an existing package.
Description	Enter a description.

6. Click Next.
7. The change package wizard will open on Step 5 of 6.

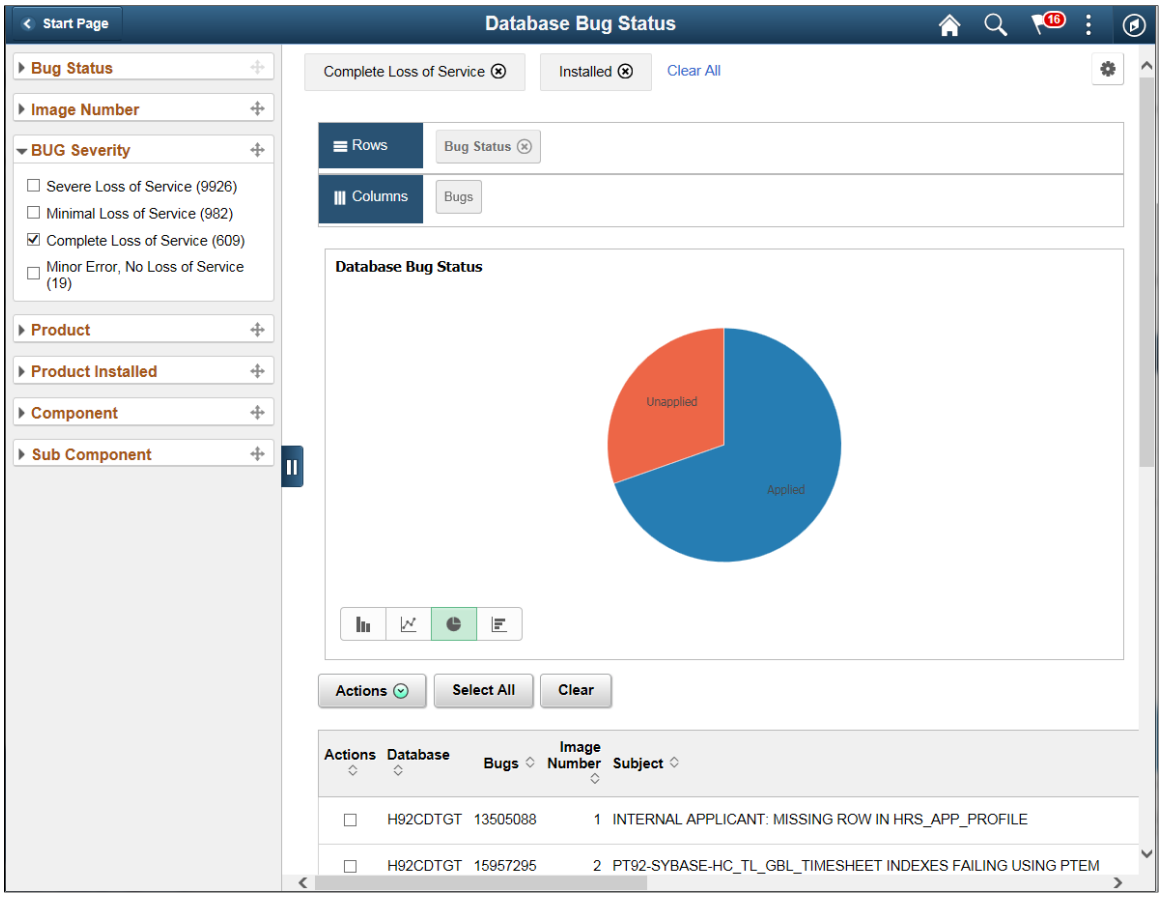
   See Define Update Package Wizard Step 5 of 6

Database Bug Status

This pivot grid displays the status of all installed products. Use the filters to determine what bugs need to be applied.

Image: Database Bug Status

This example illustrates the fields and controls on the Database Bug Status pivot grid. This example displays the pivot grid filtered by Installed products and Complete Loss of Service.

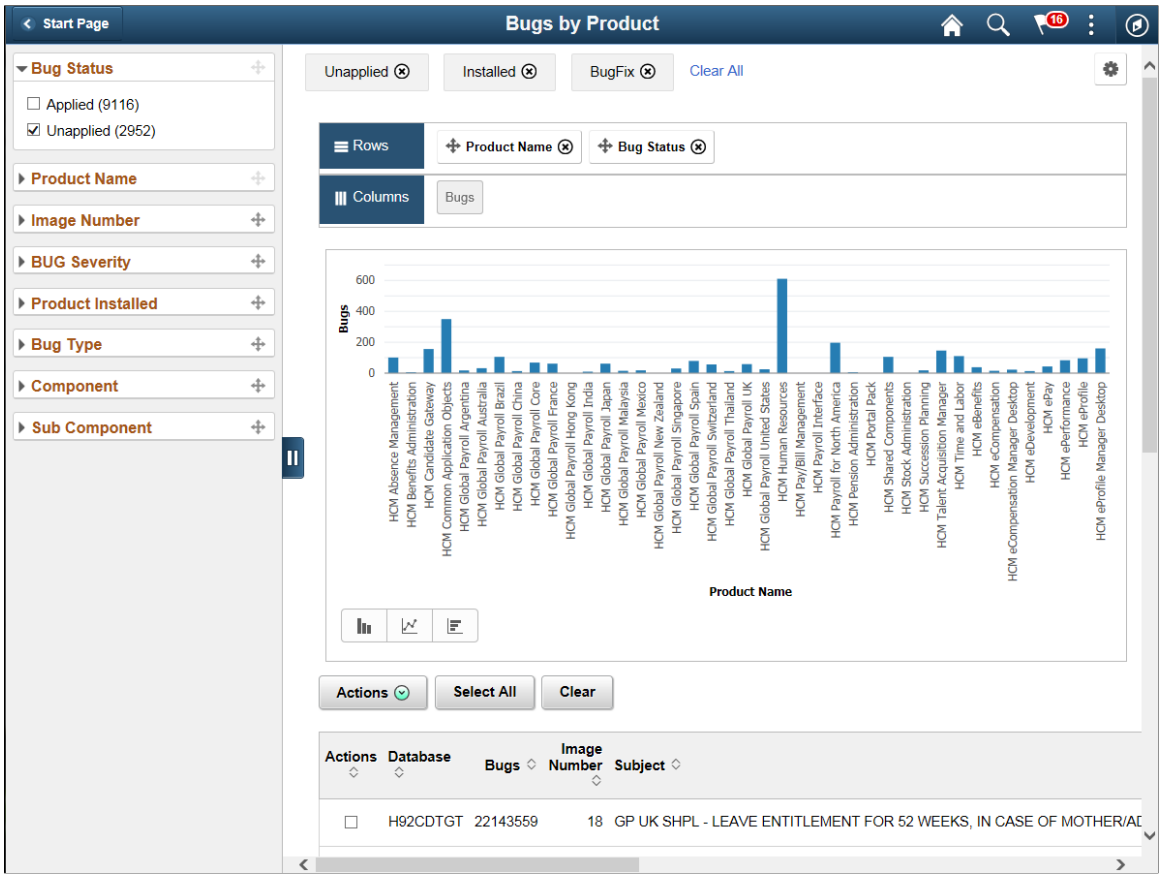


Bugs by Product

This pivot grid displays the status of all installed products. Use the filters to determine what bugs need to be applied.

Image: Bugs by Product

This example illustrates the fields and controls on the Bugs by Product. In this example the filter was changed to show unapplied bugs.

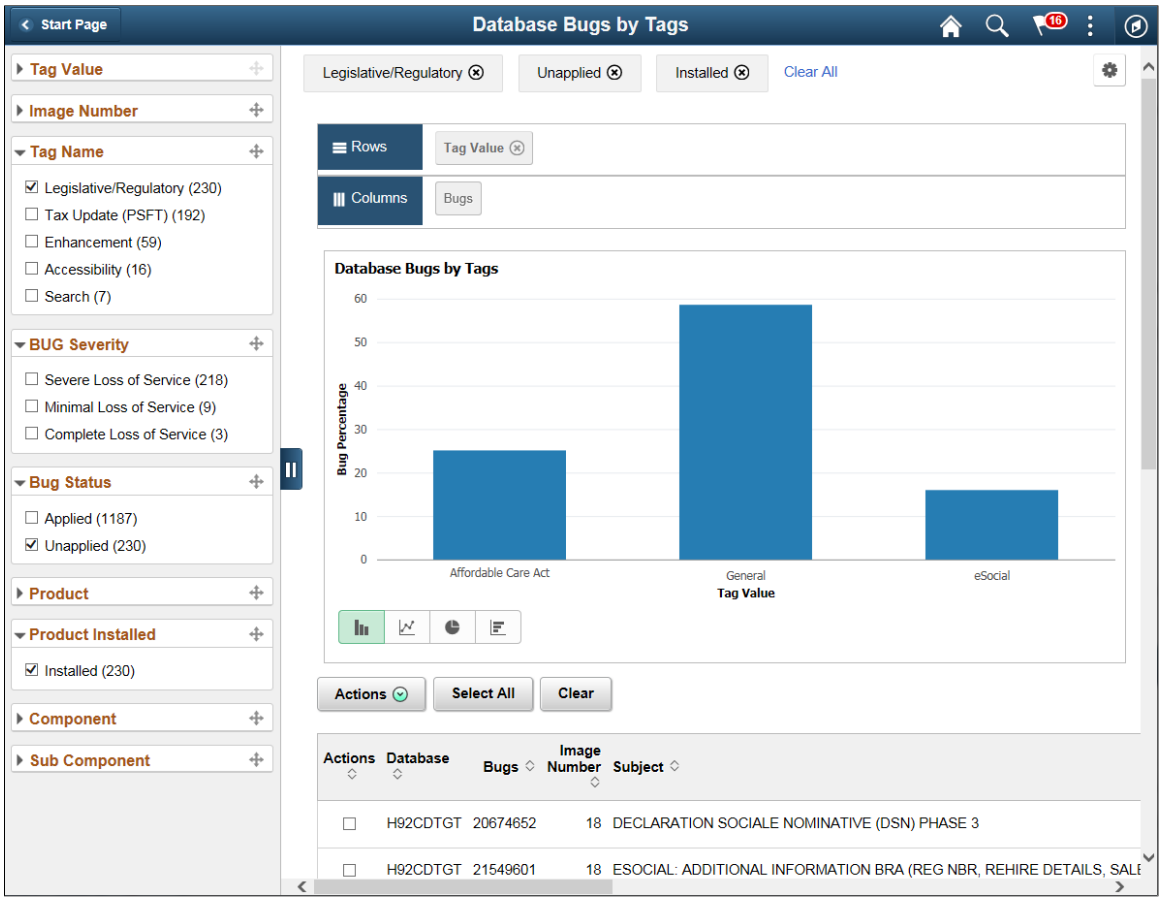


Database Bugs by Tags

This pivot grid displays bug status by tag. Tag types will vary depending on the application. Use the filters to narrow down the search.

Image: Database Bugs by Tags

This example illustrates the fields and controls on the Database Bugs by Tags. This example id filtered by tag name, unapplied and installed products..

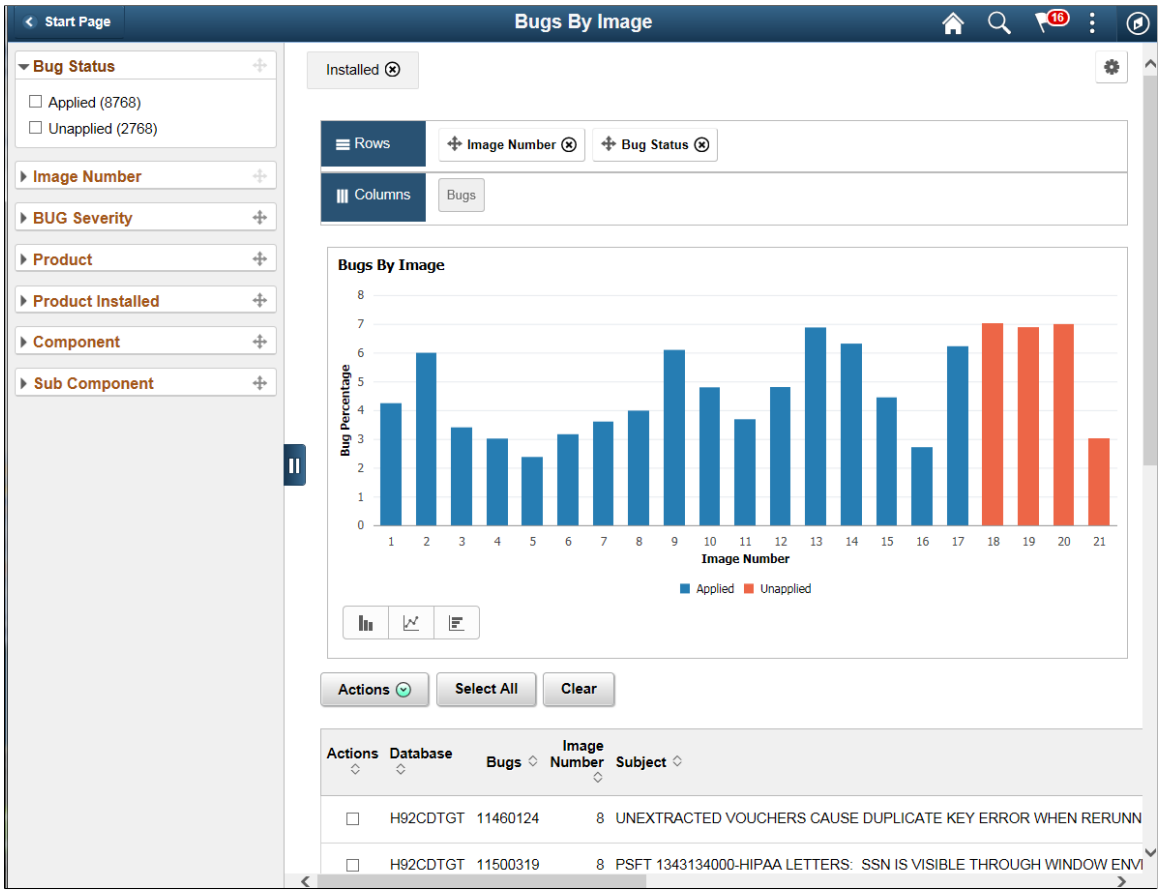


Bugs by Image

This pivot grid displays the bug status by Image, which can be used to track your maintenance strategy.

Image: Bugs by Image

This example illustrates the fields and controls on the Bugs by Image. This example shows a database that is current through image 17.



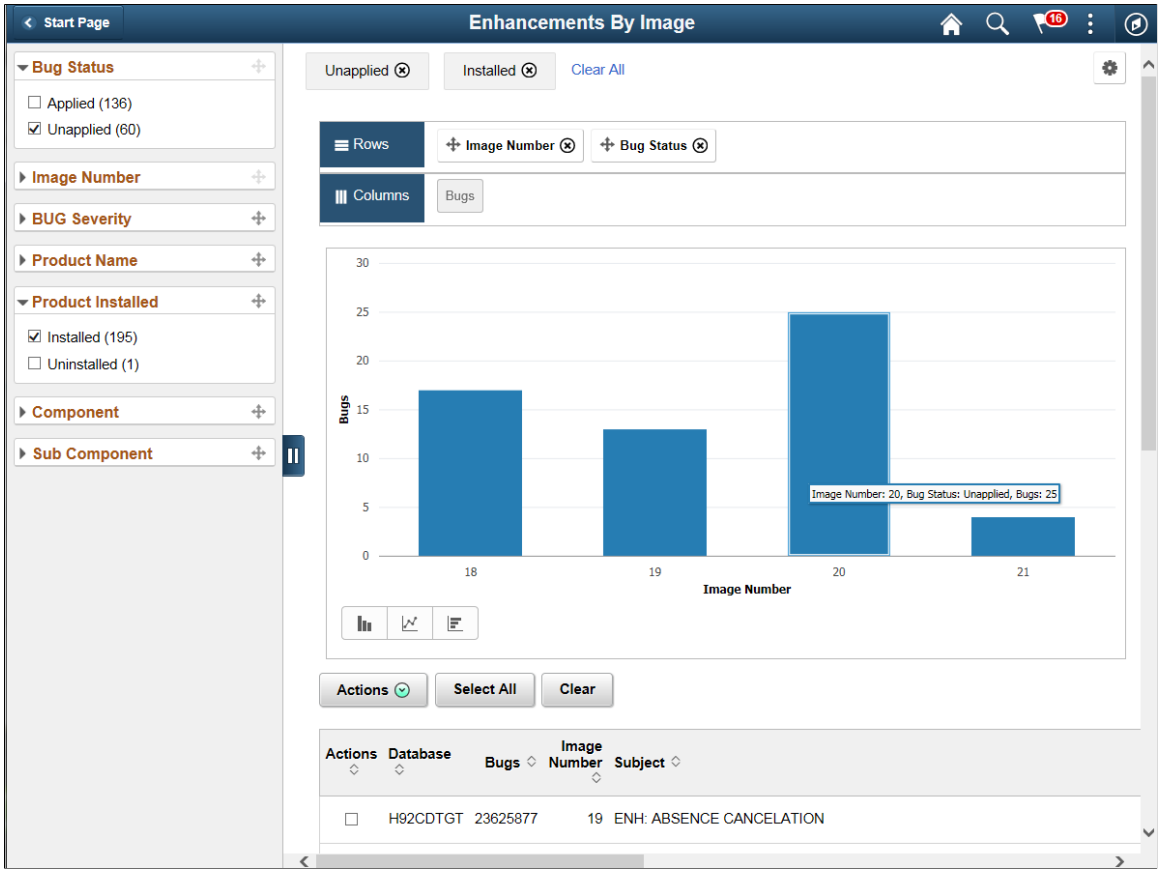
Note: When filtering the Bug Status by Image pivot grid, select only one Product Status at a time.

Enhancements by Image

This pivot grid displays the enhancements (and no bugs) by Image, which can be used to determine which enhancements have been applied and which enhancements you would like to apply.

Image: Enhancements by Image

This example illustrates the fields and controls on the Enhancements by Image pivot grid.

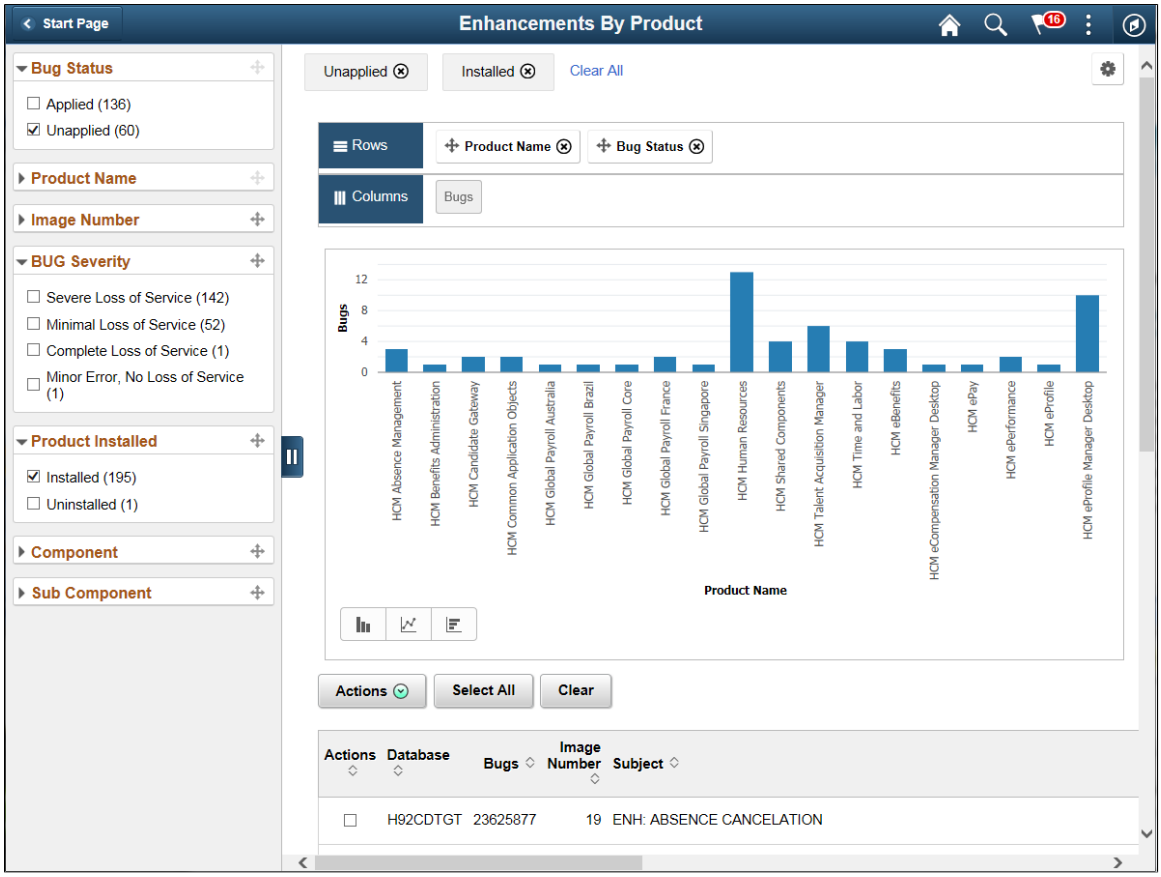


Enhancements by Product

This pivot grid displays the enhancements (and no bugs) by product, which can be used to determine which enhancements for a product have been applied and which enhancements you would like to apply.

Image: Enhancements by Product

This example illustrates the fields and controls on the Enhancements by Product.



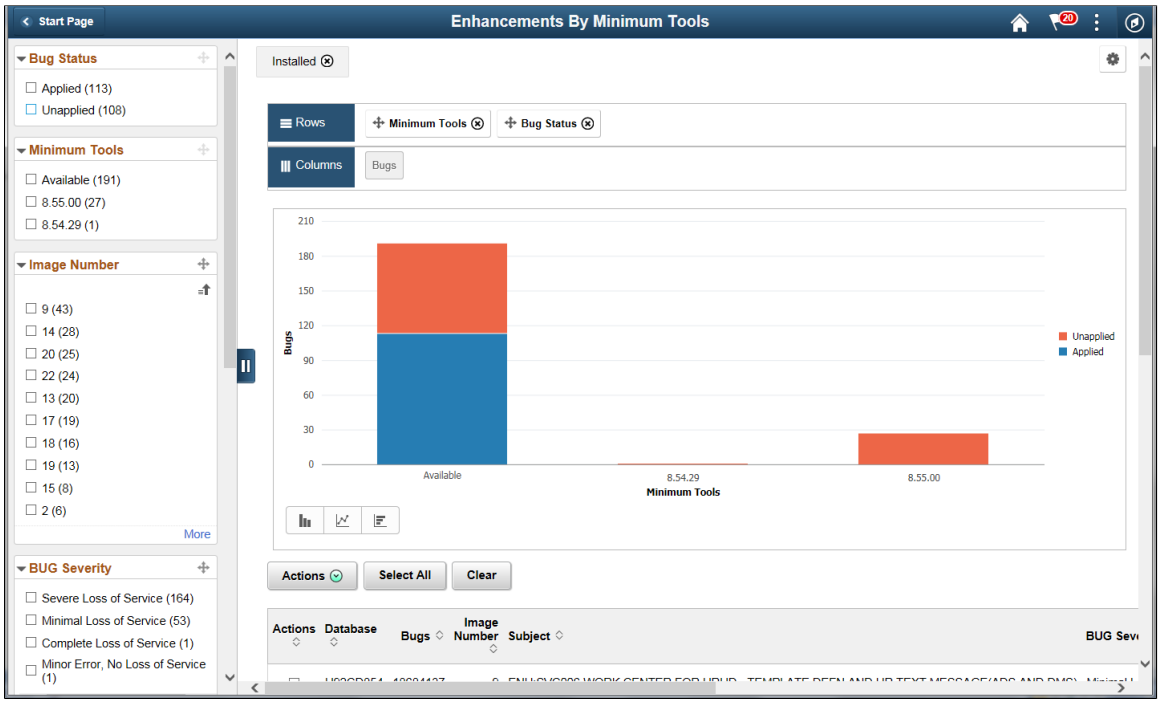
Enhancements by Minimum Tools

This pivot grid displays the enhancements (and no bugs) that are available based on PeopleTools release for the target environment.. Use this pivot grid to determine which enhancements you can apply to your current target database, as well as what enhancements are available when you upgrade to a newer version of PeopleTools..

This example shows a target database on 8.54.16. There are 191 enhancements that could be applied to the current target on 8.54.16, one enhancement that requires 8.54.49 and 27 that require 8.55.

Image: Enhancements by Minimum Tools

This example illustrates the fields and controls on the Enhancements by Minimum Tools for a target database that is on 8.54.16.



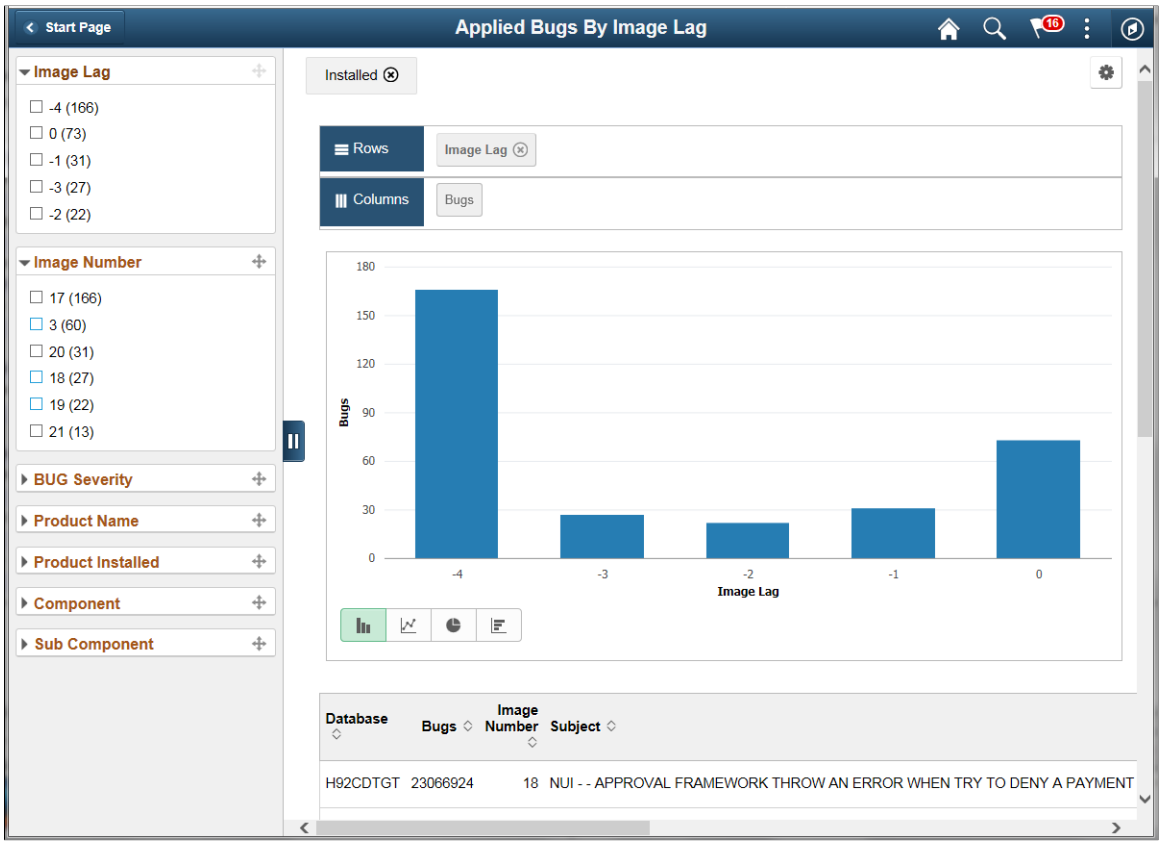
Applied Bugs by Lag Image

This pivot grid describes the relative time to apply fixes in the system. This analytic shows the difference between when the change is delivered versus when the change is applied. If a bug is delivered in PI 15 and the customer applies the bug in PI 15, then it is 0. If the customer does not apply the bug until PI 16, it will show as -1.

Note: If you upgrade your 9.1 application to an image point, for example PI 20, no data for lag time will be available because there will not be any applied packages defined in the database.

Image: Applied Bugs by Lag Image

This example illustrates the fields and controls on the Applied Bugs by Lag Image. In this example, the current PI is 21 (0). For the bugs you have applied using PI 21, you can see the PI when the bug was available, image 20 (-1,) image 19 (-2), image 18 (-3), and image 17 (-4).

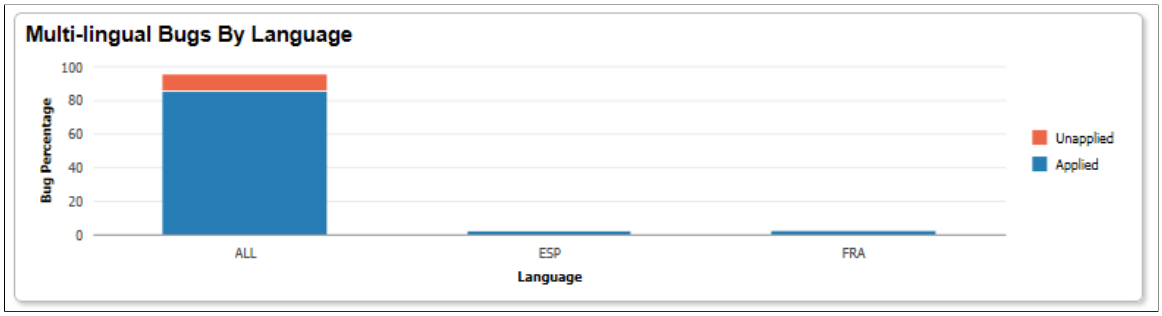


Multi-lingual Bugs by Language

This pivot grid displays the multi-lingual fixes available for installed languages on the target. If the target database is English no data will appear in the pivot.

Image: Multi-lingual Bugs By Language

This example illustrates the fields and controls on the Multi-lingual Bugs By Language. You can find definitions for the fields and controls later on this page.

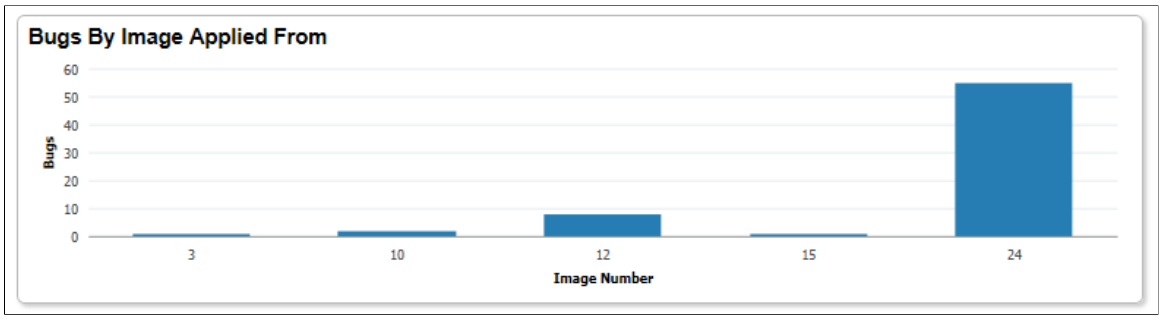


Bugs By Image Applied From

This pivot grid displays all bugs and enhancements based on the image they were applied from.

Image: Bugs By Image Applied From

This example illustrates the fields and controls on the Bugs By Image Applied From. You can find definitions for the fields and controls later on this page.



Bugs By Dependency

This pivot grid displays the number of dependencies each bug that has not been applied on the target database. You can view information on bugs, enhancements or both using the filter option. By default both are displayed.

The x axis for this analytic contains number ranges rather than the actual number of dependencies. This limits the number of vertical bars in the grid to provide better usability, given the actual dependency data could have 1000's of possible values.

Customization Impacts By Bug

This pivot grid displays the number of bugs that have not been applied on the target database that have a customization impact.

Data is only displayed on this pivot grid if:

1. Customer data on customizations has been uploaded to the PUM Source.
2. The Customization Calculation has been run on the PUM Source.

Defining Change Packages

There are 4 types of change packages that can be created:

1. Update Package

   The Update Package component is a wizard that will lead you through the process of selecting updates and defining a custom change package for your environment. It provides a wide array of search options for selecting the updates to apply to your environment. It lets you review the details of the changes for each update before creating the change package definition, shows you what has

already been applied to your environment, and automatically includes requisite updates based on what you selected and what is already applied to your environment.

Note: Required for Upgrade (RFU) bugs are included in the Upgrade package.

See Defining Update Change Packages

2. Upgrade Package

   The Upgrade Package component is a wizard that will create an upgrade package based on the upgrade path specified. When you select this option 2 change package definitions are created the upgrade package (UPG) and the Required for Upgrade package (RFU).

   See Defining an Upgrade Package

3. Tools Delta Package

   The Tools Delta Package component is a wizard that is used after a PeopleTools upgrade to create a Tools delta change package that contains attributes or objects that were stripped away when the updates were applied in the old release.

   See Creating and Applying Tools Delta Package

4. Translation Delta Package

   The Translations Delta Package component is a wizard that will lead you through the process of selecting the languages and translation fixes and create a translation delta package.

   See Defining Translations Delta Package

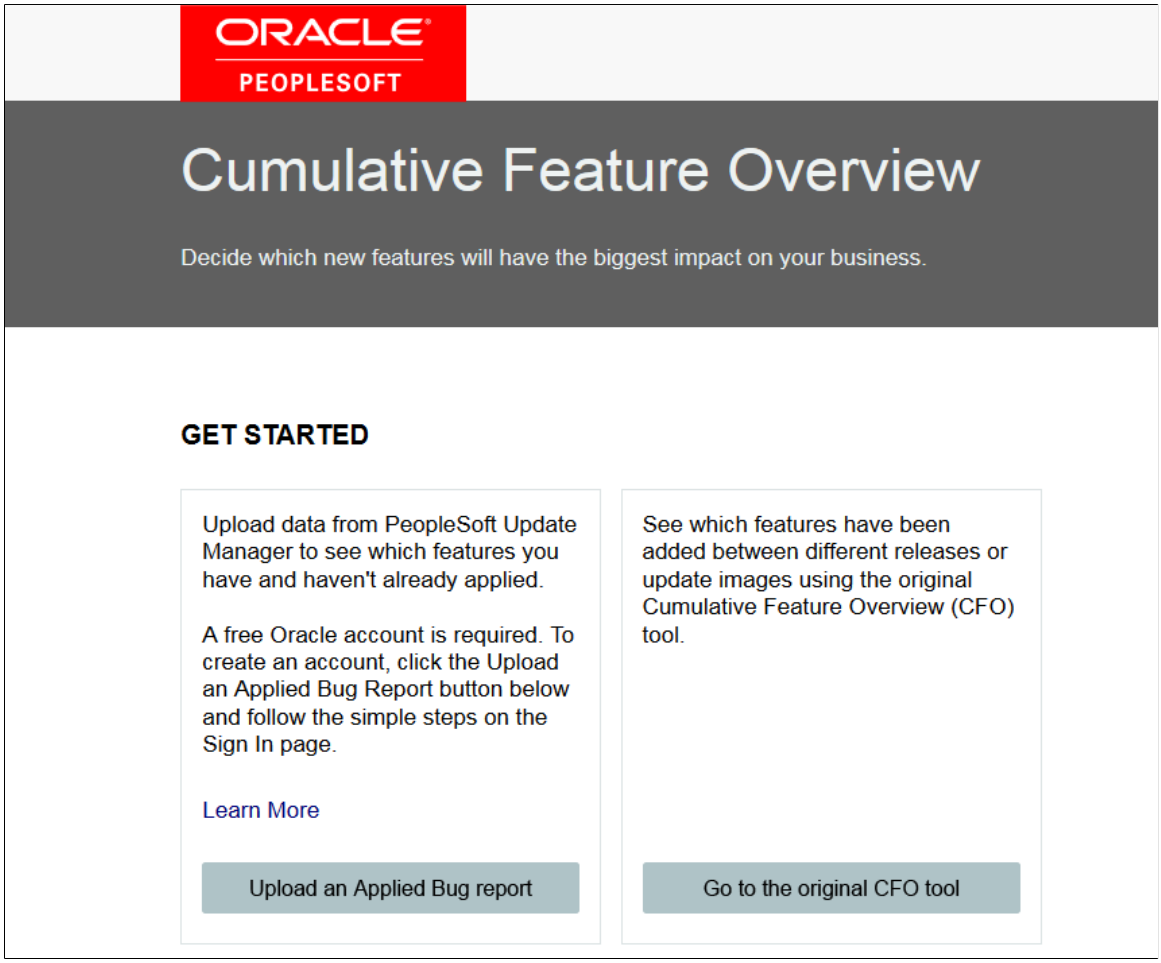
Integrating with Cumulative Feature Overview (CFO) Tool

Understanding CFO Tool

Cumulative Feature Overview (CFO) tools provides concise descriptions of new and enhanced solutions and functionality delivered with each PeopleSoft image. This tool provides the ability to upload an Applied Bug report which is used to determine which features you have and have not applied to your target database, as well as a link to the original CFO tool. Cumulative Feature Overview

Image: Cumulative Feature Overview

This example illustrates the fields and controls on the Cumulative Feature Overview page.



Upload an Applied Bug report

Click this button to upload an Applied Bug report.

Applied bug reports are created in PeopleSoft Update Manager for your target database.

The uploaded report is used to produce a report listing the features that have been applied, as well as the features that have not been applied.

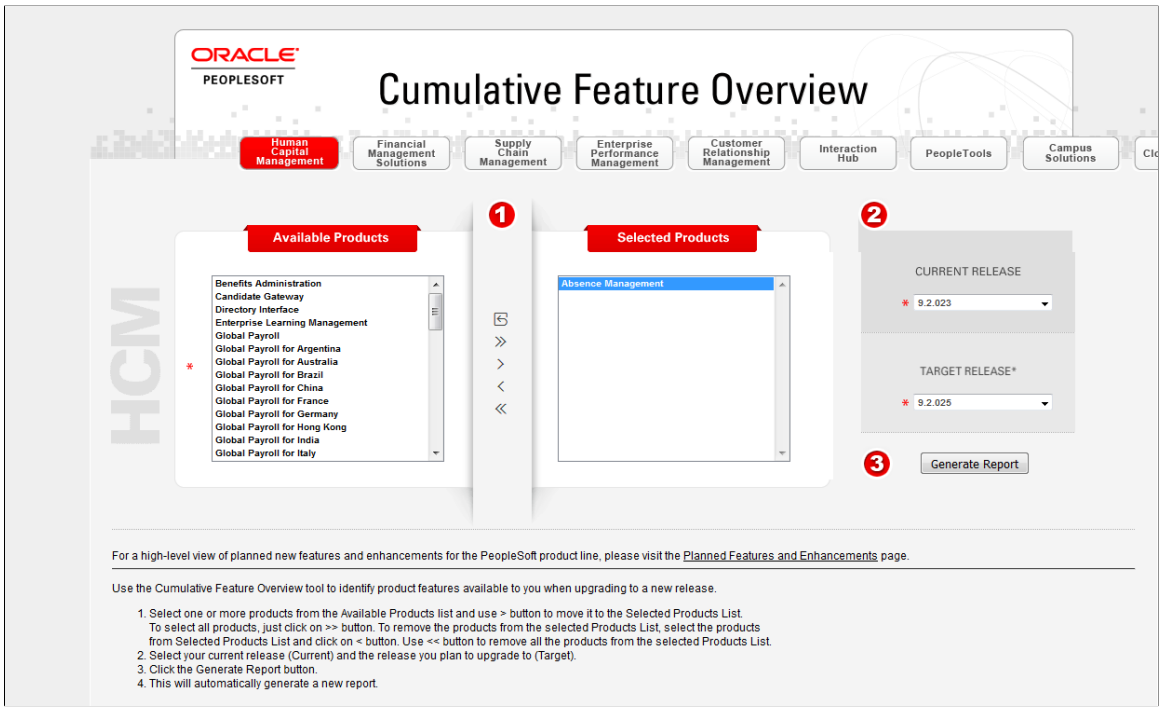
Note: The uploaded Applied Bug report is only used generate the Features report, it is not stored or retained. Once you close the CFO tool, the report is no longer available.

Go to the original CFO tool

Click this button to use the original CFO tool to identify new features for your products based on the current release and target release.

Image: Original Cumulative Feature Tool

This example illustrates the Original Cumulative Feature Overview Tool configured to produce a report showing all new features for Absence Management product where the current release is 9.2 image 23 and the target release is 9.2 image 25.

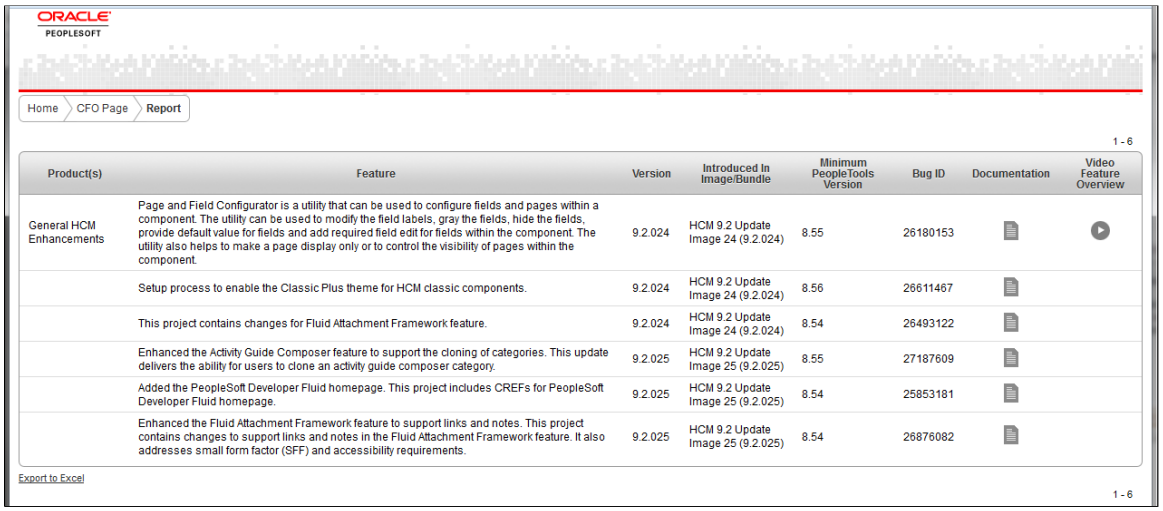


The original CFO tool provides the ability to select one or more products, your current release (Current) and the release you plan to upgrade to (Target) to generate a report listing all the new features available.

The generated report will list the features, as well as links to the documentation and any videos available for the feature.

Image: Example Report for Absence Management

This example illustrates a report produced for Absence Management features where the current release is 9.2 image 23 and the target release is 9.2 image 25.



Product(s)	Feature	Version	Introduced In Image/Bundle	Minimum PeopleTools Version	Bug ID	Documentation	Video Feature Overview
General HCM Enhancements	Page and Field Configurator is a utility that can be used to configure fields and pages within a component. The utility can be used to modify the field labels, gray the fields, hide the fields, provide default value for fields and add required field edit for fields within the component. The utility also helps to make a page display only or to control the visibility of pages within the component.	9.2.024	HCM 9.2 Update Image 24 (9.2.024)	8.55	26180153		
	Setup process to enable the Classic Plus theme for HCM classic components.	9.2.024	HCM 9.2 Update Image 24 (9.2.024)	8.56	26611467		
	This project contains changes for Fluid Attachment Framework feature.	9.2.024	HCM 9.2 Update Image 24 (9.2.024)	8.54	26493122		
	Enhanced the Activity Guide Composer feature to support the cloning of categories. This update delivers the ability for users to clone an activity guide composer category.	9.2.025	HCM 9.2 Update Image 25 (9.2.025)	8.55	27187609		
	Added the PeopleSoft Developer Fluid homepage. This project includes CREFs for PeopleSoft Developer Fluid homepage.	9.2.025	HCM 9.2 Update Image 25 (9.2.025)	8.54	25853181		
	Enhanced the Fluid Attachment Framework feature to support links and notes. This project contains changes to support links and notes in the Fluid Attachment Framework feature. It also addresses small form factor (SFF) and accessibility requirements.	9.2.025	HCM 9.2 Update Image 25 (9.2.025)	8.54	26876082		

Integrating with CFO Tool

The Integrate with CFO Tool page provides steps and links necessary to create the Applied Bug Report, upload the report to the CFO Tool, generate and modify the features report, and then use that report to define a new change package.

To define a change package based on bugs in the CFO export file:

1. Select your target database under Select Target Database.
2. Select Integrate With CFO Tool, Integrate with CFO Tool.
3. Click the Export Applied Bug Report button.

   In this step, you will create the export file.

   See Exporting Applied Bug Report.
4. Click the Launch CFO Tool button.

   In this step, you will upload the Applied Bug report to the CFO tool, produce and modify the Feature report to contain the features you want to apply to your target database and then export the file.

   See Launching CFO Tool
5. Click the Attach CFO Export File button and enter the required information.

   This step will create the Change Package definition based on your selection in the CFO Tool.

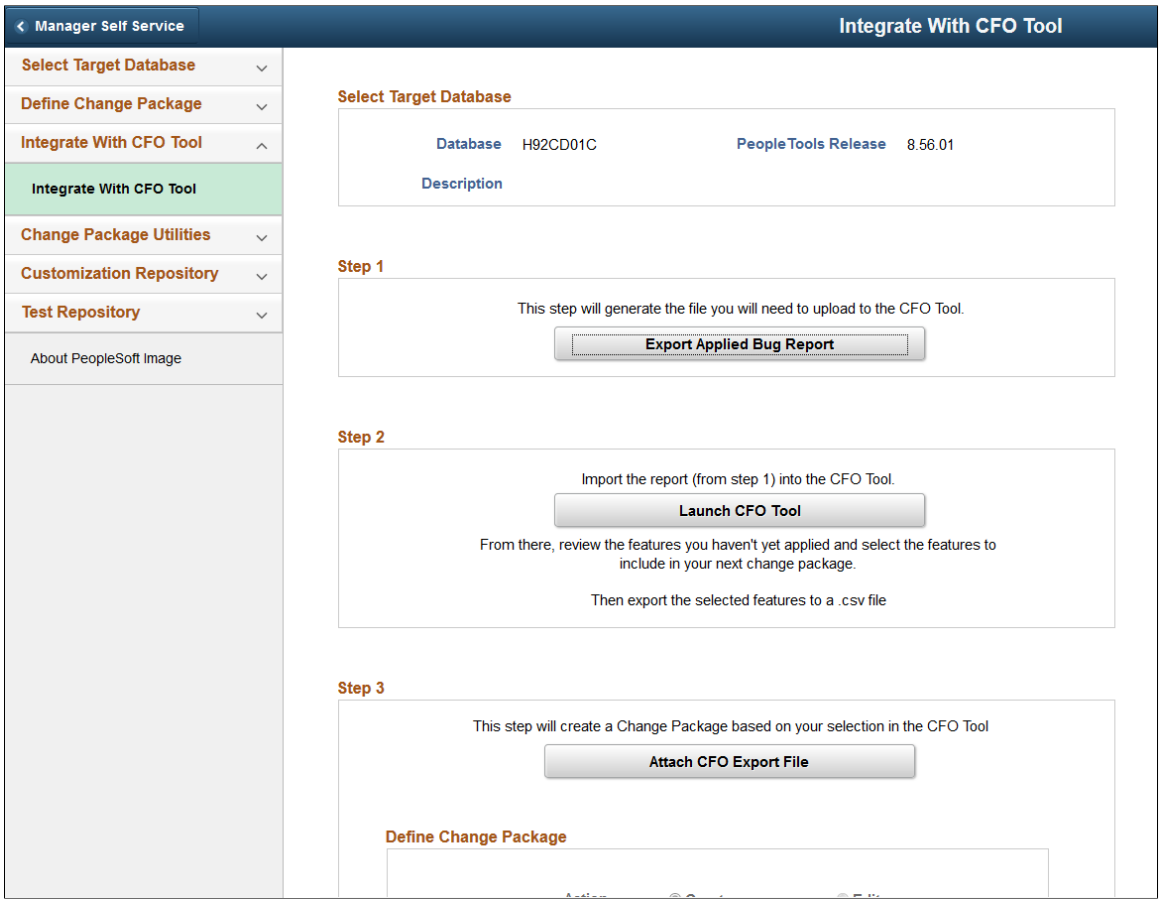
   See Attaching CFO Export File and Defining the Change Package

Navigation

Select PeopleTools >Lifecycle Tools >Update Manager >Update Manager Dashboard >Integrate With CFO Tool >Integrate With CFO Tool

Image: Integrate With CFO Tool page

This example illustrates the fields and controls on the Integrate With CFO Tool page. You can find definitions for the fields and controls later on this page.



Exporting Applied Bug Report

This step will generate the Applied Bug file that you will upload in step 2. You will be prompted to save the file and enter a file name.

Launching CFO Tool

Step 2 – Launch CFO Tool involves several tasks:

1. Upload an Applied Bug report.
2. Review and filter the report to select the features you want to apply to your target database.
3. Export the feature report to a csv file.

Launching CFO Tool and Uploading Applied Bug Report

Click the Launch CFO Tool button, to open the CFO Tool. On the CFO Tools, select Upload an Applied Bug Report.

Note: The report is not stored in the CFO tool, it is only used to generate the report.

Image: Upload an Applied Bug Report

This example illustrates the fields and controls on the Upload an Applied Bug Report. You can find definitions for the fields and controls later on this page.

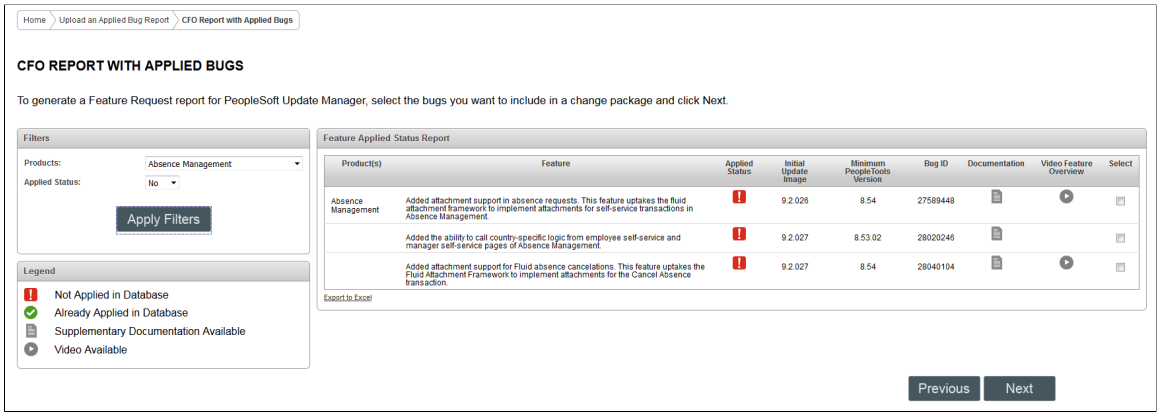
Select a Product Family	Select the product family.
Select an Applied Bug report file	Select the report created in Step 1.
Upload the selected file	Click to upload the file.

Reviewing and Filtering the Report

Once you upload the Applied Bug report, the CFO Report with Applied Bugs is displayed. This report will show all applied and unapplied features, use the filters on the left to restrict your search.

Image: CFO Report with Applied Bugs

This example illustrates a CFO Report with Applied Bugs where the filter has been set to limit the products and only show unapplied features.



There are 2 ways to create the feature report:

1. When you have the desired selection displayed in the Feature Applied Status Report section, click the Export to Excel link to create the CFO Export file.

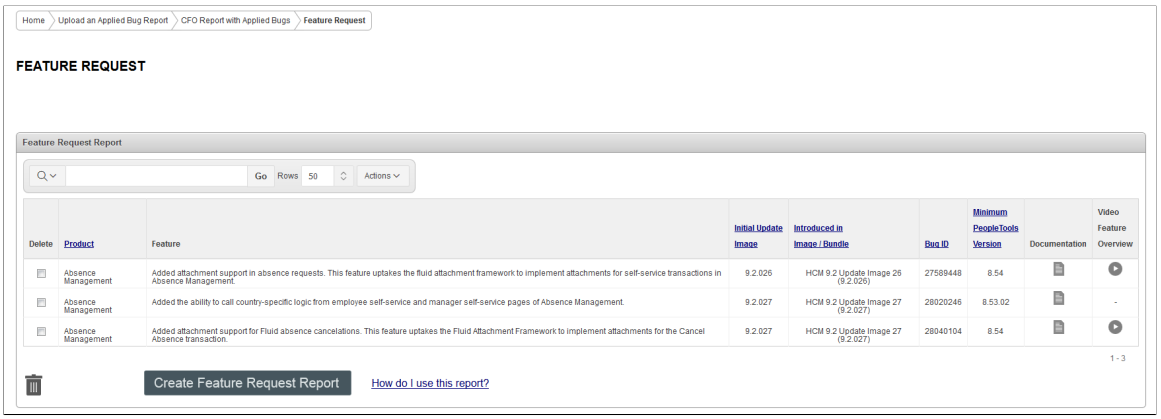
   You will be prompted for a file name. The report will be in .csv format.

2. Select the bugs in the select column and click Next.

   This will bring up the Feature Report page.

   Image: Feature Request page

   This example illustrates the fields and controls on the Feature Request page.



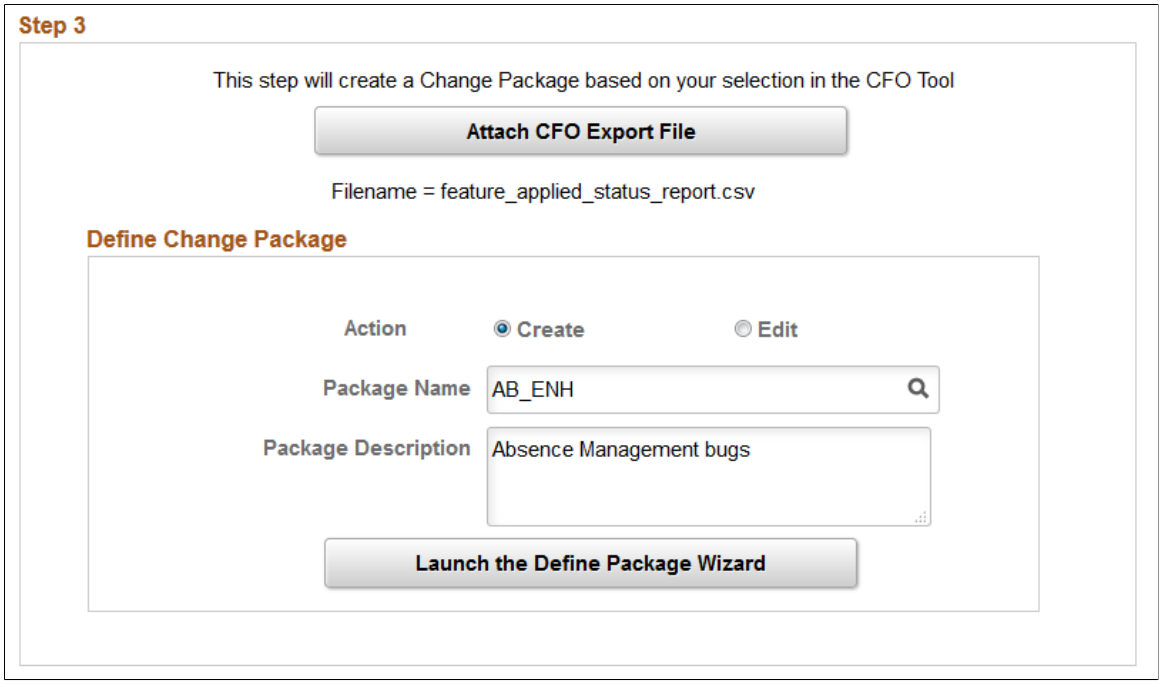
   Click Create Feature Request Report. You will be prompted to enter the file name and location. The report must be in csv format.

Attaching CFO Export File and Defining the Change Package

In this step, you will create a new change package definition based on the CFO Export file.

Image: Step 3 Defining Change Package

This example illustrates Step 3 for Defining the change package.



Attach CFO Export File	Click this link to attach the CFO export file created in step 2.
Action	Select the action.
Package Name	Enter the package name.
Package Description	Enter the package description.
Launch the Define Change Package Wizard	Click this button to launch the Define Change Package Wizard. Define Change Package Wizard will open on step 5 of 6 and display all of the bugs included in the change package.

Using Update Manager Utilities

Update Manager Utilities include:

- Review Change Package
- Delete Change Package
- Merge Change Package
- Analyze Applied PRP(s)

Reviewing Change Package

Navigation

Select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Update Manager Utilities >Review Change Packages

You can also select the Review Package Definition link on the Define Change Package Step 6 of 6 page.

Image: Review Change Package (top of page)

This example illustrates the fields and controls on the Review Change Package (top of page). You can find definitions for the fields and controls later on this page.

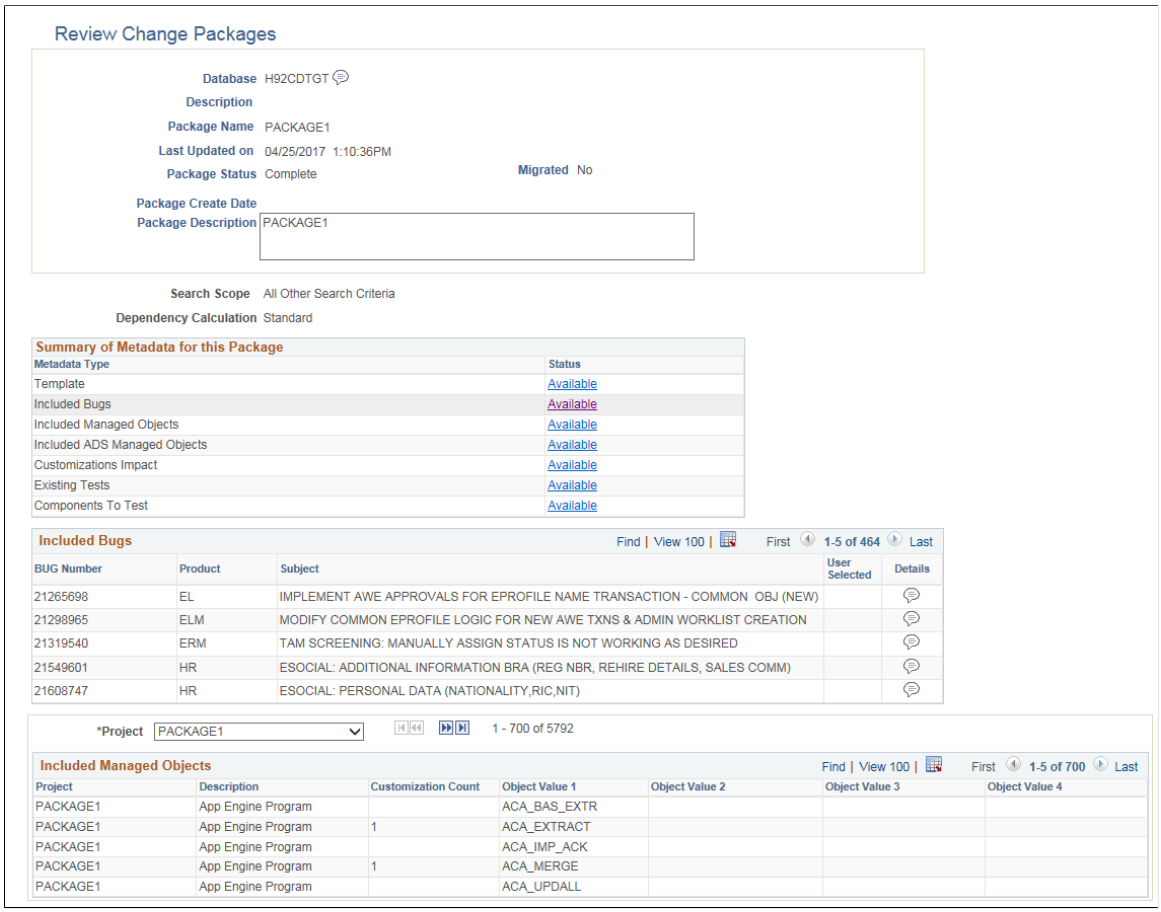
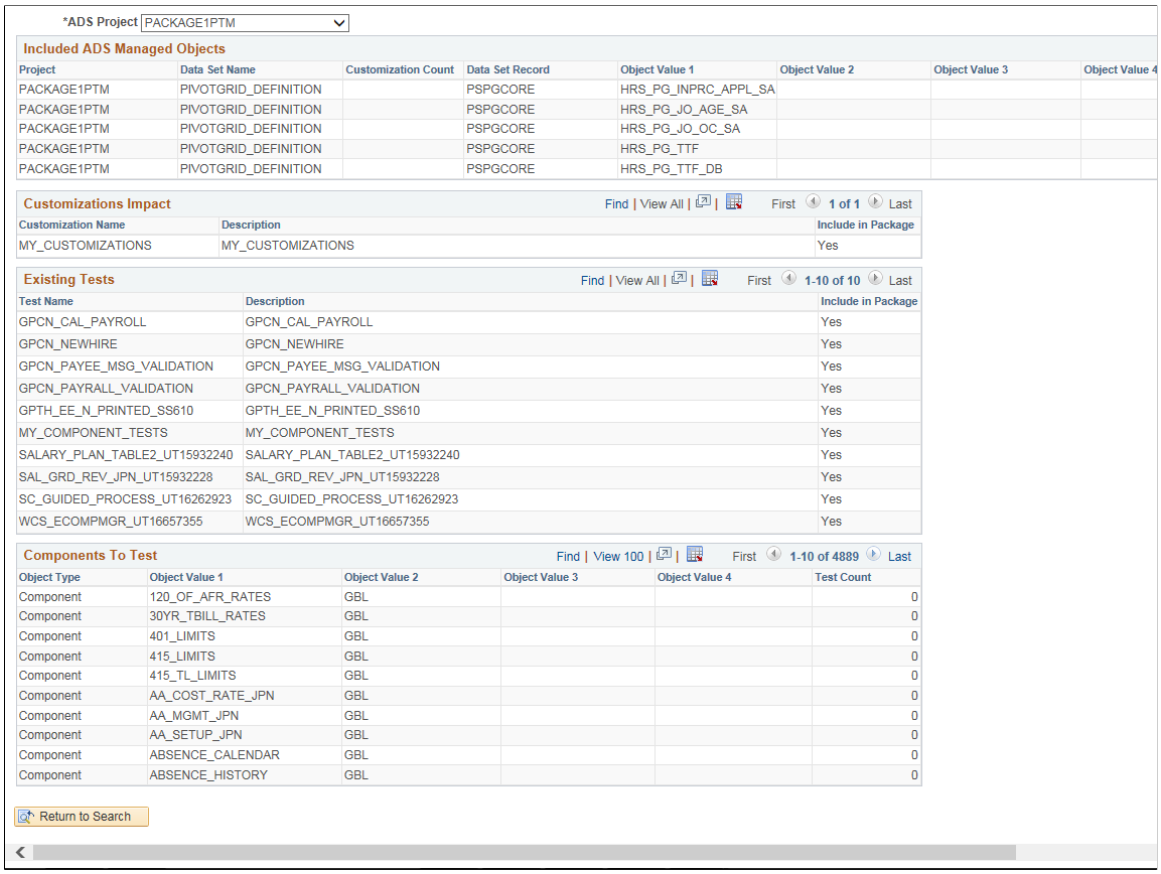


Image: Review Change Package (bottom of page)

This example illustrates the fields and controls on the Review Change Package (bottom of page). You can find definitions for the fields and controls later on this page.



*ADS Project PACKAGE1PTM

Included ADS Managed Objects

Project	Data Set Name	Customization Count	Data Set Record	Object Value 1	Object Value 2	Object Value 3	Object Value 4
PACKAGE1PTM	PIVOTGRID_DEFINITION		PSPGCORE	HRS_PG_INPRC_APPL_SA			
PACKAGE1PTM	PIVOTGRID_DEFINITION		PSPGCORE	HRS_PG_JO_AGE_SA			
PACKAGE1PTM	PIVOTGRID_DEFINITION		PSPGCORE	HRS_PG_JO_OC_SA			
PACKAGE1PTM	PIVOTGRID_DEFINITION		PSPGCORE	HRS_PG_TTF			
PACKAGE1PTM	PIVOTGRID_DEFINITION		PSPGCORE	HRS_PG_TTF_DB			

Customizations Impact — Find | View All | First 1 of 1 Last

Customization Name	Description	Include in Package
MY_CUSTOMIZATIONS	MY_CUSTOMIZATIONS	Yes

Existing Tests — Find | View All | First 1-10 of 10 Last

Test Name	Description	Include in Package
GPCN_CAL_PAYROLL	GPCN_CAL_PAYROLL	Yes
GPCN_NEWHIRE	GPCN_NEWHIRE	Yes
GPCN_PAYEE_MSG_VALIDATION	GPCN_PAYEE_MSG_VALIDATION	Yes
GPCN_PAYRALL_VALIDATION	GPCN_PAYRALL_VALIDATION	Yes
GPTH_EE_N_PRINTED_SS610	GPTH_EE_N_PRINTED_SS610	Yes
MY_COMPONENT_TESTS	MY_COMPONENT_TESTS	Yes
SALARY_PLAN_TABLE2_UT15932240	SALARY_PLAN_TABLE2_UT15932240	Yes
SAL_GRD_REV_JPN_UT15932228	SAL_GRD_REV_JPN_UT15932228	Yes
SC_GUIDED_PROCESS_UT16262923	SC_GUIDED_PROCESS_UT16262923	Yes
WCS_ECOMPMGR_UT16657355	WCS_ECOMPMGR_UT16657355	Yes

Components To Test — Find | View 100 | First 1-10 of 4889 Last

Object Type	Object Value 1	Object Value 2	Object Value 3	Object Value 4	Test Count
Component	120_OF_AFR_RATES	GBL			0
Component	30YR_TBILL_RATES	GBL			0
Component	401_LIMITS	GBL			0
Component	415_LIMITS	GBL			0
Component	415_TL_LIMITS	GBL			0
Component	AA_COST_RATE_JPN	GBL			0
Component	AA_MGMT_JPN	GBL			0
Component	AA_SETUP_JPN	GBL			0
Component	ABSENCE_CALENDAR	GBL			0
Component	ABSENCE_HISTORY	GBL			0

Return to Search

The Review Change Package page is display only to provide information on the change package.

Incomplete packages will not display all of the fields.

Package Status

Indicates the current status of the package.

- Incomplete - the change package definition has not been completed in the Update Manager UI.
- Complete - the change package definition has been completed in the Update Manager UI.
- Package Created - the change package has been created in Change Assistant.

Search Scope

Indicates the scope used to create the change package.

Depending on the scope selected, additional information is displayed.

Dependency Calculation

Indicates which type of dependency calculation used to create the change package (Standard or PostReq's Included).

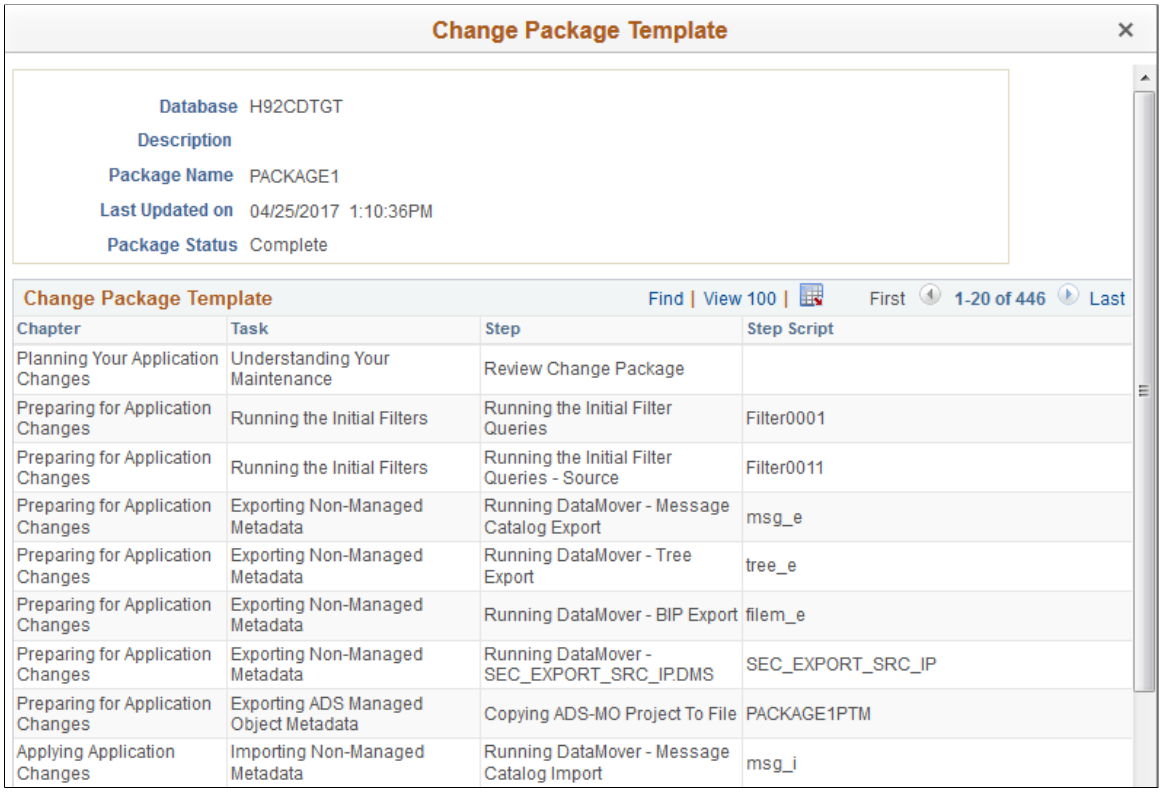
Summary of Metadata for this Package	For each metadata type, if there is metadata, a link Available is displayed. Use this link to go to that section of the page. If the metadata type is not contained in the package, the metadata type will indicate Not Applicable. Bugs delivered through a PRP, will have no data on components to test , therefore Components to Test will indicate No Data.
Template	For change packages that are complete, use this link to view the steps in the change package template.
Included Bugs	For change packages that are complete, you see a grid displaying the bug in the change package, with a flag indicating the selected bugs. Use the detail icon to view bug details.
Included Managed Objects	For change packages that are complete, you see a grid listing the Managed Objects included in this package.
Included ADS Managed Objects	For change packages that are complete, you see a grid listing the ADS Managed Objects included in this package.
Customization Impact	Lists the impacted customization names.
Existing Tests	Lists the existing test names that cover objects delivered in this package.
Components To Test	Lists the components to test for this package.

Template

Click Template link on the Review Change Packages page to open the Change Package Template window listing the chapters, tasks, steps, and step scripts in the change package template.

Image: Change Package Template

This example illustrates the fields and controls on the Change Package Template. You can find definitions for the fields and controls later on this page.



Change Package Template

Database H92CDTGT
Description
Package Name PACKAGE1
Last Updated on 04/25/2017 1:10:36PM
Package Status Complete

Change Package Template Find | View 100 | First 1-20 of 446 Last

Chapter	Task	Step	Step Script
Planning Your Application Changes	Understanding Your Maintenance	Review Change Package	
Preparing for Application Changes	Running the Initial Filters	Running the Initial Filter Queries	Filter0001
Preparing for Application Changes	Running the Initial Filters	Running the Initial Filter Queries - Source	Filter0011
Preparing for Application Changes	Exporting Non-Managed Metadata	Running DataMover - Message Catalog Export	msg_e
Preparing for Application Changes	Exporting Non-Managed Metadata	Running DataMover - Tree Export	tree_e
Preparing for Application Changes	Exporting Non-Managed Metadata	Running DataMover - BIP Export	filem_e
Preparing for Application Changes	Exporting Non-Managed Metadata	Running DataMover - SEC_EXPORT_SRC_IP.DMS	SEC_EXPORT_SRC_IP
Preparing for Application Changes	Exporting ADS Managed Object Metadata	Copying ADS-MO Project To File	PACKAGE1PTM
Applying Application Changes	Importing Non-Managed Metadata	Running DataMover - Message Catalog Import	msg_i

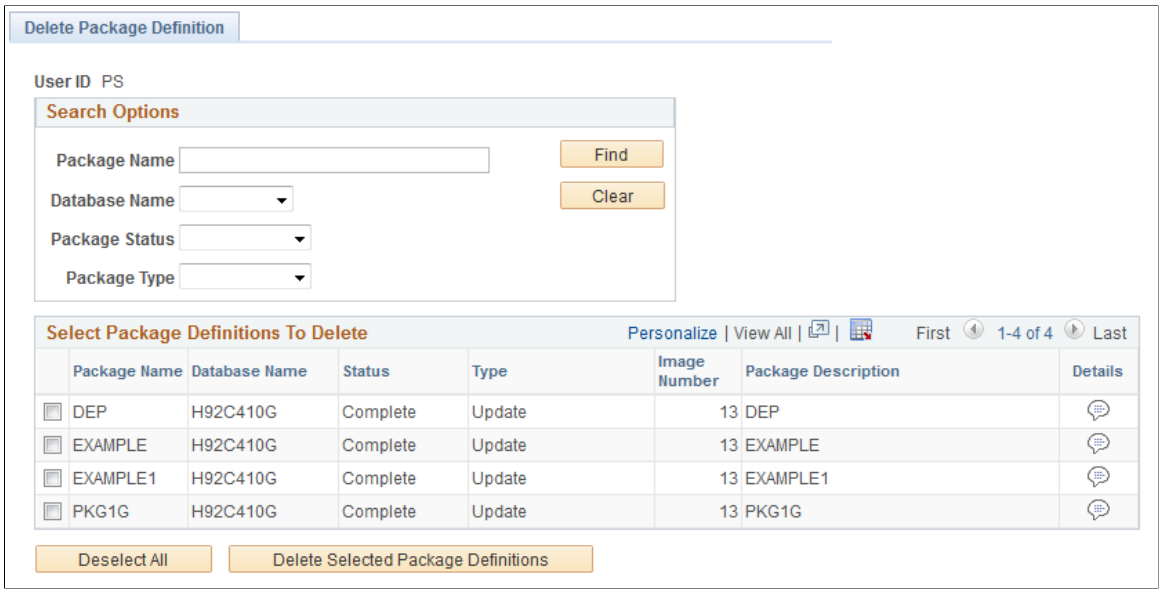
Deleting Change Packages

Navigation

Select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Update Manager Utilities >Delete Change Packages

Image: Delete Package Definition page

This example illustrates the fields and controls on the Delete Package Definition page. You can find definitions for the fields and controls later on this page.



Package Name Search by package name.

Database Name Search by database name.

Package Status Search by package status. Package statuses are:

- Complete
- Imported
- Incomplete
- Package Created

Package Type Search by package type. Package types are:

- Application Upgrade
- Tools Delta Package
- Required for Upgrade
- Translations Delta Package
- Updates

The Select Package Definitions to Delete grid will list all the change packages that meet the selection criteria. Select the change packages to delete and click the Delete Selected button.

Merging Change Packages

The following restrictions apply to merging change packages.

- Change Packages must have same target database.
- Change Package definition must have a status of complete or incomplete,
- Change Package type is Update(PUM).
- Change Package is defined, but not created in Change Assistant.

To merge change packages:

1. From the Update Manager Dashboard select the target database.
2. Expand Update Manager Utilities and select Merge Change Packages.
3. On Step 2 of 6, Create is selected by default and is the only option available. Enter the package name and description.
4. Click Next.
5. On Step 3 of 6, select the packages to merge.
6. Click Next.

   Note: Step 4 of 6 is skipped.

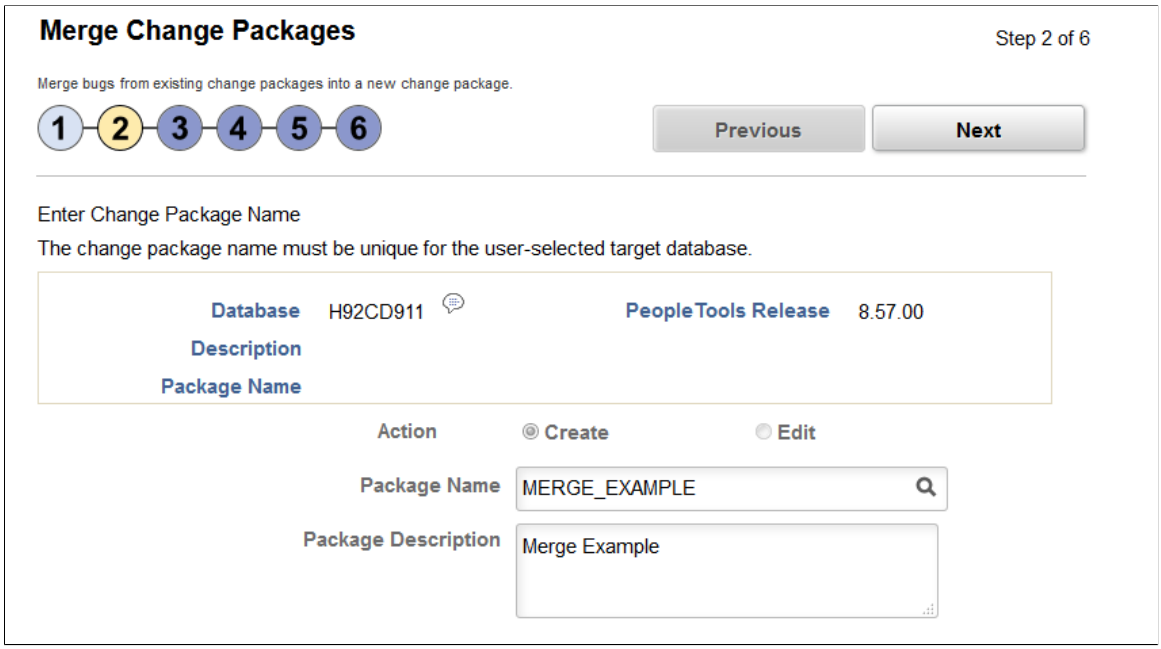
7. On Step 5 of 6 review the bugs.
8. Click Next. You will receive a message that there are overlapping packages, click OK.
9. Step 6 of 6 indicates the change package was successfully created.

Navigation

Select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Update Manager Utilities >Merge Change Packages

Image: Merge Change Packages Step 2 of 6

This example illustrates the fields and controls on the Merge Change Packages Step 2 of 6 page. You can find definitions for the fields and controls later on this page.



Action	Create is the only available option.
Package Name	Enter a name for your merged change package.

Analyzing Applied PRP(s)

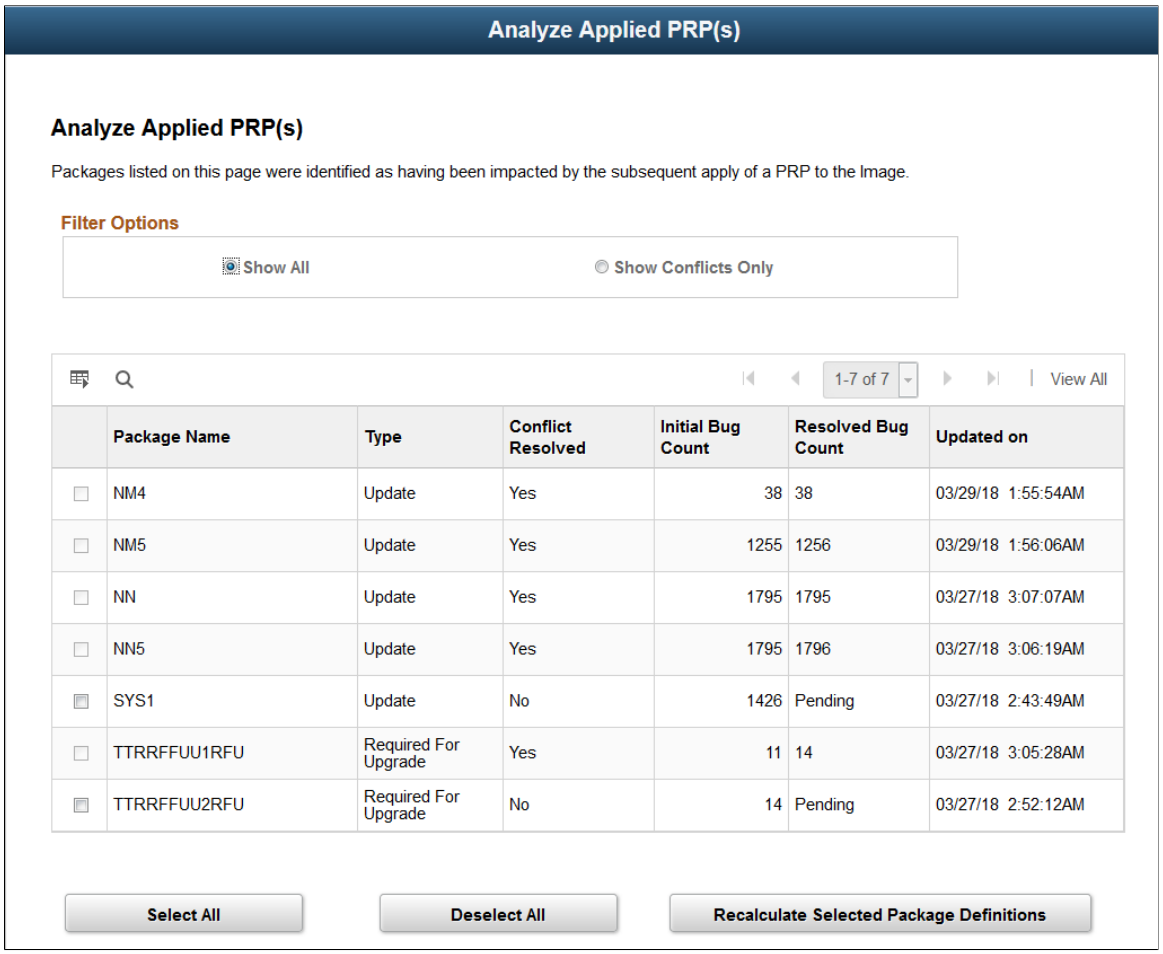
If you have existing defined or created Change Package definitions that have not been applied to your target database, conflicts may exist after applying PRPs to the PUM source that will impact the existing Change Package. The PRP may contain post requisite updates, which would result in a partial and undocumented apply. To prevent this scenario, conflicts will be detected when the PRP is applied to the PUM source and displayed on the Analyze Applied PRP(s) page. The Recalculate Selected Package Definitions button on the Analyze Applied PRP(s) page will run the application engine program PTIARECALCCP to recalculate the package and remove the conflicting bugs.

Navigation

Select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Update Manager Utilities >Analyze Applied PRP(s)

Image: Analyze Applied PRP(s) page

This example illustrates the fields and controls on the Analyze Applied PRP(s) page. You can find definitions for the fields and controls later on this page.



Filter Options Set the filter to show all or conflicts only.

Package Name Name of the unapplied Change Package definition.

Type Change Package type:

- Update
- Required for Upgrade
- Tools Delta

Note: PRPs do not deliver changes to translations, therefore Translation packages (TDP) are not affected.

Conflict Resolved Indicates whether or not the conflict has been resolved.

Initial Bug Count Indicates the initial number of bugs in the change package.

Resolved Bug Count	Indicates the number of bugs after the conflict has been resolved. If Conflict Resolved is No, the resolved bug count will be Pending.
Updated On	Date the change package was last updated.
Select All	Click to select all packages.
Deselect All	Click to deselect all packages.
Recalculate Selected Package Definitions	Click to recalculate the selected packages. This will launch the PTIARECALCCP application program in Process Scheduler. Depending on the size of the Change Package, the job may take a while to complete. This program will set the Conflict Resolved Status to Y (Yes) if successful or E (Error) if a failure occurs.

Chapter 11

Managing Customization Repository

Understanding Customization Repository

The customization repository provides a way to assist customers in managing customizations when selecting updates in the PUM Search. The customization repository includes:

- Customization repository in the PUM Image.
- Visualization of customization impact in the PUM Search.
- Ability to take action based on identified customization impacts.
- Customization Repository persistence mechanism.

  See Migrating PUM Data

Creating Customization Repository

The customization repository resides on the PUM Source. In order to create the repository, you must first identify all of the customizations that you want to track in the target databases and then upload the customization projects to the PUM Source. The customization projects apply across all your target databases. There are 2 types of customization projects, Managed Objects projects and ADS Managed Objects Projects.

Managed Object Customization Project

To create a managed object project:

1. Create a project on the customer database that includes your customizations.

   Note: You can create as many customization projects as required.

   The following methods are available to create the customization projects:

   - In Application Designer create a project by manually adding the managed objects you have identified as customizations.

     You can use the UPGCUST project from your last upgrade.

     Note: This method can be used for target databases on PeopleTools release 8.53, 8.54 and 8.55.

   - Create the project using PJRCUST, using one of theses options:

     - In Change Assistant use the step Create Customization Project to create the project.

See Step Types

- Create the project using the command line PJRCUST.

  See "Creating Customization Project Using the Command Line" (PeopleTools 8.57: Lifecycle Management Guide)

Important! Your target database must be on PeopleTools 8.55 to use PJRCUST.

- Create the customization project in Change Assistant using the Create New Database Project option in Upload Customer Data to Image.

2. (Optional) Copy the customization project to file.
3. Use Change Assistant to upload the customer data to PUM Source.
4. Review the upload on the PUM Source.
5. Run the Customization Calculation on the PUM Source.

   See Run Customization Calculation

ADS Managed Objects Project

To create an ADS project:

1. Sign on to the browser for the database where your ADS managed objects reside.
2. Select PeopleTools >Lifecycle Tools >Migrate Data >Data Migration Workbench.
3. Create the ADS project and save it.

   See "Defining ADS Project" (PeopleTools 8.57: Lifecycle Management Guide)
4. Optionally copy the project to file.

   Note: If the data set is encrypted, you will not be able to upload the file in Change Assistant.
5. Use Change Assistant to upload the customer data to PUM Source.
6. Review the upload on the PUM Source.
7. Run the Customization Calculation on the PUM Source.

   See Run Customization Calculation

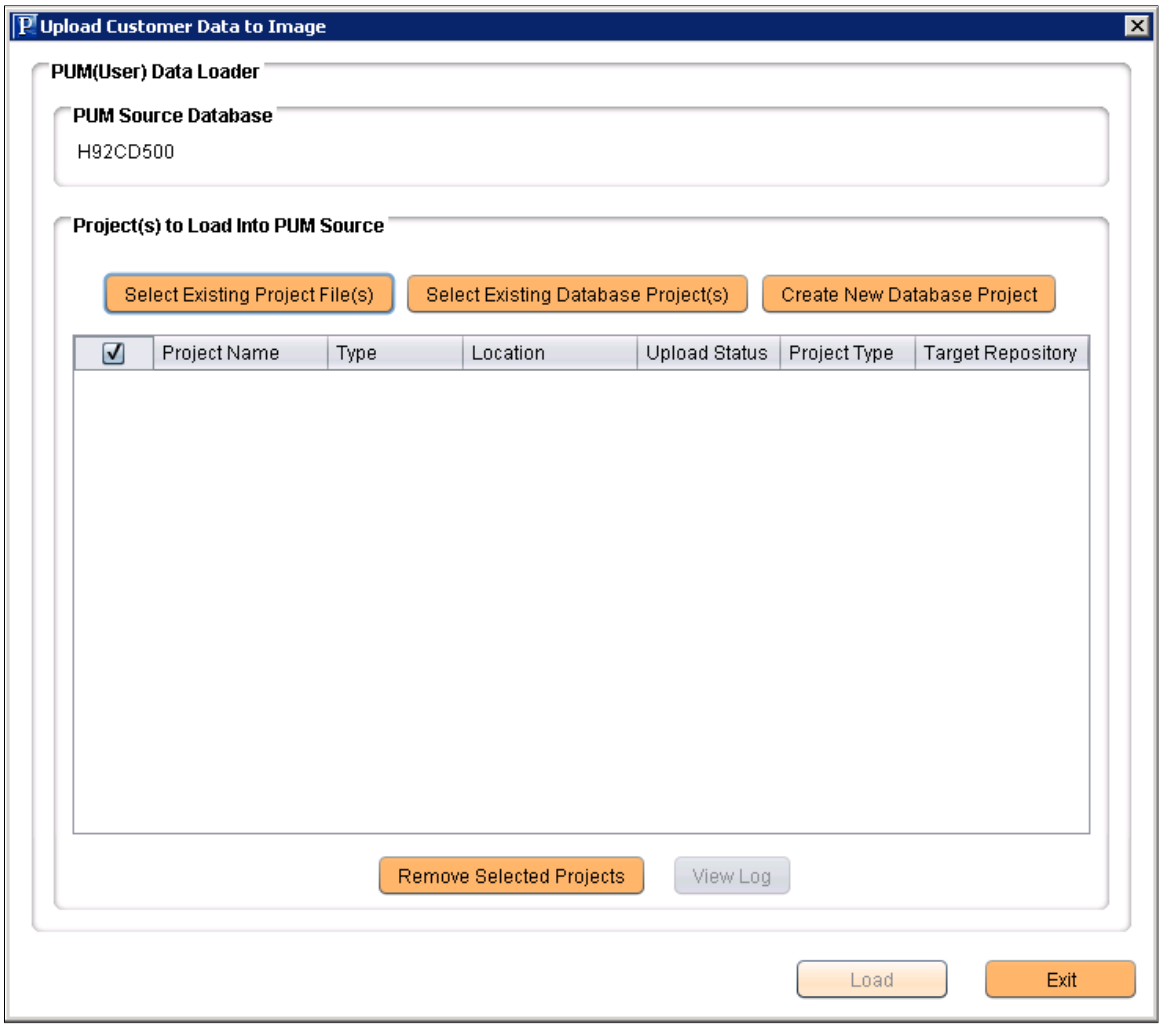
Uploading Customer Data to Image

Navigation

In Change Assistant, select Tools, Upload Customer Data to Image.

Image: Upload Customer Data to Image page

This example illustrates the fields and controls on the Upload Customer Data to Image page. You can find definitions for the fields and controls later on this page.



There are 3 options for uploading customization data:

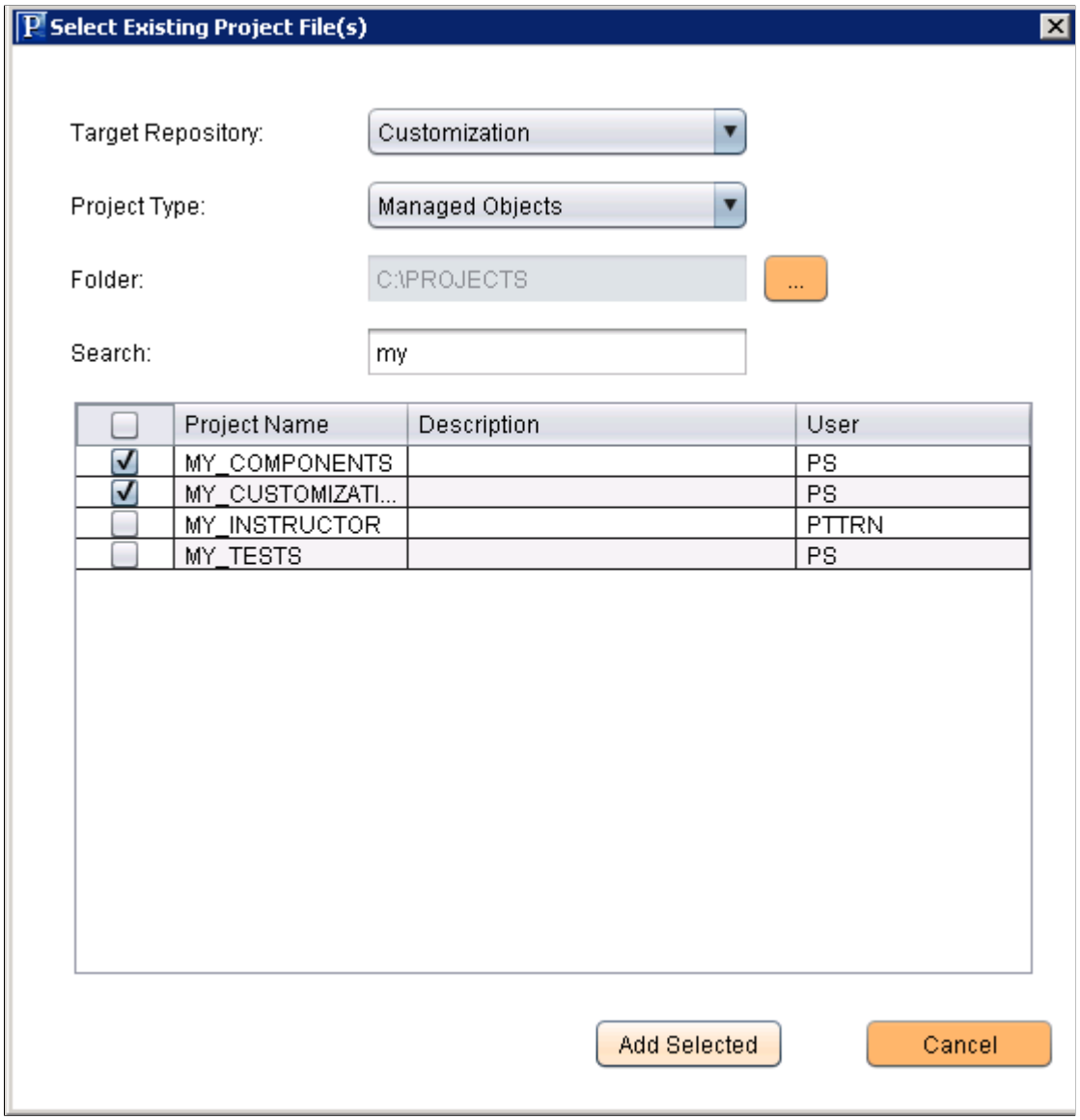
- Select Existing Project File(s)
- Select Existing Database Project(s)
- Create New Database Project

After selecting the projects, click the Load button to upload the customizations to the PUM source Customization Repository.

Select Existing Project File(s)

Image: Select Existing Project File(s) page

This example illustrates the fields and controls on the Select Existing Project File(s) page. You can find definitions for the fields and controls later on this page.



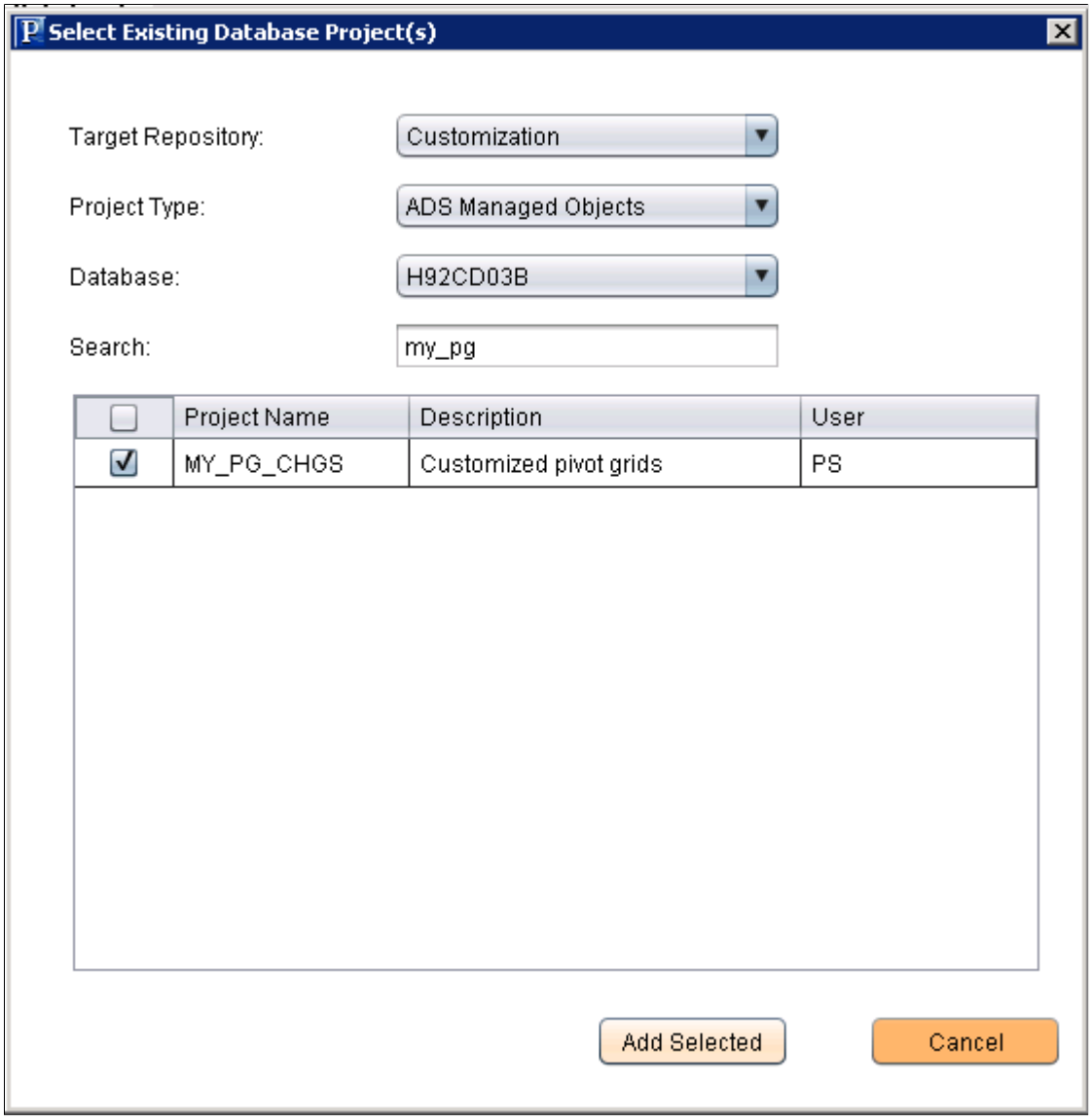
Target Repository	By default the Customization repository is selected.
Project Type	For Customizations, the project types are: • Managed Objects • ADS Managed Objects **Note:** If the ADS Managed Object project is encrypted, it will not be available to upload from project file.
Folder	Select the folder where the project file is stored.

Search	Enter value to search for and press the Enter key. All projects matching the entered value will be returned.
Project Grid	Select the projects that you want to upload from the project grid.
Add Selected	Click the Add Select to return to the Upload Customer Data to Image page.

Select Existing Database Project(s)

Image: Select Existing Database Project(s) page

This example illustrates the fields and controls on the Select Existing Database Project(s) page. You can find definitions for the fields and controls later on this page.



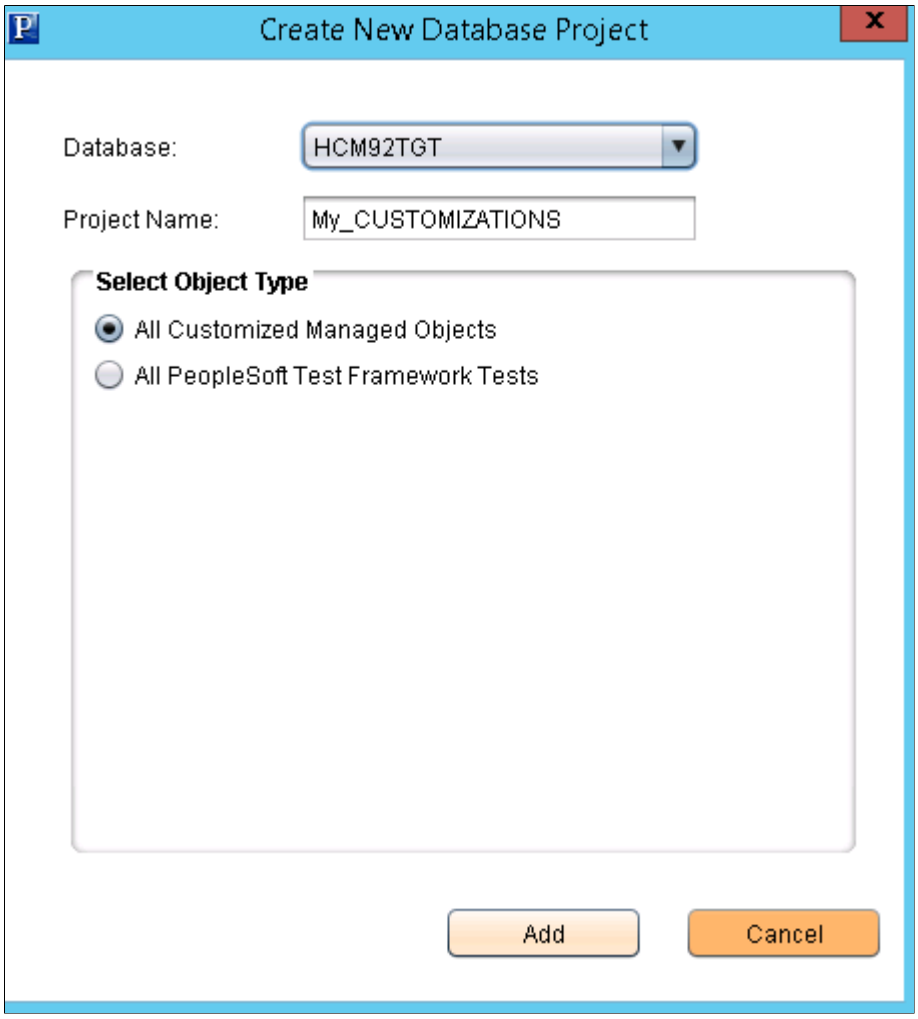
Target Repository	By default the Customization repository is selected.
Project Type	For Customizations, the project types are:

	• Managed Objects • ADS Managed Objects
Folder	Select the folder where the project file is stored.
Search	Enter value to search for and press the Enter key. All projects matching the entered value will be returned.
Project Grid	Select the projects that you want to upload from the project grid.
Add Selected	Click the Add Select to return to the Upload Customer Data to Image page.

Create New Database Project

Image: Create New Database Project

This example illustrates the fields and controls on the Create New Database Project. You can find definitions for the fields and controls later on this page.



Database	Select the database that contains the customizations.

Project Name	Enter the Project Name.
All Customized Managed Objects	This feature will go through the specified objects in a database and compare the object user id with ‘PPLSOFT’ and insert the object into the customization project if the user ID is not ‘PPLSOFT’.
All PeopleSoft Test Framework Tests	This feature will insert all PTF tests in the database.

Using Customization Repository

Once customizations have been uploaded to the PUM Source, the Update Manager Dashboard provides the following components to manage the customizations:

1. Manage Customizations
2. Manage Customized Objects
3. Run Customization Calculation

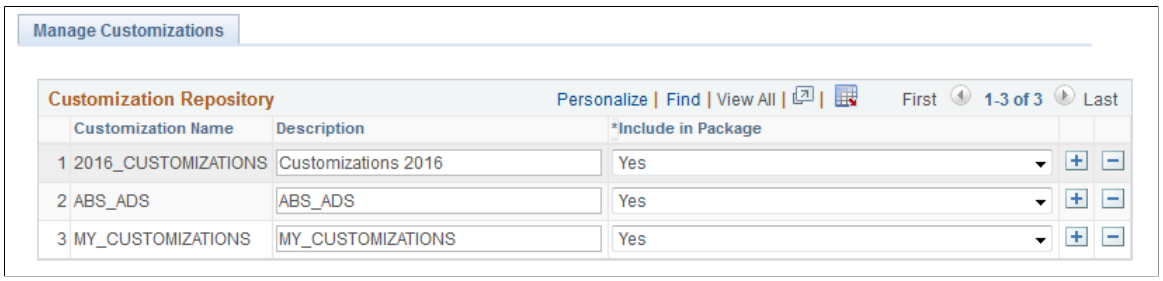
Customization Repository

The Customization Repository is used to identify the relationships to customized objects before the change package is created. The Customization Repository is delivered empty on the PUM Source and must be populated using Change Assistant to upload the customer data.

To access the Customization Repository page, select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Customization Repository >Manage Customizations .

Image: Manage Customizations page

This example illustrates the fields and controls on the Manage Customizations page. You can find definitions for the fields and controls later on this page.



Customization Name	By default, this the name of the customization project that was uploaded to the PUM Source using Change Assistant. You can have 0–n customizations defined. Each defined customization must have a unique customization name.
Description	Use this field to provide a more detailed description of the customization.

Include in Package

Specify whether bug fixes which impact the specified customization should be, by default, included or excluded from change package creation.

- No – exclude from package creation

  When you define a change package that contains a bug fix which impacts the specified customization, the Custom Impact column will display a red flag. This is a visual indicator, however you must manually deselect the bug or it will be included in the package.

- Yes (default) – include in package creation

  When you define a change package that contains a bug fix which impacts the specified customization, the Custom Impact column will display a green flag.

Note: This value can be overridden in the PUM Search.

Adding Customizations

To manually add customizations, use the + action in the grid. When this method is used, a new row is added, however no objects will be associated with the new row. Use the Customized Objects page to add the objects. See Manage Customized Objects

Rows can also be added by uploading customer data through Change Assistant. See Creating Customization Repository

Deleting Customizations

To delete a customization, use the – (delete row) action in the grid, you will be prompted that the delete will also delete all references at the object level to this customization.

If a customization is deleted, the customization calculation must be re-run to ensure that the correct metadata exists in the database.

Manage Customized Objects

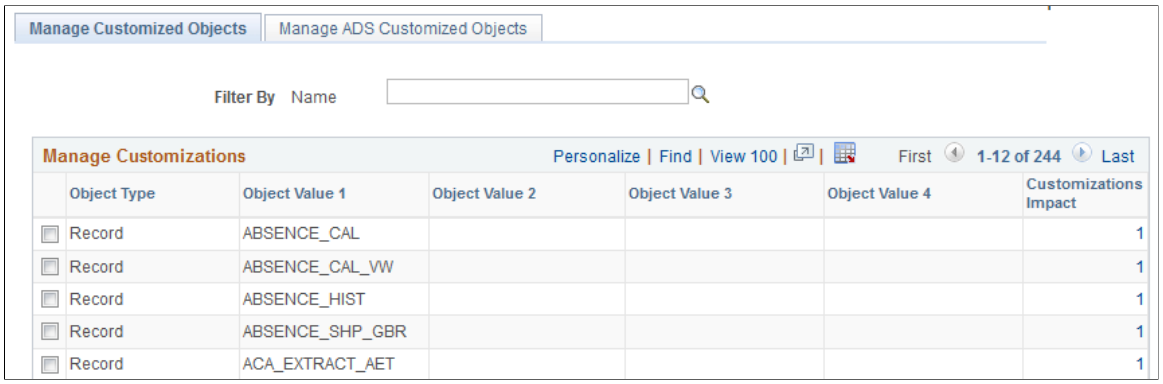
The Managed Customized Objects page contains a list of the customized objects. The same object may exist in more than one customization.

Navigation

To access the Manage Customized Objects page, select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Customization Repository >Manage Customized Objects .

Image: Manage Customized Objects page

This example illustrates the fields and controls on the Manage Customized Objects page. You can find definitions for the fields and controls later on this page.



Filter By Use the Filter By editbox to display customizations for a specific customization name.

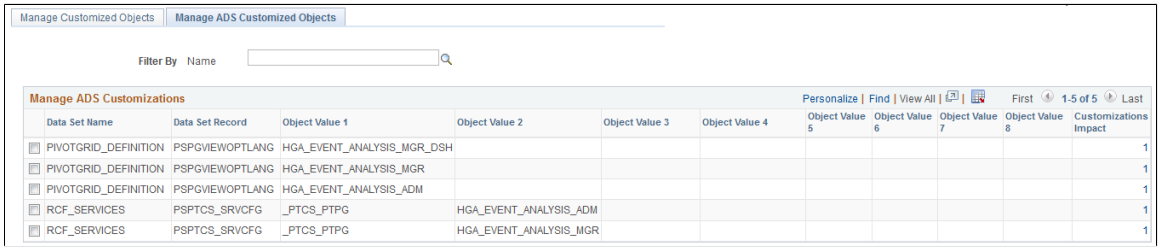
Object Type Specifies the managed object type.

Object Value 1–4 These 4 columns are the same 4 key columns used to identify a managed object in PUM and managed object projects.

Customizations Displays the customization count. Click the count link to open the Add/Delete Customization References page.

Image: Manage ADS Customized Objects

This example illustrates the fields and controls on the Manage ADS Customized Objects. You can find definitions for the fields and controls later on this page.



Filter By Use the Filter By editbox to display customizations for a specific customization name.

Data Set Name Name of the Data Set.

Data Set Record The record in the Data Set.

Object Value 1–8 These are the key columns used to identify an ADS managed object in PUM and ADS managed object projects

Customizations Displays the customization count. Click the count link to open the Add/Delete Customization References page.

Deleting Objects

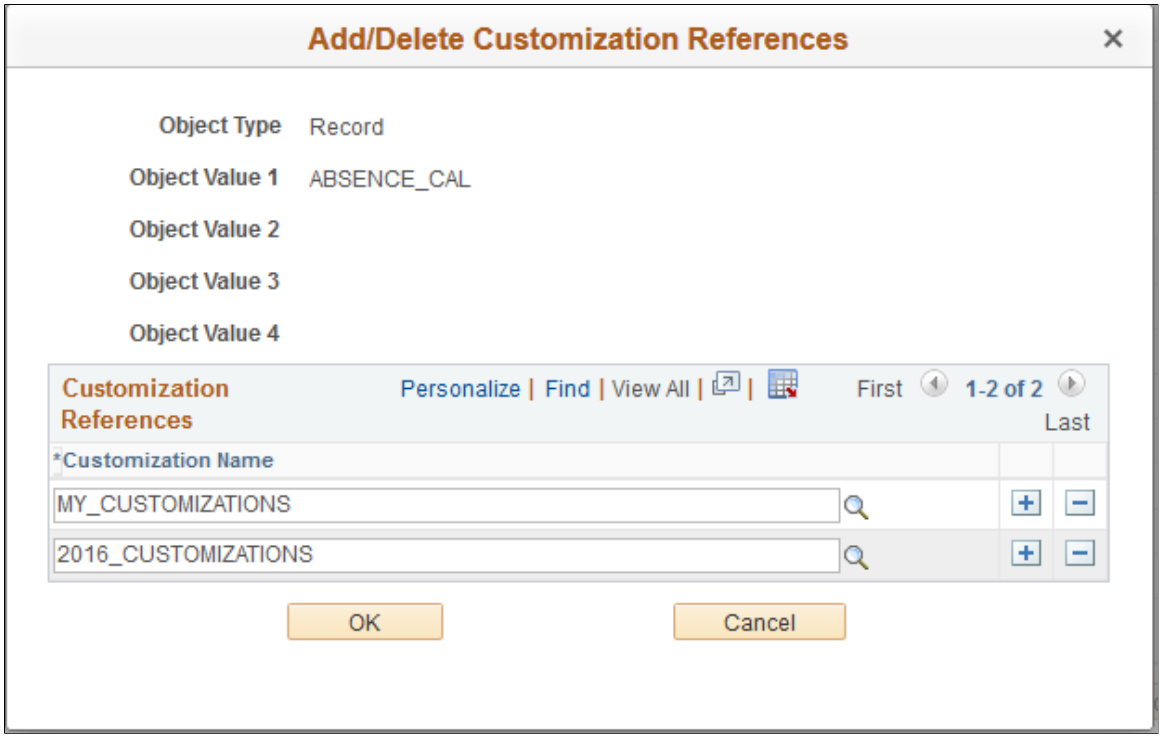
To delete an object or objects, select one or more objects from the grid and click the Delete Selected button. This will delete all customization references for that object.

Adding and Deleting Customization References

To add or delete customization references, click the count link.. This will open the Add/Delete Customization Reference page. The list of customizations to add to an object is limited to the list of customizations defined in the Customization Repository.

Image: Add/Delete Customization References page

This example illustrates the fields and controls on the Add/Delete Customization References page. You can find definitions for the fields and controls later on this page.



To add a reference:

1. Click the Add a row icon (+).
2. Select an existing Customization Name using the Lookup icon.

   Note: Customization Names are defined in the Customization Repository.

3. Click OK.

Note: If a customization reference is added, the Customization Calculation must be rerun.

To delete a reference:

1. Click the Delete a row icon (+).
2. Click OK to delete the row.

3. Click OK.

If only one row exists in the Add/Delete Customization References page, the reference cannot be deleted from this page, it would need to be deleted from the Managed Customized Objects page.

Note: If a customization reference is deleted, the Customization Calculation must be rerun.

Run Customization Calculation

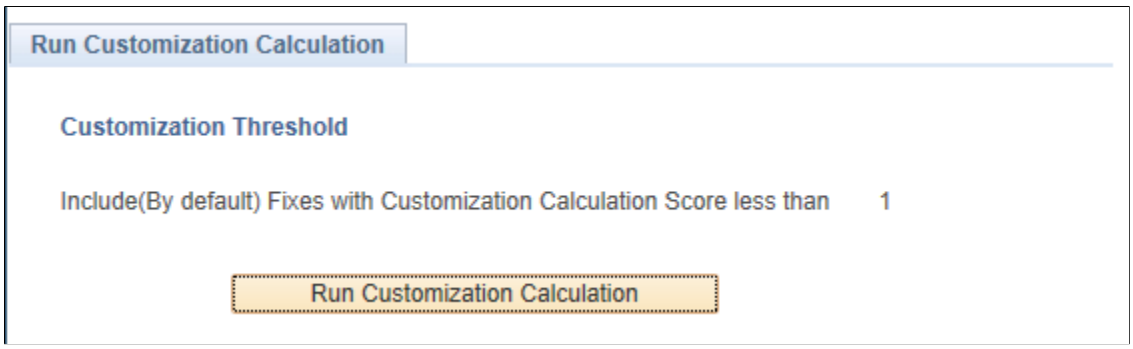
In order to manage and display the customization impact in the PUM Search UI, a customization calculation must be generated for each bug fix in the Image. The Customization Calculation page is used to run the calculation for the customizations identified in the Customization Repository.

Navigation

To access the Run Customization Calculation page, select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Customization Repository >Run Customization Calculation .

Image: Run Customization Calculation page

This example illustrates the fields and controls on the Run Customization Calculation page.



Click the Run Customization Calculation button to update the bug calculations.

Bug fixes containing customizations will be flagged in the Custom Impact column when you define a change package. The color of the flag displayed is dependant on which option you selected on the Manage Customizations page. Green flag indicated you want to include the definition in the change package and red indicates you want to exclude it.

Note: If no data exists in the Customization Repository, then there is no customization impact and the Run Customization Calculation button will be grayed.

Chapter 12

Managing Test Repository

Understanding Test Repository

The test repository provides awareness for mapping tests to bug fixes when selecting updates in the PUM search. The test repository includes:

- Test repository in the PUM Source.
- Visualization of test impact in the PUM Search.
- Ability to take action based on identified test impacts.
- Test Repository persistence mechanism.

  See Migrating PUM Data

Creating Test Repository

The test repository resides on the PUM Source. In order to create the repository, you must first identify the components or tests that you want to track in the target databases in a project and then upload the metadata to the PUM Source. The test projects apply across all your target databases.

Test information is uploaded to the PUM Source in Change Assistant. Depending on the type of test project uploaded the following occurs:

- PTF Tests

  Change Assistant will read the test metadata and determine all of the components associated with the test. The test information metadata is uploaded to the test repository by test name. The test object reference will display the all the tests associated with the component.

- Components

  For customer who do not use PTF, you can create projects that contains components. The test information (component names) is uploaded to the test repository using the project name. The test name will be the same as the project name.

Note: It is not necessary to use PTF in order to use the test repository. Test impact is calculated based on components.

1. Create a project on the customer database that includes your components or tests.

   Note: You can create as many test projects as required.

There are several methods available to create the test project:

- Create the test project in Application Designer by adding the tests or components to the project.
- Create the project in Change Assistant using the Create New Database Project option in Upload Customer database to Image.

2. (Optional).Copy the test project to file.
3. Use Change Assistant to upload the customer data to PUM Source.
4. Review the upload on the PUM Source.
5. Run the Test Coverage Calculation on the PUM Source.

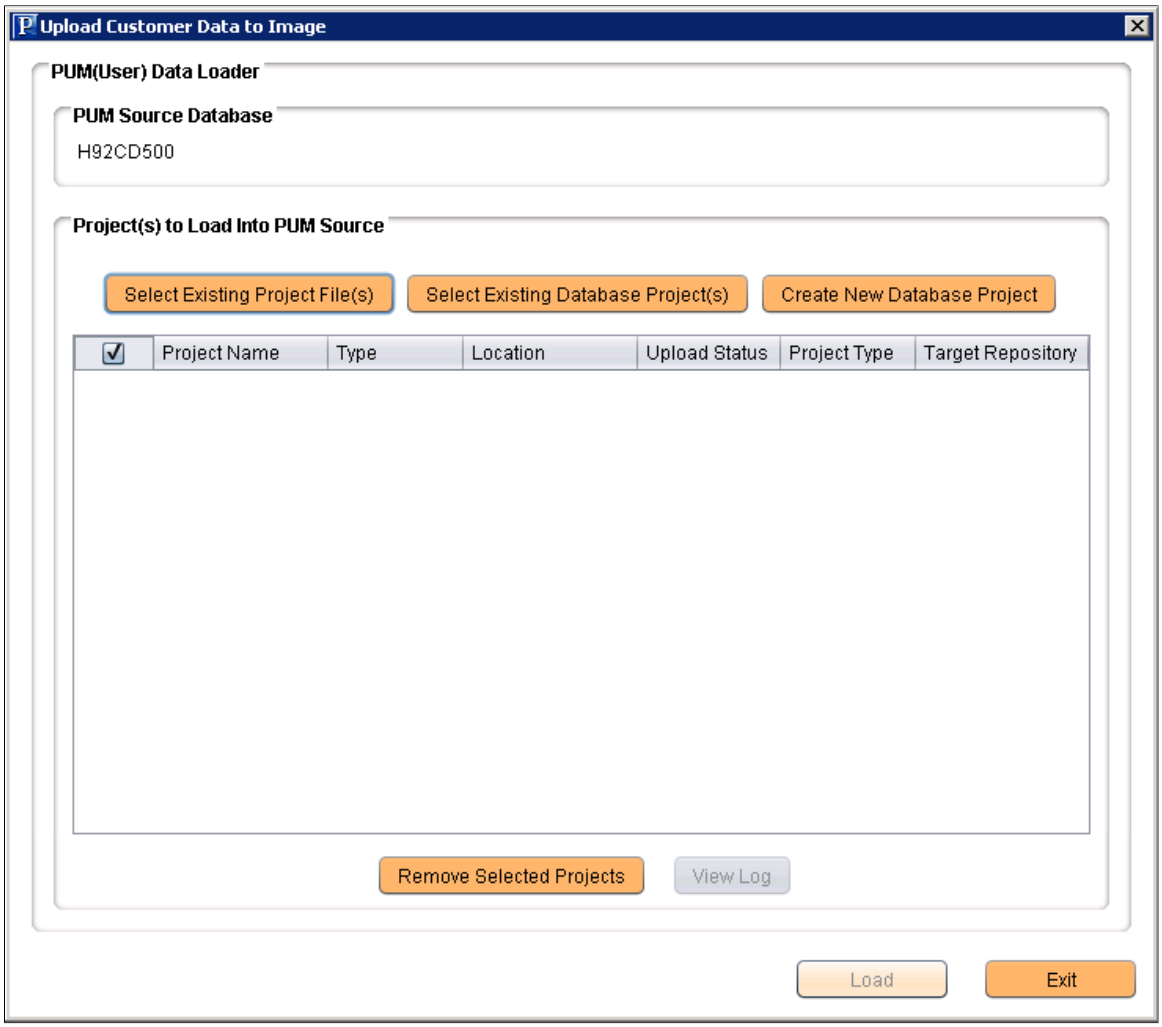
Uploading Customer Data to Image

Navigation

In Change Assistant, select Tools, Upload Customer Data to Image

Image: Upload Customer Data to Image page

This example illustrates the fields and controls on the Upload Customer Data to Image page. You can find definitions for the fields and controls later on this page.



There are 3 options for uploading test data:

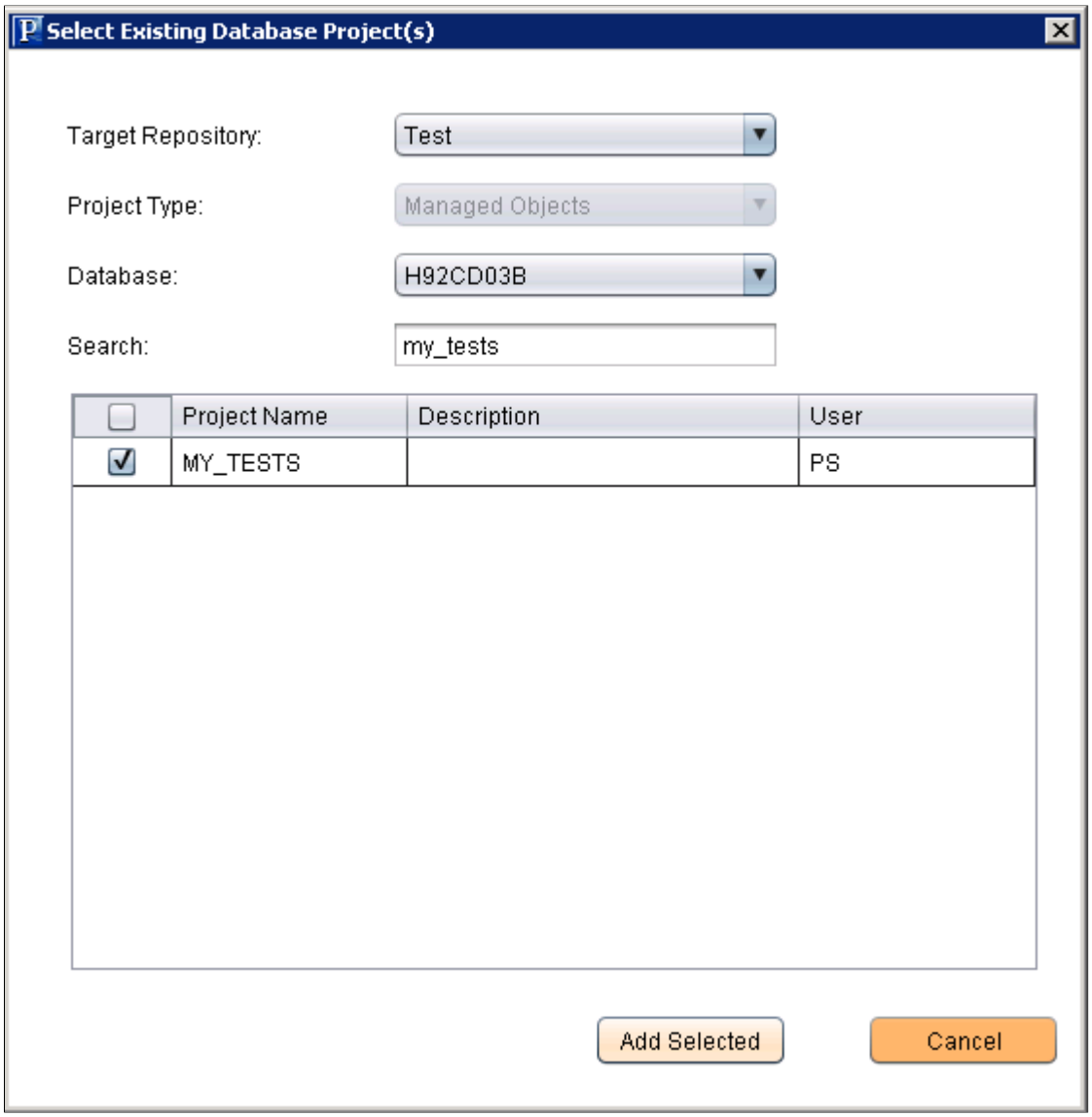
- Select Existing Project File(s)
- Select Existing Database Project(s)
- Create New Database Project

After selecting the projects, click the Load button to upload the tests to the PUM source Test Repository.

Select Existing Project File(s)

Image: Select Existing Project File(s) page

This example illustrates the fields and controls on the Select Existing Project File(s) page. You can find definitions for the fields and controls later on this page.



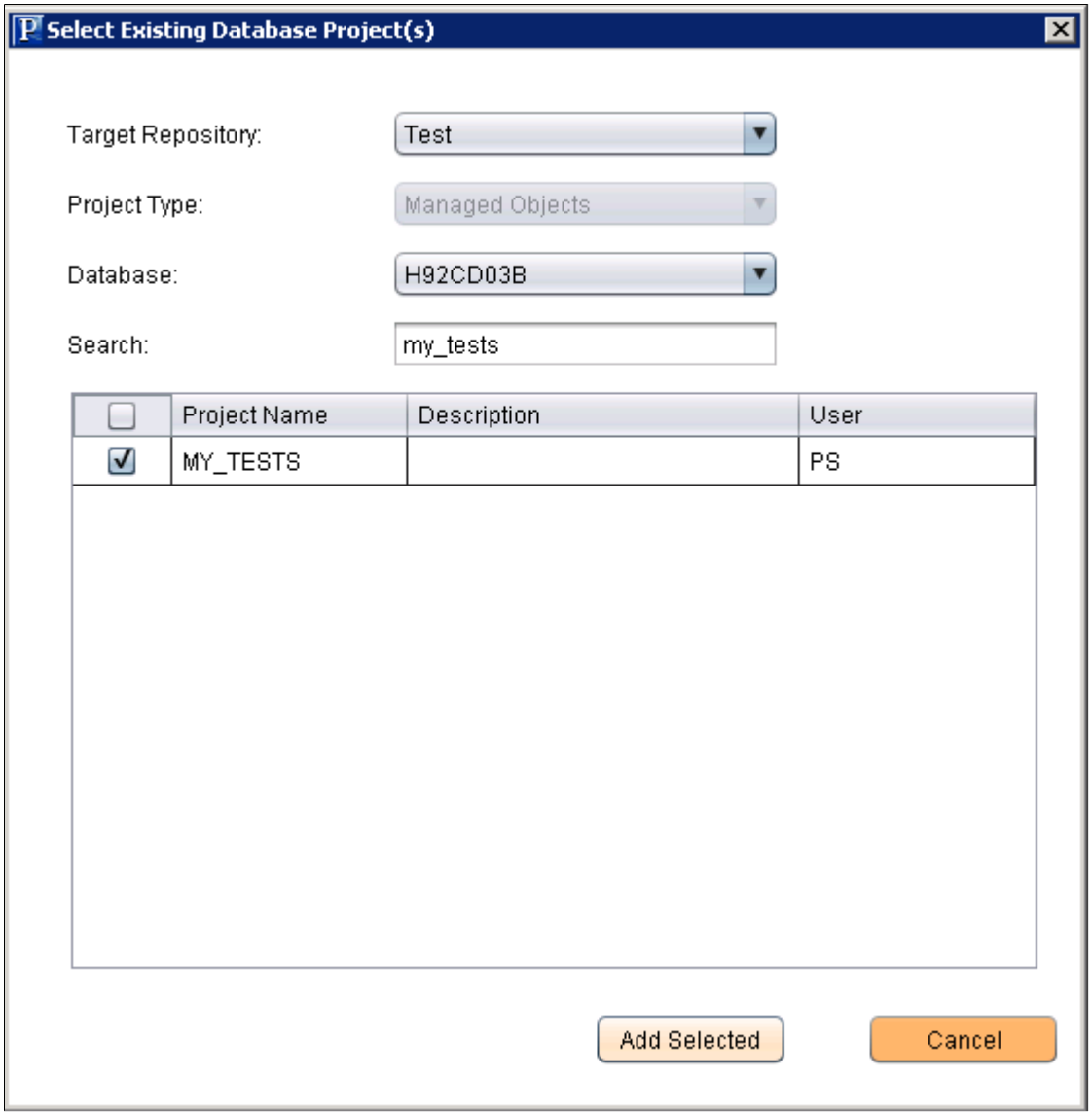
Target Repository	Select Test.
Project Type	Tests are always managed object, the field will be grayed.
Folder	Select the folder where the project file is stored.
Search	Enter value to search for and press the Enter key. All projects matching the entered value will be returned.
Project Grid	Select the projects that you want to upload from the project grid.

Add Selected	Click the Add Select to return to the Upload Customer Data to Image page.

Select Existing Database Project(s)

Image: Select Existing Database Project(s) page

This example illustrates the fields and controls on the Select Existing Database Project(s) page. You can find definitions for the fields and controls later on this page.



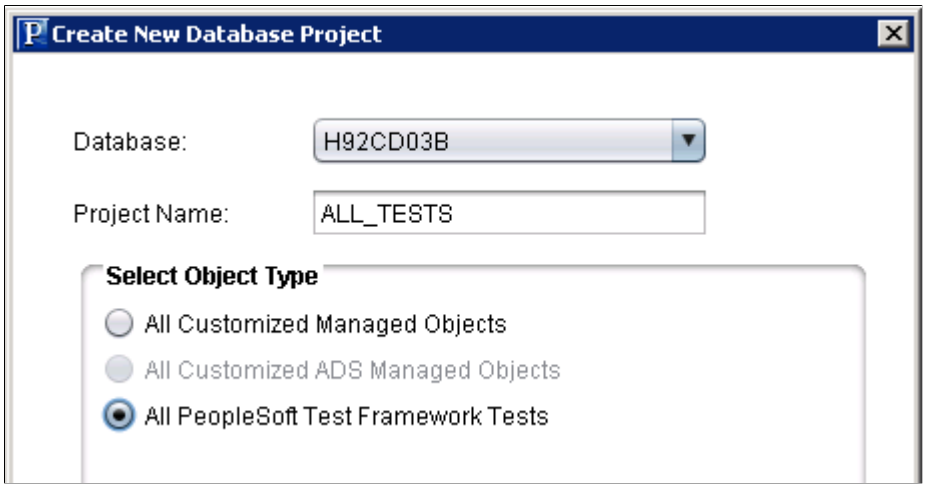
Target Repository	Select Test.
Project Type	Tests are always managed object, the field will be grayed.
Folder	Select the folder where the project file is stored.
Search	Enter value to search for and press the Enter key. All projects matching the entered value will be returned.

Project Grid	Select the projects that you want to upload from the project grid.
Add Selected	Click the Add Select to return to the Upload Customer Data to Image page.

Create New Database Project

Image: Select New Database Project page

This example illustrates the fields and controls on the Select New Database Project page for creating a project for PeopleSoft Test Framework tests. You can find definitions for the fields and controls later on this page.



Database	Select the database that contains the PTF tests.
Project Name	Enter the Project Name.
All PeopleSoft Test Framework Tests	This feature will insert all PTF tests in the database.

Using the Test Repository

Once test projects have been uploaded to the PUM Source, the Update Manager Dashboard provides the following components to manage the test repository:

1. Manage Tests
2. Manage Test Objects
3. Run Test Coverage Calculation

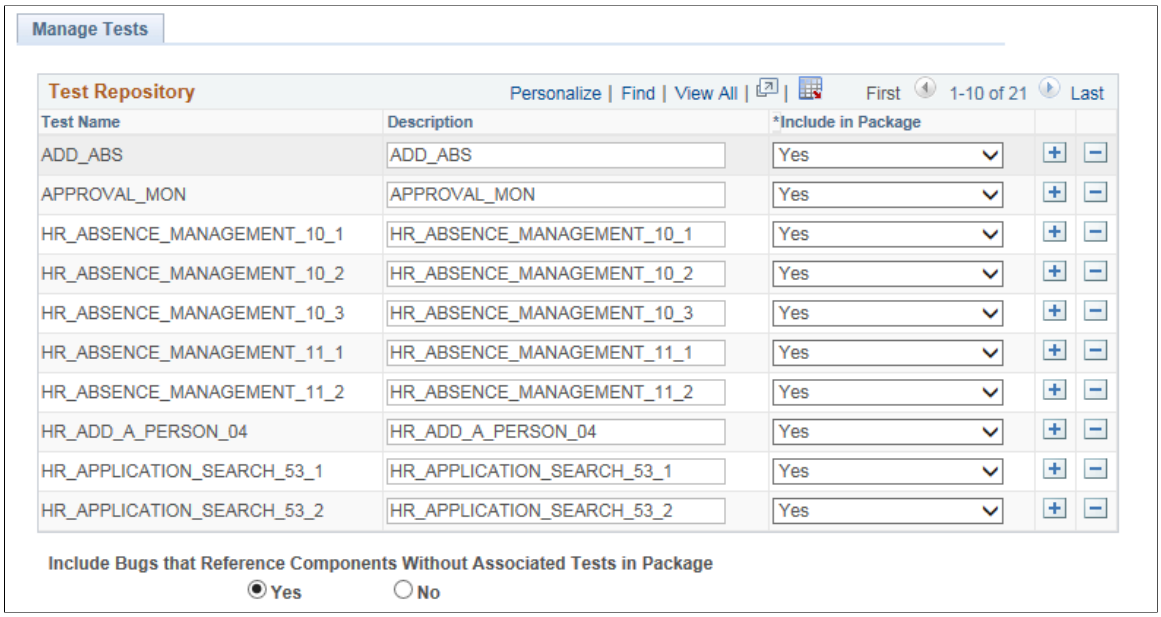
Manage Tests

The Test Repository is used to identify the relationship between tests and components before the change package is created. For PTF customers, this would be the same as the Test Coverage Report, however it is available when selecting updates in the PUM Search. The Test Repository is delivered empty on the PUM Source and must be populated using Change Assistant to upload the customer data.

To access the Manage Tests page, select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Test Repository >Manage Tests .

Image: Manage Tests page

This example illustrates the fields and controls on the Manage Tests page. You can find definitions for the fields and controls later on this page.



Test Name

For PTF tests, this is the name of the test. For component projects, this is the name of the project.

You can have 0–n test defined. Each defined test must have a unique test name.

Description

Use this field to provide a more detailed description of the test.

Include in Package

Specify whether bug fixes which impact the specified test should be, by default, included or excluded from change package creation.

- No – exclude from package creation
- Yes (default) – include in package creation

Note: This value can be overridden in the PUM Search.

Include Bugs that Reference Components Without Associated Tests in Package

Select *Yes* to include the bugs in the change package even if the component does not have an associated test.

Select *No* if you want 100% test coverage for the package.

Adding Tests

To manually add tests, use the + action in the grid. When this method is used, a new row is added, however no objects will be associated with the new row. Use the Define Test Object Reference page to add the objects. See Managing Test Objects.

Rows can also be added by uploading customer data through Change Assistant. See Creating Test Repository.

Deleting Tests

To delete a tests, use the – (delete row) action in the grid.

If a test is deleted, the test coverage calculation must be re-run to ensure that the correct metadata exists in the database.

Managing Test Objects

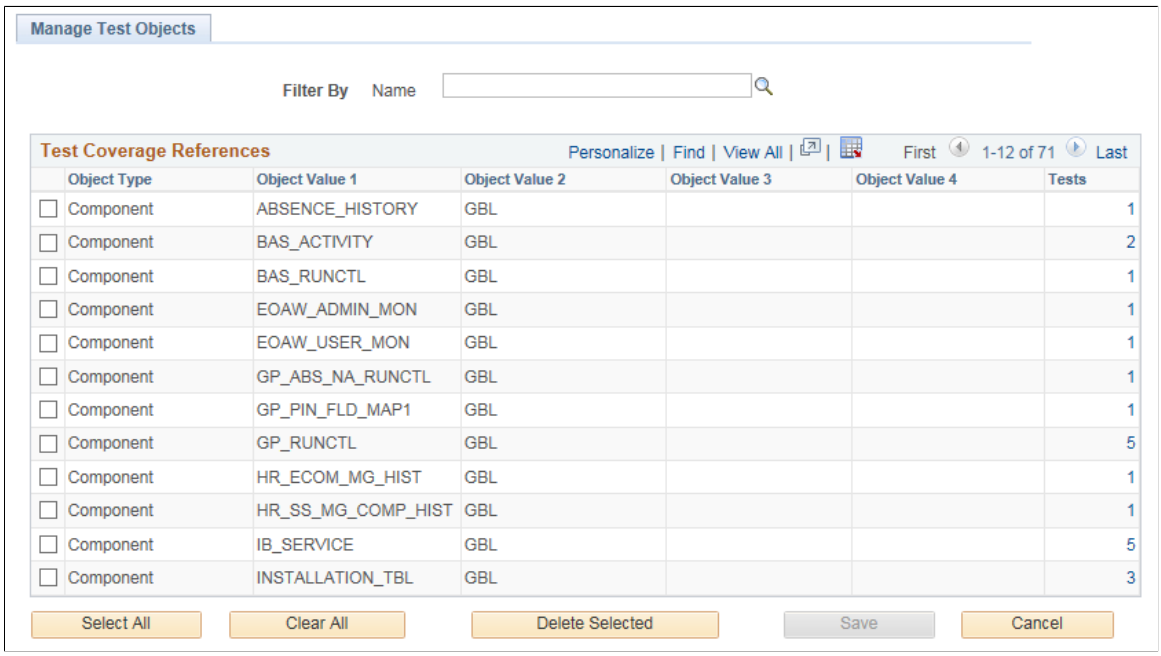
The Manage Test Objects page contains a list of the test objects. The same object may exist in more than one test.

Navigation

To access the Manage Tests Objects page, select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Test Repository >Manage Test Objects.

Image: Manage Test Objects page

This example illustrates the fields and controls on the Manage Test Objects page. You can find definitions for the fields and controls later on this page.



Object Type	Object Value 1	Object Value 2	Object Value 3	Object Value 4	Tests
Component	ABSENCE_HISTORY	GBL			1
Component	BAS_ACTIVITY	GBL			2
Component	BAS_RUNCTL	GBL			1
Component	EOAW_ADMIN_MON	GBL			1
Component	EOAW_USER_MON	GBL			1
Component	GP_ABS_NA_RUNCTL	GBL			1
Component	GP_PIN_FLD_MAP1	GBL			1
Component	GP_RUNCTL	GBL			5
Component	HR_ECOM_MG_HIST	GBL			1
Component	HR_SS_MG_COMP_HIST	GBL			1
Component	IB_SERVICE	GBL			5
Component	INSTALLATION_TBL	GBL			3

Filter By Name Use the Filter By editbox to select a test name and display all the components associated with that test.

Object Type	The object type is Component.
Object Value 1–4	These 4 columns are the same 4 key columns used to identify a managed object in PUM and managed object projects.
Tests	Displays the test count. Click the count link to open the Add/Delete Test Coverage page, which displays the test names associated with the component.

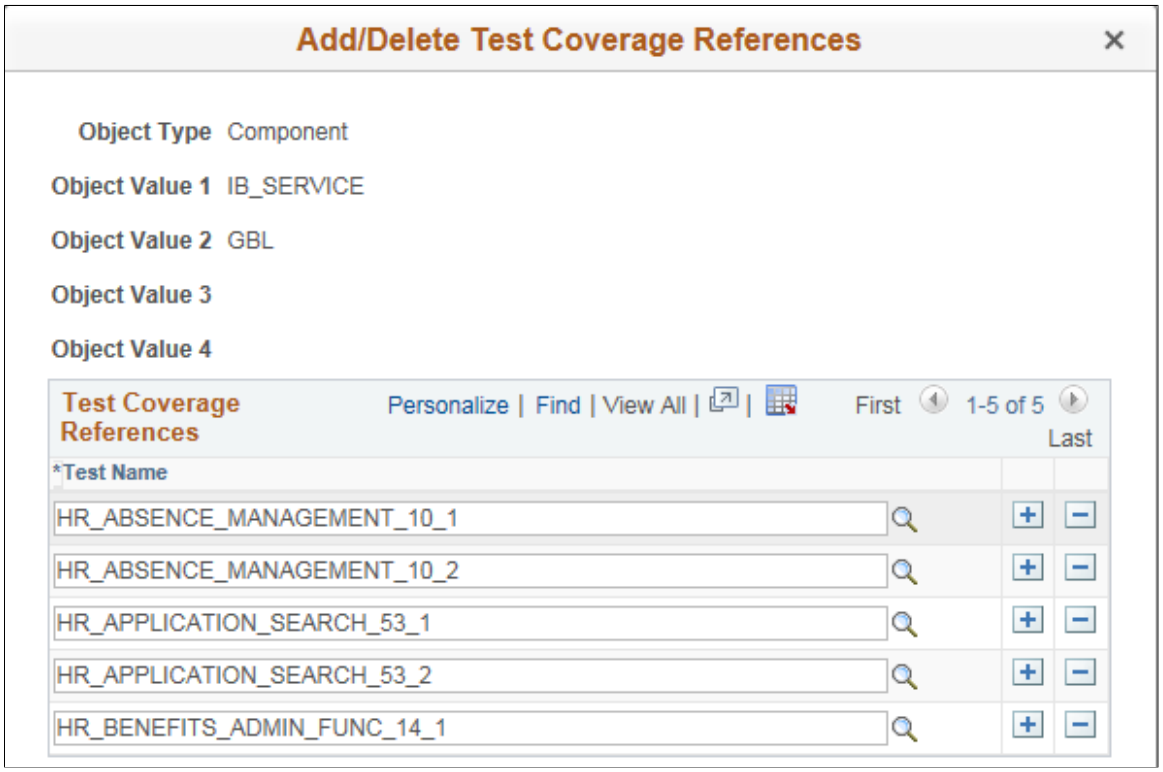
To delete a component, select the component on the grid and click Delete Selected.

Adding and Deleting Tests

To add or delete test coverage, click the count link. This will open the Add/Delete Test Coverage page.

Image: Add/Delete Test Coverage References page

This example illustrates the fields and controls on the Add/Delete Test Coverage References page. You can find definitions for the fields and controls later on this page.



Use the + (add row) icon to add a test. The list of tests to add to a component is limited to the list of tests defined in the Test Repository.

Use the – (delete row) icon to delete a test from the component.

Running Test Coverage Report

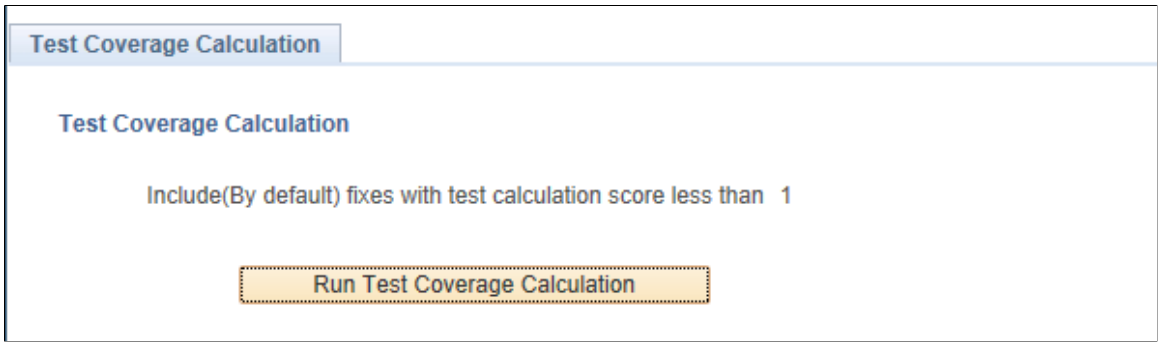
In order to manage and display the test impact in the PUM Search UI, a test coverage calculation must be generated for each bug fix in the Image. The Test Coverage Calculation page is used to run the calculation for the components identified in the Test Repository.

Navigation

To access the Run Test Coverage page, select PeopleTools >Lifecycle Tools >Update Manager Dashboard >Test Repository >Run Test Coverage Calculation

Image: Test Coverage Calculation page

This example illustrates the fields and controls on the Test Coverage Calculation page.



Chapter 13

Defining Change Packages

Understanding Change Packages

There a four types of Change Packages

1. Update Package

   Update change packages contain updates and enhancements selected by the customer, along with the pre and post requisites. There are multiple ways for customers to select which updates to apply.

   See Defining Update Change Packages

2. Upgrade Package

   Upgrade packages are used when a customer upgrades to application 9.2. The Upgrade change package will contain the Application Upgrade template from the current release to 9.2. Upgrades also require a Required for Upgrade package which contains all of the bugs required for upgrade

   See Defining an Upgrade Package

3. Tools Delta Package

   Tools Delta change packages are used after a PeopleTools upgrade and contain attributes or objects that were stripped away when the updates were applied in the old release.

   See Creating and Applying Tools Delta Package

4. Translations Delta Package

   Translation Delta packages contain languages and translation fixes.

   See Defining Translations Delta Package

Defining Update Change Packages

The latest PeopleSoft Update Image downloaded from MOS includes the PeopleSoft working database, PeopleTools, applications, managed objects, codeline, and the data and metadata required to use the PeopleSoft Update Manager. The Update Manager PIA interface is used to identify required and desired updates for the change package definition.

The Define Change Package wizard will guide you through the steps to create a change package definition. There are 6 steps:

1. Select Target Database

Note: The target database is selected from the Select Target Database folder on the Update Manager Dashboard. This page is only displayed when no target databases have been up loaded.

2. Enter Change Package Name
3. Select Scope
4. Select the updates, objects or criteria

   Based on the scope selected in step 3, appropriate page will open to select your updates. If you select *All Updates Not Applied* in step 3, this step is skipped.

5. Review Bugs
6. Done Identifying Bugs

Dependency Calculator

When the user transitions from Step 4 to Step 5 the dependency calculator is automatically executed.

- The calculator is a PeopleCode Program.
- If you selected to select by Specific Updates, Updates by Criteria, or Updates by Object Name, the dependency tree is calculated such that bugs that are Already Applied, and the post-requisites of those same bugs are excluded from the package during the calculation process. Un-applied pre-requisites of applied bugs will, however, be included in the calculated result.
- If you selected All Updates Not Yet Installed, the calculator will insert all updates that have not been applied in the selected target environment into the results table.

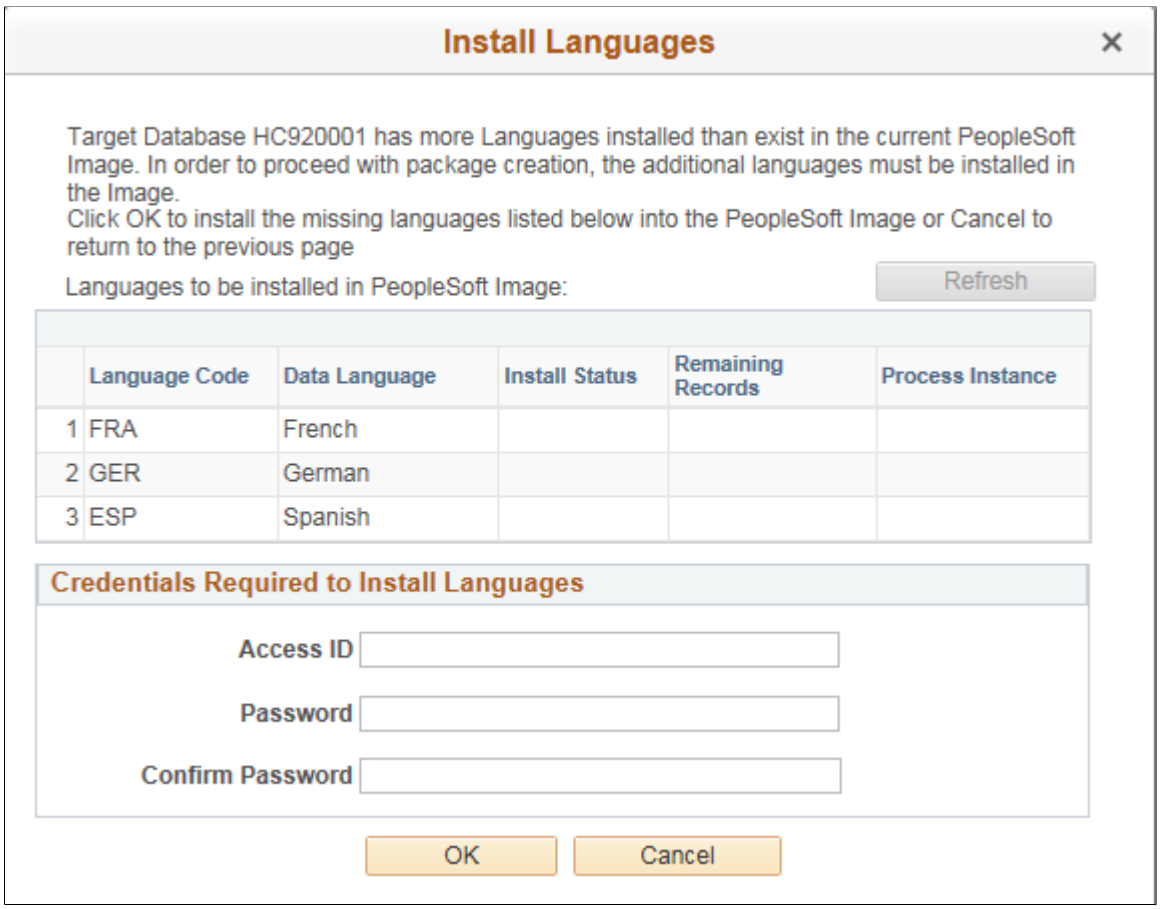
Note: All requisite updates are specific to and calculated based on the target database. If the change package is reused for another database, Change Assistant will perform a check to ensure all requisites exist. If requisites are missing, you will get an error message.

Languages

If your target database contains multiple languages, the first time you select to create a change package the system will prompt to install the languages on the PeopleSoft Image.

Image: Install Languages page

This example illustrates the fields and controls on the Install Languages page. You can find definitions for the fields and controls later on this page.



This example shows 3 languages that need to be installed for the target database. Enter the Access ID and Access Password and click OK. A status bar is displayed as the languages are installed. When the install is complete, click OK.

Define Update Package Wizard Step 1 of 6

Custom change packages are created on to your PUM Source Database.

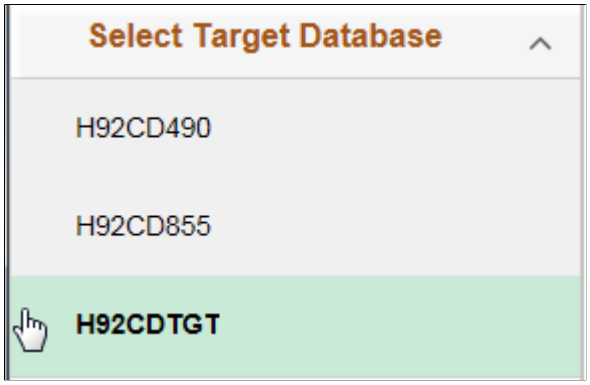
Navigation

On to your PUM Source Database, select PeopleTools >Lifecycle Tools >Update Manager >Update Manager Dashboard >Select Target Database

All environments that were selected as target databases in Change Assistant Wizard and uploaded to the PUM Source will be displayed in the list. This list is also filtered by UserID.

Image: Select Target Database

This example illustrates the fields and controls on the Select Target Database.



Note: The target database information is uploaded to the PUM source database when you select the Upload Target Database Information to PUM Source. See Uploading Target Database Information

If you only have one database, it is selected by default..

Define Update Package Wizard Step 2 of 6

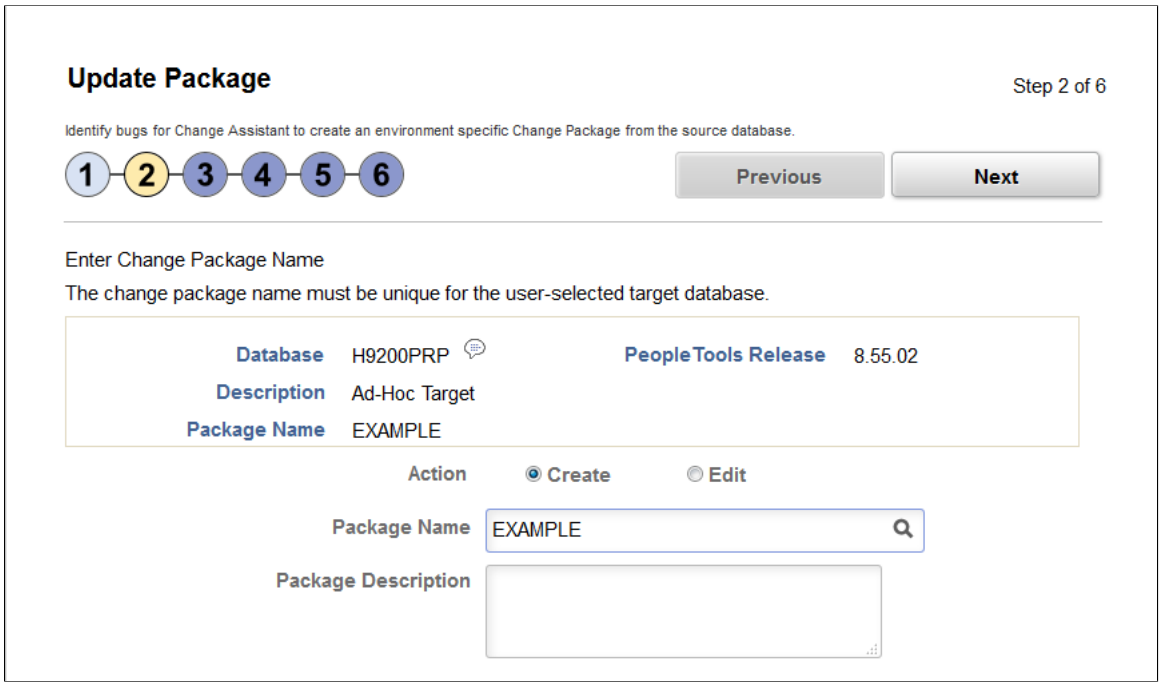
Navigation

Open the Define Change Package folder and select Define Change Package.

The second step is to enter a change package name.

Image: Define Update Package Step 2 of 6

This example illustrates the fields and controls on the Define Update Package Step 2 of 6. You can find definitions for the fields and controls later on this page.



Action Select the action. Create is the default.

Select Edit if you want to update an existing package definition.

Package Name Enter a name for your custom change package. To edit an existing change package, select the Lookup button. The list of change packages that can be edited is restricted as follows:

- Packages created by the current user.
- Packages created for the currently selected target database.
- Packages which have been defined but have not been created.

Package Description Enter a description for the change package.

Click Next.

If you selected Create and the package name already exists, a message “Exiting package name not permitted in Create action mode (269,259) Enter a new package name to continue.

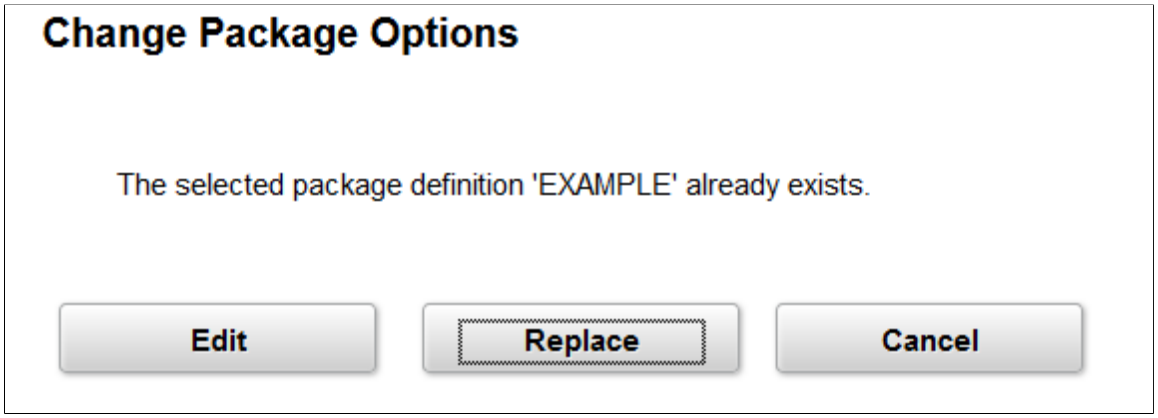
If you selected Edit, the Change Package Options page id displayed.

Change Package Options

On the Change Package Options page, you can select whether to edit or replace the change package.

Image: Change Package Options page

This example illustrates the fields and controls on the Change Package Options page. You can find definitions for the fields and controls later on this page.



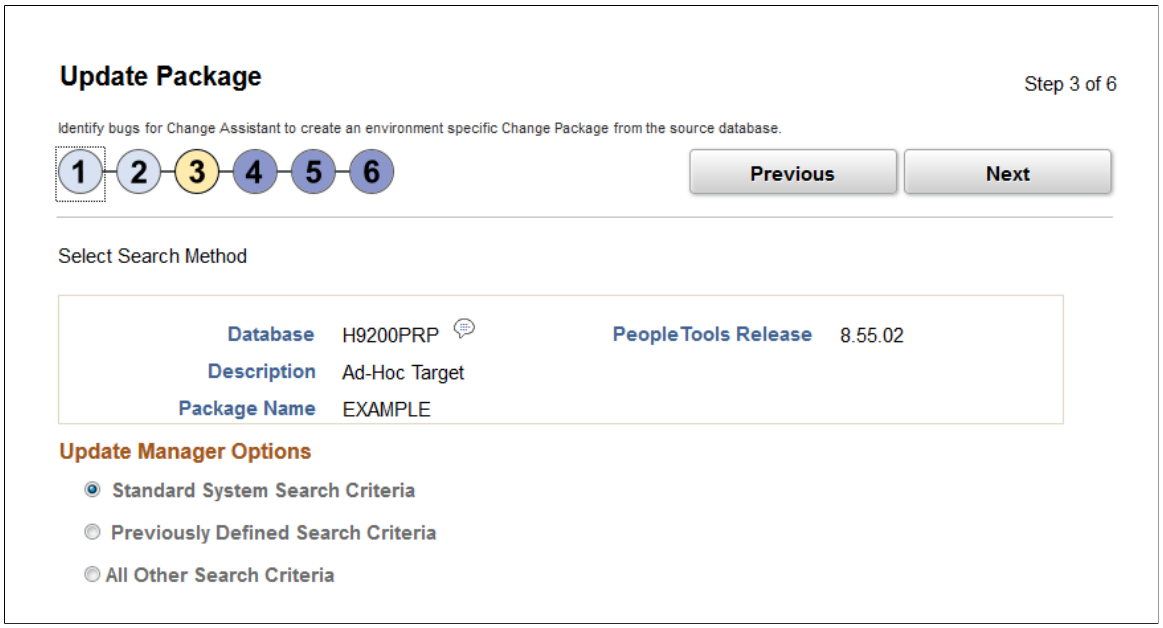
Edit	Select this option to edit the existing change package. The search results previously entered are retained.
Replace	Select this option to replace the existing change package.
Cancel	Select this option to cancel and select a new name for the change package.

Define Update Package Wizard Step 3 of 6

The third step is to select the scope to use for searching for updates.

Image: Define Update Package Step 3 of 6

This example illustrates the fields and controls on the Define Update Package Step 3 of 6. You can find definitions for the fields and controls later on this page.



Note: Regardless of the option you choose, all available and not yet applied requisite updates for the bugs selected will be included in the change package.

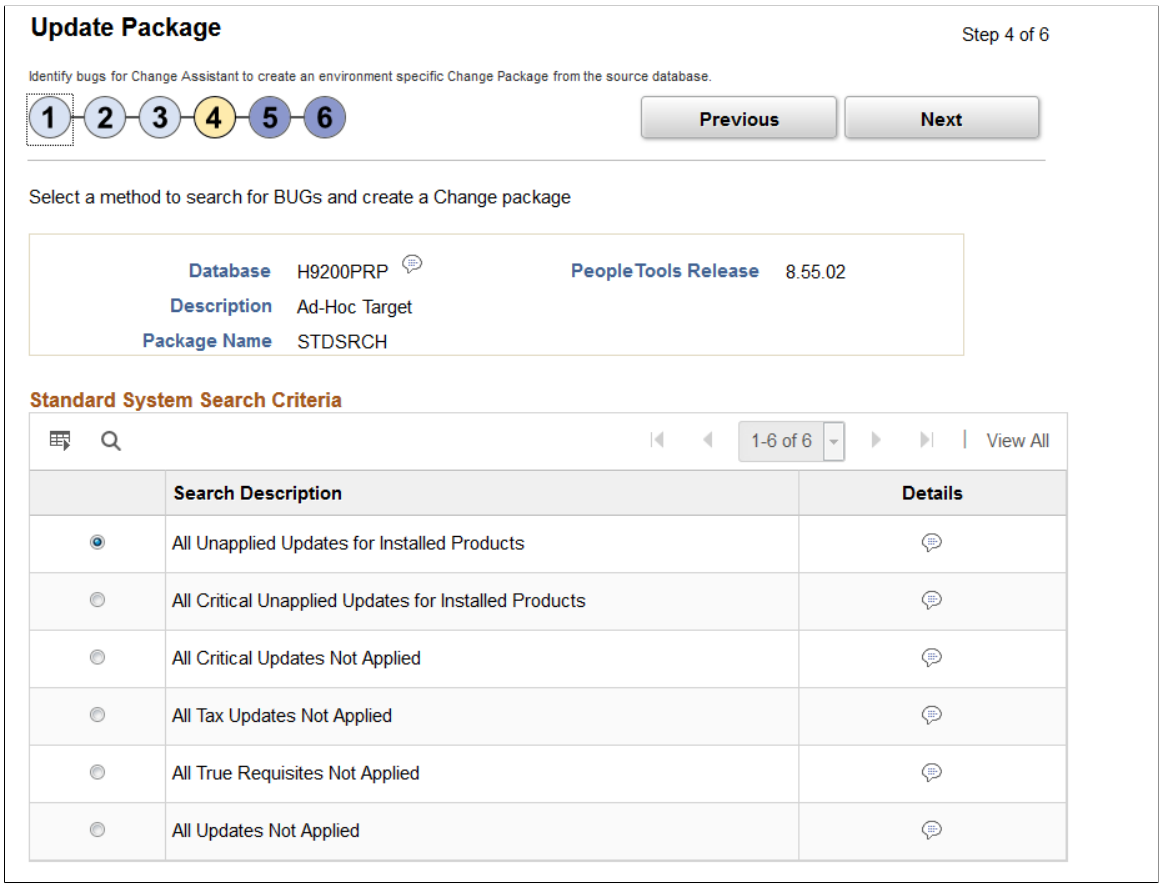
Standard System Search Criteria	Select this option to perform a simple standard search.
Previously Defined Search Criteria	Select this option to use a saved search.
All Other Search Criteria	Select this option to perform a selective search

Selecting Standard System Search

Select the Standard System Search radio button and click Next.

Image: Standard System Search Criteria

This example illustrates the fields and controls on the Standard System Search Criteria. You can find definitions for the fields and controls later on this page.



All Unapplied Updates for Installed Products	Change package containing all updates for all installed products not applied on target database.
All Critical Unapplied Updates for Installed Products	Change package containing all severity 1 updates for all installed products not applied on target database.
All Critical Updates Not Applied	Change package containing all severity 1 updates not applied on target database.

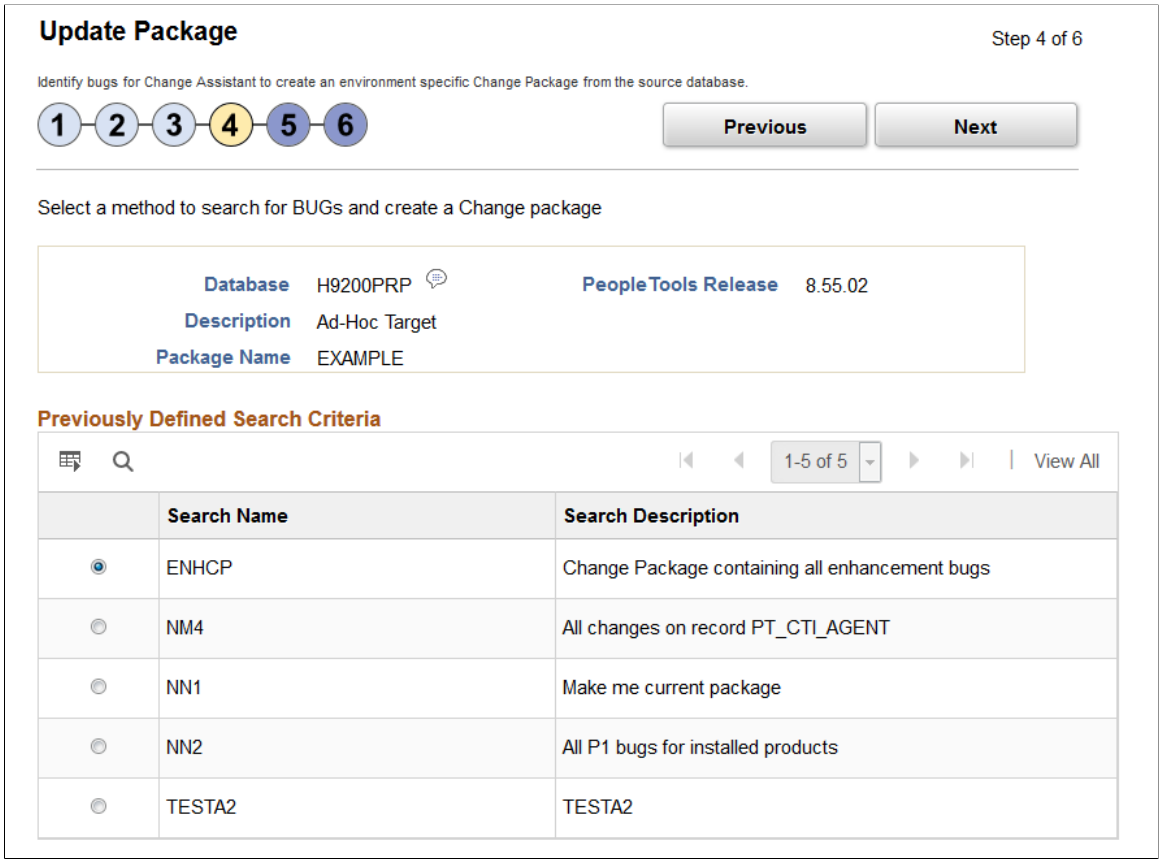
All Tax Updates Not Applied	Change package containing all tax updates not applied on target database.
All True Requisites Not Applied	Change package containing all true requisites updates not applied on target database.
All Updates Not Applied	Change package containing all updates not applied on target database.

Selecting Previously Defined Search Criteria

Select the Previously Defined Search Criteria radio button and click Next.

Image: Previously Defined Search Criteria

This example illustrates the fields and controls on the Previously Defined Search Criteria. You can find definitions for the fields and controls later on this page.



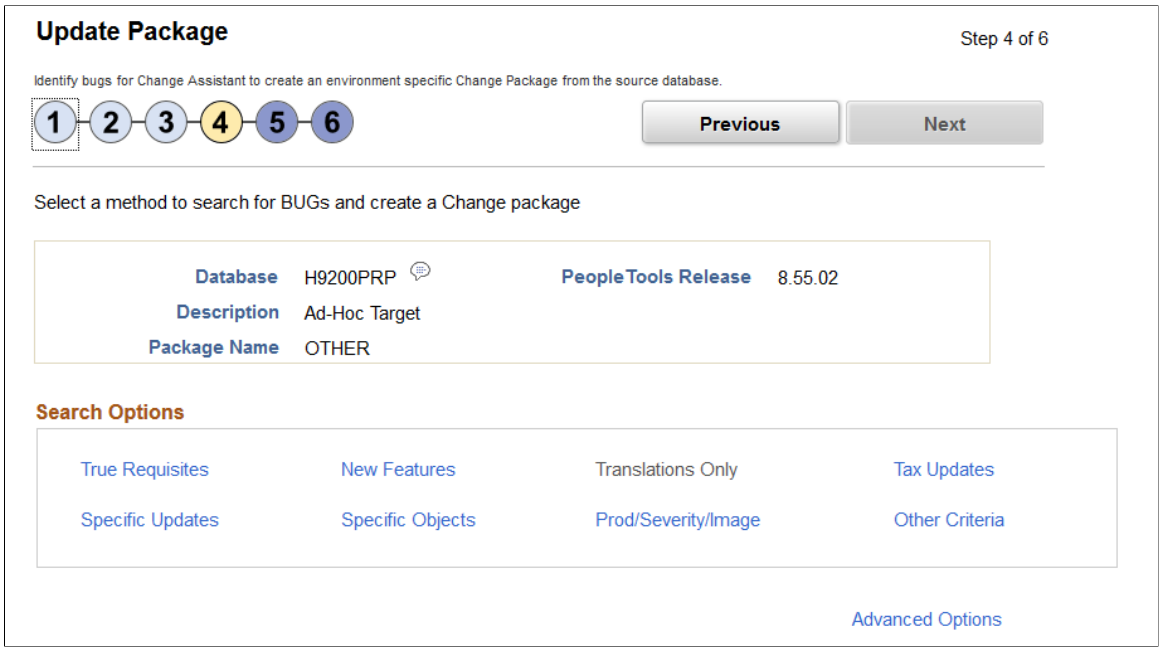
Customer saved searches will be displayed. Select the saved search to use for the new update package.

Selecting All Other Search Criteria

Select the All Other Search Criteria radio button and click Next.

Image: All Other Search Criteria

This example illustrates the fields and controls on the All Other Search Criteria. You can find definitions for the fields and controls later on this page.



The search process is iterative. Once you have selected bugs into the search results gird, you can select another search option and add additional bugs to the search result grid. Search and selection can be performed in any order, the results are recalculated with each search.

True Requisites

When you select this option, the Search by True Post Requisites page is displayed. Users can use the Search button to display the post requisite bugs. Users have the option to select or deselect the bugs in the grid.

If there are no unapplied true requisites for the target database, this option will be grayed out and not selectable.

New Features

Select this option to search for new features.

Note: This option is equivalent to using the Advanced Search option in PeopleTools 8.54 and selecting the tracking group Enhancement with the value Enhancement.

Translations Only

When you select this option you see a field that allows you to select a language.

If the target database is English Only, this link will be greyed out and not selectable.

Tax Updates

Select this option to search for tax updates.

If there are no unapplied tax updates for the target database, this link will be greyed out and not selectable.

Specific Updates Select this option to search for updates related to specific Bug IDs.

Specific Objects Select this option to search for updates related to specific PeopleSoft managed objects.

Prod/Severity/Image Select this option to search for updates by various criteria such as Product, Severity, or Image.

Other Criteria Other criteria covers any tracking groups for the application that are not covered in another search, such Legislative/Regulatory, Multi-instance, or PeopleTools Compatibility.

Tracking groups will differ by product.

If there are no unapplied other criteria for the target database, this link will be greyed out and not selectable.

Advanced Options Select this link to set the dependency calculation.

See Using Advanced Options Page

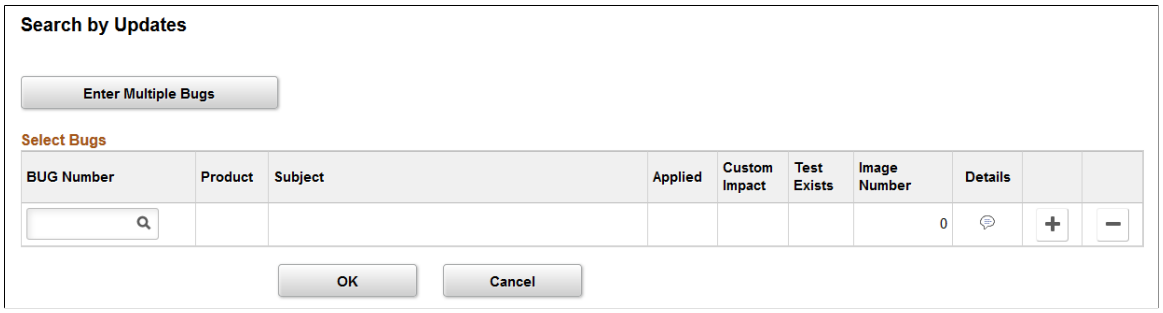
Selecting Specific Updates

Select the Specific Updates link.

Note: Specific updates can be combined with bugs using any of the other search criteria options.

Image: Search by Updates page

This example illustrates the fields and controls on the Search by Updates page. You can find definitions for the fields and controls later on this page.



Enter Multiple Bug Numbers Use this link to open a model window where you can enter the specific bugs. Use a comma or space to separate Bug numbers.

Bug Number Use the lookup icon to select specific bugs. Add additional rows as needed.

Product The product from the bug will be displayed as read only.

Subject The subject from the bug will be displayed as read only.

Image: Find these specific Bugs page that opens when Enter Multiple Bug Numbers is selected

This example illustrates the fields and controls on the Find these specific Bugs page that opens when Enter Multiple Bug Numbers is selected. You can find definitions for the fields and controls later on this page.

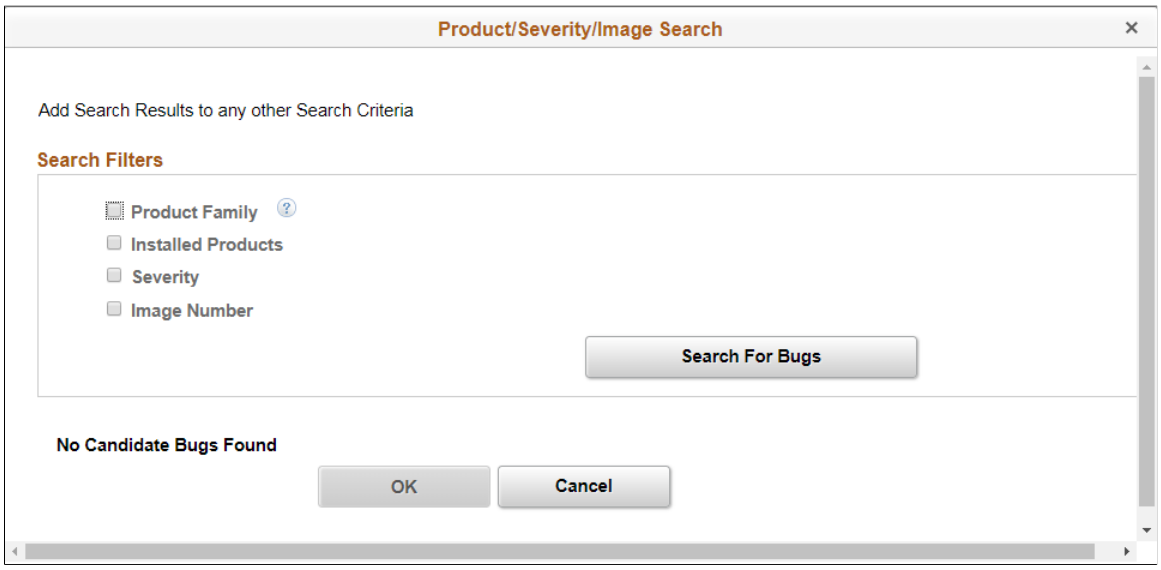
Once you have selected the updates, click Next.

Selecting Updates by Prod/Severity/Image

Select the Prod/Severity/Image link.

Image: Product/Severity/Image Search page

This example illustrates the fields and controls on the Product/Severity/Image Search page. You can find definitions for the fields and controls later on this page.



The Product/Severity/Image Search page, enables you to search for updates by:

- Product Family

  Allows you to select one or more values.

  A Product Family is a grouping of products. This grouping is defined by PeopleSoft, and is intended to align with the “Bundle” groupings in non-PUM enabled application updates.

  Note: Product Family = PNA will select all fixes for Payroll North America (equivalent to a PNA Tax Update in prior releases),
  Product Family = Global Payroll will select all fixes for Global Payroll products (equivalent to a GP Update Bundle in prior releases).

- Installed Products

  You can select if you want to include related components and subcomponents and then select the installed products to search. A related component or subcomponent is a defined relationship between products. This relationship is defined by PeopleSoft, and is intended to assist the search experience by including the related products automatically when a given product is selected.

- Severity

  Select the severity:

  - 1 - Complete loss of service
  - 2 - Severe loss of service
  - 3 - Minimal loss of service

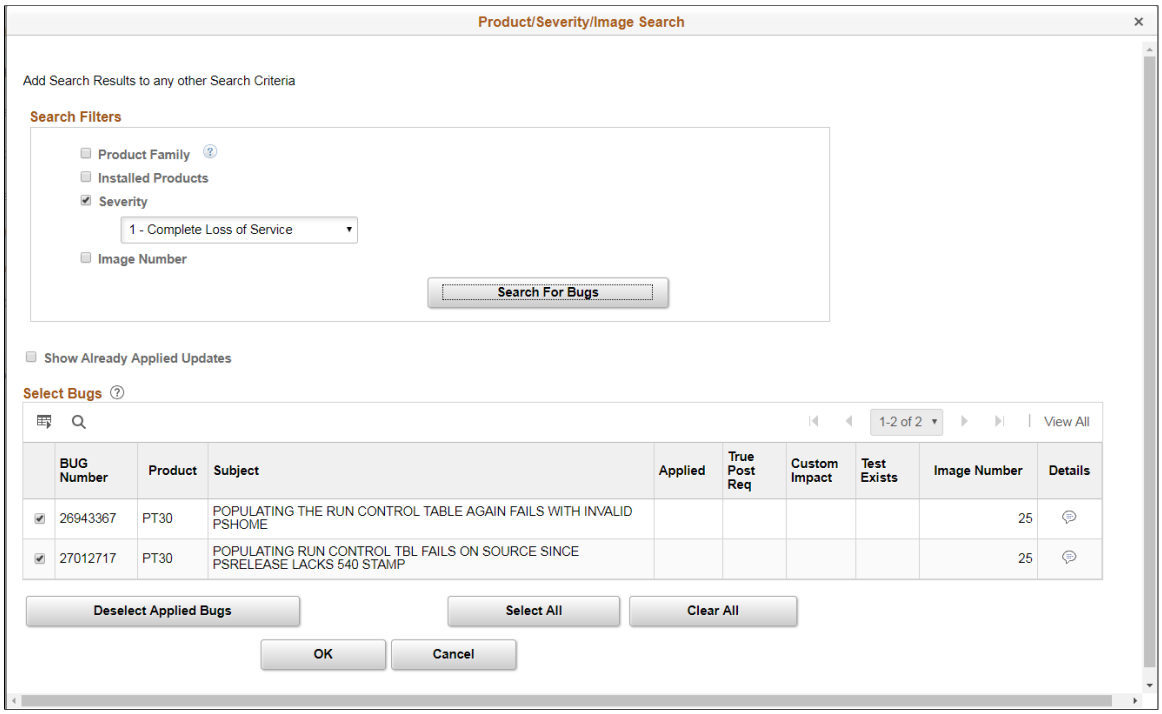
- Image Number

  When you select this option you see drop-down lists for From PI and To PI. Enter a range of image numbers to include in the search.

  The minimum allowed value is image 1.

Image: Example Search by Severity

This example illustrates the fields and controls on the Example Search by Severity. You can find definitions for the fields and controls later on this page.



Show Already Applied Updates Select this check box to include already applied updates in the result set. If this check box is selected, a visual indicator will appear in the Applied column.

Bug Number Lists the bug numbers returned by the search.

Subject Displays the subject for the bug.

Applied A visual indicator will be displayed, if the Show Already Applied check box is selected and the bug has already be applied to the target database.

This bug is not included in the change package definition.

True Post Req True post-requisite updates will be sorted to the top of the bug list. A visual indicator is displayed to identify the bug as true post requisite.

All bugs discovered based on the Post Requisites for (Select) Previously Applied bugs will be listed as suggested.

Custom Impact A visual indicator will be displayed if the bug has an impact on an object stored in the Customization Repository.

See Using Customization Repository

Test Exists A visual indicator will be displayed if the bug has an impact on tests defining in the Test Repository.

	See Using the Test Repository
Image	Image number that contains the bug.
Details	Click this icon to display the bug details.

Selecting Specific Objects

The Specific Objects link, enables you to search for updates related to specific PeopleSoft objects. Select an object type and enter an object name. For example, you can search for the PERSONNEL record and see all of that record's related fixes.

To search for updates related to specific PeopleSoft objects:

1. Select an object type from the drop-down list.
2. Enter an object name.

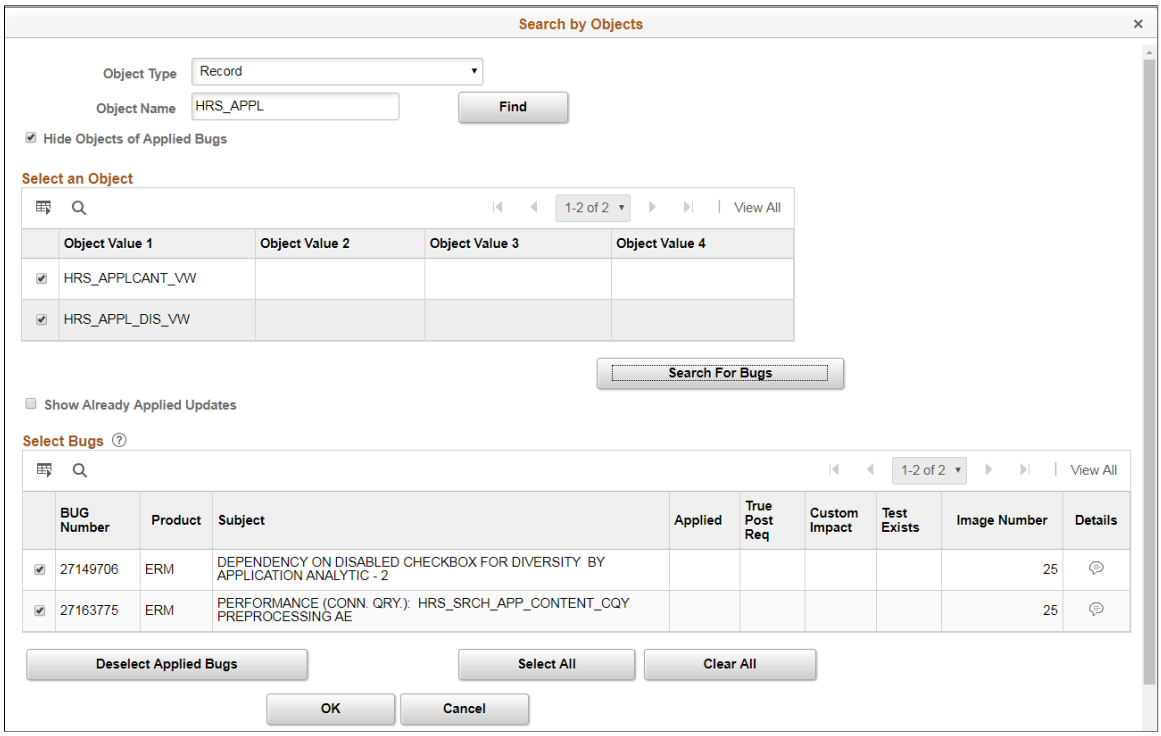
   For example, you can search for the records that start with JOB and see all of that records that start with JOB.
3. Optionally, deselect the Hide Objects of Applied Bugs if you want to see objects matching your criteria that have already been applied.
4. Click Find.

   After clicking the Find button, the grid displays your query output; in this instance, the specific PeopleSoft objects related to your search criteria.
5. Select the check box next to each object in the result grid that you want to search for.
6. Click the Search for Bugs button.
7. By default all bugs returned in the grid will be selected.

   You can manually deselect a bug or use the Clear All button to clear all the selections and then manually select the bugs to include.
8. Optionally, select the Show Already Applied Updates check box to include bugs that have already been applied to the target database or environment.

Image: Search by Objects page

This example illustrates the fields and controls on the Search by Objects page. You can find definitions for the fields and controls later on this page.

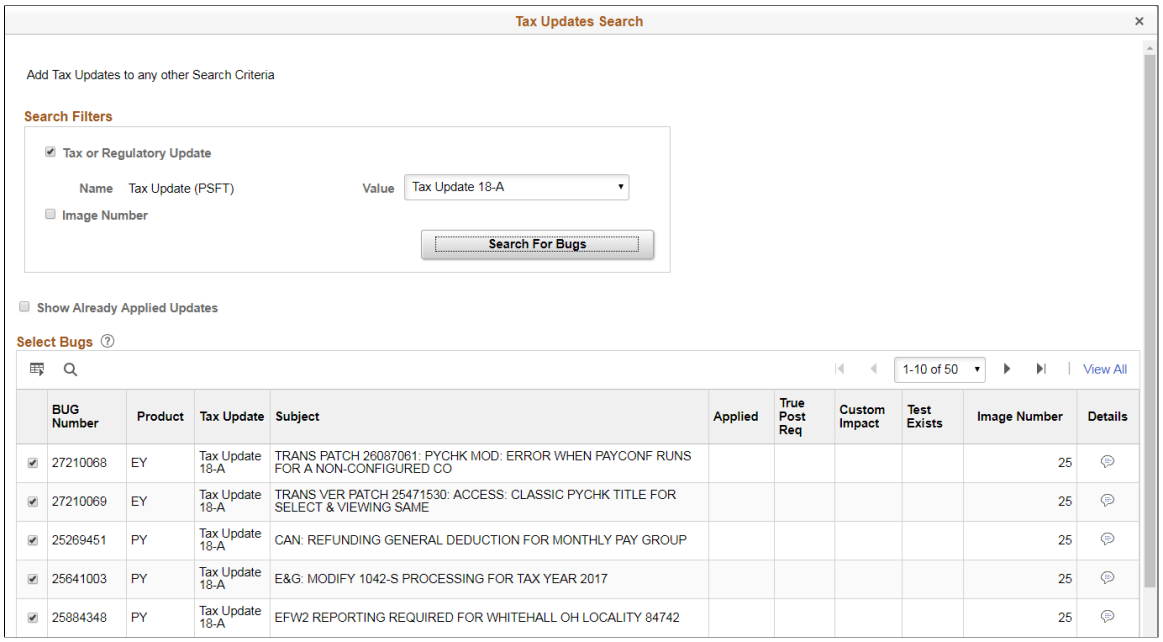


Selecting Tax Updates

Select the Tax Updates link.

Image: Tax Updates Search page

This example illustrates the fields and controls on the Tax Updates Search page. You can find definitions for the fields and controls later on this page.



Tax or Regulatory Update When you select this option you see a drop-down list for Tax or Regulatory updates available.

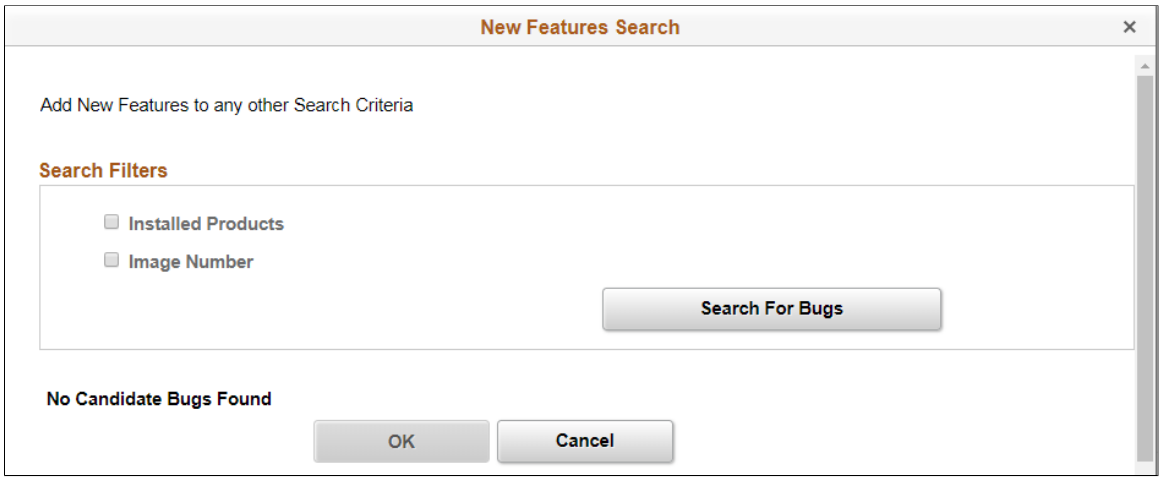
Image Number When you select this option you see drop-down lists for From PI and To PI. Enter a range of image numbers to include in the search.

Selecting New Features

Select the New Features link.

Image: New Features Search page

This example illustrates the fields and controls on the New Features Search page. You can find definitions for the fields and controls later on this page.



There are 2 filter options to assist in the search for new features, Installed products and Image Number. These filters are optional and if you click Search for Bugs with no filters, all matching rows will be returned.

Installed Products	When you select this checkbox, the installed products are displayed and available to select.
Image Number	When you select this option you see drop-down lists for From PI and To PI. Enter a range of image numbers to include in the search.

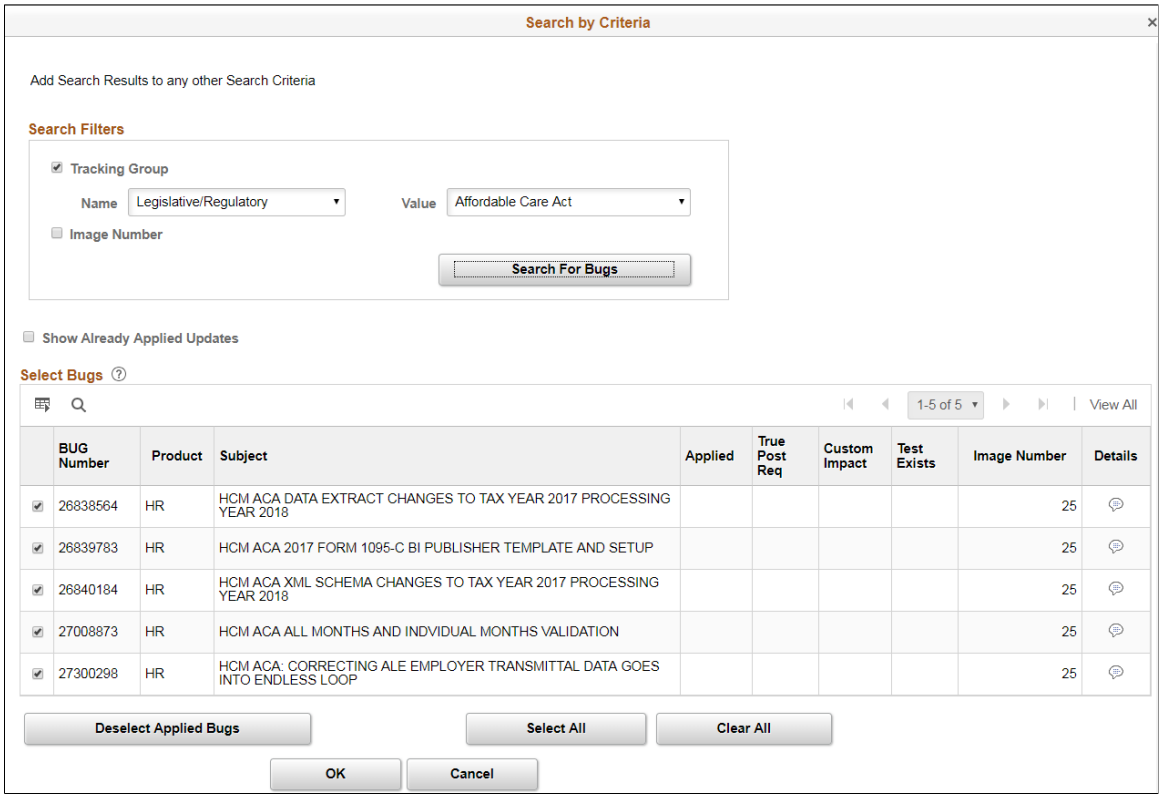
Selecting Other Criteria

Other Criteria allows you to search by tracking group and image. Tracking Groups are defined by PeopleSoft on an as required basis in order to facilitate the search for fixes of a specific, often functional, type. Tracking groups will differ by product.

Select the Other Criteria link.

Image: Search by Criteria page

This example illustrates the fields and controls on the Search by Criteria page. You can find definitions for the fields and controls later on this page.



Tracking Group Select the Tracking Group name and value.

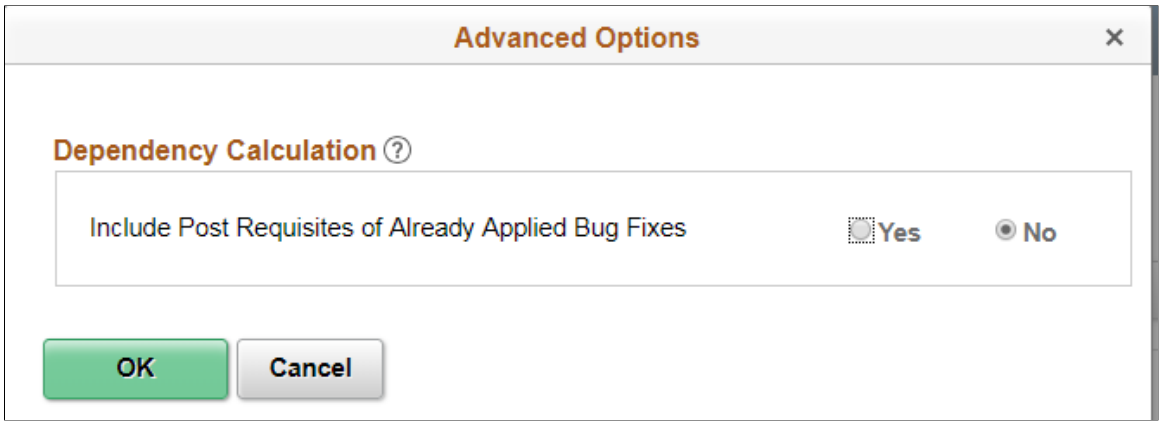
Image Number Select the Image Numbers to search.

Using Advanced Options Page

Use this page to set the dependency calculation. The package dependency calculation can optionally include or exclude the post requisites of fixes that have previously been applied to your target database

Image: Advanced Options page

This example illustrates the fields and controls on the Advanced Options page. You can find definitions for the fields and controls later on this page.



Yes Include Post Requisites of Already Applied Bug Fixes

The full Dependency Tree is calculated prior to checking whether bug fixes included in the calculation have previously been applied to your target. The resulting package will include the Post Requisites of Already Applied bug fixes, but not the Already Applied bug fixes or their pre-requisites. Selecting this option will generally result in a larger change package being created, but this may reduce the chances of missing a fix.

No Exclude Post Requisites of Already Applied Bug Fixes (default)

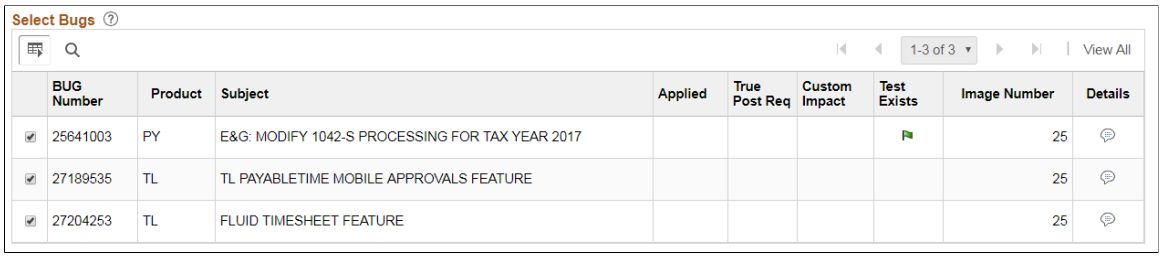
The Dependency Tree is calculated such that bugs that are Already Applied are removed during the calculation process, and as a result the resulting package will not include the Post Requisites of the Already Applied bug fixes, nor the Already Applied bug fixes or their prerequisites. Selecting this option will generally result in a smaller change package being created, but this may increase the chances of missing a required fix.

Using the Selection Grid

Regardless of the search option selected, the search results will always be displayed in the selection grid at the bottom of the search page.

Image: List of Updates grid

This example illustrates the fields and controls on the List of Updates grid. You can find definitions for the fields and controls later on this page.



Show Already Applied Updates Select this check box to include already applied updates in the result set. If this check box is selected, a visual indicator will appear in the Applied column.

Bug Number Lists the bug numbers returned by the search.

Subject Displays the subject for the bug.

Applied A visual indicator will be displayed, if the Show Already Applied check box is selected and the bug has already be applied to the target database.

This bug is not included in the change package definition.

True Post Req True post-requisite updates will be sorted to the top of the bug list. A visual indicator is displayed to identify the bug as true post requisite.

All bugs discovered based on the Post Requisites for (Select) Previously Applied bugs will be listed as suggested.

Custom Impact A visual indicator will be displayed if the bug has an impact on an object stored in the Customization Repository.

See Using Customization Repository

Test Exists A visual indicator will be displayed if there is a test name in the Test Repository corresponding to an object in the bug.

See Using the Test Repository

Details Click this icon to display the bug details.

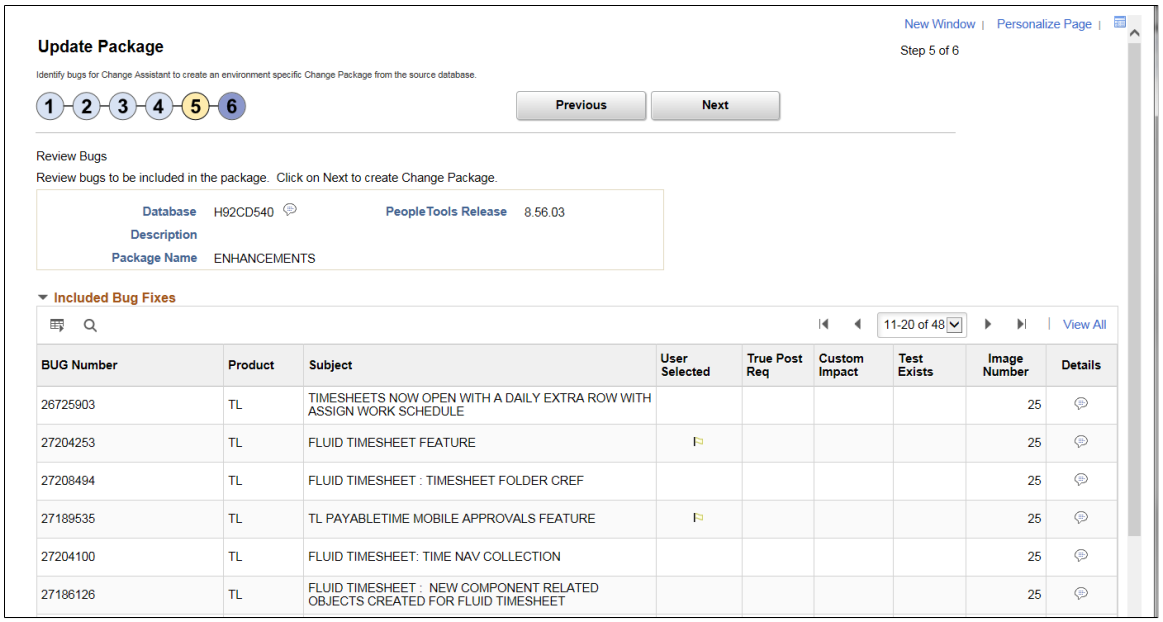
Define Update Package Wizard Step 5 of 6

The fifth step is to review the results of the dependency calculation. This page will display all of the updates selected, as well as all dependent updates. Any updates that include PeopleTools hard dependencies will be excluded from the change package and listed in the Excluded Tools Dependent Bug grid.

Note: This page is read-only. In order to modify the results, the user must click *Previous* to return to the previous page in the Wizard.

Image: Define Update Package Step 5 of 6

This example illustrates the fields and controls on the Define Update Package Step 5 of 6. You can find definitions for the fields and controls later on this page.



Bug Number — All of the bug numbers that will be included in the change package are listed.

Product — The PeopleSoft product impacted.

Subject — Displays the subject for the bug.

User Selected — If the bug number was selected in Step 4, this column will contain a check. Updates that do not have a check are required for the selected updates.

Applied — If the bug has already been applied to your database, this column be checked.

Note: Applied bugs are not included in the change package definition.

True Post Req — Icon is displayed to indicate the bug type.

Subject — Bug subject is displayed

Image Number — Image where the bug was fixed.

Custom Impact — A visual indicator will be displayed if the bug has an impact on an object stored in the Customization Repository.

See Using Customization Repository

Test Exists

A visual indicator will be displayed if the bug has an impact on a referenced component stored in the Test Repository.

See Using the Test Repository

Click the Bug Details icon to display the Bug information.

Excluded Bug Fixes Section

Expand this section to view bugs that are excluded from the package, excluded bug will include bugs that have already been applied, bugs the user excluded, bugs that fail to meet the minimum tools level, and bugs that are required for upgrade.

Overlapping Packages Section

This section will appear if any of the bugs selected have already been included in another change package definition that has not been applied to the database.

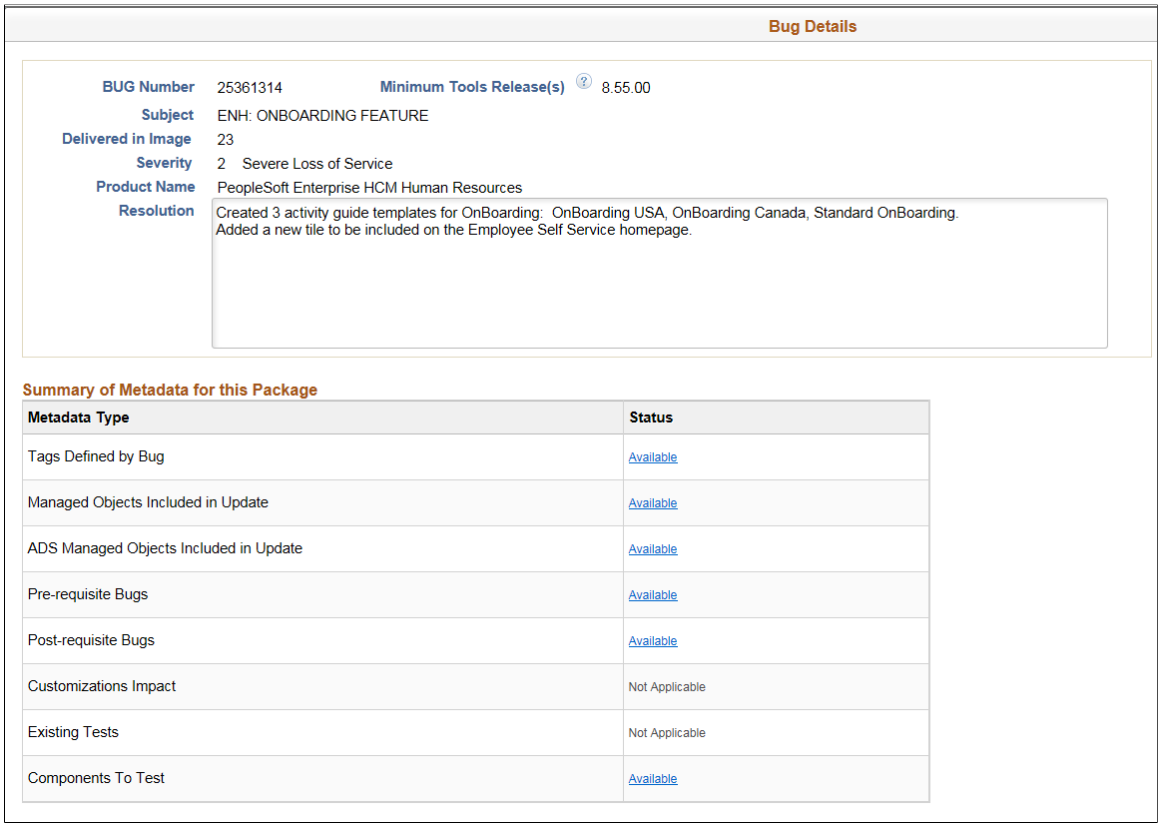
Note: If overlapping packages are listed, you will be prompted to either click OK to ignore the overlapping packages, or click Cancel to return to the previous page and review the change package.

Bug Details

When you click the bug details icon, a modal window is displayed:

Image: Example Bug Details (top of page)

This example illustrates the fields and controls on the Example Bug Details (top of page). You can find definitions for the fields and controls later on this page.



Summary of Metadata for this Package

For each metadata type, if there is metadata, a link Available is displayed. Use this link to go to that section of the bug detail.

If the metadata type is not contained in the package, the metadata type will indicate Not Applicable.

Bugs delivered through a PRP, will have no data on components to test , therefore Components to Test will indicate No Data.

Pre-requisite Bugs

List of pre-requisite bugs, their subjects and image numbers. Click the Details icon to open a window with the bug details.

Tags Defined by Bug

The tag name and value represent the tracking group and value. A bug can have 0-n Tracking Groups defined.

Managed Objects Included in Update

List of managed objects included in the change package. The object columns list the records, fields and so on, that are part of the fixes in the bug.

ADS Managed Objects Included in Update

List of ADS managed objects included in the change package. The columns list the Data Set name, customization count, data set record, and object values that are part of the fixes in the bug.

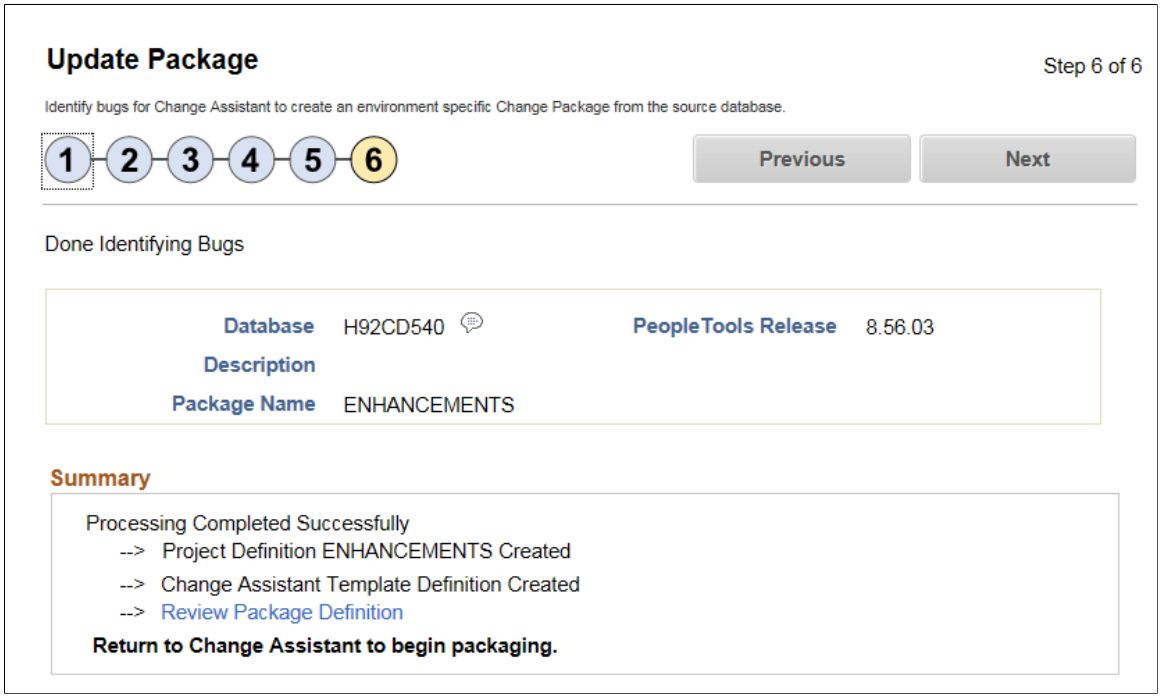
Post-requisite Bugs	List of post-requisite bugs, their subjects and image numbers. Click the Details icon to open a window with the bug details.
Customizations	Lists the names of the customizations that affect this bug.
Tests	Lists the test names that provide coverage for this bug.
Components to Test	Lists the components to test for this bug.

Define Update Package Wizard Step 6 of 6

When you transition to step 6 , the Change Package Aggregator will execute. The Change Package Aggregator is an engine that aggregates the steps from one or more BUG step apply structures into one single list of steps. This list of steps is then passed to the Change Packager API so that a Change Assistant template can be generated. The Change Package Aggregator will also remove any duplicate steps.

Image: Define Update Package Step 6 of 6

This example illustrates the fields and controls on the Define Update Package Step 6 of 6. You can find definitions for the fields and controls later on this page.



A summary is displayed for the Change Package. A link is provided to Review Change Package.

See Reviewing Change Package

This step indicates that you are done identifying the updates and you need to return to Change Assistant to begin packaging.

Chapter 14

Applying Custom Change Packages

Packaging Updates

After defining the Change Package, you must return to Change Assistant to create the package.

1. Select Tools, Create Change Package.
2. Select the new change package from the drop down list.
3. Optionally select the Apply Change Package check box.

   If selected the Apply Change Package Wizard will launch when the package is created.
4. Click Finish.

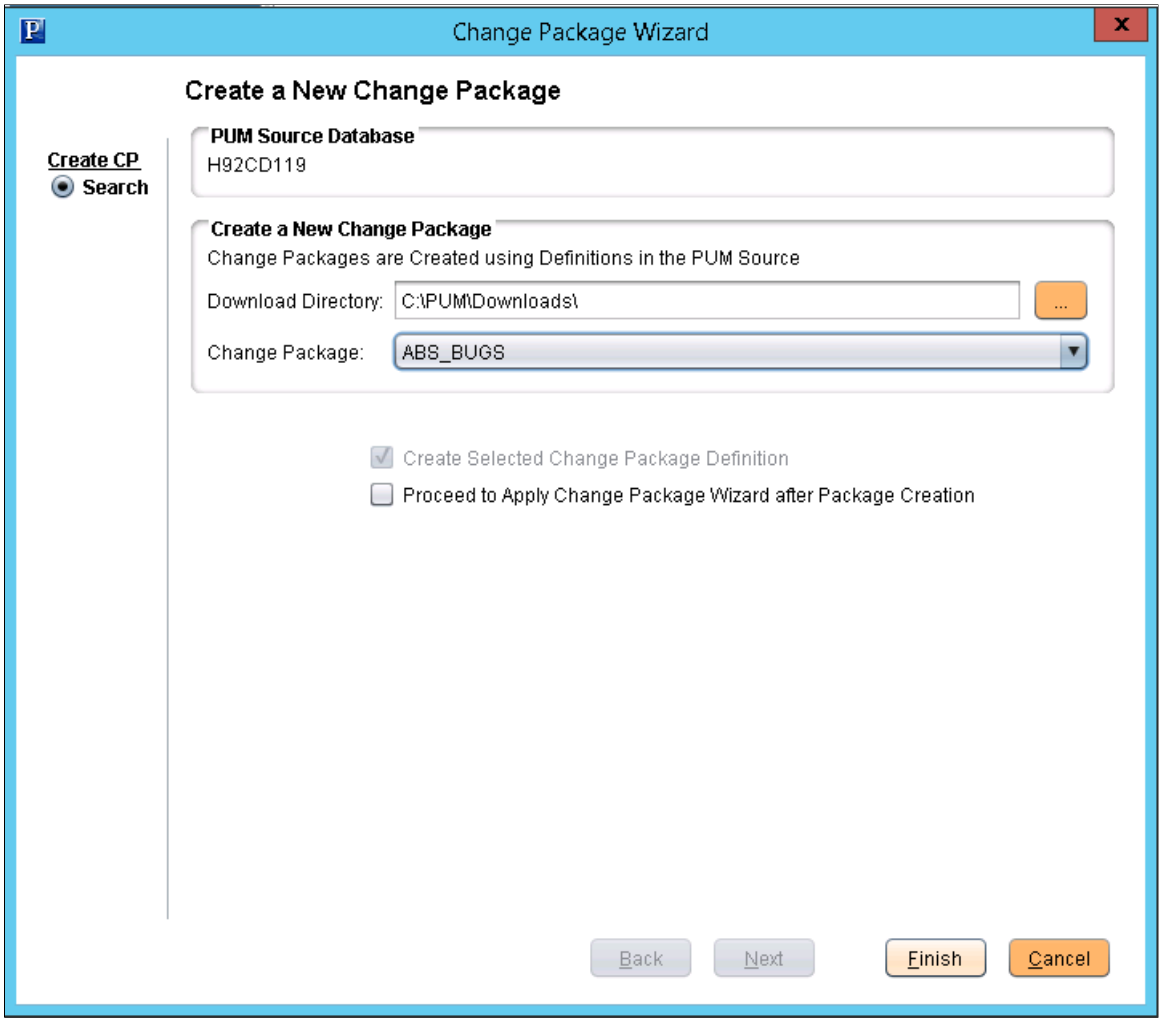
   The progress dialog box will open to indicate the change package is being created.

   The change package is created as upd<change package definition name>.zip. For example updPKG1.zip.
5. Click OK on the message *Change Package <package name> has been successfully Created in the Download Directory*.

Change Packager is also aware of the target environment, including the platform and all installed products. The Change Package will include platform and product filters.

Image: Create a New Change Package

This example illustrates the fields and controls on the Create a New Change Package. You can find definitions for the fields and controls later on this page.



Download Directory	When the change package definition is defined on the PUM Source, it will be downloaded to the directory indicated here. By default the download directory defined for Change Assistant is used.
Change Package	Select the change package definition from the drop down list.
Create Selected Change Package Definition	This check box is selected and read-only. After selecting the change package definition when you click Finish, Change Assistant will create the change package in the download directory.
Proceed to Apply Change Package Wizard after Package Creation	Select this option if you want to apply the change package as soon as it's created. If you leave this check box cleared, you can review the Change Package before applying it.

Change Package Contents in the Download Directory

The download directory will contain the following:

- Zip file for the change package name upd<changepackage_name>.zip
- Project Directory named upd<changepackage_name>

Depending on the updates selected, the project directory contains the following folders:

changeassistanttemplate	Contains the Change Assistant template for the update job
DATA	Contains any data files required for the selected updates.
Documentation	Contains the documentation for the Change Assistant job.
Projects	Contains the Managed Objects project.
Scripts	Contains any scripts files required for the selected updates
SQR	Contains any SQRs included in the selected updates.

Applying Change Package

The Apply Change Package wizard will guide you through the configuration based on the Apply Type that is selected.

Understanding the Apply Update Process

When the custom change package containing your selected updates is created not all files are included in the change package for 2 major reasons:

1. Reduces the time it takes to create the initial package.
2. Leverages Change Assistant job filtering to eliminate the creation of files not required by your target environment.

The update job is filtered based on the target environment and only the files required for the target environment are created from the PUM source. Depending on where the PeopleSoft Update Image (PUM Source) is installed the process may be very time-consuming, to alleviate this issue customers have the option to run the source and target steps in separate jobs.

The initial pass to apply updates has the following options:

- Source Steps Only

  The Source Steps Only option provides the ability to run the initial pass to create all files that are contained in the change package. This job can be run on the same machine where the PUM Source is installed. Once the initial pass has completed, a modified change package is created that contains all the files. The modified update change package can then be copied to the machine where you will run the Apply Update on your target database.

- Target Steps Only

Using the new change package created from the Source Steps Only job, you can apply the change package to your target database without requiring a connection to the source database. When the job is created for the target environment, all unnecessary files are filtered out.

- All Steps

  All steps requires a connection to both the target database and the PUM source. When this option is selected, the source steps will create the necessary files needed for the target system.

Applying the Change Package

To apply the change package:

1. Start EMF if it is not already started and you selected *Configure EMHub For File Deploy* on the EMHub Options page in Change Assistant.

   Note: EMHub is only required for file deploy. If you plan to manually deploy file, skip this step.

2. In Change Assistant, select Tools, Change Actions.
3. Select Update Manager and Click Next.

   Note: If you are already in the Update Manager action, select Tools, Apply Change Package.

4. Select Apply Change Packages and click Finish.
5. Select the download directory where the change package was created.
6. Select the change package that was created for your custom change package definition.
7. Select *Initial Pass*.

   By default All Steps is selected. Change this value if you choose to decouple the source and target steps.

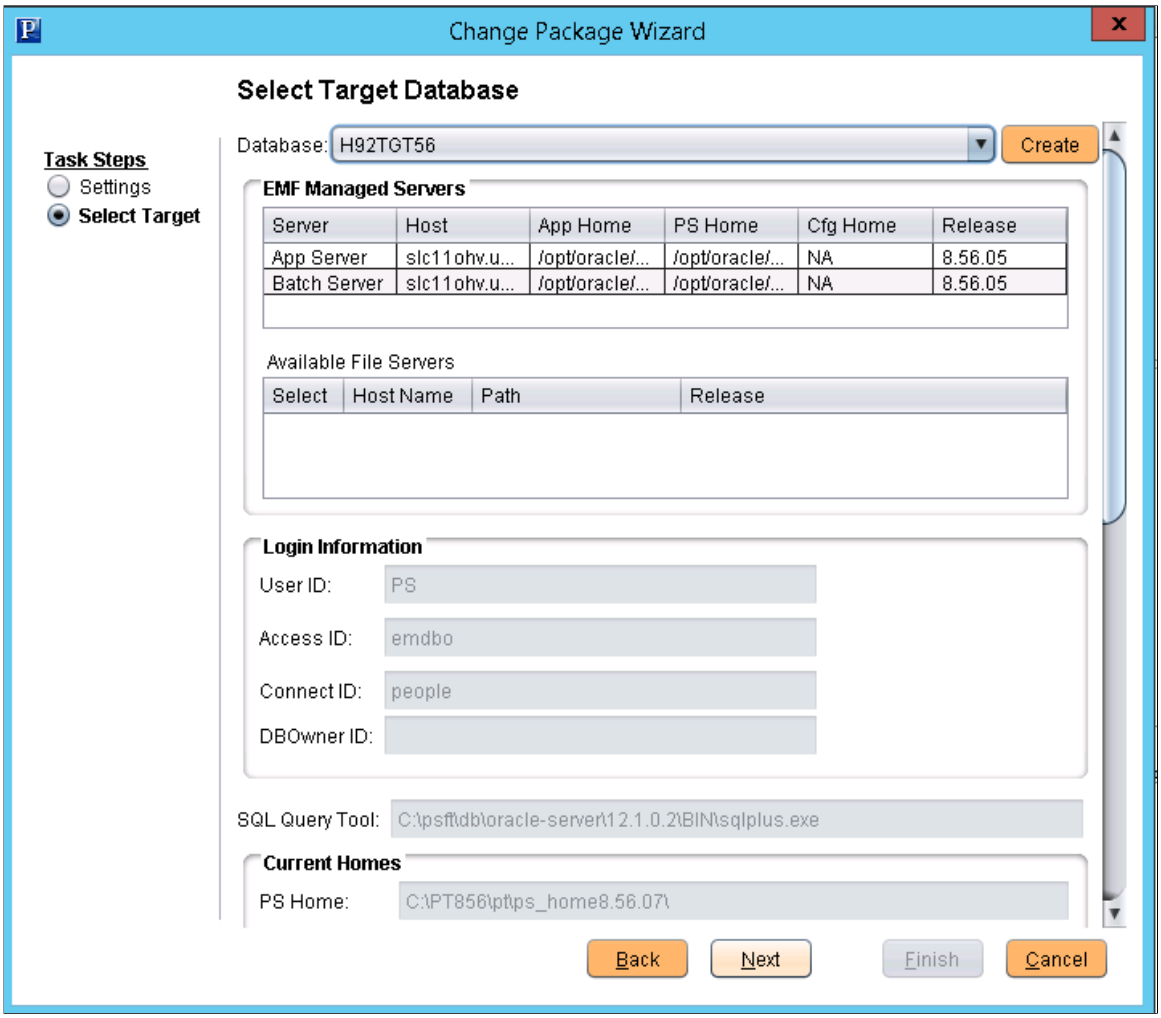
8. Click Next.
9. Select the target database.

   Note: Use the Create button to create the target database if it has not been previously created. See Defining Databases and Defining Target Database

10. If you are using EMHub, select the file server.

Image: Select Target Database page

This example illustrates the fields and controls on the Select Target Database page. You can find definitions for the fields and controls later on this page.

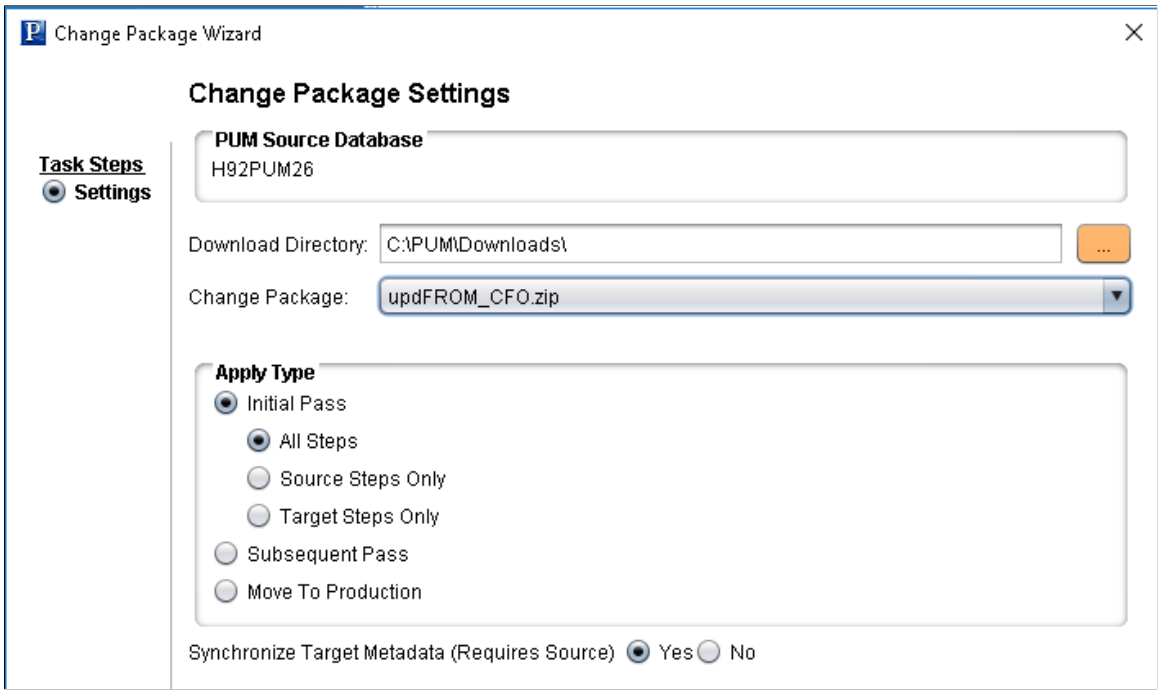


11. Click Next.
12. Change Assistant will connect to the target database and check compatibility. The Compatibility Check page will then be displayed.
13. Click Next.
14. The Apply Summary is displayed, click Finish.

    Change Assistant will begin building the Change Assistant job.
15. The Update job will be created and open in Change Assistant.

Image: Change Package Settings page

This example illustrates the fields and controls on the Change Package Settings page. You can find definitions for the fields and controls later on this page.



Download Directory

When the change package definition is defined on the PUM Source, it will be downloaded to the directory indicated here. By default the download directory defined for Change Assistant is used.

Change Package

The change package name will include the change package definition. upd<your change package name>.zip.

Apply Type

- Initial Pass

  You will first apply the update to your development environment which is an Initial Pass.

  In the Initial Pass you will perform compares to retrofit your customizations and repackage the update to include all your customizations.

  Important! Development environment must have the same maintenance level as any additional targets where you intend to subsequently reuse this package (after incorporating customizations) and apply them using the *Move to Production* apply type.

  In the initial pass, you can select which steps to perform.

  See Understanding the Apply Update Process

- Subsequent Pass

The final step in the initial pass creates a modified change package which includes all your customizations. This modified change package is then used to apply the updates to additional target databases the same maintenance level. If you select subsequent pass, the modified change package will contain Less manual stops than the initial pass, but will include a manual stop to review the change package and a step to update the change package. Typically you would run an initial pass, then a subsequent pass and then the final move to production.

Note: The subsequent pass template is similar to the Move to Production pass templates delivered in Images on PeopleTools releases prior to 8.57.

- Move to Production

  Use the Move to production pass to apply your updates to the Production database. This pass will execute the SQL's used in the initial pass or subsequent pass bypassing the build steps. There are less steps and manual stops reducing apply time.

See *PUM Best Practices and Maintenance Strategy* document post on the PUM Homepage.Change Assistant and Update Manager Related Links

Synchronize Target Metadata (Requires Source)

Select *Yes* to upload the target database information to the PUM Source when the update is applied.

The default is *Yes*, however if you are applying the update to a database that is not used for defining and creating change packages in PUM, there is no need to upload the database information to the PUM Source and you would select *No*.

Note: If the PUM source is not defined, this option will not be enabled.

Reviewing the Change Assistant Job

After you apply a change package, the Change Assistant job is created using the selected change package and options.

Understanding Job Naming Conventions

The Update job name reflects the criteria selected for the job.

```
Softwareupdate.<PACKAGE NAME>.{<PUM SOURCE DATABASE>-<TARGET-DATABASE}<IP or MTP>
```


For example:

```
Softwareupdate.SELECTIVE.{HR92U016-HC920001}IP
```

In this example, the package name is SELECTIVE, the PUM source database is HR92U016, the target database is HC920001, and the apply type is Initial Pass.

Staging and Output Directories

When the Change Assistant job is created, a folder for the job is created in both the Staging and Output directory. The folder will have the same name as the Change Assistant job. In the example above the folder would be named *softwareupdateSELECTIVE{HR92U016-HC920001}IP*.

When Change Assistant is creating a new job, if an existing output and staging folder is found, Change Assistant will add a number to the folder, for example, *softwareupdateSELECTIVE{HR92U016-HC920001}IP.1*.

Understanding Job Filtering

Change Assistant will filter the job to only include the steps that apply to your environment. The job is filtered by step attribute criteria, including:

- Platform
- Language
- Products
- PeopleTools Release
- Orientation
- EM Hub

  If the EM Hub is defined and the target database is defined to the hub, the file deploy steps will be included in the job, if it is not defined, the file deploy steps will be set to Filtered at the Job Level.

- Synchronize Target Metadata

  If the Synchronize Target Metadata option is set to No , the step Re-Synching Target Details with PI Image will be set to Filtered at the Job Level.

Creating Filtered Documentation

The Change Assistant template is delivered with embedded documentation to help guide you through the change package jobs, especially the manual steps. You can create a single HTM file that is filtered to contain only the documentation for the chapters, tasks, and steps relevant to your job. This section assumes that you have created a Change Assistant job from a PUM change package. To create the filtered documentation:

1. In Change Assistant, in Update Manager mode, highlight the root node of the template.
2. Right-click, and select Finalize Documentation.

This produces a single consolidated HTM file named for the update job. The file is saved on your client machine in the following location, where <staging_directory> is the directory you specified on the General Settings page:

```
<staging_directory>\<change assistant job name>\Documentation\<package_name>.h⇒
tm
```

For example: *D:\PUM\Staging\softwareupdateSELECTIVE{HR92U016-HC920001}IP \Documentation\SELECTIVE.htm*.

Running Change Assistant Job

Change Assistant will execute each step in the job until completion, unless a manual step or error is encountered.

When you encounter manual steps you will need to take some action, such as review compare reports. If you make any changes while the job is executing, you will want these same changes applied to additional targets.

Running SQRReport Steps

For Change Assistant jobs created from PUM change packages only, you can edit the SQRReport step type to add a user-defined Run Control ID, as follows:

1. Highlight the step and select Edit, Step Properties.
2. Select the Step Definition tab.
3. Click Additional Settings.
4. Add the Run Control ID, and specify any other settings needed.

   If no value is entered for Run Control ID, the default value ADHOC is used.
5. Click OK twice and restart the Change Assistant job.

Updating Package for Subsequent Passes

The last steps in the initial pass and subsequent pass template are used to prepare your change package for the Move to Production.

Step	***Type***	***Description***
Copying Customized Codeline Objects	Manual Stop	Manually copy your customized codeline objects (located in PSHOME / PS_APP _HOME / PS_CFG_HOME or such similar locations to the staging directory.
Merging CP and CP Invalid View Projects	Merge Project	Merges the additional invalid views project (if one was created during the initial pass) into the existing project resulting in a single project. The merged project is used in all subsequent applies using the updated change package.

Step	*Type*	*Description*
Exporting Modified Package-MO Project	CopyToFile	Copies the managed object project to a file.
Exporting Modified ADS-MO Project Only if Required	AEWithRunControl	Consolidates multiple ADS projects into one project and copies it to a file.
Exporting Modified ADS Project - [ADSProjectName] Only if Required	AEWithRunControl	Copies individual ADS project (by bug) to a file. **Note:** There will be a step created for each ADS project included in the change package.
Create Modified Change Package	UpdateChangePackage	The change package is zipped to the staging directory and ready for the Move to production.

Moving to Production

In the Initial Pass, you applied the custom change package to your development database. In the process of applying the change package, you completed all compares and adjusted the change package to retrofit any customizations to your system. Once you have tested the updates, you are ready to deploy the updates to your other target environments using Subsequent Pass.

The Subsequent Pass uses the modified change package created in the initial pass to apply the updates to additional databases. During the subsequent pass, you have the opportunity to further modify the template for customizations if needed. At the end of the subsequent pass, a new modified change package is created.

The Move to Production Pass uses the modified change package created in the initial or subsequent pass to apply the updates to the production database.

To apply the updates to your target databases:

1. (Optional) Start EMF if it is not already started and you selected *Configure EMHub For File Deploy* on the EMHub Options page in Change Assistant.

   Note: EMHub is only required for file deploy. If you plan to manually deploy file, skip this step.

2. In Change Assistant, select Tools, Change Actions.
3. Select Update Manager and Click Next.

   Note: If you are already in the Update Manager action, select Tools, Apply Change Package.

4. Select Apply Change Packages and click Finish.
5. Select the download directory where the change package was created.

6. Select the change package that was created for your custom change package definition.
7. Select *Move to Production*.
8. Click Next.
9. Select the target database.

   Note: Use the Create button to create the target database if it has not been previously created. See Defining Databases

10. If you are using EMHub, select the file server.
11. Click Next.
12. Change Assistant will connect to the target database and check compatibility. The Compatibility Check page will then be displayed.
13. Click Next.
14. The Apply Summary is displayed, click Finish.

    Change Assistant will begin building the Change Assistant job.

15. The Update job will be created and run until it completes or encounters an error.

    Note: There are no manual stops in the Move to Production.

Chapter 15

Applying PeopleSoft Release Patchset to PeopleSoft Image

Applying Downloaded PeopleSoft Release Patchset to PeopleSoft Image

The PeopleSoft Update Image will be available on a regular schedule and is the source of all updates to your application, however there may be times when a critical fix is necessary and you can not wait for the next PeopleSoft Image. When this circumstance occurs, it will be necessary to download the PeopleSoft Release Patch from My Oracle Support (MOS).

You will apply the PRP to the current PeopleSoft Image so that you can continue to take advantage of the powerful PeopleSoft Update Manager PIA application to generate a custom change package including requisite updates that may have already been posted. The PRP change package includes the metadata required to keep your current PeopleSoft Image up to date. Every PRP will be included in the next scheduled release of the PeopleSoft Image which is cumulative of all updates.

Important! The pi_home directory requires read and write access to apply PeopleSoft Release Patchsets (PRPs). To apply PeopleSoft Release Patchsets (PRPs), use the instructions in the *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.55)*, "Using and Maintaining the PeopleSoft Environment", Changing the Access for PI_HOME to change the access to read/write and disable guest login.

Warning! Because PRPs are created for specific PIs, the PRP can only be applied to the specific PI for which it was created. Change Assistant will not allow you to apply a PRP directly to your PeopleSoft environment.

To download and apply an individual fix:

1. Discover and download the PRP from MOS.
2. Use Change Assistant to apply the PRP to the PeopleSoft Image database.
3. Create a new custom change package definition using Define Change Package option in the Update Manager Action.

   See Defining Change Package
4. Apply the new custom change package the same as any other update from the PeopleSoft Image.

   See Applying Change Package

Discovering and Downloading the PRP

Before you download the change package for the PRP, make sure that you have set up a download directory on your local machine.

To discover and download the PRP:

1. Create a download directory on your local machine.
2. Log onto My Oracle Support and Select the Patch and Updates tab.
3. Search for PeopleSoft Release Patchsets (PRP) by Bug Number, Product, or Product Family.
4. Search for PRPs.

   Use the Patches and Updates tab in My Oracle Support to search for PRPs. PRPs have a classification of Critical.
5. Open the fix details to review the fix.
6. From the Patch Details page, click Download.
7. Select the Include Prerequisites checkbox to list all the prerequisite change packages.
8. In the file download window, click on the change package name and select Save.
9. Select your download directory.

Applying the PRP to the PeopleSoft Image

To apply the PRP to the PeopleSoft Image:

1. In Change Assistant, select Tools >Change Actions.

   Note: If you are already in the Update Manager Action, select Tools, Apply Downloaded PeopleSoft Release Patchset to PeopleSoft Image then go to step 4.
2. Select Update Manager and click Next.
3. Select Apply Downloaded PeopleSoft Release Patchset to PeopleSoft Image and click Finish.
4. Select the download directory where you downloaded the PRP change package and click Next.
5. Select the PRP change package or packages from the list displayed and click Next.
6. Change Assistant will verify that the package is compatible with the PI version. If it is not compatible, you will receive a message to Cancel.
7. The Change Assistant job will start running.

Note: Use the instructions in the *PeopleSoft Deployment Packages for (PeopleSoft PeopleTools 8.55)* , “Using and Maintaining the PeopleSoft Environment”, Changing the Access for PI_HOME to change the access to read/write and disable guest login for the pi_home share.

Applying the PRP to Target Database

After the PRP has been applied to the PeopleSoft Image database, it is now available for you to apply to your target environments using the Update Manager action. Apply the PRP as you would any other update.

See Defining Change Package

Chapter 16

Applying PeopleTools Patch

Using Change Assistant to Apply PeopleTools Patch

Understanding PeopleTools Patch

PeopleTools patches deliver fixes between PeopleTools minor releases. PeopleTools patches are posted to My Oracle Support, as they become available. PeopleTools patches are cumulative. They include all fixes from all previous patches for the specified release. For example, patch .03 contains all the fixes contained in the .02 patch as well as all of those contained in the .01 patch.

The patch contains the PeopleSoft Installer which is used to update the binaries in your PS Home directory.

The PeopleTools patch location is always the PTP directory in your target PS home.

Locating and Downloading PeopleTools Patch

To locate and download the DPKs:

1. Go to the PeopleSoft PeopleTools Patches Home Pages, My Oracle Support, Doc ID 2062712.2, to find the information on locating and downloading the latest PeopleSoft PeopleTools patch.

   The PeopleTools Patches Home Pages contain links to the patch, as well as the links to the installation documentation.

2. Download the DPK zip files into a single directory, referred to in this documentation as DPK_INSTALL.

   Be sure that the *DPK_INSTALL* directory has adequate available space for all the zip files. When you download, there will probably be multiple zip files. The multiple files are needed due to size limitations.

   The files names are comprised of the following parts:

   - *<Operating_System>* is LNX for Oracle Linux, WIN for Microsoft Windows, AIX for IBM AIX, or SOL for Oracle Solaris for SPARC.
   - *<Release>* is the release and patch number for the product, such as 8.56.04.
   - *n* represents the total number of zip files

   The zip files have the following format:

   PEOPLETOOLS-*<Operating_System>*-*<Release>*-#of*n*.zip

   For example for Linux the files would be:

PEOPLETOOLS-LNX-8.56.02-1of4.zip

PEOPLETOOLS-LNX-8.56.02-2of4.zip

PEOPLETOOLS-LNX-8.56.02-3of4.zip

PEOPLETOOLS-LNX-8.56.02-4of4.zip

Installing the Patch

Refer to the installation documentation posted on the PeopleSoft PeopleTools Patches Home Page 2062712.2 for instructions on installing the PeopleTools DPK.

Installing a New PeopleTools Patch Version of Change Assistant

When you install the new release PeopleTools Client from the PeopleTools DPK, you will be prompted if you want to install Change Assistant, select Y.

See the PeopleSoft PeopleTools Deployment Packages installation guide on the PeopleSoft PeopleTools Patches Home Page 2062712.2, Applying PeopleTools Patches Using DPKs.

Note: You need to install the latest version of Change Assistant in order to apply the PeopleTools patch to your target database. When you install the PeopleTools Client from the DPK, it installs the latest Change Assistant.

See Installing Change Assistant

Configuring Change Assistant for Applying a PeopleTools Patch

To apply a PeopleTools Patch, the following configurations is required:

- General Options

  If the general options have not been previously defined, the Change Assistant Wizard will open this page when you select an action. See Opening Change Assistant the First Time

  Alternatively, you can populate the General options using the command line. See the section Command Line for Setting Options in Update Manager Mode

- Database Definition

  Each target database will need to be defined. You can define a database by selecting File, New Database or clicking the Create button on the Select Target Database page. See Defining Databases

  Alternatively, you can define the target database using the command line. See the section Command Line for Creating Environments in Update Manager Mode

Applying the PeopleTools Patch Change Package

To apply the PeopleTools patch in Change Assistant:

1. In Change Assistant, select Tools, Change Actions.

2. Select Update Manager and click Next.
3. Select Apply a Patch to your Current PeopleTools Release and click Finish.
4. Review the Change Package Settings page and click Next.

   PeopleTools patches do not use the PUM Source, so it will indicate Not Set.

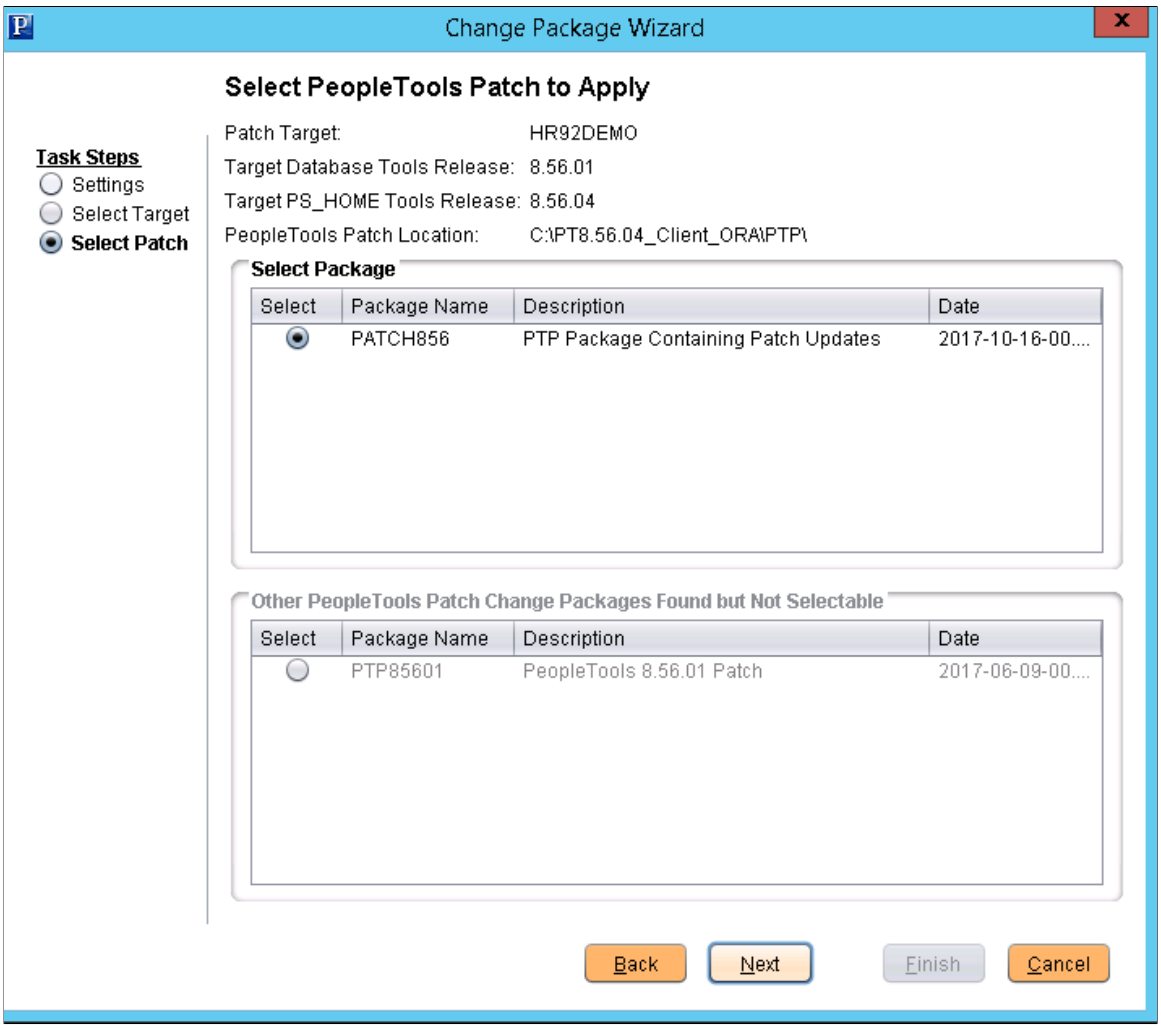
   The download directory is always the PTP directory in your target home.

   PeopleTools patches are always applied to the target database.
5. Select the target database, if the database has not been defined yet use the Create button to create the database.

   See Defining Databases
6. Click Next.
7. Select the Change Package.

   Image: Select PeopleTools Patch to Apply

   This example illustrates the fields and controls on the Select PeopleTools Patch to Apply.



8. Click Next.
9. Change Assistant performs a PeopleTools patch version check. Review the messages and click Next.

   A warning is displayed if the selected patch is at the same or a lower level than the installed PeopleTools patch. It is not recommended to re-apply or downgrade PeopleTools patches.
10. The Apply Summary page is displayed, review the summary and click Finish.
11. Change Assistant will load the change package and run the PeopleTools patch job.
12. All steps will run unattended and when the last step is complete you will receive a message that there are no more steps to run.

PeopleTools Patch Level

In PeopleTools 8.54, a new field PTPATCHREL was added to the PSSTATUS table. When you apply a PeopleTools patch, the PTPATCHREL field is updated with the new PeopleTools patch level.

Using Command line to Apply PeopleTools Patch

Alternatively, If you have configured a target database and general options in Change Assistant, you can apply the PTP via the command line by using an updated version of the following syntax: For example:

```
Changeassistant.bat -MODE UM -ACTION PTPAPPLY -TGTENV <YOUR_TARGET_DB_ENV_NAME_LIKE⇒
_PT856TST> -UPD PATCH856
```

See the section Command Line for Applying PeopleTools Patch in Update Manager Mode

Chapter 17

Upgrading PeopleTools

Using Change Assistant to Upgrade PeopleTools

Understanding PeopleTools Upgrade

PeopleTools upgrades involve two major components:

- New PeopleTools release.
- Change Package containing databases changes for the new PeopleTools Release.

The PeopleTools 8.57 Upgrade Homepage on My Oracle Support provides links to the information and resources for your PeopleTools upgrade.

Your documentation and template files are delivered differently depending on which of the following installation methods you are using:

- PeopleTools DPK

  The PeopleTools DPKs also contain the upgrade documentation, upgrade template, and files.

- Software downloaded from the Oracle Software Delivery Cloud (OSDC)

  Download the Change Package from the upgrade home page to get your template and HTML documentation.

Upgrading Oracle's PeopleSoft PeopleTools software requires planning, resources, testing, and training. The PeopleSoft PeopleTools upgrade documentation provides information to help you get started planning for your upgrade and installing the new release.

Important! The PeopleSoft PeopleTools upgrade documentation provides all of the steps necessary to prepare for and upgrade PeopleTools.

The PeopleSoft PeopleTools Upgrade involves the following steps:

1. Installing the New Release

   Refer to the documentation for installing either the PeopleTools DPK or the PeopleTools installation guide for your database platform if you downloaded the software from OSDC.

2. Applying a PeopleTools Patch

   If you installed the new release using OSDC, you will need to download the latest PeopleTools patch from My Oracle Support.

   See Using Change Assistant to Apply PeopleTools Patch

3. Installing PeopleSoft Change Assistant

   See Installing Change Assistant from PeopleTools Client DPK

   Note: If Change Assistant was installed on a previous release, you will be prompted to remove the existing Change Assistant. For some release/patch levels, the installation may perform an update and all your configurations settings can be retained.

4. Applying the PeopleTools Upgrade Change Package

   a. Downloading the PeopleTools Upgrade Change Package

      Note: If you used DPK to deploy PeopleSoft PeopleTools, you do *not* need to perform this step.

   b. Setting Up Change Assistant

      See Configuring Change Assistant for PeopleTools Upgrade and Configuring Change Assistant for Update Manager – Upgrade to a New Release of PeopleTools

   c. Upgrading PeopleTools

      See Upgrading to a New Release of PeopleTools

   d. Reviewing Upgrade Step Properties

Configuring Change Assistant for PeopleTools Upgrade

When performing a PeopleTools Upgrade, you will always be using a newly installed version of Change Assistant at the new PeopleTools release/patch level.

To configure Change Assistant for PeopleTools upgrade:

1. Launch Change Assistant.
2. At the Welcome menu, click Next.

   De-select the Always show this page if you want to bypass the Welcome menu next time you launch Change Assistant.

3. On the Select Action page, select *Update Manager* and click Next.
4. If this is the first time you are selecting Update Manager, the Wizard will guide you through the Change Assistant setup.

   See Configuring Change Assistant for Update Manager – Upgrade to a New Release of PeopleTools

5. On the Select Task page, select *Upgrade to a New Release of PeopleTools* and click Finish.
6. To apply the PeopleTools upgrade, the Wizard will guide you through the environment setup.

   See Upgrading to a New Release of PeopleTools

Configuring Change Assistant for Update Manager – Upgrade to a New Release of PeopleTools

If this is the first time you are selecting Update Manager, the Wizard will guide you through the Change Assistant setup. As you click Next you will complete the following pages:

1. General Options
2. PUM Source Options

   Note: PUM Source is not used with PeopleTools upgrades. You will click Next to skip this page.

3. EM Hub Options

   Note: EM Hub is not used with PeopleTools upgrades. You will click Next to skip this page.

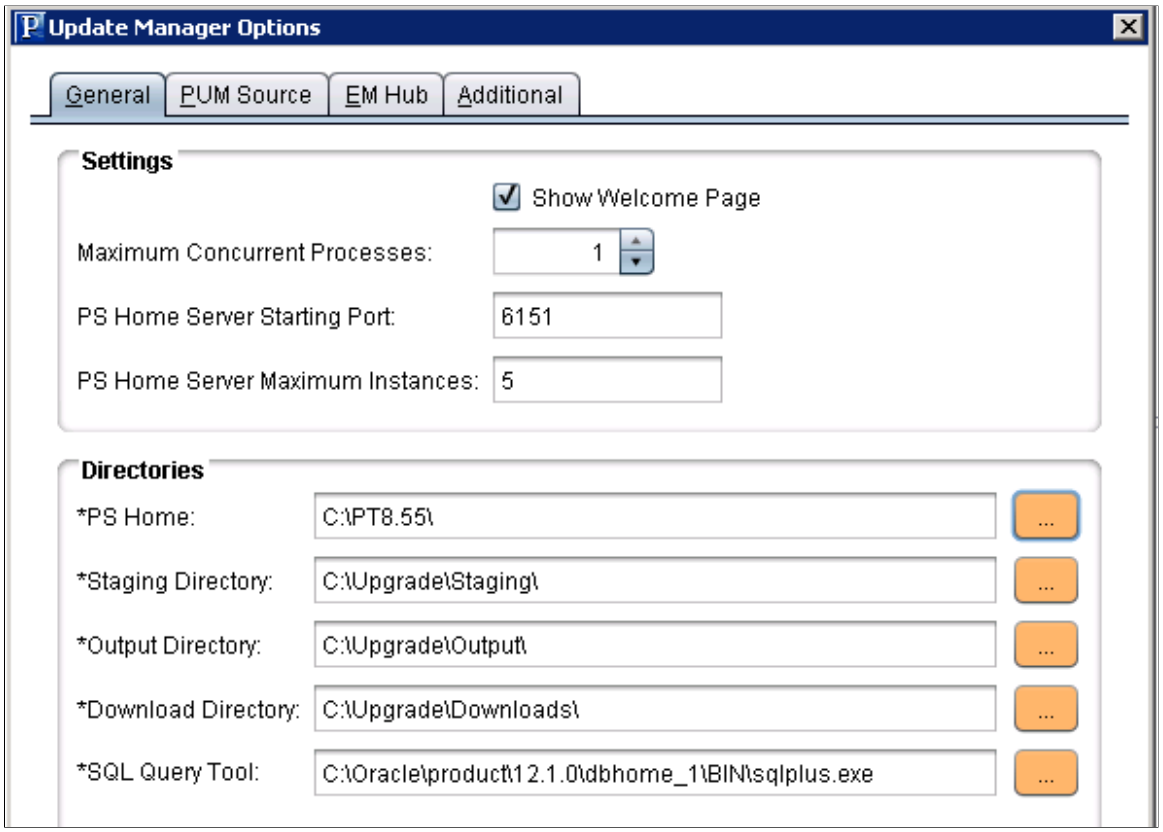
4. Additional Options
5. Select Task

Note: Once the environment has been configured, you can use Tools >Options to make any changes to the environment options.

General Options

Image: General Options

This example illustrates the fields and controls on the General Options. You can find definitions for the fields and controls later on this page.



Maximum Concurrent Processes Specifies the maximum number of processes that can be executed concurrently on the local machine. The default is 1.

PS Home Server Starting Port Specify the port number for the first PS Home server.

Change Assistant uses this port number to communicate with Change Assistant PS Home servers. The default starting port number is 6151. If you enter a port number that is already in use, you see an error message. You must change to a port number that is not in use, and then restart Change Assistant for the change to take effect.

PS Home Server Maximum Instances Enter a number between 1 and 10 for the maximum number of PS Home servers.

Use this value for environments with more than one PS_HOME. For each server instance, Change Assistant increments the PS Home Server Starting Port number by 1 up to the maximum number of instances. For example, with a PS Home Server Starting Port value of 6151 and a PS Home Server Maximum Instances value of five, the port numbers would be 6151, 6152, 6153, 6154, and 6155. The default is 5.

If you change this value, you must restart Change Assistant for the change to take effect.

PS Home

Enter the full path to the new PeopleTools release PS_HOME.

Note: This is the same PS_HOME used to install Change Assistant.

Staging Directory

Enter the directory in which you would like to stage all the Change Assistant upgrade files. This is the location that Change Assistant will store files to be used during the upgrade to new PeopleTools process.

Output Directory

Enter the directory in which you want the log files generated by the upgrade process to reside.

Download Directory

Enter the full path of the location to which you want to download your change packages.

SQL Query Tool

Select the correct executable for the database platform that matches the PS_HOME defined for CA. This value is used as the default when creating environments. Each environment contains separate settings and therefore, you can change this executable for a specific database.

Valid SQL query executables for each platform are:

- DB2: db2cmd.exe
- Microsoft SQL Server: sqlcmd.exe
- Oracle: sqlplus.exe

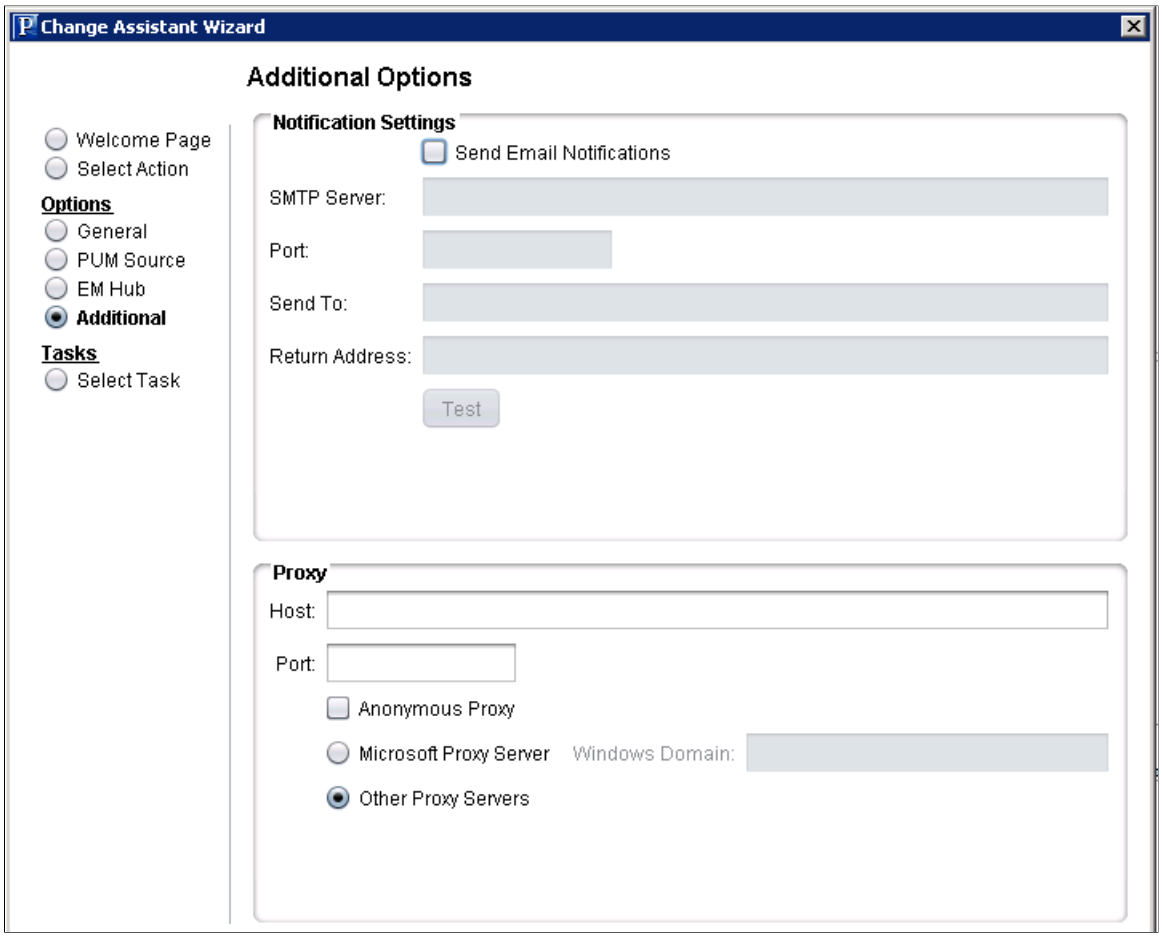
Note: Change Assistant uses the command line version of the .exe, not the GUI version. For example, sqlplus.exe is used for an Oracle database, rather than sqlplusw.exe.

Important! *Oracle Database Customers:* For systems running on the Oracle database, by default, Change Assistant copies the generated SQL script files to the location specified as the TEMP User variable on the Environment Variables dialog box. So, on Oracle, the generated SQL script files will actually exist in two locations: the specified Change Assistant output directory, and the TEMP directory. This behavior is in place because some versions of Oracle SQL Plus do not support pathnames longer than 79 characters. It is recommended that you ensure that the value specified for the TEMP User variable is set to a path short enough so that the string comprising the path and generated SQL file will not exceed 79 characters.

Additional Options

Image: Change Assistant - Additional Options page

This example illustrates the fields and controls on the Change Assistant - Additional Options page. You can find definitions for the fields and controls later on this page.



Notification Settings Section

Send Email Notifications	Select this check box to receive email notifications if there are errors in the upgrade process. Change Assistant also sends you a completion message when it encounters a Stop in the update process.
SMTP Server	Enter the SMTP mail server from which you receive the error or completion messages.
Port	Enter the port from which you want to access the email.
Send To	Enter the address to which you want the email sent.
Return Address	Enter the email address of the sender. Use this to identify who sent the notification.
Test	Validates that email is sent to the designated recipients and is working correctly.

Note: Ensure that your SMTP server is installed and configured correctly.

Proxy Section

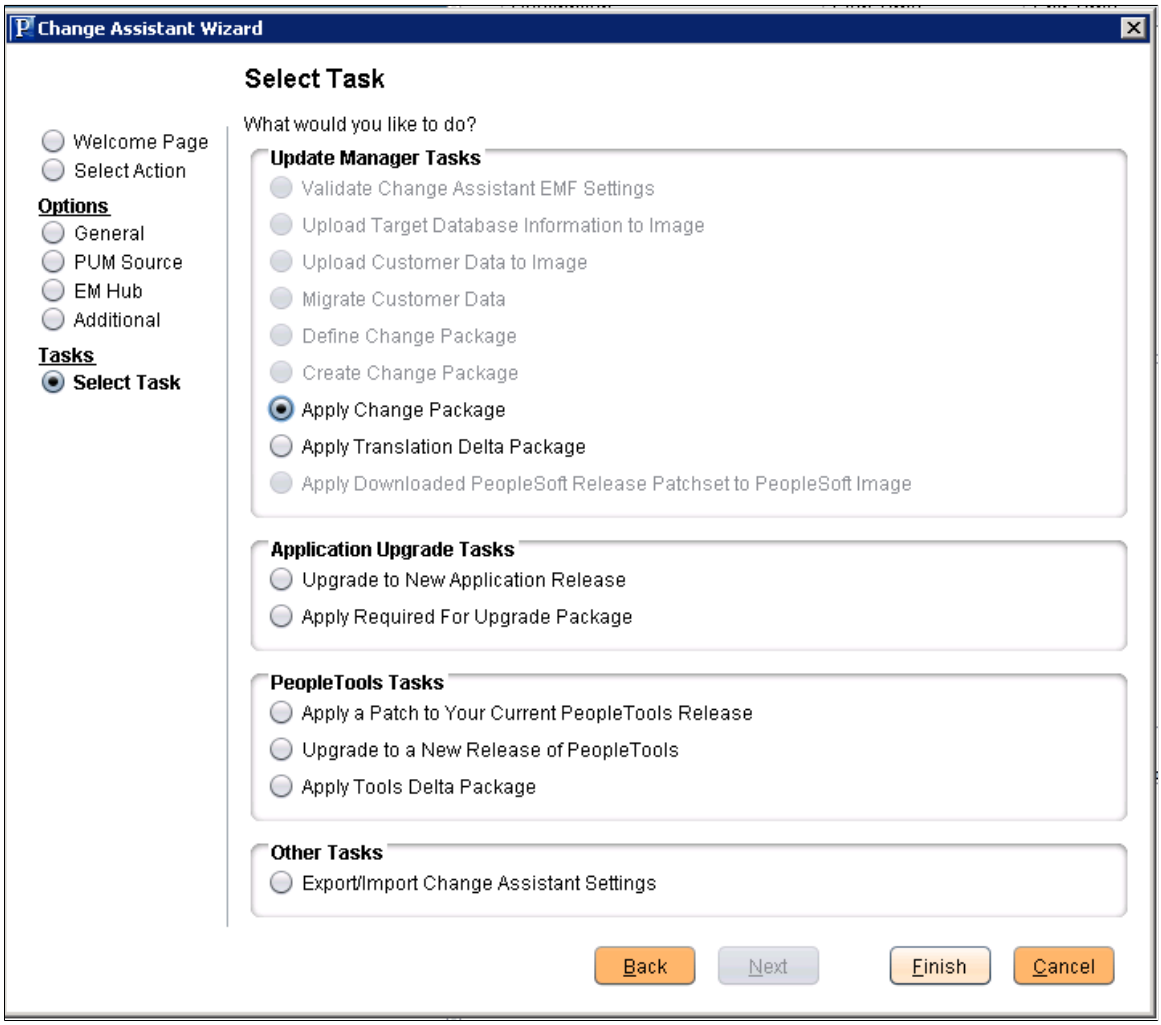
Host	(Optional) Enter the name of the proxy server if you want to run Change Assistant behind the firewall using a proxy server.
Port	(Optional) Enter the port number for the proxy server.
Anonymous Proxy	Indicates that you are using a proxy server that does not require authenticated connections.
Microsoft Proxy Server	Indicates that you are using a proxy server with Windows authentication.
Windows Domain	The network domain in which the system runs.
Other Proxy Servers	Indicates you are using non-Microsoft proxy servers.

Select Task

Select Upgrade to a New Release of PeopleTools.

Image: Select Task – Upgrade to a New PeopleTools Release

This example illustrates the task Upgrade to a New PeopleTools Release selected.



Upgrading to a New Release of PeopleTools

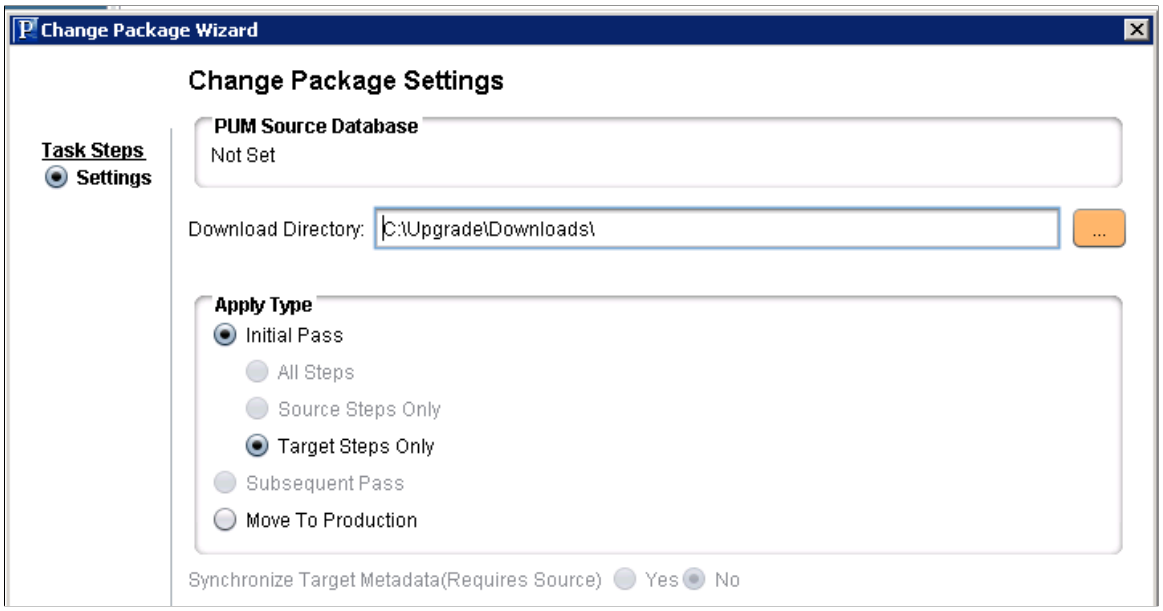
To apply the PeopleTools upgrade, the Wizard will guide you through the environment setup. As you click Next you will complete the following pages:

1. Change Package Settings
2. Select Target Database
3. Select PeopleTools Upgrade
4. Check Compatibility
5. Apply Summary

Change Package Settings

Image: Change Package Settings for a PeopleTools Upgrade

This example illustrates the fields and controls on the Change Package Settings for a PeopleTools Upgrade. You can find definitions for the fields and controls later on this page.



For a PeopleTools upgrade, the apply type is Initial Pass and Target Steps Only.

Select Target Database

On the Select Target Database page, select your target database if the databases were imported to the new instance of Change Assistant.

To create a new database or add the New Homes to an existing database:

1. Click the Create button, which will launch the Database Wizard.
2. On the Define Database page, enter the information for the database you are defining.

   Note: For PeopleTools Upgrade, you must set the path information for the new PS home locations. You must also ensure that the current PS_APP_HOME and the current PS_CUST_HOME are not set to the current PS_HOME. See Defining Databases

3. Click Next.

   Change Assistant will query the database and gather additional database.

   Note: Change Assistant will verify the connection to the database, including User ID/password, Access ID/password, and Connect ID/password. You will need to correct any errors before continuing to define the database.

4. The information is then displayed on the Additional Database Details page.
5. Click Next and the Confirm Settings page is displayed.

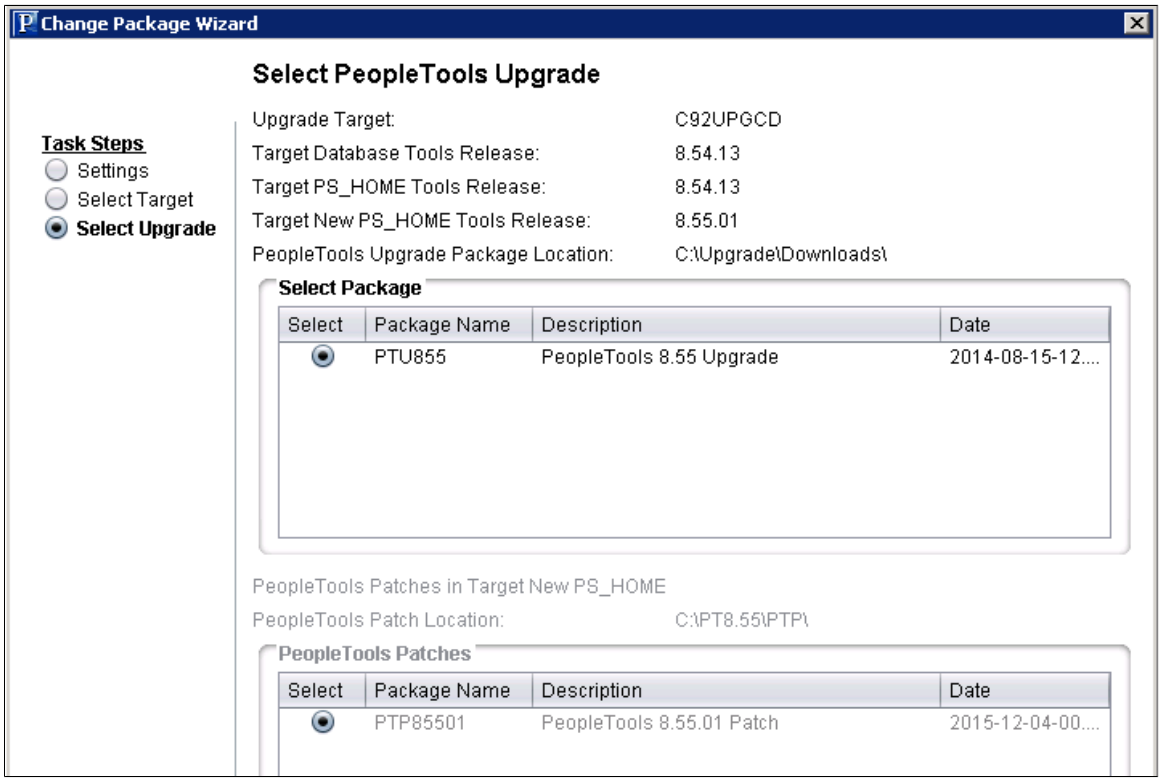
6. Click Finish.

Select PeopleTools Upgrade

The select PeopleTools Upgrade page will display the target database information, as well as the change package to install and any PeopleTools patches that Required at Upgrade and downloaded to the download directory.

Image: Select PeopleTools Upgrade

This example illustrates the fields and controls on the Select PeopleTools Upgrade page.

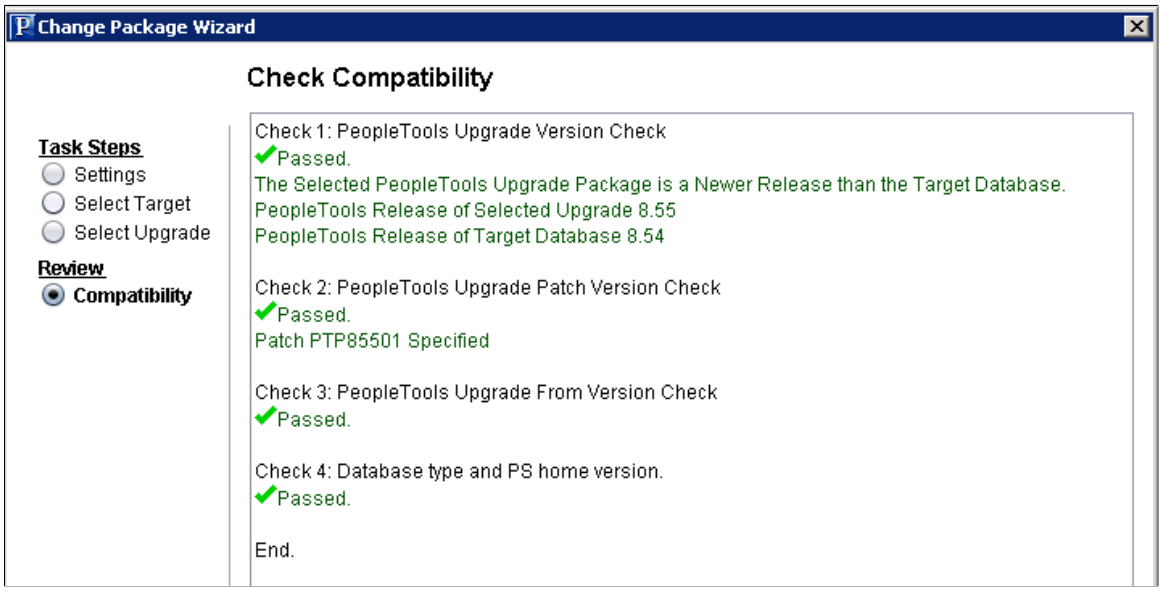


Check Compatibility

Change Assistant will perform a compatibility check to the upgrade version and upgrade patch.

Image: Check Compatibility

This example illustrates the fields and controls on the Check Compatibility.



PeopleTools Upgrade Job

When you click Finish on the Summary page, the PeopleTools upgrade job is created and opens. The first step is usually a manual stop.

For more information on running Change Assistant Jobs, see Running the Upgrade Job

Creating and Applying Tools Delta Package

Since PUM supports multiple PeopleTools releases it is necessary for PUM to handle shape differences that may exist between different PeopleTools releases. There are 2 types of Tools dependencies:

- Hard Dependencies - The object will not work on a lower release and is therefore stripped from the change package definition.
- Soft Dependencies - Some of the attributes of the object are stripped in order to work on the lower release.

When the customer does upgrade to the newer PeopleTools release, any previously applied updates that contained soft dependencies need to be re-applied with the associated post-requisites to add back the attributes or objects that were stripped away when the updates were applied in the old release. The Tools Delta Package option in the PeopleSoft PIA application is used to create this change package.

Prerequisites

You will use the Change Assistant Update Manager > Define or Create a New Change Package action to create and apply the change package. Before you can select this action, the following prerequisites must be configured and installed:

1. Download the latest PeopleSoft Update Image (PI) from My Oracle Support and install it locally.

See Installing PeopleSoft Update Image

2. Configure the Microsoft Windows client running Change Assistant.

   See Configuring the Microsoft Windows Client Running Change Assistant

3. (Optional) Configure Environment Management Framework for your target environment, if you want to use the file deploy feature.

   See Configuring the Environment Management Hub

4. (Optional) Start EMF if you plan to use the file deploy feature.

   See Running the Environment Management Hub

5. Define the PUM Source and EM Hub.

   Note: For the PeopleTools Upgrade these options were skipped when the original configuration for Change Assistant was completed. Depending on the PeopleSoft Image downloaded and installed, you may need to remove Change Assistant and install the version delivered with the PeopleSoft Image. After installing a new version of Change Assistant, you will need to set up Change Assistant.

Defining the PUM Source and EM Hub

If you are using the same version of Change Assistant that was used for the PeopleTools upgrade, follow these instructions. If you installed a different version of Change Assistant, follow the instructions in Configuring Change Assistant for Update Manager.

To configure Change Assistant options:

1. In Change Assistant, select Change Actions.
2. Select Update Manager and click Finish.
3. Select Tools, Options.
4. Verify that the information on the General page is correct.

   Note: PS_HOME will be the new release of PeopleTools.

5. Select the PUM Source tab.
   a. Select Define PUM Source.
   b. Click Create and define the PUM source database.

      See Defining Databases

   c. Select the drive that you mapped to the pi_home directory when you configured the Microsoft Windows client.
   d. Enter the PUM Source PIA URL.

6. (Optional) Select the EM Hub tab.

You must have EMF configured and running before defining the EM Hub.

a. Select Configure EMHub For File Deploy.

b. Enter the Server Host Name.

c. Enter the Server Host Port.

d. Enter the Chunk Size.

e. Enter the Ping Interval.

f. Enter the Drives to Crawl.

g. Click Ping.

A successful ping will return Packets: Sent = 3, Received = 3, Lost = 0.

h. Click the View button to display the Environment Management Hub Summary.

Select the Additional tab.

Verify that the information on the Additional page is correct.

7. Click OK.

Creating the Tools Delta Package

To create the tools delta package:

1. Select Tools, Define or Create a Change Package.
2. Click the button Click Here to Open a Browser and Connect to the PUM Source Database.
3. Sign on.
4. Select PeopleTools, Lifecycle Tools, Update Manager Dashboard, Select Target Database.
5. If you only have one target database defined, the target database is selected by default.
6. Select Define Change Package, Tools Delta Package.
7. On step 2, enter a Package name and description, then click Next.
8. On step 3, enter the From Tools Release value in the format <release>.<patch> for example 8.53.12 (PeopleTools release 8.53 patch 12). The new PeopleTools release/patch number for the target database is displayed in the To Tools Release field.
9. Click Next. For tools delta packages step 4 is skipped.
10. Step 5 in the Define Change Package wizard is displayed showing all the bugs that will be included in the change package.

    Note: This package may also contain additional bugs that you have not applied to the target database.

11. Click Next.

The change package definition is created and you can return to Change Assistant to apply the change package.

12. Sign off and close the browser.
13. Return to Change Assistant and click the drop-down for Change Package on the Define or Create New Change Package page. The package you just created on the PUM source should be at the top of the list. Select the change package.

    Note: If you closed Change Assistant, launch Change Assistant and select Tools, Define or Create a Change Package.

14. If you would like to apply the package when it is created, select the Proceed to Apply Change Package Wizard after Package Creation checkbox.
15. Click Finish.

Applying Tools Delta Change Package

To apply the tools delta package:

1. In Change Assistant, select Tools, Apply Tools Delta Package.
2. Select the change package using the drop down. Only tools delta change packages are available.
3. Select *Initial Pass*.

   By default All Steps is selected.

4. Click Next.
5. Select the target database.

   Note: Use the Create button to create the target database if it has not been previously created. See Defining Databases and Defining Target Database

6. Click Next.
7. Change Assistant will connect to the target database and check compatibility. The Compatibility Check page will then be displayed.
8. Click Next.
9. The Apply Summary is displayed, click Finish.

   Change Assistant will begin building the Change Assistant job.

10. The Update job will be created and open in Change Assistant.

Chapter 18

Defining and Applying Translations Fixes

Understanding Translation Fix Packs

The Translations organization, from time to time, will review existing/ previously defined and delivered translations, and determine that a revision to that translation is required. This is a standalone review process that:

- is not directly linked to fixes or features being delivered by the applications.
- may include changes to objects that have not changed since Product GA.
- is language specific, in that each language is reviewed separately and the content of each language deliverable can and is likely to be unique.

The result and content of this translations process is referred to as a Translations Fix Pack (TFP).

The Translations Delta Package component is used to select the Translations Fix Pack(s) to include in a Translations Delta Package (TDP).

Defining Translations Delta Package

To define a translation delta package:

1. Select PeopleTools, Lifecycle Tools, Update Manager, Update Manager Dashboard.
2. Expand the Select Target Database folder and click on the database name.
3. Expand the Define Change Package folder and select Translations Delta Package.
4. This launches the Define Translations Delta Package Wizard starting at step 2. Enter a name and description for the package.

   Note: Step 1 is only displayed when no target databases have been uploaded. The database name you selected in step 2 above is used.

5. Click Next.
6. On step 3, select the languages.
7. Click Next. Step 4 is skipped for translation delta packages.
8. Step 5 will display all bugs meeting the language criteria.
9. Click Next.

10. When you transition into Step 6 the change package definition is complete.

11. Return to Change Assistant to create the package.

Define Translations Delta Package Wizard Step 2 of 6

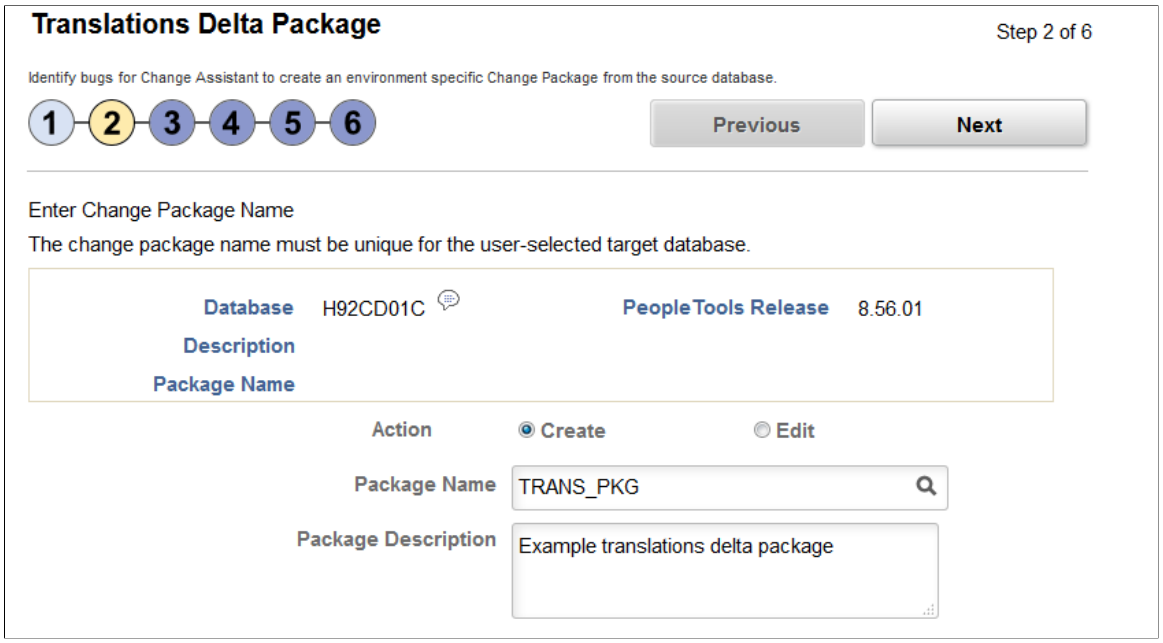
Navigation

After selecting the target database in the Update Manager Dashboard, expand the Define Change folder and select Define Translation Delta Package.

The second step is to enter the package name and description.

Image: Define Translations Delta Package Wizard step 2 of 6.

This example illustrates the fields and controls on the Define Translations Delta Package Wizard step 2 of 6. You can find definitions for the fields and controls later on this page.



Package Name

Enter a name for your translation delta change package. To edit an existing change package, select the Lookup button. The list of change packages that can be edited is restricted as follows:

- Packages created by the current user.
- Packages created for the currently selected target database.
- Packages which have been defined but have not been created.

Package Description

Enter a description for the change package.

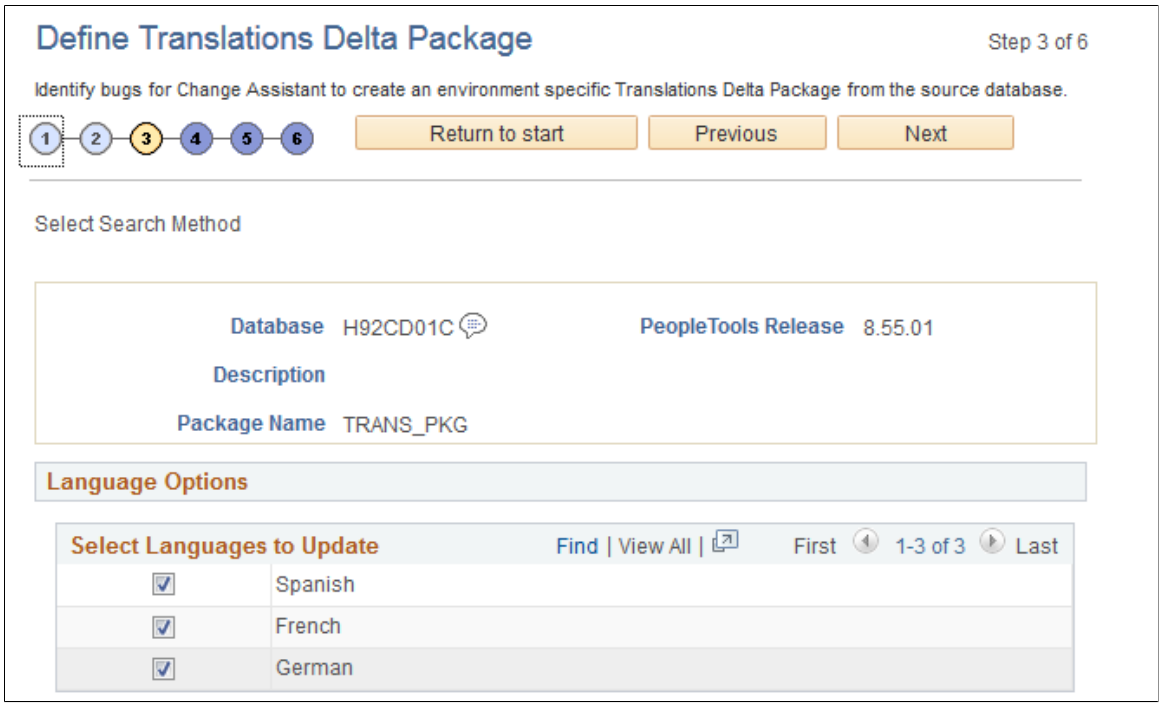
Define Translations Delta Package Wizard Step 3 of 6

Use the Select Search Method page to select the language or languages to update.

Note: If the target database is English only, nothing is displayed since you do not need a translation fix pack.

Image: Define Translation Delta Package Wizard Step 3 of 6

This example illustrates the fields and controls on the Define Translation Delta Package Wizard Step 3 of 6.

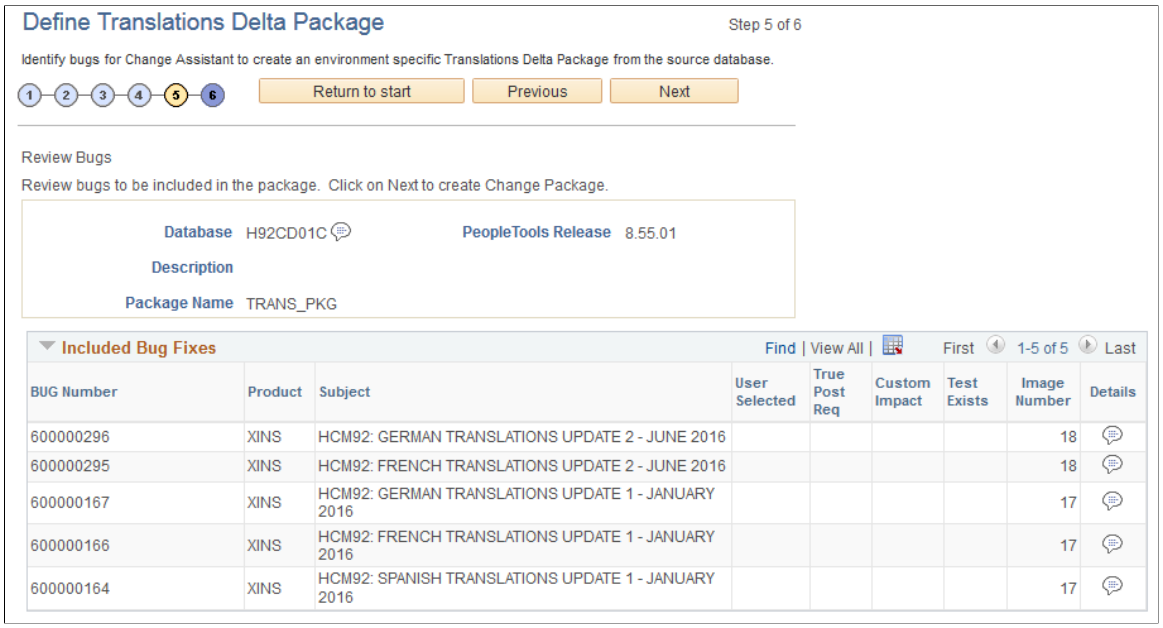


Define Translations Delta Package Step 5 of 6

Step 5 will display the bugs to be included in the translation delta package.

Image: Define Translation Delta Package Step 5 of 6

This example illustrates the fields and controls on the Define Translation Delta Package Step 5 of 6. You can find definitions for the fields and controls later on this page.



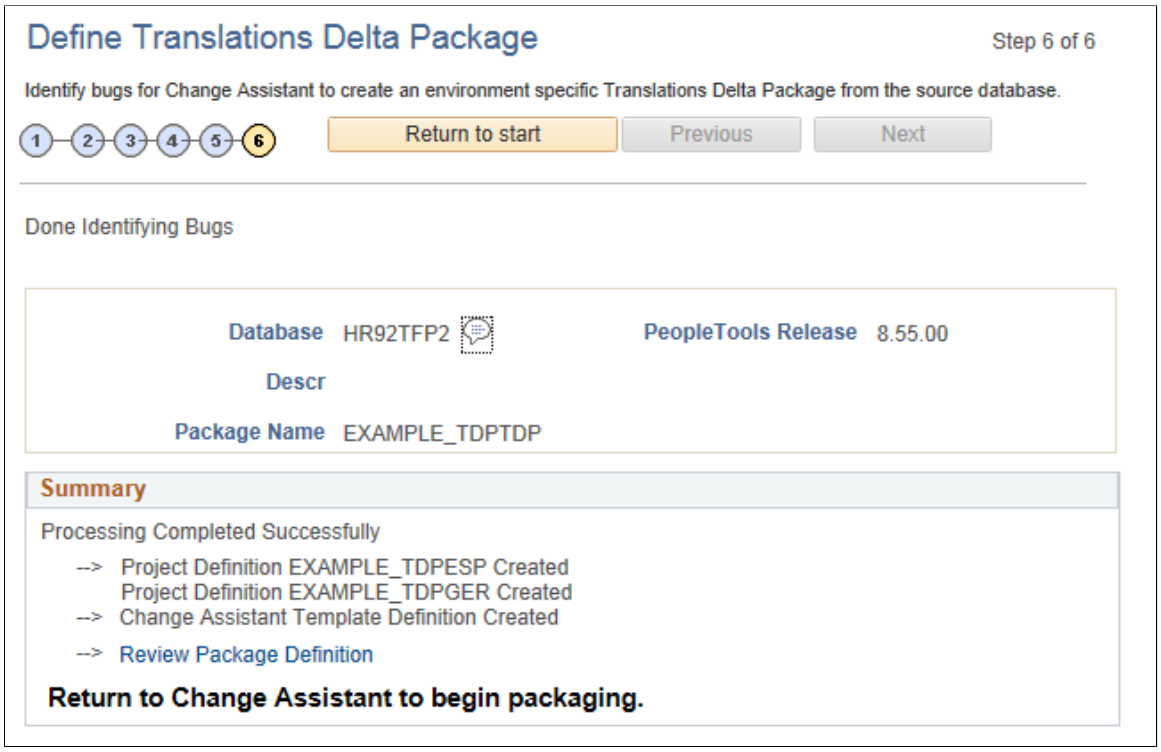
For details on the grid columns see Define Update Package Wizard Step 5 of 6

Define Translations Delta Package Wizard Step 6 of 6

When you transition into Step 6 the change package definition is complete.

Image: Define Translation Delta Package Wizard Step 6 of 6

This example illustrates the fields and controls on the Define Translation Delta Package Wizard Step 6 of 6. In this example there were 2 languages selected, therefore



Each language is processed separately. A project definition is created for language, with suffix indication the language. The projects will be combined into a single change package with separate steps by language. The Change Package Type is *TDP*.

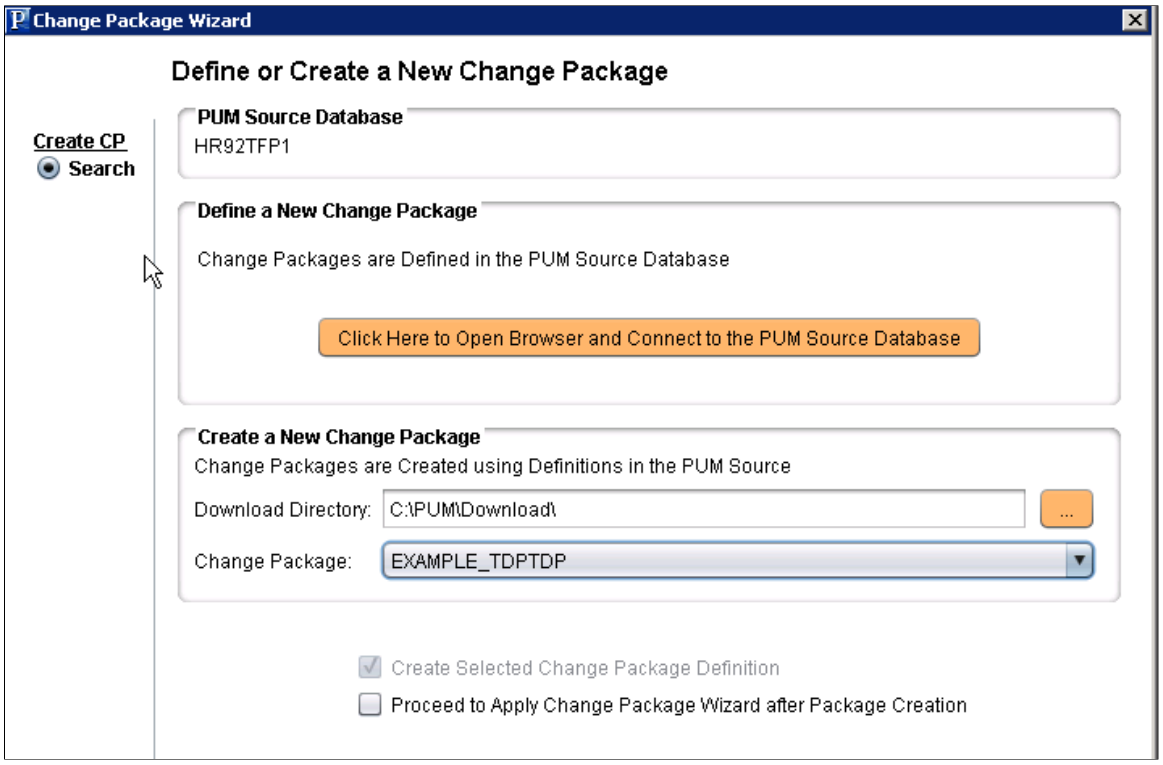
Creating Translations Delta Package

After defining the translations delta package, return to Change Assistant to create the package.

Select the package name and click Finish.

Image: Create a New Change Package

This example illustrates the fields and controls on the Define or Create a New Change Package . Use the Create a New Change Package section to create the change package.



If you select the Proceed to Apply Change Package Wizard after Package Creation, Change Assistant will launch the wizard. See Applying Translations Delta Package

Applying Translations Delta Package

To apply the translation delta package:

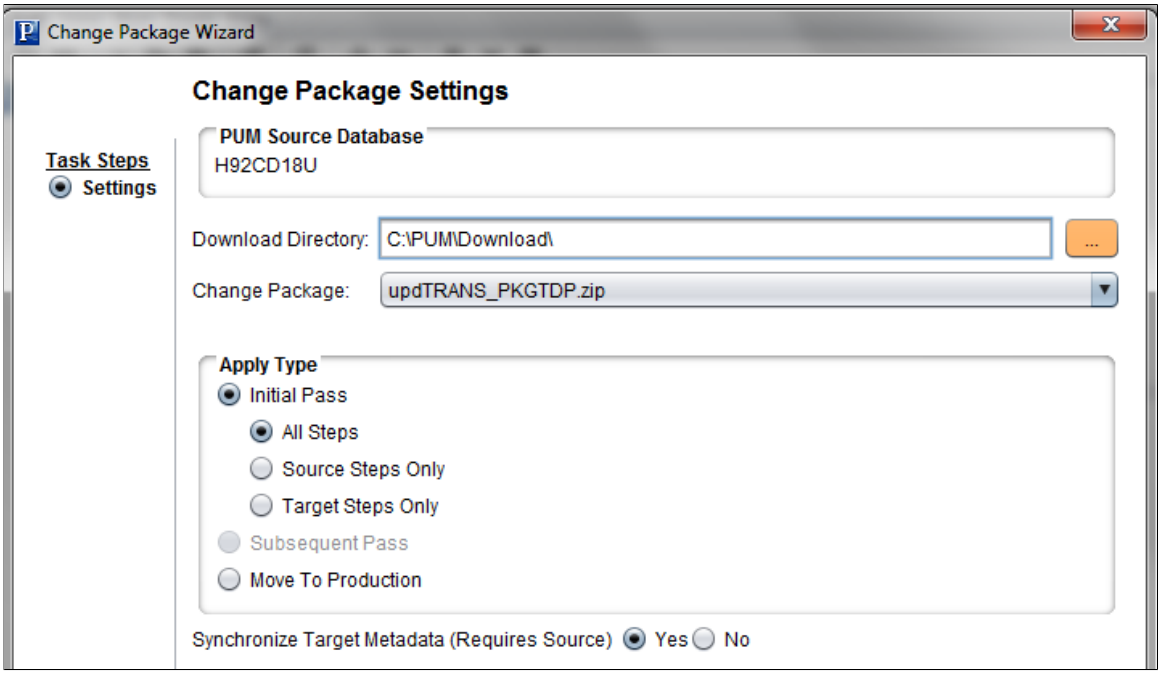
1. In Change Assistant, select Tools, Change Actions.
2. Select Update Manager and Click Next.

   Note: If you are already in the Update Manager action, select Tools, Apply Translation Delta Package.

3. Select Apply Translation Delta Package and click Finish.
4. Select the download directory where the change package was created.

Image: Change Package Settings

This example illustrates the fields and controls on the Change Package Settings.



5. Select the translation delta change package to apply. Only translation delta packages are available in the drop down. The package name will end with TDP.

6. Select *Initial Pass*.

   By default All Steps is selected. Change this value if you choose to decouple the source and target steps.

   Note: For information on Apply Type see Understanding the Apply Update Process

7. Click Next.

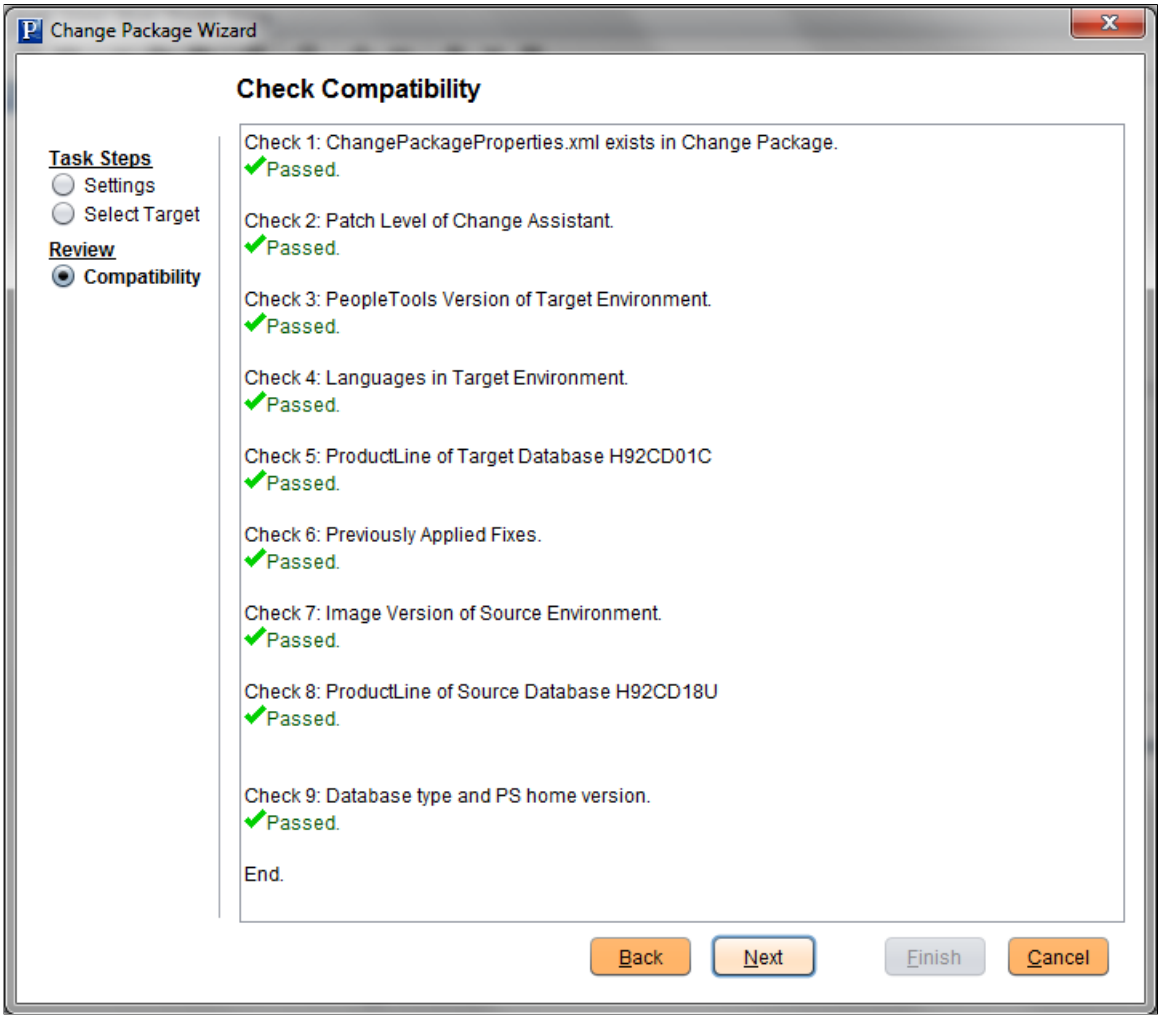
8. Select the target database.

   Note: Use the Create button to create the target database if it has not been previously created. See Defining Databases and Defining Target Database

9. Change Assistant will connect to the target database and check compatibility. The Compatibility Check page will then be displayed.

Image: Check Compatibility page

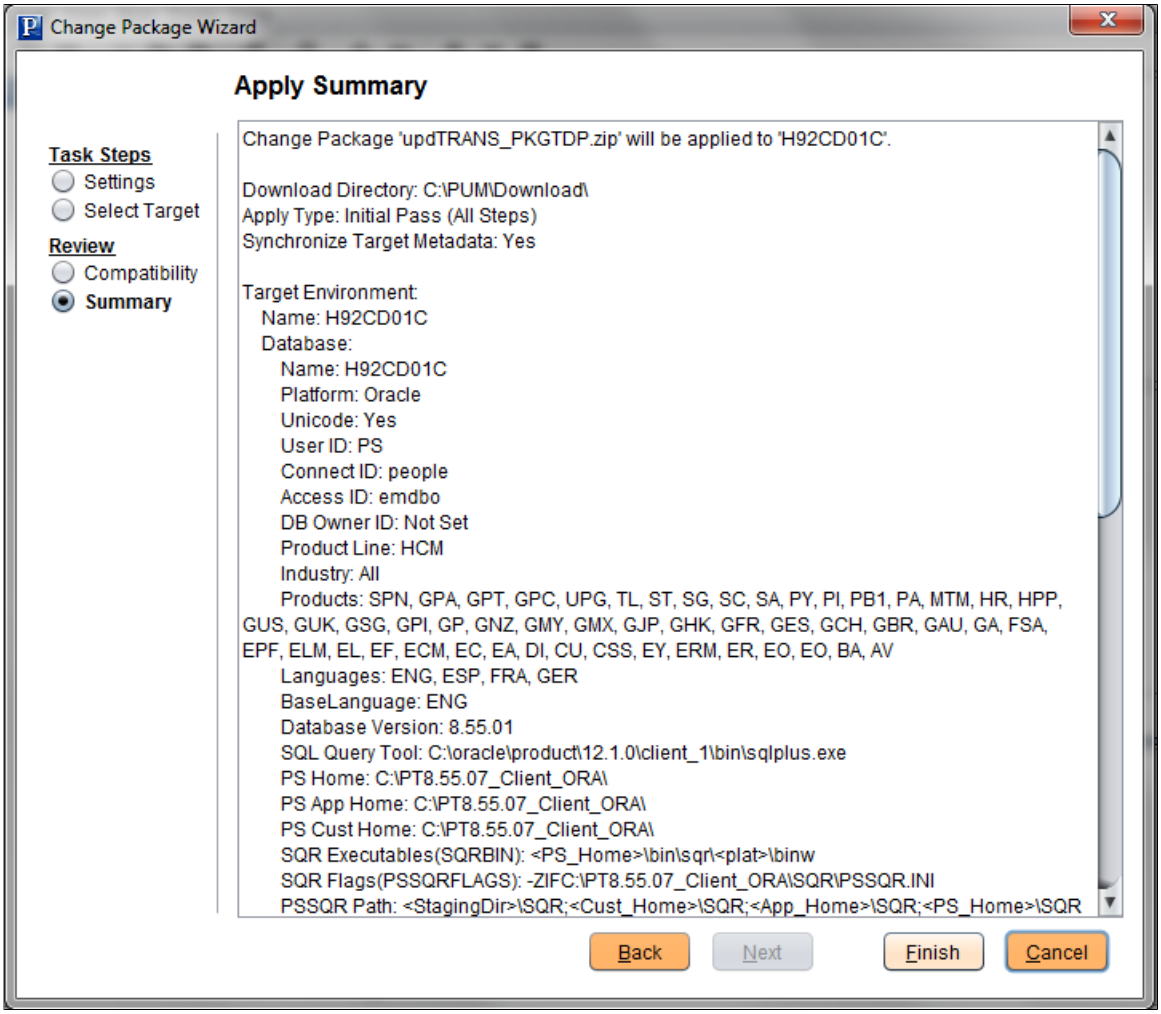
This example illustrates the fields and controls on the Check Compatibility page.



10. Click Next.
11. The Apply Summary is displayed, click Finish.

Image: Apply Summary page

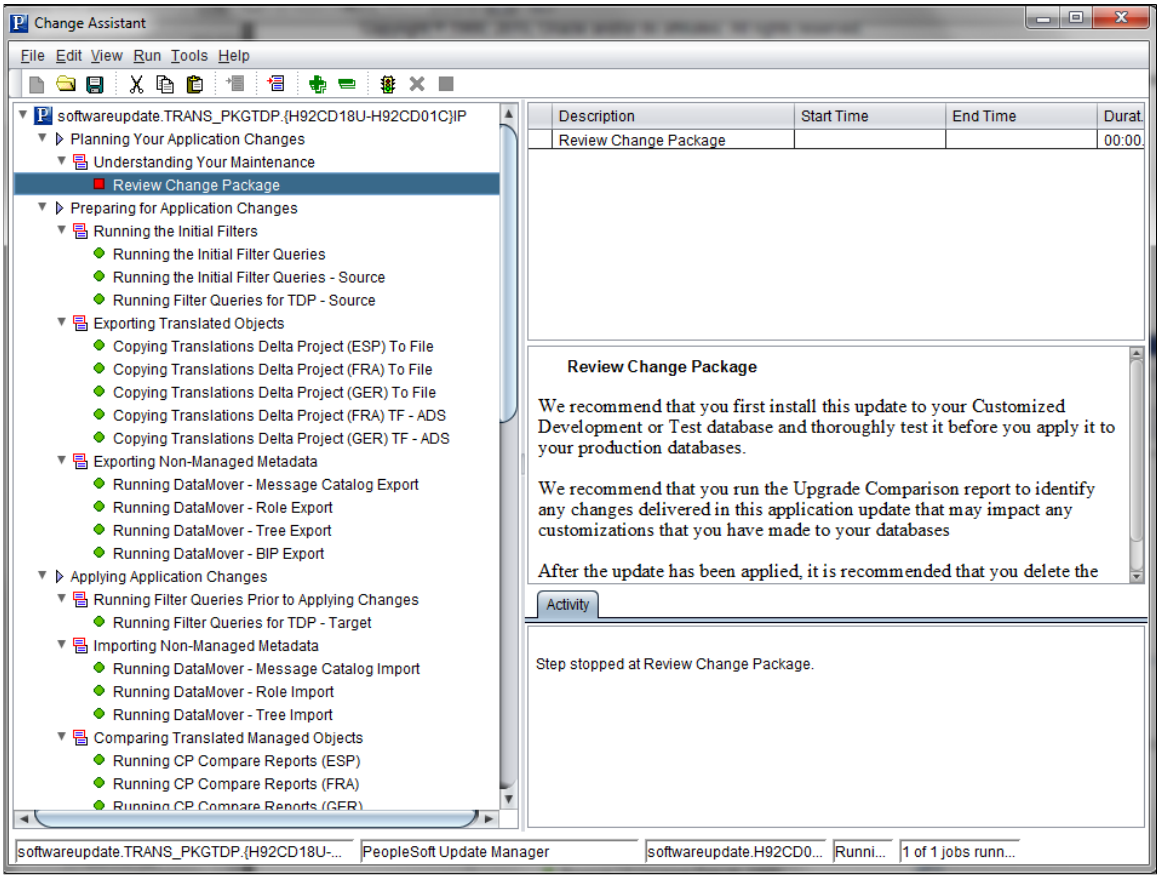
This example illustrates the fields and controls on the Apply Summary page.



12. Change Assistant will begin building the Change Assistant job.
13. The Update job will be created and open in Change Assistant.

Image: Example Translations Delta Project Job

This example illustrates a Translation Delta Project Job.



Part III

Using Change Assistant with Non-PUM Enabled Systems

Chapter 19

Using Apply Update Action

Discovering Updates Using My Oracle Support

If the current application level of PeopleSoft product is not PUM-enabled, it is necessary to use My Oracle Support to discover updates and then download them to your local system.

1. Log onto My Oracle Support (MOS).
2. Select Patch and Updates tab.

For detailed instructions on using MOS for patches and updates, refer to

My Oracle Support Patches and Updates for PeopleSoft Products [ID 1465172.1]

Downloading Updates From My Oracle Support

When you select an update to download, you will be downloading the change package. You will need to set up a download directory on your local machine to store all of your downloaded change packages. When you are ready to apply the change packages, you will reference this directory from Change Assistant.

Downloading a Single Patch

To download a patch from the Patch Details page:

1. In the Patch Search Results table, click the patch name link to view the patch details page.
2. Click Download.
3. Select the Include Prerequisites check box to list all the prerequisite change packages.
4. In the File Download window, click the patch file name link and select Save.

The context bar for each patch provides a download option. Note that you can select multiple patches from a list by using Ctrl or Shift.

Downloading Multiple Patches From My Oracle Support

To download more than one patch:

- From the patch search results, click anywhere in the row except a link to select that row. Use Ctrl or Shift to select multiple rows.

- Choose the Download button from the context bar.
- Click each file and save it.

Using WGET Options

WGET is a UNIX download utility. The WGET options enable you to create a WGET download script that you can save as a file or copy to the clipboard.

Note: The WGET download script is intended for advanced users. In most cases, there are no messages to indicate that an error has occurred. Before using the WGET script, you should be familiar with the WGET command and WGET log files. You should also be familiar with UNIX file management, know how to edit, delete, and copy UNIX files, create and edit shell scripts, change execute privileges in UNIX, and understand HTTP error codes. Alternatively, use a download manager to download multiple patches. If you do this, you must maintain an active My Oracle Support session while you download the patches.

For details on using the WGET options refer to

Patches and Updates

Reviewing the Updates Change Log

Using the Environment Management hub, Change Assistant evaluates the change log status of the available environments to identify if prerequisites have already been applied before allowing you to apply a new change package.

To review the change log for an environment, or to confirm whether particular update has been applied, you use the following PeopleTools utilities:

Utility	***Navigation***
Updates - View All	PeopleTools > Utilities > Administration > Updates - View All
Updates by Release Label	PeopleTools > Utilities > Administration > Updates by Release Label
Updates by Update ID	PeopleTools > Utilities > Administration > Updates by Update ID

Only those application releases in which *all* of their application updates were delivered in change packages are considered to have reliable change log data. Application updates that you applied that were not delivered as change packages are probably not included in your change log. Therefore it's possible that your change log does not match your actual maintenance history. In these cases, you should apply change packages individually—select only one change package in the Update Wizard. Then, you can verify whether the list of missing prerequisites reported by Change Assistant accurately reflects your maintenance history.

If your target environment is at an application release level that is not considered to have reliable change log data, Change Assistant may falsely report that a prerequisite is missing from this environment. If this is the case, *do not* add the supposed missing update to your current apply list, as this would reinstall the update (not recommended).

Therefore, if your target environment may have unreliable change log data, review the list of missing prerequisites found by Change Assistant and if any of these updates are known to have been previously applied to your target environment, manually enter these updates to your change log first so that Change Assistant can accurately determine that these prerequisites have been satisfied. If you need to add entries to your change log, you will have to restart the apply change packages process.

Configuring Change Assistant for Apply Updates Action

Before you can apply an update, you need the following:

1. Change package in your download directory.

   For non-PUM enabled applications, this is the change package downloaded from MOS. See Downloading Updates From My Oracle Support

   For change packages created for your own customizations, place the change package in the download directory. See Creating a Change Project

2. Environment Management Framework must be configured and running.

   See Configuring the Environment Management Hub

Selecting Apply Updates Action

To start Change Assistant: and apply updates:

1. Select Start, Programs, PeopleSoft Change Assistant 8.54.xx, where *xx* refers to the release/patch number.

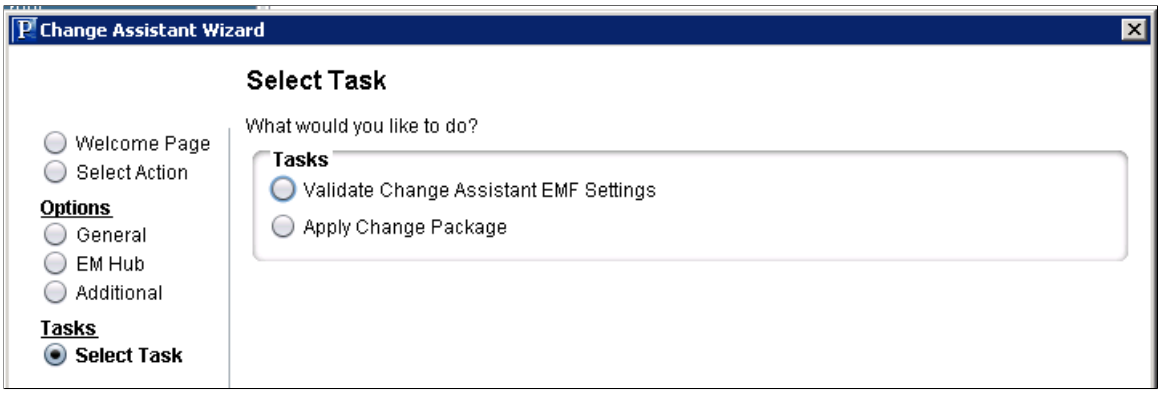
2. Depending on your preferences, you may or may not see a Welcome dialog box. If the Welcome dialog box is displayed, click Next.

   The Select Action page is displayed.

3. Select Apply Updates and click Next.

Image: Apply Updates Tasks

This example illustrates the fields and controls on the Select Task page for Apply Updates. You can find definitions for the fields and controls later on this page.

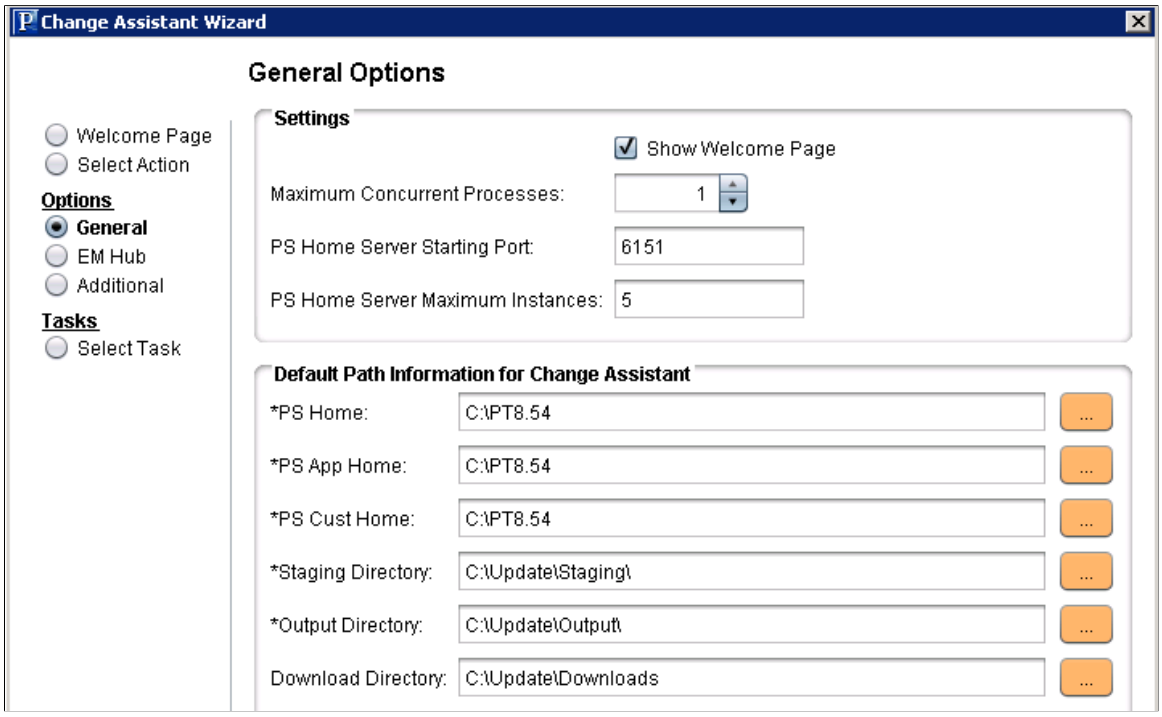


4. The options required for Apply Updates are shown on the left side of the page. If the options have not been defined, Change Assistant will guide you through the set up pages. Click each option to ensure it is properly configured for this action.

General Options

Image: General Options for Apply Updates

This example illustrates the fields and controls on the General Options page. You can find definitions for the fields and controls later on this page.



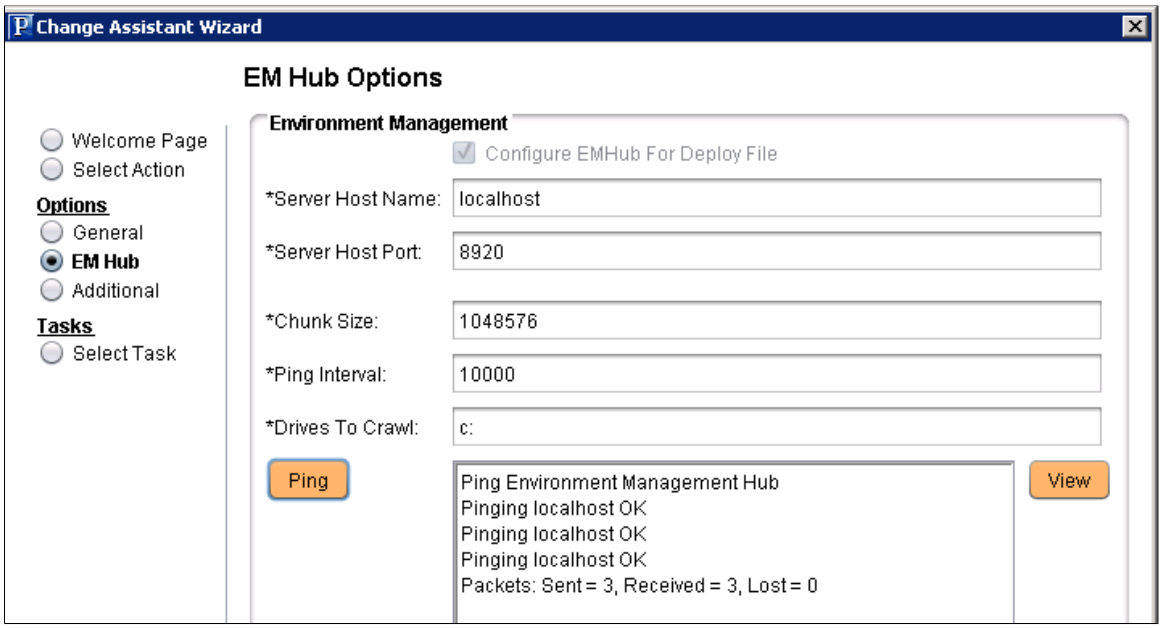
Maximum Concurrent Processes Specifies the maximum number of processes that can be executed concurrently on the local machine. The default is 1.

PS Home Server Starting Port	Specify the port number for the first PS Home server. Change Assistant uses this port number to communicate with Change Assistant PS Home servers. The default starting port number is 6151. If you enter a port number that is already in use, you see an error message. You must change to a port number that is not in use, and then restart Change Assistant for the change to take effect.
PS Home Server Maximum Instances	Enter a number between 1 and 10 for the maximum number of PS Home servers. Use this value for environments with more than one PS_HOME. For each server instance, Change Assistant increments the PS Home Server Starting Port number by 1 up to the maximum number of instances. For example, with a PS Home Server Starting Port value of 6151 and a PS Home Server Maximum Instances value of five, the port numbers would be 6151, 6152, 6153, 6154, and 6155. The default is 5. If you change this value, you must restart Change Assistant for the change to take effect.
PS Home, **PS App Home**, and **PS Cust Home**	Enter the full path for your PS home directories. **Note:** Specify the PS_HOME location you used to install Change Assistant.
Staging Directory	Enter the directory in which you would like to stage all the Change Assistant update files. This is the location that Change Assistant will store files to be used during the apply update process.
Output Directory	Enter the directory in which you want the log files generated by the update process to reside.
Download Directory	Enter the full path of the location to where you downloaded the update change packages.

EM Hub Options

Image: EM Hub Options for Apply Updates

This example illustrates the fields and controls on the EM Hub Options page. You can find definitions for the fields and controls later on this page.



Configure EMHub For Deploy File

Select this checkbox if you want to use EMHub for file deploy.

Note: In order to apply traditional updates (non PUM-enabled) EMF must be configured and running.

Server Host Name

The hostname of the server in which the Environment Management HUB resides.

Server Host Port

Indicates the port in which to connect to the Environment Management hub.

Chunk Size

Used for deploying files during a software update. Default is 1024 * 1024 bytes. Typically this does not need to be changed unless there are a significant number of files greater that 1024KB in a software update.

Ping Interval

Ping interval is in milliseconds for Change Assistant to contact the hub for new messages.

Drives to Crawl

Setting of drives to crawl to identify the configuration of the Change Assistant machine. Windows directories need to use the forward slash (/) character. Include your local drive in this setting so that Change Assistant can locate the SQL Query tool used for automating steps. Also include the path of the SQL Query tool.

Note: For traditional updates, Change Assistant discovers the SQL Client Tool using EM Hub. There is a directory path limit of 5 when EM hub crawls the drives, therefore if your SQL Client Tool is more than 5 directories deep, you must provide partial path. For example: *D:/|D:/Oracle/app/Administrator* where the full path to the query tool is path is D:\Oracle\app \client\Administrator\product\12.1.0\client_1\BIN\sqlplus.exe.

Ping

Click to verify a valid server URL. If you see *Service is off* to the right of this button, then you must correct the server URL and ping again until you see *Service is on.*

View

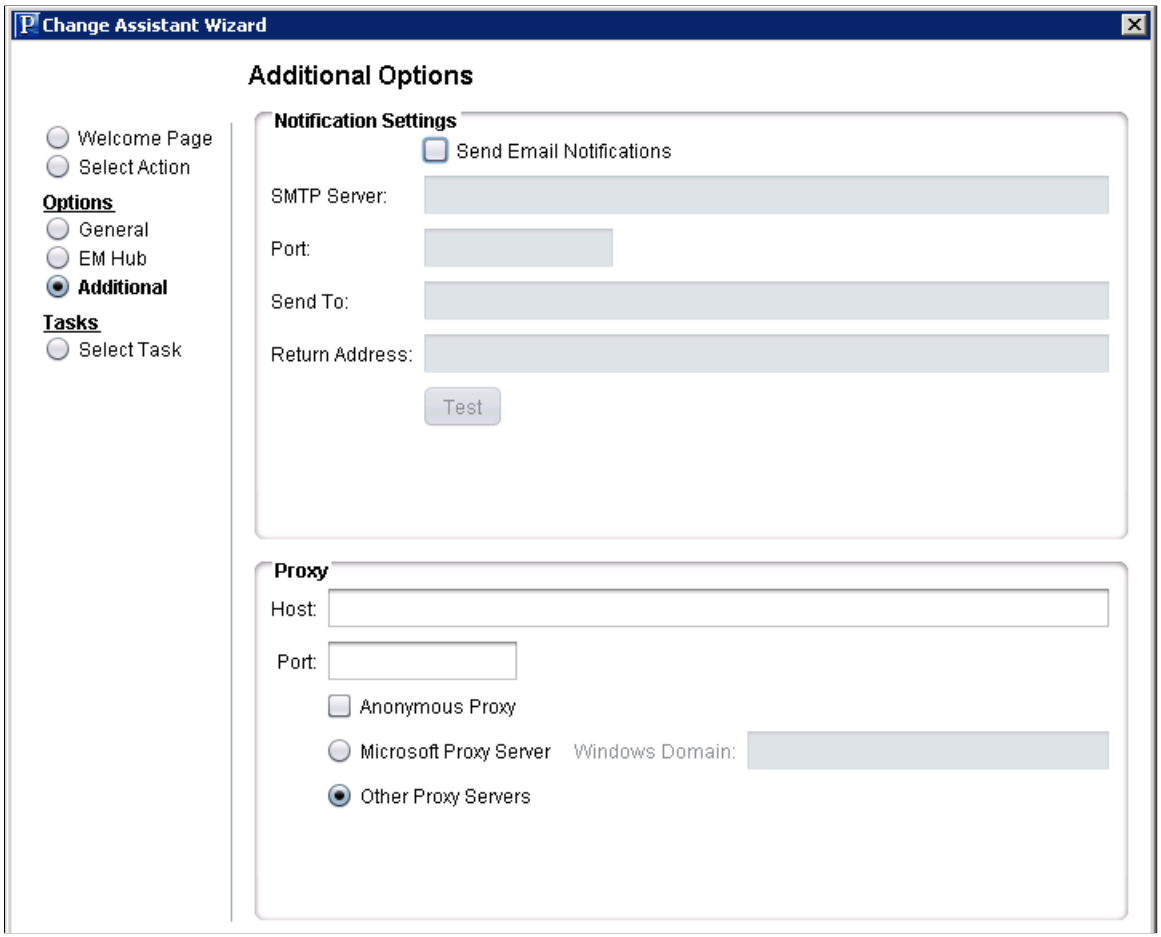
Click to display the list of all PeopleSoft components discovered and registered in the Environment Management hub.

Note: This button is visible only if your display is set to Windows Classic style.

Additional Options

Image: Additional Options for Apply Updates

This example illustrates the fields and controls on the Additional Options page. You can find definitions for the fields and controls later on this page.



Notification Settings Section

Send Email Notifications	Select this check box to receive email notifications if there are errors in the update process. Change Assistant also sends you a completion message when it encounters a Stop in the update process.
SMTP Server	Enter the SMTP mail server from which you receive the error or completion messages.
Port	Enter the port from which you want to access the email.
Send To	Enter the address to which you want the email sent.
Return Address	Enter the email address of the sender. Use this to identify who sent the notification.
Test	Validates that email is sent to the designated recipients and is working correctly.

	Note: Ensure that your SMTP server is installed and configured correctly.
Proxy Section	
Host	(Optional) Enter the name of the proxy server if you want to run Change Assistant behind the firewall using a proxy server.
Port	(Optional) Enter the port number for the proxy server.
Anonymous Proxy	Indicates that you are using a proxy server that does not require authenticated connections.
Microsoft Proxy Server	Indicates that you are using a proxy server with Windows authentication.
Windows Domain	The network domain in which the system runs.
Other Proxy Servers	Indicates you are using non-Microsoft proxy servers.

Validating Change Assistant Settings

Before applying non-PUM updates, you should validate your settings.

Change Assistant validates settings by:

- Locating valid SQL query tools required to run SQL scripts.
- Testing the Environment Management hub and ensuring that Change Assistant can communicate with it.

You can also print a summary of your environment, which can facilitates the diagnosis of problems by Oracle Global Customer Support.

To validate your environment:

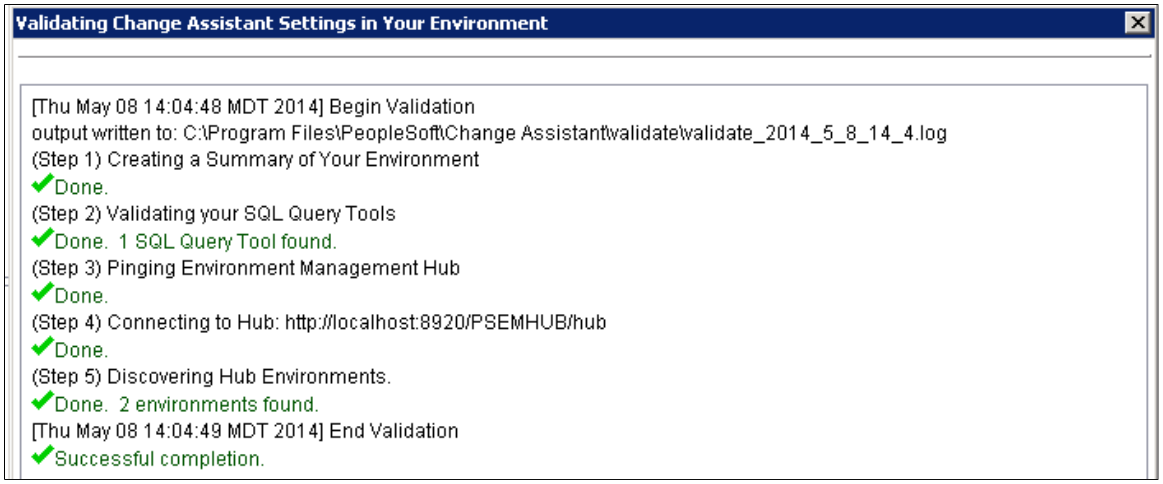
1. From the Select Task page, select Change Assistant Validate EMF Setting and click Finish or from the menu bar, select Tools, Validate.
2. Click Start Validation.
3. When the validation process has completed, a completion message appears.
4. If any of the steps were unable to complete successfully, open the log file to determine the cause.

   Click View Log in the lower part of the screen to see more details regarding individual steps of the validation.

You can also select the Validate Change Assistant EMF Settings radio button from the Change Assistant Wizard when the action Apply Updates is selected.

Image: Validating Change Assistant Settings in Your Environment

This example illustrates validation results.



Note: If you use proxy servers, the system will ping those and prompt for proxy server user ID and password.

Working with Templates

When applying a change package, Change Assistant uses the update template embedded in the PeopleSoft-provided change package. You can use the update template to automate the majority of the job steps. The primary difference between a template and a job is that a template is a composite of the update process, whereas a job is a set of filtered steps for a given target environment within a template.

When you apply updates by using the Apply Update action with the Apply Change Packages option, Change Assistant automatically loads the template into the Change Assistant internal storage system. You can add additional chapters, tasks, and steps to the template.

Note: Any changes that you make to the imported template won't affect the original template that you downloaded with the change package. If you want to overwrite the original template with your changes, save the template and select File, Export to export it to the directory from which you downloaded it. You can also use the export function to make this modified template available to others.

In order for others to use the template that you create or modify, you need to export it from Change Assistant.

To export a template:

1. Select File > Open Template.
2. Select File > Export Template.

   The Export Template dialog box appears.
3. Navigate to the folder in which you want to save the template.

4. Enter the name of the template.

   Note: If you want to overwrite the original template that you downloaded, enter the original name of the template.

5. Click Save.

   Note: To ensure consistency with shared templates, the system includes all template and step properties in the exported XML file, regardless of whether the property value differs from the default value.

Setting the Documentation Directory

To view the documentation associated with a template, you need to set the documentation directory first, so that Change Assistant can locate the files. Once set, you select a chapter, task, or step in the template or job tree, and Change Assistant displays the corresponding upgrade documentation in the documentation pane.

To set the documentation directory:

1. Select Edit, Set Documentation Directory.
2. Enter or browse to the folder where you placed your upgrade documentation HTML files.
3. Click OK.
4. Save the template.

   Note: The saved template will include the documentation path information.

See Working with Embedded Documentation.

Applying Updates To A Target Environment

The apply process enables you to apply one or more change packages to the target environment. A typical change package apply process, would be as follows:

1. Apply the change package without compare to your demonstration environment.

   Since the demonstration environment does not contain any customizations, there is no need to compare. This brings the demonstration environment current on the specific maintenance, overwriting the new maintenance into the demonstration environment.

2. Apply the change package to the first customized environment by using the 'Apply with Database Compare/Copy' option.

   This uses your demonstration database as the source and this customized environment as the target. This process augments the normal Change Assistant template/job in order to compare the change project from the demonstration database to the target database.

3. Use the PeopleTools database compare and copy utilities to reconcile the new changes from PeopleSoft with your customizations, just as you do during an upgrade.

4. Once the reconciled or modified change package is created, it can then be applied without compare into all other customized environments, assuming these customized environments are the same.

To apply change packages to the target environment:

1. The Environment Management Hub must be up and running.

2. In Change Assistant, select Tools, Change Actions.

3. Select Apply Updates.

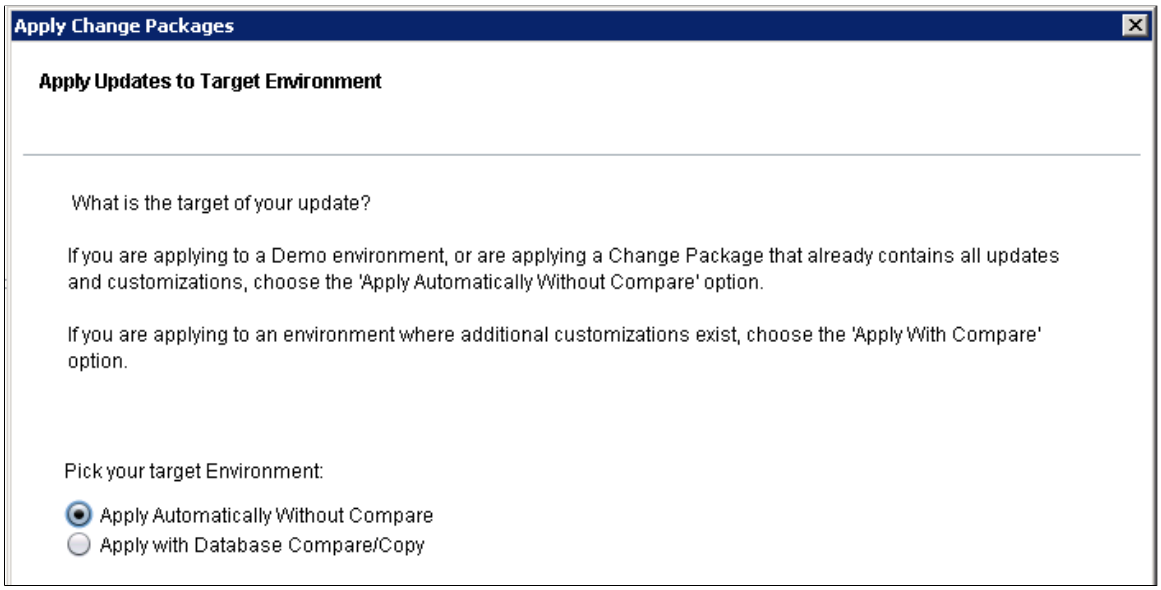
4. Select Apply Change Packages and click Finish.

5. Apply Change Packages Wizard starts.

You use the Apply Change Packages wizard to select the appropriate settings for a change package.

Image: Apply Updates to Target Environment

This example illustrates the fields and controls on the Apply Updates to Target Environment page. You can find definitions for the fields and controls later on this page.



Apply Automatically Without Compare

Applies the change package to the target environment and copies the project without initiating any compare reports or analysis.

Select this option if you are:

- Applying a PeopleSoft-delivered change package to a PeopleSoft demo environment.

  Because you have not made any customizations to a demonstration environment, there is no need to compare objects.

- Applying a modified change package to your own environments, as in development, test, or production environments.

  The "modified change package" refers to a new change package created using the Apply with Database Compare/Copy option. This modified change package is the result of the Change Management process where you have reconciled changes made in the PeopleSoft maintenance with your customizations. Once the modified change package has been created for the first customized environment, there is no need to compare additional environments. This assumes that the additional environments contain the same metadata. Once you have created this modified change package, it can be applied without compare to the remaining customized environments.

See Apply Without Compare

Apply With Database Compare/Copy

Select this if you are beginning the process of migrating a PeopleSoft-delivered change package to your customized environments. In this case, you are applying to a customized environment, and this will require the use of PeopleTools' change management tools, such as compare and copy.

See Apply With Compare or Copy

Note: When applying multiple updates, a job set may not move on to the next update if there are steps in the current update with a status of *Warning* rather than *Success*. In this situation, review the logs for the steps with warnings and take any corrective measures, as needed. Then change the status of these steps from *Warning* to *Complete* to proceed to the next change package in the job set.

Apply Without Compare

This section describes the apply process after you have selected the Apply Automatically without Compare option.

To apply a change package without compare:

1. On the Apply Updates Using the Change Impact Analyzer screen indicate whether you want to include Change Impact Analyzer analysis.

   Typically, system administrators use Change Impact Analyzer to help devise a test plan based on the impact of changes.

2. On the Select a product line release screen indicate product line associated with the target environment.

3. On the Select Target Environment screen, select the database name associated with the target environment.

All PeopleSoft web servers, application servers, Process Scheduler servers, and so on, are associated with one, and only one, environment, which is determined by the database. Change Assistant will re-validate the environment.

4. On the Environment Preparation screen acknowledge that you have performed the recommended pre-update procedures.

5. On the Select File Servers screen, select the file servers that are used in conjunction with the target environment.

Note: The system uses this file server selection only as a destination to deploy files during the apply process. The file server specified is not used for execution purposes. The executables used to run steps during the apply process are those specified in the PS_HOME edit box on the Change Assistant Options page.
File server installations are not necessarily tied to any one environment, unlike application servers, web servers, Process Scheduler servers and database servers, which are associated with one, and only one, database environment. On the other hand, a single file server could be used for multiple databases, and likewise, there could be multiple file servers in your PeopleSoft implementation all supporting different application versions. So, it is necessary to prompt you to select the appropriate file server installation.

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6. On the Enter user name and password screen, enter the user credentials required for Change Assistant to be authenticated.

Note: For the Apply without compare, only the target database is required. For the Apply with compare, credentials for both the target and source are required.

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7. On the Select Download Directory screen, confirm the location of the change packages you intend to apply.

8. On the Select Change Packages screen, select change packages to install.

   You can use Select All to select all the available change packages listed on the screen.

9. Click Next after you've selected your change packages.

   At this time, Change Assistant examines all the selected change packages to determine if any of them have previously been applied.

Note: If an *Unable to read change package* error appears because of an unsupported change package version number, then you must install the latest release of Change Assistant.

---

10. If the change package has already been installed, you will be prompted to select one of the following options:

    - Do not reapply the change package.

    - Review each change package individually, with option to apply.

      If you choose to review each change package individually, you will be prompted either not to reapply the change package or to reapply the change package (not recommended).

11. Select the options, then click Next.

    If none of the translated languages included in a change package applies to the languages installed in the target environment, you will be prompted to select one of the following options:

    - Remove these change packages from my installation list.
    - Review each of these change packages individually, with option to apply.

      If you elect to review each change package individually, you will be prompted either not to apply the change package or to apply the change package (not recommended).

12. After you've made your selection, Change Assistant searches for post-requisites. If there are post-requisites that are not listed in the apply list, you will be prompted to select one of the following options:

    - Apply these additional change packages.

      The additional change packages are added to the list of selected change packages.

      Note: This option is enabled only if the additional change packages are already present in your apply directory.

    - Remove the change packages that require post-requisites from my installation list.

13. Click Next.

    Change Assistant searches for any missing prerequisites required by the selected change packages, and you will be prompted to make the same selections as in the previous step.

    Note: If your target environment is at an application release level that is not considered to have reliable change log data, Change Assistant may falsely report that a prerequisite is missing from this environment. If this is the case, it is very important that you *not* elect to add the supposed missing update to your current apply list, because this would reinstall the update, which is not recommended. Therefore, if your target environment is considered to have unreliable change log data, it is very important that you review the list of missing prerequisites found by Change Assistant. If any of these updates are known to have been previously applied to your target environment, you must first manually enter these updates to your change log so that Change Assistant can accurately determine that these prerequisites have been satisfied. If you need to add entries to your change log, you will have to restart the Apply Change Packages process.

14. After you have selected your option, click Next.

    If one or more of the change packages you are applying includes the Build and Alter template steps, you will be prompted to select one of the following methods to apply the database changes.

    - Automatically: Enables build scripts to be run as an automated template step.
    - Manually: Enables the build script to be run as a manual template step.

15. If one of your selected changes packages will be executing a script that includes embedded question syntax that is supported by Change Assistant, you will be prompted to enter a runtime value for the script variables.
16. Click Next to display a screen where you confirm your selections–target environment and change packages to apply and number of manual steps, if any, for each change package.
17. On the Apply Now screen, consider the options presented before applying the change project.

Validate Now	**Note:** Before you initiate the apply update process, you can validate your environment connections to ensure all components are active.
Review and Apply	Enables you to review the entire job to make sure it is correct before running it against an environment.
	Note: If there are steps you don't want run or have already completed manually, you could set them to Complete while reviewing the job. For example, if you have already deployed some files manually to a certain PS_HOME, you could set that step to Complete to save time and avoid overwriting any custom settings.
Begin Apply	Starts the update job.

Apply With Compare or Copy

The interface of the Apply Change Packages wizard is similar to what you see with the Apply Without Compare option, however, the following steps are included.

- Compare project from the demo database to the development or copy of production database.

  Change Assistant will compare this project between the source database and the currently selected environment (target database).

- Examine the compare report step (a manual step).

  You must examine the compare reports generated to determine the appropriate action (for example, whether or not to copy the object from the source database to the target database).

- Copy project from the source database.

  Change Assistant copies the objects from the source database to the target database, based on the actions chosen.

- Extract the files from the delivered change package.

  Change Assistant will extract the current change package to a temporary location (<<staging directory>>/~ExtractedCP).

- Re-apply customizations.

  This is a manual step.

- Compare and merge files.

  This is a manual step.

- Export the project from the target database.

  Change Assistant will export (from the target database) the project containing customize objects to a temporary location (<<staging directory>>/~ExportedProject).

- Change Assistant creates a new change package in the download directory. The original change package is renamed to xxxxx.zip_datetimestamp.

Automatically Deploying Files to Different Servers

Change Assistant can automatically deploy files in a change package to different servers within an environment. If the job that is running while applying the change package includes a Deploy Files chapter and contains tasks and steps, that indicates to Change Assistant to deploy the files to the agents that are running in the environment.

While Change Assistant runs deploy file steps within the job, it will query the hub for the location to deploy the files. The query is based on the server, operating system, and database platform. If the query returned from the hub matches what was defined for the file reference in the change package, Change Assistant attempts to deploy the files to the agent running on the host machine.

Change packages provided by PeopleSoft applications, are configured to deploy multiple files of the same type within one step. This can improve performance, especially when a change package contains hundreds of updated files.

When files are deployed, the step's log file lists the host name and the type of server that match the file reference and the target path on the remote host.

If the Environment Management agent is not running at the time when Change Assistant is trying to deploy files, a warning message appears stating the inability to deploy the files. Other types of problems that may occur, such as lack of disk storage space, will result in step failure.

Resuming Running Jobs

If there is a current apply job set, the Resume Running Jobs dialog box appears automatically when you start Change Assistant, run a job, or apply change packages (start a new apply).

Select Cancel to:

- Remove all jobs associated with the current apply job set that have not been run.
- If a job definition is open in Change Assistant and it does not belong in the current apply job set, the job definition remains open.
- If a template definition is open in the Change Assistant, regardless of whether or not it's used in the current job set, it will remain open.

Select No to keep the current apply job set and its associated jobs as they are, so that you can resume this apply job set later.

Select Delete Job Set to delete the current apply job set.

Part IV

Working With Change Packages (Traditional Updates Only)

Chapter 20

Working with Change Packages (Traditional Update Only)

Understanding Change Packages

Once you have your change project completed, you create a change package in Application Designer. Change packages are used to enable:

- PeopleSoft developers to package software updates and any prerequisites associated with PeopleSoft application updates.
- You to package your own system customizations into a change project, which is then used by the Change Packager and Change Assistant when migrating from one release or one environment to the next.

The process of using a change package is to:

1. Create a new project adding all new items for the application changes to the database for the update, identifying the project as a change project and setting the appropriate update IDs and prerequisites, if applicable.
2. Define the file reference definition(s), if necessary, for the individual files that need to be packaged with the project and the file type code.

   Note: Only projects that contain physical files (such as SQR or Excel files) need to include a file reference definition.

3. Generate the change package, which copies the project to a file, generates a Change Assistant template and documentation, creates the Data Mover scripts for non-managed objects, and packages the referenced files.
4. Manually update the Change Assistant template, if necessary, that is generated by the Change Packager.
5. Finalize the change package using the Finalize Change Package option, which performs validations on the package and produces the zip file.

   The zipped archive files contain the change project and all its associated files.

6. Test the newly created change package.

Creating a Change Project

In addition to identifying the project as a change project, if necessary, you will need to add a file reference definition to the project, which requires a file type code definition. A file reference is only necessary if there is a physical file that you want to execute or deploy or both when the change package is applied by Change Assistant.

This section discusses how to:

- Set project properties for a change package.
- Define the file type code.
- Create a file reference definition.
- Modify the upgrade definition type.

Setting Project Properties for a Change Package

Before beginning to work with the Change Packager, you must identify the project you want to use as a change project. You do this in the Project Properties dialog box.

To create a change project and set project properties:

1. Create a new project.
2. Open the Project Properties dialog box.
3. Enter a Project Description and any pertinent comments for your internal tracking system on the General tab.

   The system populates the information you enter here into the change log and the manifest.
4. Select Change Project on the General tab.

   This enables the Update IDs and the Pre-Requisites tabs. Here you identify the lead incidents from your incident tracking system, if applicable, that identify the updates to the database.
5. Select the Update IDs tab.
6. Enter the primary incident tracking ID associated with the update you want to implement in the Update ID field.

   This field is numeric. The system considers the first value in the list to be the primary ID for the project. When entering your own incidents:

   a. Enter the names of the fixes or the update IDs fixed in this project. The system logs them to the manifest and includes them when Change Packager copies the project.

   b. Click Add to add it to the list.

   Note: In order for Change Packager to create the change package successfully, you must enter a value in the Update ID field.

7. Select the Pre-Requisites tab.

   List any prerequisites that this project might have. Change Assistant checks those incidents that you enter here against those listed in the target environment's change log to verify whether the fix has been applied.

Defining the File Type Code

Each file reference definition that you create for the project must be associated with a file type code. The file type code stores generic information that is applicable to a group of files within the same target directory.

Access the file type code definition from Tools > Miscellaneous Definitions > File Type Codes.

To define the file type code for the file reference definition:

1. Click New to access the New File Type Code dialog box.
2. Enter a file type code and click OK.

   The file type code can be up to 30 characters in length. This action opens the File Type Code dialog box.
3. Enter the Path.

   This notifies Change Assistant where the file belonging to this type code should be deployed. The only supported environment variable for use is *%ps_home%*.
4. Enter a description for the file type code.

   This field is required in order to save the definition.

Creating a File Reference Definition

If you have individual files that need to be packaged with the project, you can create file reference definitions to identify them. Create one file reference definition for each file. You create a file reference definition in the same manner as all other PeopleTools definitions in Application Designer, by selecting File > New from the menu.

File Name and Path	Enter the path and file name for the file you want to reference. Use the browse button to search the proper path. This is the source location and file from which Change Packager selects the definition for packaging. This field supports the use of environment variables. If you want to create a file reference with a variable path, prepend %FILEREFPATH% to the filename.
Change Assistant Template Text	Enter the text you want to display in the Change Assistant template for this change package. This field has a 20 character limit.

Binary	Check if the file is a binary file. This information is necessary to properly transfer the file to the target platform.
Database Platform	Select the database platform for the target database.
Operating System	Select the operating system for the target database.
PeopleSoft Server	Select the applicable server for your system.
Unix Target Directory Security	Specify the file permissions the file should have once it is copied if operating on a UNIX system.

For each of the drop-down list boxes in this dialog box, you may select multiple entries by using the Shift/Ctrl keystroke combinations.

The file reference properties contain only the General tab where you can enter any comments about the file reference as well as select the Owner ID. This tab also tells you when the definition was last updated and by whom.

When you save the file reference definition, the definition name defaults to the file name you entered in the File Name and Path field. The Save As dialog box prompts you for the File Type Code, which is a requirement for every file reference definition.

Variable File Reference Path

You can use a variable path as a file reference. To do this, in addition to the steps for creating an absolute path:

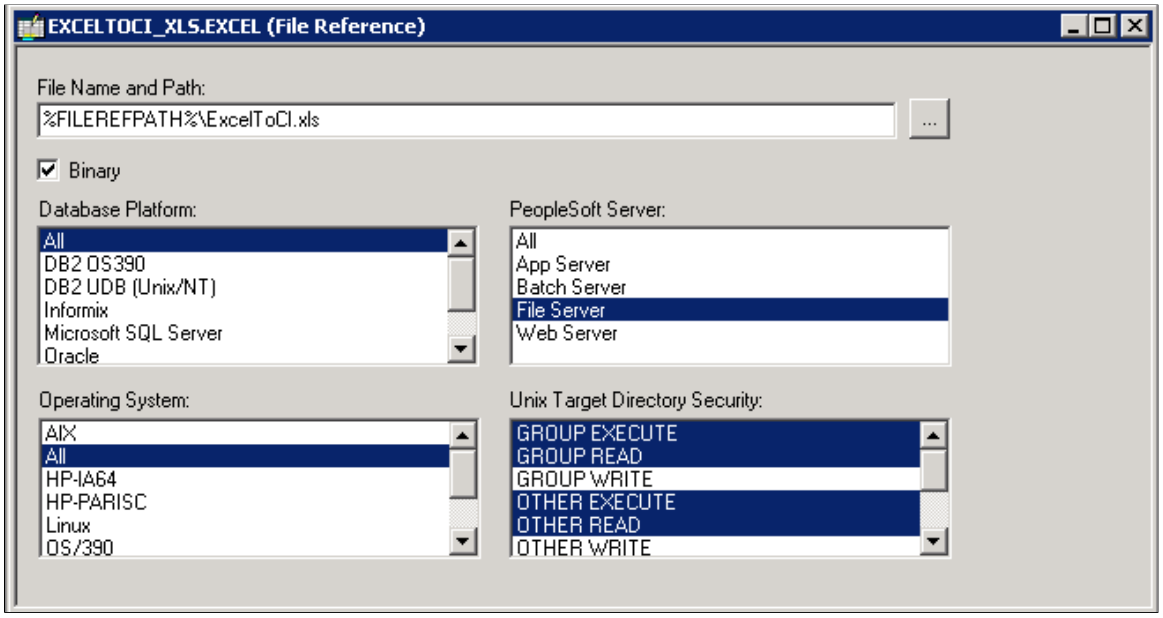
- In the File Name and Path edit box, enter the name of the file and prepend the filename with %FILEREFPATH%.

  For example: %FILEREFPATH%\ExcelToCI.xls

- Add this file reference to a change project.

Image: Example of Variable Path File Reference

This example illustrates the fields and controls on the Example of Variable Path File Reference. You can find definitions for the fields and controls later on this page.



Using variables in the file reference definition eases the repackaging of a change package. When you create a change package with a variable file reference, the File Reference Path edit box in Create Change Package dialog expands the %FILEREFPATH% variable in the file reference definition. However, the file reference definition itself is not updated in the process.

This enables you to repackage change packages without having to modify the file reference definitions. The value in the File Reference Path field is stored in the registry and displays the last value.

When the change package is recreated, the update ID automatically expands the file reference paths according to the following construct:

file reference path + upd + *update ID* + \ +upd + *update ID* +_batch\filereferences\ + *file type code* + *filename*

For example:

c:\temp\upd999999\ upd999999_batch\filereferences\XLS\ExcelToCI.xls

c:\temp\upd999999\ upd999999_batch\filereferences\SQR\xrfwin.sqr

If the file does not exist in the directory, the system searches for the file reference path. If the file isn't found in this directory, then an error will be displayed and the Change Packager fails to create a change package.

See Creating a Change Package.

Modifying the Upgrade Definition Type

After creating the file reference definitions and inserting them into the change project, the next step is to modify the upgrade definition type to instruct whether Change Assistant should deploy or execute the file

reference. Deploying the file copies it to the location specified in the File Type Code defined in the target environment. Executing the referenced file means it will be run on the Change Assistant machine.

Note: File references and application engine programs are the only definition types that can be executed.

To modify the upgrade definition type:

1. Open the change project.
2. Select the Upgrade tab in the project workspace.
3. Double-click the File References folder.

   This action opens the upgrade definition type listing all file reference definitions for that project.
4. Choose the appropriate upgrade attributes for each of the file references listed.

   Refer to this table to ensure the desired results:

Desired Result	*Execute Check Box*	*Upgrade Check Box*	*Action Option*
Deploy and Execute	Selected	Selected	Copy
Deploy only	Cleared	Selected	Copy
Execute only	Selected	Cleared	Copy
No Step*	Cleared	Cleared	Copy
No Action**	Either	Either	Delete

   * No step indicates that the generated Change Assistant template will not have a step corresponding to that file reference definition.

   ** No action means that the file is neither deployed or executed in the target machine.

   The default settings for the upgrade definition type are set for deploy only.
5. Save the project.

Creating Change Packages

This section discusses how to:

- Create a change package.
- Modify the Change Assistant template.
- Finalize the change package.

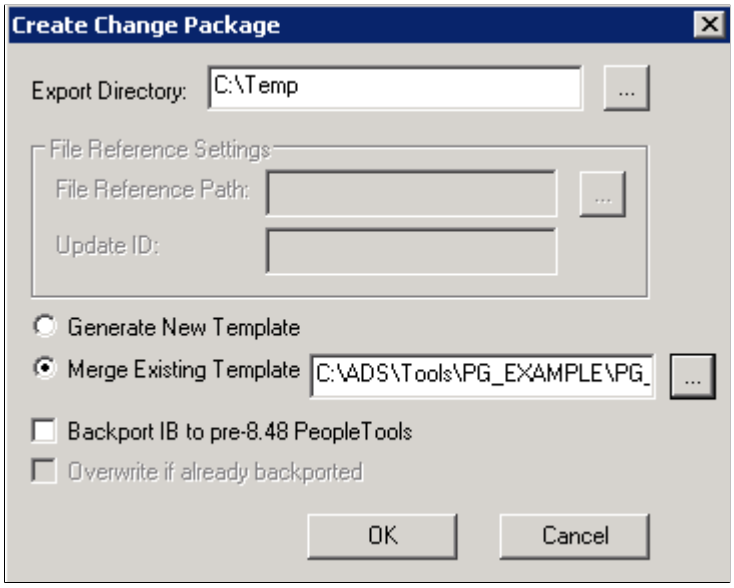
Creating a Change Package

Once you have created your change project you can build the change package using the Change Packager feature in Application Designer.

To create a change package, select Tools, Create Change Package, which invokes the Create Change Package dialog box.

Image: Create Change Package dialog box

This example illustrates the fields and controls on the Create Change Package dialog box. You can find definitions for the fields and controls later on this page.



Export Directory

The Change Packager feature copies the project into the directory you identify. Use the browse button to search for the desired directory. If you already created a change package for this project in the same directory, the system prompts you to delete the existing file.

File Reference Settings

These settings apply only if your change package contains file references, otherwise these settings are disabled.

- File Reference Path: Enter the path for the file reference.
- Update ID: Enter the associated update ID.

See Creating a File Reference Definition.

Generate New Template

Select this option if you intend to generate a new Change Assistant template with your change package that *does not* incorporate any manual changes made to an existing template.

Merge Existing Template

Select this option if you intend to incorporate any manual changes you have made to an existing Change Assistant template. Enter the file path or navigate to the location of the

	existing Change Assistant template you want to merge with the updated template.
Backport IB to pre-8.48 PeopleTools	Select if your changes affect Integration Broker (IB) definitions and need to be applied to versions of PeopleTools before PeopleTools 8.48. In PeopleTools 8.48, the metadata surrounding Integration Broker changed significantly.
Overwrite if already backported	Only appears if Backport IB to pre-8.48 PeopleTools is selected. Select this option to overwrite any Integration Broker changes that have already been backported.

The progress dialog boxes indicate the definitions that the system is copying into the change package. The system then confirms that the change package was created successfully. The Results tab of the output window displays a list of the definitions in the project by definition type, as well as any errors encountered.

Open the staging directory to confirm the change package was created successfully. The destination directory now includes a new folder named after the project and appended with the word *Package*.

Change Packager Output

The Change Packager feature generates several folders and a manifest, placing them in the output directory you specified previously. The manifest from the change package is an XML document containing data that may need to be accessed quickly by Change Assistant. This manifest information includes:

- Update ID(s) from the project properties.
- Prerequisite ID(s) from the project properties.
- Update summary text from the project properties.
- The user who created the update.

  This is the user ID for the individual that last updated the project based on the *By User* field in the Project Properties dialog box.
- Post date.

  This date is generated from last updated *Date/Time* field from the Project Properties dialog box. Change Assistant uses this date to determine the order in which to apply a selection of change packages.
- The number of manual steps included in the Change Assistant template.
- A count of the definition types included in the project.

In addition to the manifest are six folders that include:

- The Change Assistant template

  The template contents for the update are tailored to the specific contents of the change project, including all relevant file deployment steps for each file reference definition given the file type code and the file reference attributes.

- Documentation

  The change package documentation is an HTML file. This document contains general information on the installation as well as instructions that are customized to your specific customizations. When you open the change package in Change Assistant, it displays the proper documentation for the current step in which you are currently working.

- File references

  The File References folder contains folders for each file type code associated with each file reference definition in the project. Each file type code folder contains a copy of the actual file referenced by the project's file reference definitions associated with this file type code.

- Project folder

  This folder contains an XML file of all project information.

- Pre 8.44 project folder

  This folder is applicable only to customers operating on a pre-8.44 PeopleTools release and are therefore not using Change Assistant to deploy change packages.

Modifying the Change Assistant Template

In most cases, the Change Assistant template generated by the Change Packager is exactly what you need to begin working with Change Assistant. However, in rare instances it may be necessary to manually add or update the steps in the Change Assistant template. The template is located in the Change Assistant package directory as an XML file.

Finalizing a Change Package

Once you create the change package and are satisfied with the Change Assistant template, finalize the change package. The finalization process validates the files to confirm that all of the necessary pieces to produce the change package are present and generates a zip file for the entire change package. The zip file enables you to easily migrate your change sets to multiple environments.

To finalize a change project:

1. Open the change project to finalize.
2. Select Tools > Finalize Change Package from the menu.
3. Enter the location of the staging directory that you would like zipped up for the change package and click OK.

   Use the browse button to search for the proper directory.

   Change Packager places the zip file in the "<project name>Package" file, using the project name for the file name.

Working With Change Package Automation

This section provides an overview, and discusses:

- Working with ReleaseAdaptor.
- Working with ProjectFilter.
- Working with ProjectInspector.

Understanding Change Package Automation

PeopleTools provides a set of standalone utilities that automate the manipulation of change packages, ensuring that only the appropriate changes get included in change packages and applied to your system. For the most part, these utilities improve the process of creating change packages within Oracle for distribution to customer sites. However, they can also be useful at customer sites, where development teams create custom change packages to apply to their implementations.

These utilities address situations in previous releases, where during upgrades, manual steps were required and multiple change packages need to be applied, such as in the cases where Integration Broker metadata needed to be applied to pre-PeopleTools 8.48 releases. In most cases, these utilities run in the background when you create change packages or perform an upgrade while using Change Assistant. To run these utilities manually, they can be invoked from the command line, or added to automation shell scripts, for example.

When these utilities are used within an upgrade process, the documentation in your Change Assistant job and your upgrade documentation will provide the necessary details.

See Your PeopleSoft application upgrade documentation

Working with ReleaseAdaptor

ReleaseAdaptor is invoked by Change Assistant to remove:

- contents from the project that are not consumable by the target PeopleTools release.
- unneeded steps from the change package template.

ReleaseAdaptor appears as a Change Packager step, and automatically examines the project to determine if it is applicable to the current PeopleTools release. For example, it determines whether a project contains Integration Broker content, and, if the PeopleSoft application release is pre-PeopleSoft 9.0. If the project meets these criteria it generates and includes the additional pre-PeopleTools 8.48 Integration Broker elements without any manual intervention. The resulting change package will contain all elements required for consumption by all applicable releases of PeopleTools.

A set of command-line transformation programs enables this processing. Which programs need to be run for a specific release is determined by the TRANSFORM_PROGRAMS.XML file. TRANSFORM_PROGRAMS.XML has two sections:

- a list of <release> tags that map various pillar and release identifiers into <InitialToolsRelease> elements

- and a list of <transform> tags that specify which transforms to apply for each <InitialToolsRelease> element

The TRANSFORM_PROGRAMS.XML file is located in *PS_HOME*\BIN\CLIENT\WINX86.

The final, consolidated project will contain all required elements for all release targets.

Working With ProjectFilter

ProjectFilter enables you to remove the specified project contents from the specified project.

Use the following syntax:

```
ProjectFilter [[-PRJ <projectFile> [-TY|-TX <type name[;type name*]>]
[-N <instance name[;instance name*]>]] | [-TL]] [-LOG <log filepath>] [-?]
```

Parameter	***Description***
`-PRJ`	Specify the project file to be scanned. No default value assumed.
`-TY | -TX`	-TY specifies one or more object type names to be removed, delimited by a semicolon character (;). -TX specifies one or more type names to be retained, delimited by a semicolon character (;). -TY and -TX are mutually exclusive. If neither TY nor TX are specified, all types are removed.
`-N`	A list of names of instances to be removed or retained in the form type:name0.name1.name2.name3 where each name is delimited by a semicolon (;) character. If not specified, all instances are removed or retained consistent with any -TY or -TX specification.
`-TL`	Lists the valid type identifiers, names, and descriptions.
`-LOG`	Absolute path to log file.
`-?`	Shows usage details.

Example: ProjectFilter

Entering the following removes record and field type objects from the project C:\PRJ151141.xml, and writes a log file to C:\ProjectFilter151141.log.

```
ProjectFilter -PRJ C:\PRJ151141.xml -TY Record;Field
-LOG C:\ProjectFilter151141.log
```

Entering the following lists valid object types, and writes a log file to C:\ProjectFilterObjTypes.log

```
ProjectFilter -TL -LOG C:\ProjectFilterObjTypes.log
```


Working With ProjectInspector

ProjectInspector enables you to query the contents of projects. It does not require signon and it does not make a database connection. ProjectInspector is designed to be incorporated in automation shell scripts and for ad hoc queries. If can be run against projects created using previous releases of PeopleTools.

Use the following syntax: This has the command line:

```
ProjectInspector -PRJ <project file> [-TY <type name [';' type name]* >]
[-N <instance name [';' instance name]* >][-L N | C | T][-TL] [?]
```

Parameter	*Description*
`-PRJ`	Path name of the project file to be scanned. There is no default. If just a name is specified, the program checks in the current directory.
`-TY`	One or more object type names to be listed, delimited by a semicolon character (;). If not specified, all types are removed.
`-N`	A list of names of instances to be removed or retained in the form type:name0.name1.name2.name3 where each name is delimited by a semicolon (;) character. If not specified, all instances are removed or retained consistent with any -TY value.
`-L`	Specifies the listing format and can be either N, T or C. • N means list the types and names of all objects with one object per line. • T means list the types and counts of all objects with one type per line. • (Default) C means list just the number of objects as a single integer. The –N and –T arguments can be used in the same command provided the types do not overlap. Specifying the same types in an –N name argument as in a –T argument causes an error.
`-TL`	Lists the valid type names, numeric identifiers, and descriptions.
`-?`	Shows usage details.

Example: ProjectInspector

Entering the following lists the number of subscription PeopleCode and message channel definitions in the project, or a null string if there were none.

```
ProjectInspector -PRG PRJ8979874.XML -TY SubscriptionPPC ; MessageChannel -T T
```


Part V

Using Change Assistant for Software Upgrades

Chapter 21

Getting Started with Software Upgrades

Understanding Change Assistant For Upgrades

Application upgrade only applies to upgrading an older application release to application release 9.2. Once your application is on 9.2, PUM is used to apply maintenance and new features. You use Change Assistant to help automate and customize the PeopleSoft upgrade process. A PeopleSoft upgrade typically includes a PeopleTools and a PeopleSoft application upgrade.

Depending on your upgrade path, the application upgrade may be combined with the tools upgrade. If they are not combined, you will need to perform the tools upgrade before the application upgrade.

The following list describes the major steps within an upgrade when using Change Assistant.

- Deploy the Certified Upgrade Source Image as your New Release Demo database. The Upgrade Source Image is available for download from My Oracle Support. Starting with the release of PeopleSoft PeopleTools 8.56, deployment packages (DPKs) are being used for the Upgrade Source Images. Each PeopleSoft application upgrade home page in My Oracle Support includes a tab for the Upgrade Source Images for that application.

  See PeopleSoft Upgrade Source Image Home Page (ID: 1552580.1).

- Deploy the PeopleSoft Update Image.

  See Installing PeopleSoft Update Image

- Configure Change Assistant for Upgrade.

  See Configuring Change Assistant for Upgrade Application

- Define Upgrade Package.

  See Defining an Upgrade Package

- Use the Upgrade Application action to create an upgrade job tailored to your specific environment, defining all the steps required to perform the upgrade.

  See Upgrading Application

- Use Change Assistant to guide you step-by-step through the upgrade processes. Change Assistant shows you documentation for each step, automates many of the steps, and keeps track of the upgrade progress.

Databases Used for Application Upgrade

The following Databases are used in an Application Upgrade:

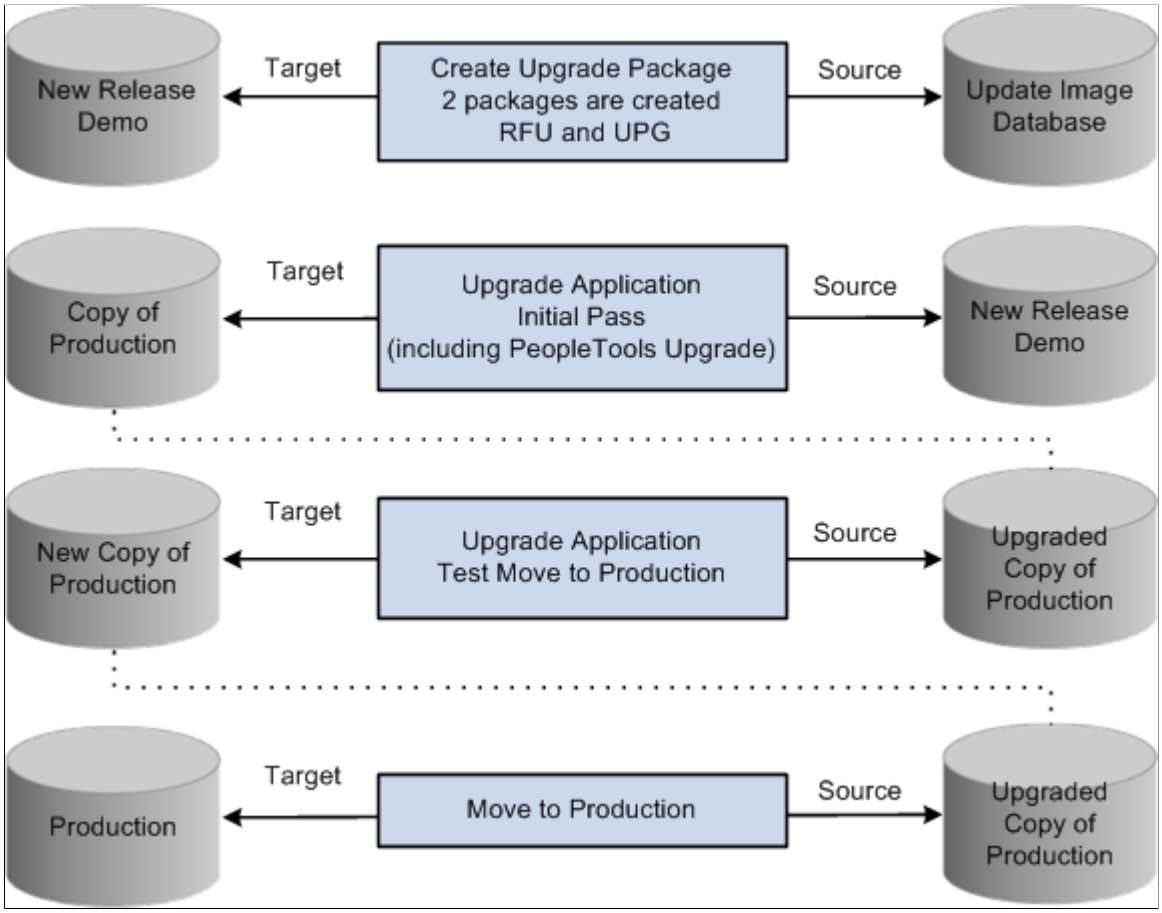
- Production

- Copy of Production
- New Release Demo (certified Upgrade Source database)
- Update Image

As you progress through the application upgrade process, the source and target databases

Image: Application Upgrade Process

This diagram illustrates the source and target databases used during the upgrade process.



Getting Started

Download documentation for the specific upgrade process that you will be performing from the Upgrade home page in My Oracle Support. You must read the documentation Getting Started on Your PeopleSoft Upgrade before you continue with your upgrade. This getting started guide explains the upgrade process, terminology, and setup tasks that must be performed prior to starting your upgrade.

Before continuing with the upgrade, you must complete all of the tasks in Getting Started on Your PeopleSoft Upgrade, "Starting Your Upgrade."

Chapter 22

Configuring Change Assistant for Upgrades

Defining an Upgrade Package

The Define Upgrade Package component in the PUM PIA application will create 2 change package definitions:

- Upgrade package (UPG)

  This package contains the Application Upgrade template from your current release to 9.2.

- Required for Upgrade package (RFU)

  This package contains all of the bugs required for upgrade.

To define an Upgrade Package:

1. In Change Assistant configure the General Options and PUM Source.

   See Configuring Change Assistant for Upgrade Application

2. Upload the Upgrade Source Database to the PUM Source database.

   See Uploading Target Database Information

3. Select Tools, Define or Create a New Change Package.
4. Click the Click Here to Open Browser and Connect to the PUM Source Database.
5. Sign on to the PUM Source Database.
6. Select PeopleTools, Lifecycle Tools, Update Manager, Update Manager Dashboard.
7. Expand the folder Select Target Database.
8. Click on the Upgrade Source database name.
9. Expand the Define Change Package folder and select Define Upgrade Package.
10. The Define Upgrade Package wizard will guide you through the steps to create a change package definition.

    - Step 2 of 6 - Enter Change Package Name

      See Define Upgrade Package Step 2 of 6

    - Step 3 of 6 – Select Scope
    - Step 4 of 6 – this step does not apply to upgrade packages and therefore is skipped.

- Step 5 of 6 - Review Bugs
- Step 6 of 6 - Done Identifying Bugs

11. Return to Change Assistant and create the Upgrade Change package.

Selecting the Target Database

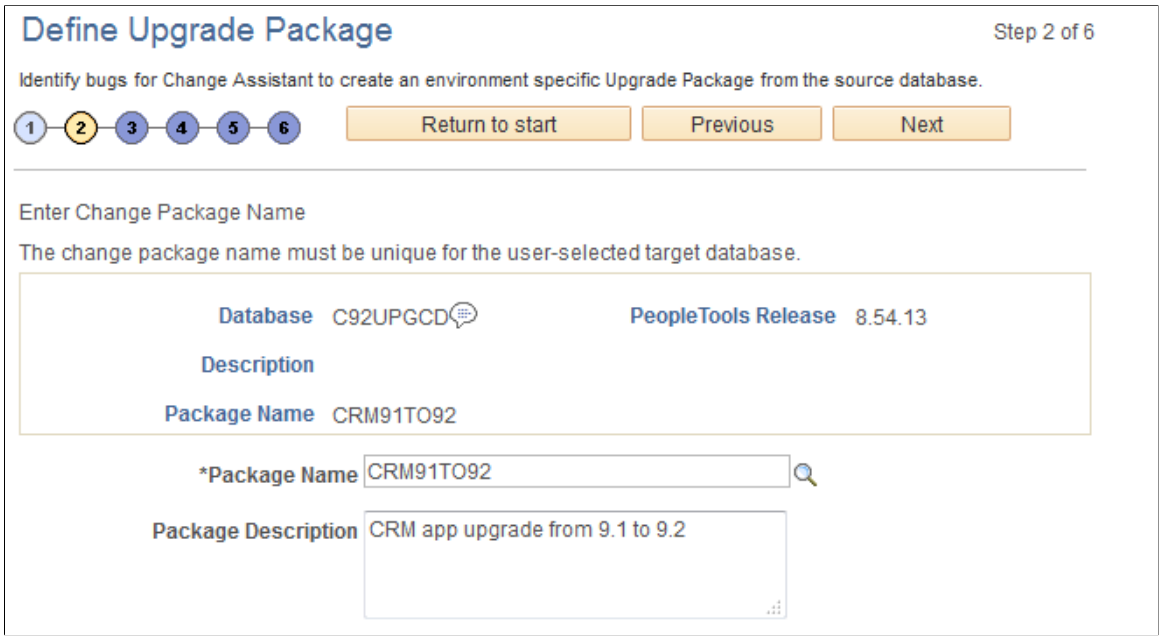
The target database for an Upgrade package is the Upgrade Source database (New Release Demo).

Define Upgrade Package Step 2 of 6

Enter a name and description for the Upgrade Package.

Image: Define Upgrade Package Step 2 of 6

This example illustrates the fields and controls on the Define Upgrade Package Step 2 of 6. You can find definitions for the fields and controls later on this page.



Package Name

Enter a name for your upgrade package. To edit an existing change package, select the Lookup button. The list of change packages that can be edited is restricted as follows:

- Packages created by the current user.
- Packages created for the currently selected target database.
- Packages which have been defined but have not been created.

If the package name already exists, the Change Package Options page will be displayed. See Define Update Package Wizard Step 2 of 6

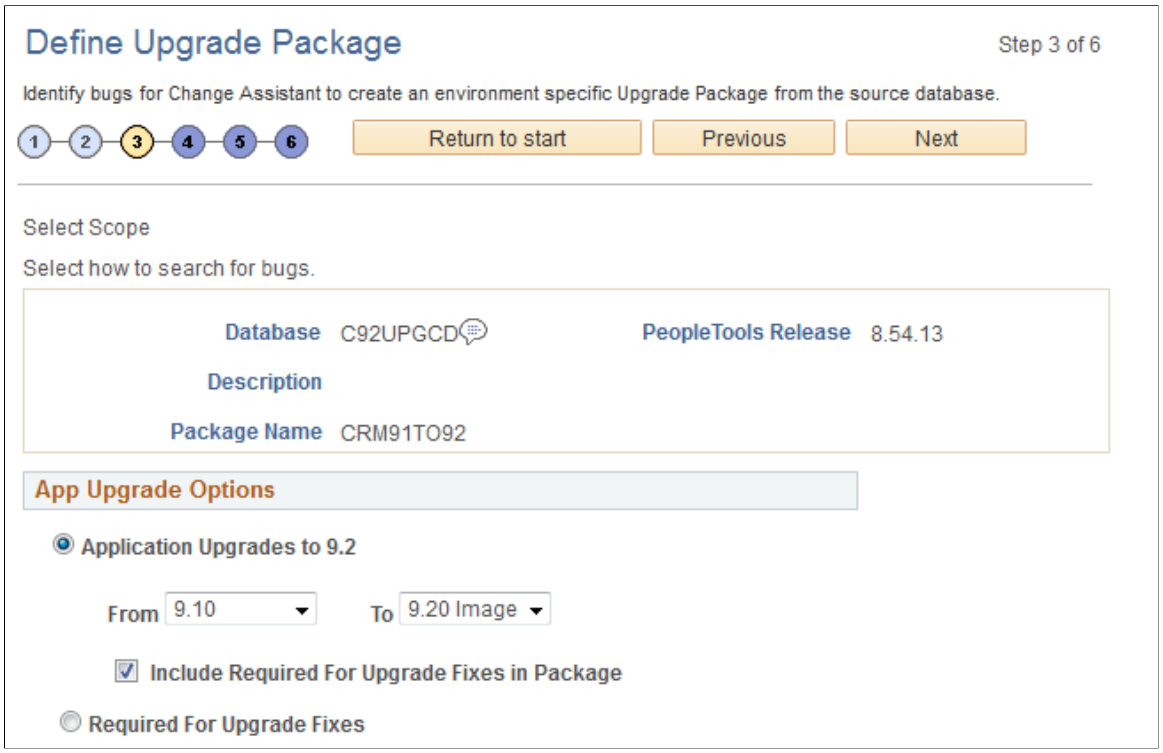
Package Description Enter a description for the upgrade package.

Define Upgrade Package Step 3 of 6

Select which App Upgrade Option to use. By default Application Upgrades to 9.2 is selected.

Image: Define Upgrade Package Step 3 of 6

This example illustrates the fields and controls on the Define Upgrade Package Step 3 of 6.



App Upgrade Options

Application Upgrades to 9.2 Select this radio button to create an application upgrade package (UPG).

Select the From release from the drop down list.

Select the Select the To path which will align with the Upgrade Certified Image, for example 9.2 Image 10 from the drop down list.

By default Required for Upgrade Fixes will be included in the package.

Note: When you select this option 2 change package definitions are created UPG and RFU.

Required for Upgrade Fixes Select this radio button to create a Required for Upgrade (RFU) package.

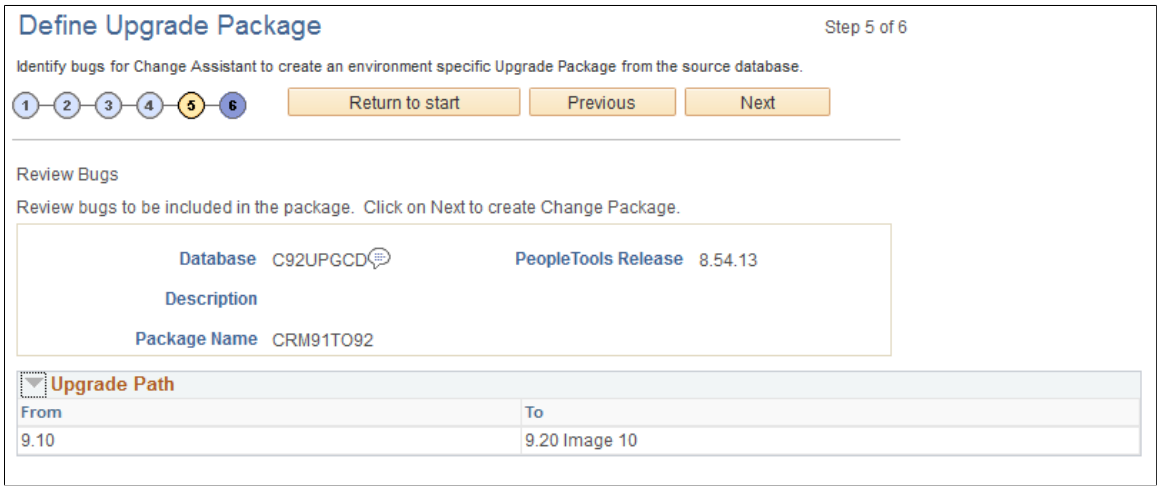
Note: When you select this option only 1 change package is created RFU.

Define Upgrade Package Step 5 of 6

When you transition to step 5, the upgrade path is displayed.

Image: Define Upgrade Package Step 5of 6

This example illustrates the fields and controls on the Define Upgrade Package Step 5 of 6.



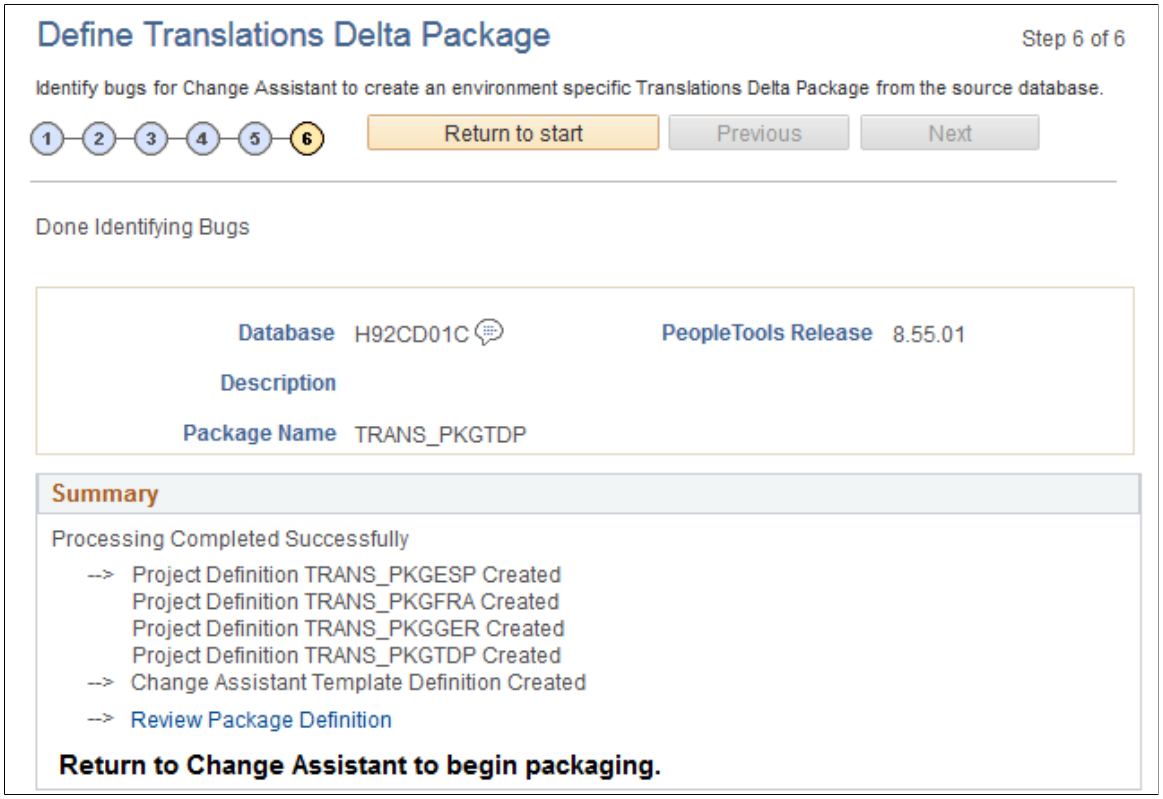
Define Upgrade Package Step 6 of 6

When you transition to Step 6 the project definitions for the upgrade (UPG) and the required for upgrade((RFU) are created, as well as the Change Assistant template.

You will return to Change Assistant to create the Change Packages.

Image: Define Upgrade Package Step 6 of 6

This example illustrates the fields and controls on the Define Upgrade Package Step 6 of 6.



Creating Upgrade Package

To create the upgrade package in Change Assistant:

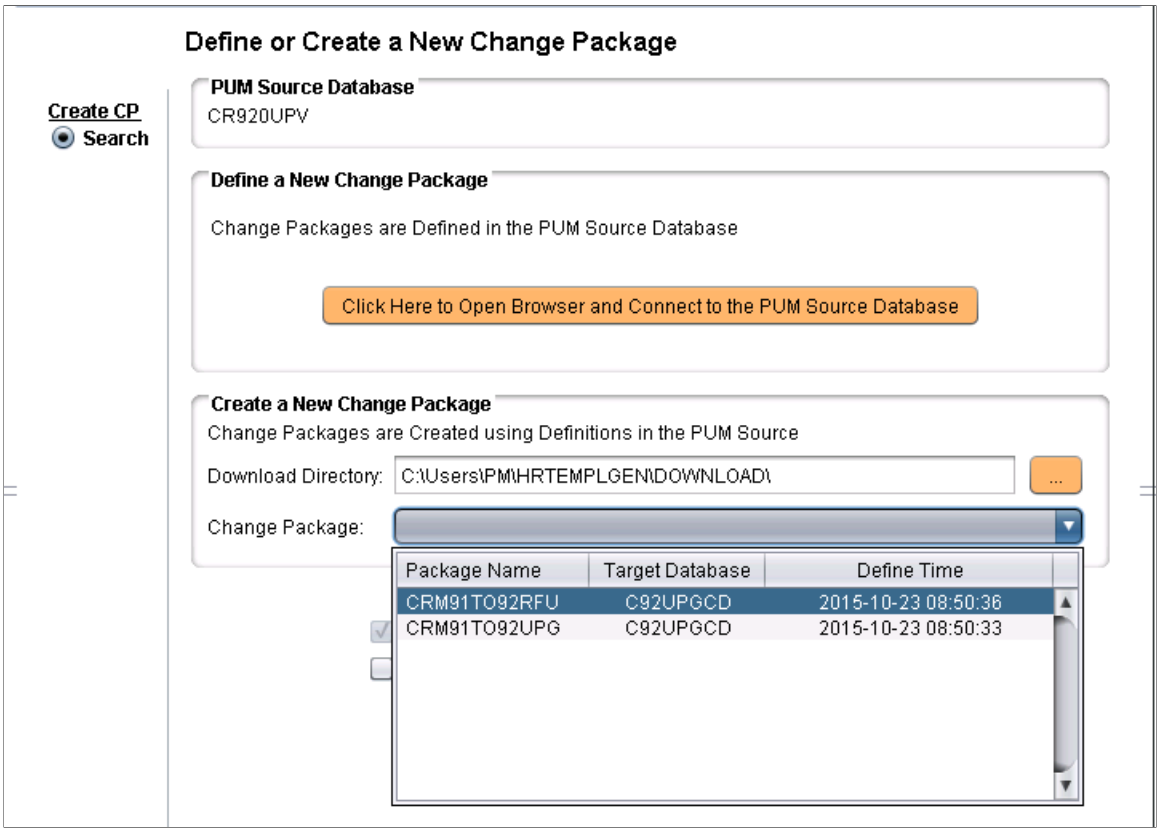
1. Navigate to the Define or Create a New Change Package if you are not already on that page.

   Select Tools, Define or Create a New Change Package

2. Select the upgrade change package for the drop down. There will be 2 packages for upgrade (UPG and RFU). Select one of these.

Image: Create a New Change Package

This example illustrates the fields and controls on the Create a New Change Package. You can find definitions for the fields and controls later on this page.



3. Click Next. You will receive a message *Do you need to create the corresponding UPG CP?* or *Do you need to create the corresponding RFU CP?*, depending on your selection. Click OK.
4. The change packages will be created.

Configuring Change Assistant for Upgrade Application

Before you begin performing an application upgrade using Change Assistant, you configure Change Assistant settings.

- General Options
- PUM Source is not used with Upgrade Application
- EM Hub is not used with Upgrade Application
- Additional Options is optional.

Depending on the upgrade pass, the source and target databases will change.

Pass	*Source*	*Target*
Initial	New Release Demo database **Note:** This is either the certified Upgrade Source Image or Demo database for the Upgrade Certified new release installed from the media pack or CD.	Copy of Production
Test Move to Production	Upgraded Copy of Production	New Copy of Production
Move to Production	Upgraded Copy of Production	Production

Setting Change Assistant Options

To set Change Assistant Options:

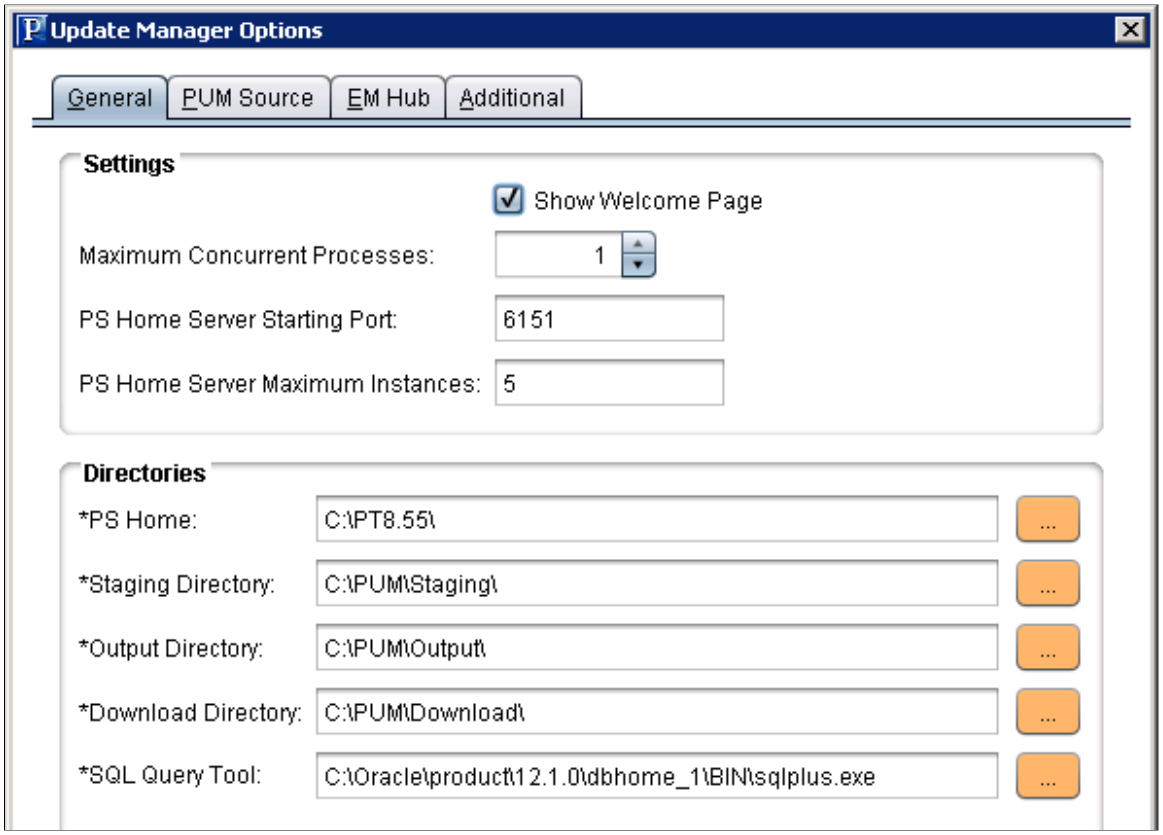
1. In Change Assistant, select Tools, Options.
2. Select Application Upgrade and click Next.
3. On the General Options page, specify the high-level settings for your current environment and click Next.
4. On the Additional Options page, enter your optional email notifications settings.
5. Click Finish.

General Options

The values entered on the General Options page are used as the default values for all of the various databases in the upgrade process.

Image: General Options page

This example illustrates the fields and controls on the General Options page. You can find definitions for the fields and controls later on this page.



Maximum Concurrent Processes Specifies the maximum number of processes that can be executed concurrently on the local machine. The default is 1.

PS Home Starting Port Specify the port number for the first PS Home server.

Change Assistant uses this port number to communicate with Change Assistant PS Home servers. The default starting port number is 6151. If you enter a port number that is already in use, you see an error message. You must change to a port number that is not in use, and then restart Change Assistant for the change to take effect.

PS Home Server Maximum Instances Enter a number between 1 and 10 for the maximum number of PS Home servers.

Use this value for environments with more than one PS_HOME. For each server instance, Change Assistant increments the PS Home Server Starting Port number by 1 up to the maximum number of instances. For example, with a PS Home Server Starting Port value of 6151 and a PS Home Server Maximum Instances value of five, the port numbers would be 6151, 6152, 6153, 6154, and 6155. The default is 5.

If you change this value, you must restart Change Assistant for the change to take effect.

PS Home

Enter the full path in which you installed PeopleTools client on the Windows Client machine.

Note: Specify the PS_HOME location you used to install Change Assistant.

Staging Directory

Enter the directory in which you would like to stage all the Change Assistant upgrade files. This is the location that Change Assistant will store files to be used during the upgrade job.

Output Directory

Enter the directory in which you want the log files generated by the upgrade job.

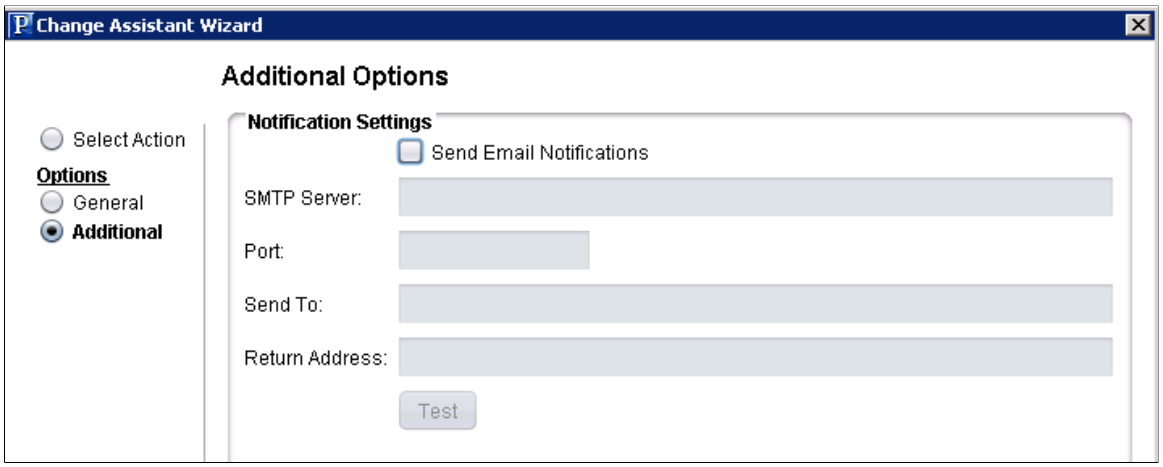
Download Directory

Enter the download directory where you created the Upgrade Change Package.

Additional Options

Image: Additional Options page

This example illustrates the fields and controls on the Additional Options page. You can find definitions for the fields and controls later on this page.



Send Email Notifications

Select this check box to receive email notifications if there are errors in the update process. Change Assistant also sends you a completion message when it encounters a Stop in the update process.

SMTP Server

Enter the SMTP mail server from which you receive the error or completion messages.

Port

Enter the port from which you want to access the email.

Send To

Enter the address to which you want the email sent.

Return Address	Enter the email address of the sender. Use this to identify who sent the notification.
Test	Validates that email is sent to the designated recipients and is working correctly. **Note:** Ensure that your SMTP server is installed and configured correctly.

Upgrading Application

Before using the Upgrade Application task, the following must have been completed:

- Define Upgrade Package
- Configure Change Assistant Settings.

To use the Upgrade Application

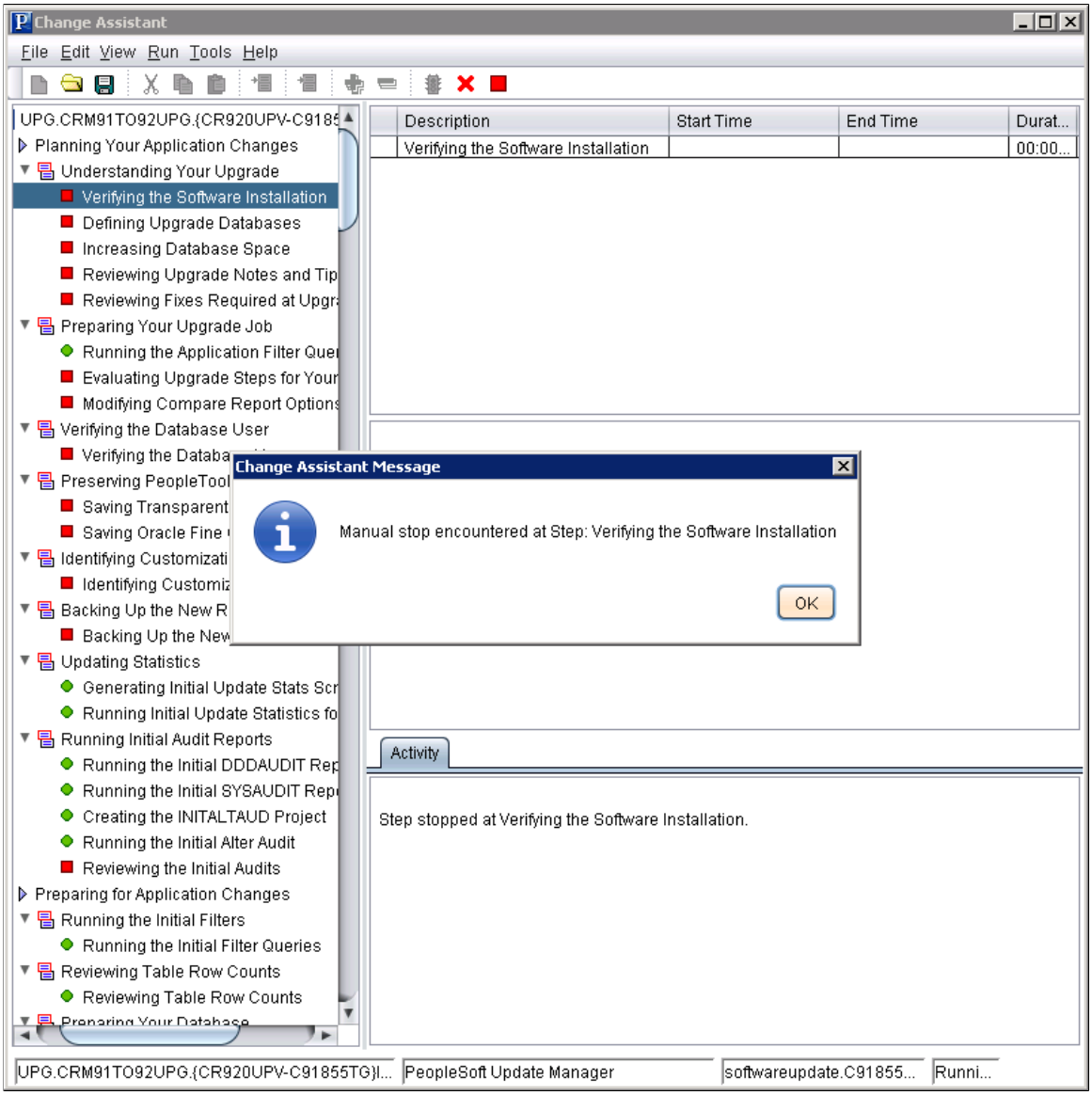
1. In Change Assistant, select Tools, Upgrade Application.

   Note: You must be in the Update Manager action.

2. The Change Package Wizard will guide you through the creating the upgrade job.
3. On the Change Package Settings page, select the download directory and apply type and click Next.
4. On the Select Upgrade Target Database page , select the target database and click Next.
5. On the Select Upgrade Source Database page, select the source database and click Next.
6. On the Application Upgrade page, select the packages to apply and click Next.
7. Change Assistant will check the compatibility and display the status. Review the checks and click Next.
8. The Apply Summary page is displayed. Click Finish.
9. Change Assistant will create the Application Upgrade job and open it.

Image: Application Upgrade Job

This example illustrates the fields and controls on the Application Upgrade Job.

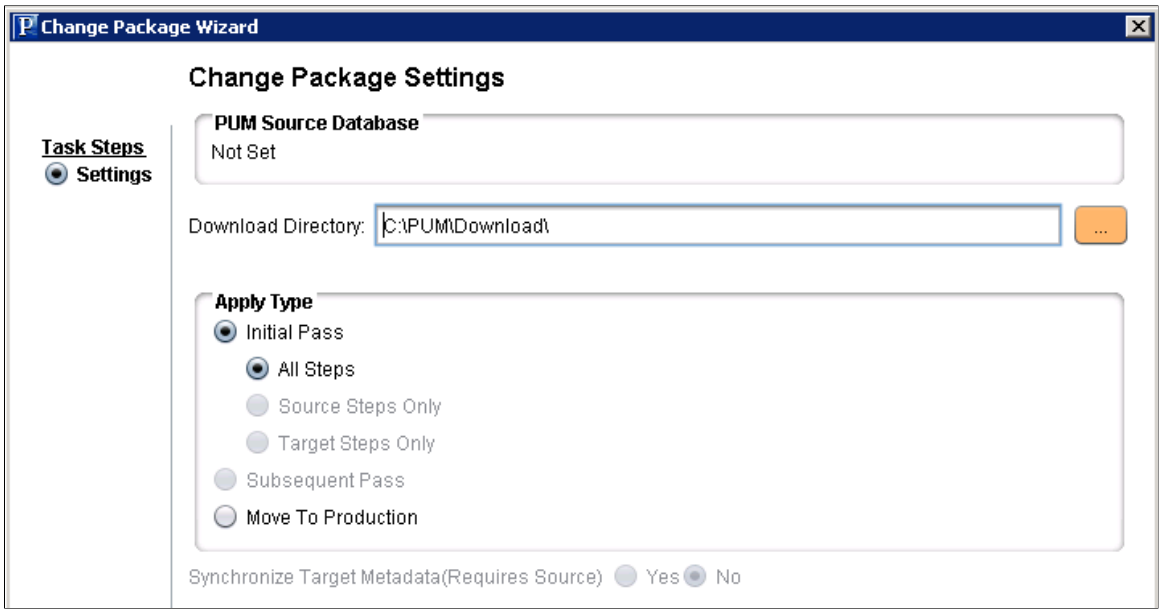


Change Package Settings

On the Change Package setting page, you will select the download directory and apply type.

Image: Upgrade Application - Change Package Settings

This example illustrates the fields and controls on the Upgrade Application - Change Package Settings. You can find definitions for the fields and controls later on this page.



Download Directory

Select the directory where you created the Upgrade Package.

See Creating Upgrade Package

Apply Type

Select the Apply Type. By default Initial Pass is selected.

- Initial Pass (default)

  Initial upgrade pass on your Copy of Production database.

- Move to Production

  Upgrade between your Copy of Production database and your test or production system.

Select Upgrade Target Database

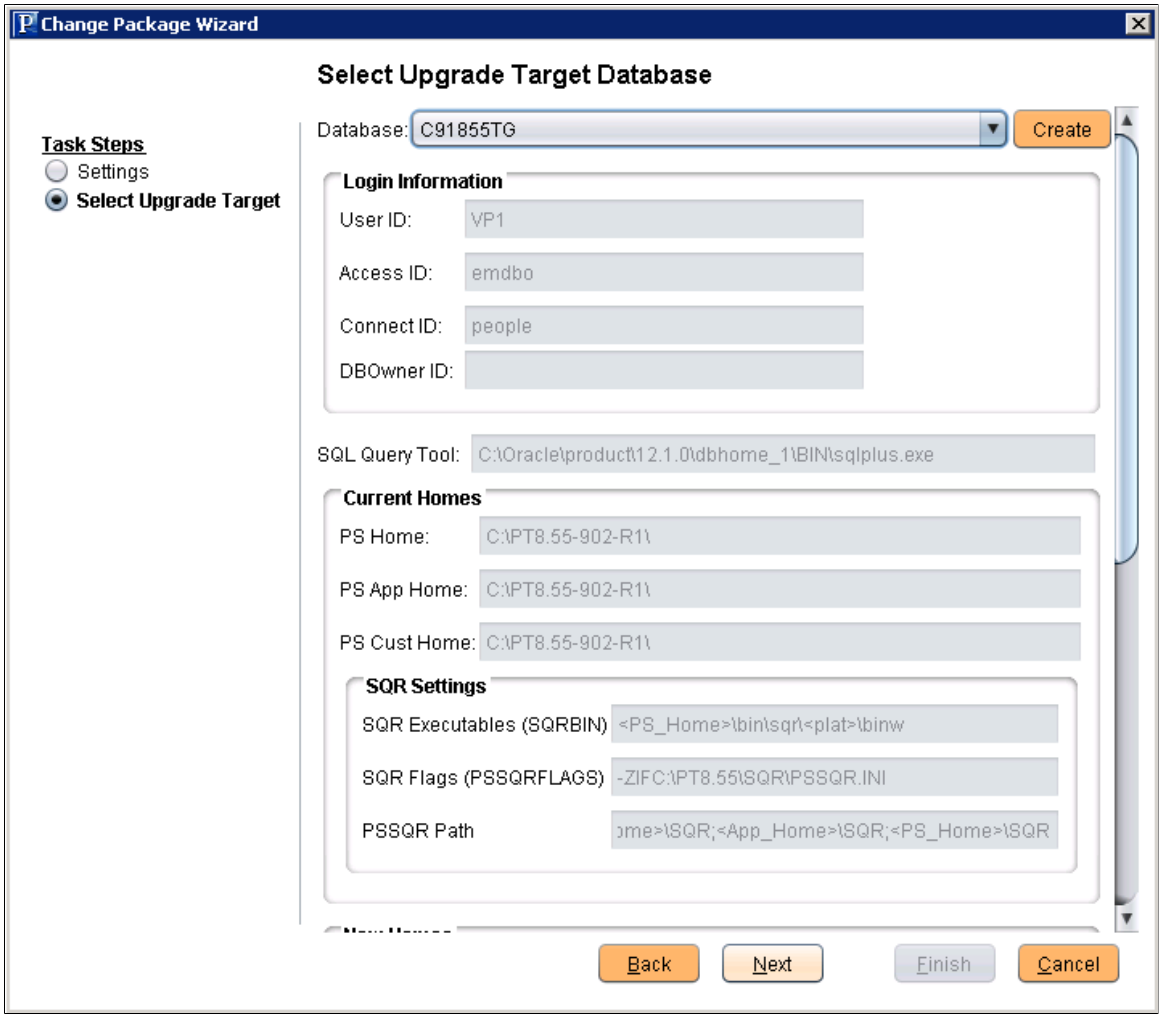
On the Select Target Database page, select the target database to upgrade. If the target database does not exist, click the Create button to launch the Database Wizard. See Defining Databases

---

Note: For upgrades, you need to set the new home information on bottom of the Select Upgrade Target Database page. To set the new homes see Configuring New Homes for Upgrade.

Image: Select Upgrade Target Database page

This example illustrates the fields and controls on the Select Upgrade Target Database page.

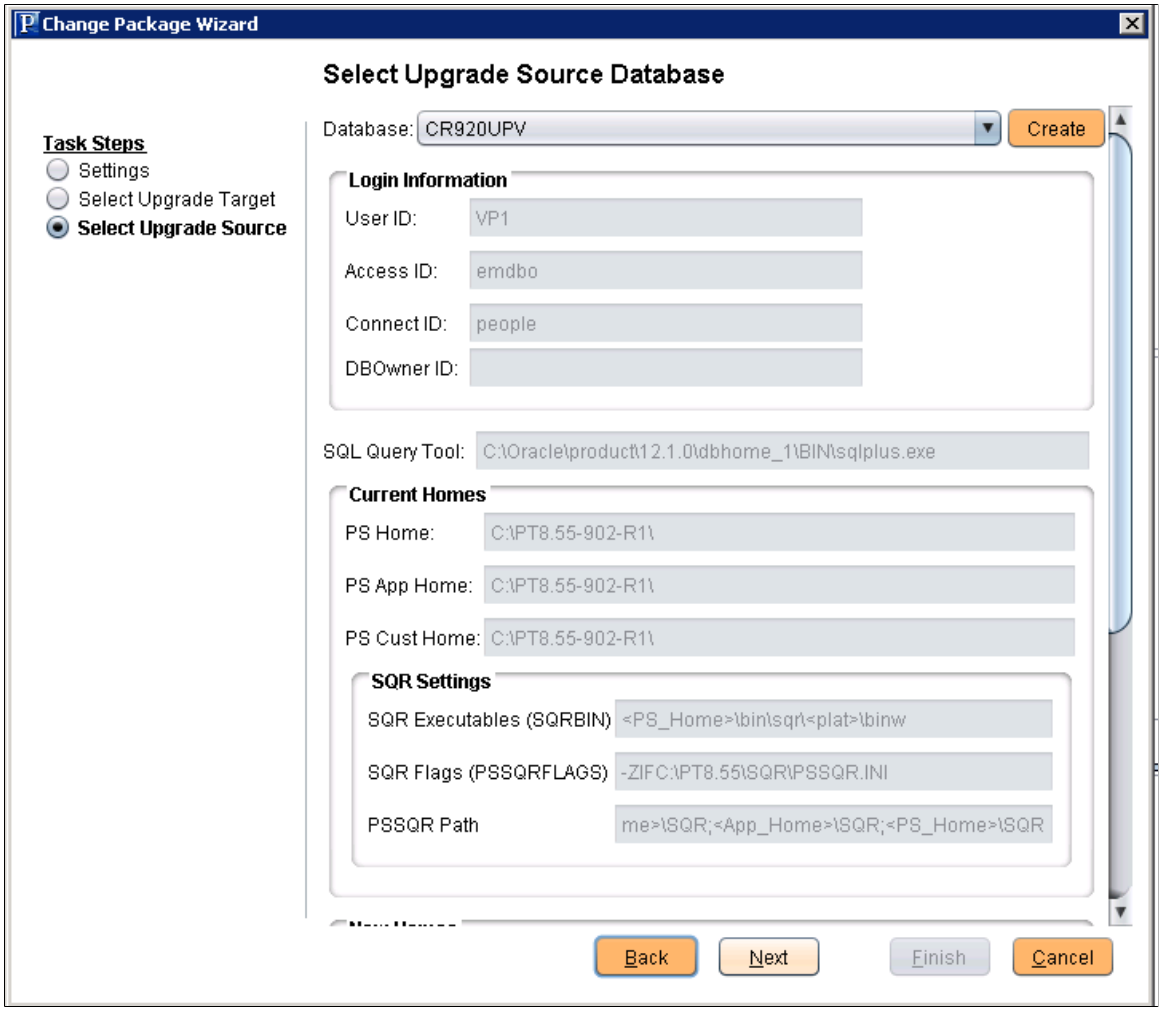


Select Upgrade Source Database

For the initial pass, the upgrade source database is the Release 9.2 Demo database certified for this upgrade.

Image: Select Upgrade Source Database

This example illustrates the fields and controls on the Select Upgrade Source Database.

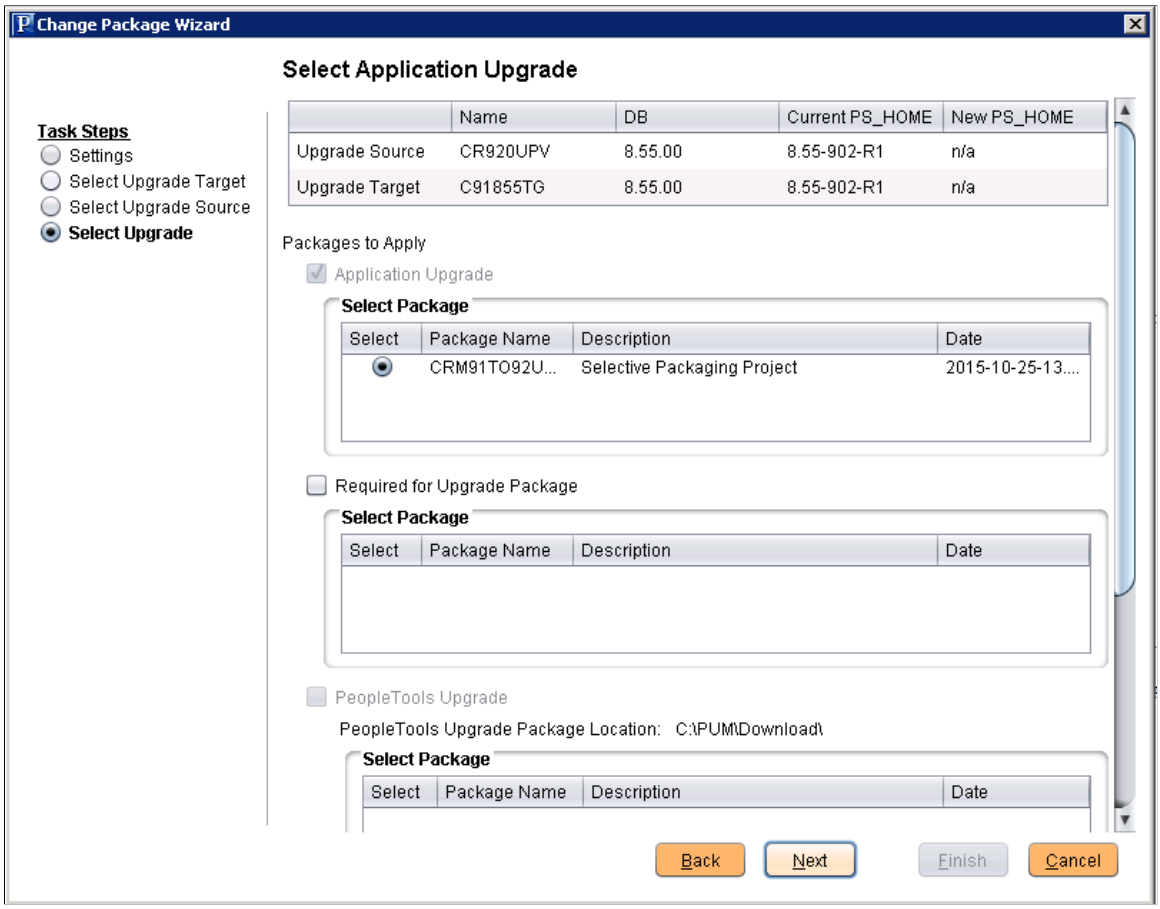


Select Application Upgrade

On the Select Application Upgrade Page, the Upgrade source and target are displayed with the PeopleTools release for the database, the current PS_HOME and the new PS_HOME.

Image: Select Application Upgrade page

This example illustrates the fields and controls on the Select Application Upgrade page. You can find definitions for the fields and controls later on this page.



Select the Packages to Apply:

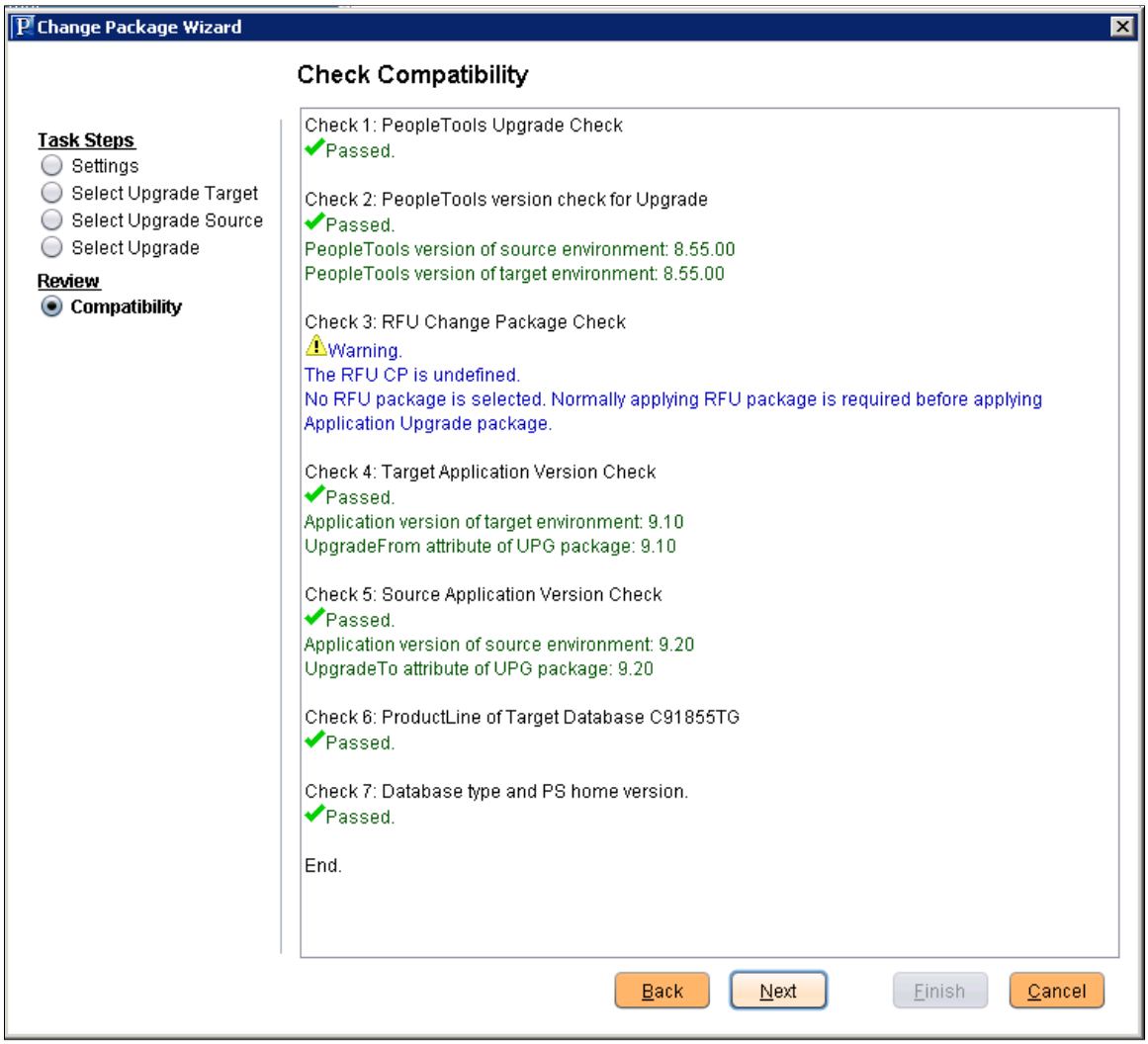
- Application Upgrade
- Required for Upgrade Package
- PeopleTools Upgrade
- PeopleTools Patch

Check Compatibility Page

The check Compatibility page

Image: Check Compatibility page

This example illustrates the fields and controls on the Check Compatibility page. You can find definitions for the fields and controls later on this page.



The following compatibility check are performed:

- Check 1: PeopleTools Upgrade Check
- Check 2: PeopleTools Version check for Upgrade
- Check 3: RFU Change Package Check
- Check 4: Target Application Version Check
- Check 5: Source Application Version Check
- Check 6: PeopleTools Version of Target Environment Check
- Check 7: PeopleTools Version of Upgrade Patch Version Check
- Check 8: ProductLine of Target Database

- Database type and PS home version

Chapter 23

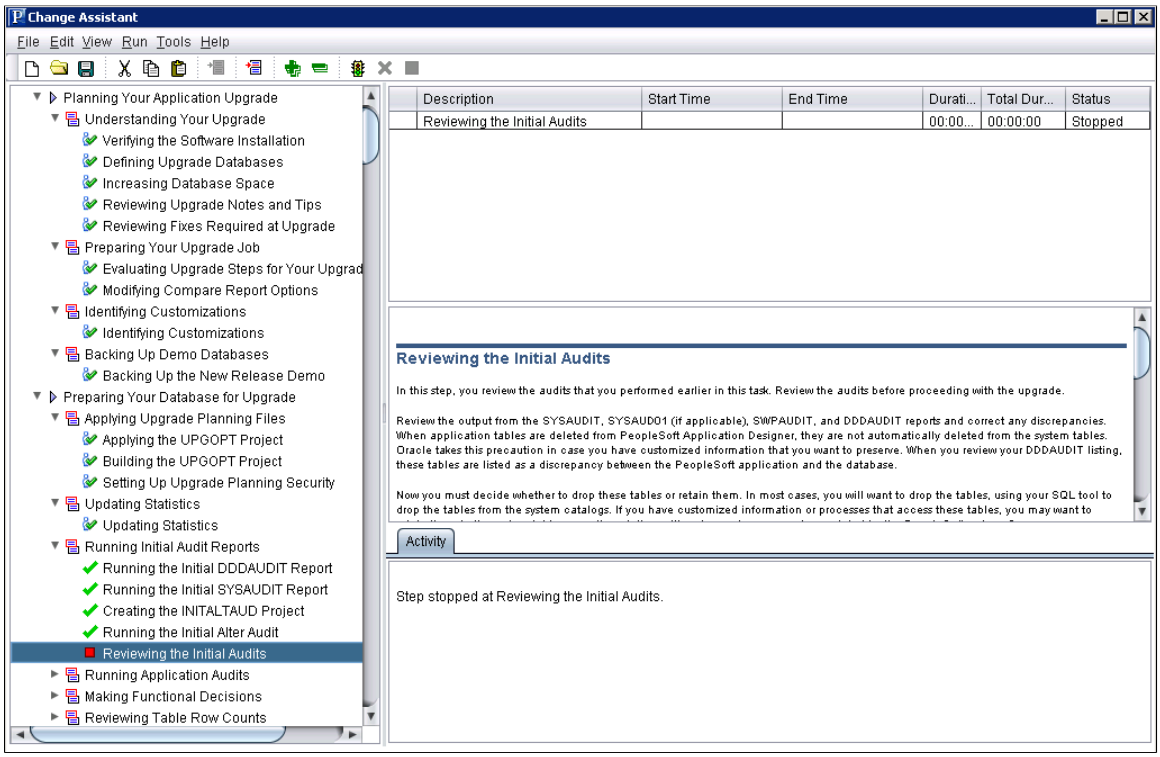
Running Upgrade Jobs with Change Assistant

Running the Upgrade Job

When you create a new upgrade job, you will see a job view similar to the following example:

Image: Upgrade Job

This example illustrates the fields and controls on the Upgrade Job. You can find definitions for the fields and controls later on this page.



In the job area on the left-hand side of the screen, you'll see one of the following icons next to the steps.

Indicates each step that must be performed manually. The status of manual steps can be set only to Stop or Complete.

Indicates that Change Assistant can automatically run this step. You can set the status to Stop, Run, Restart, or Complete.

If you set the status to Stop, this indicates that you want to stop the upgrade job at that step or that a milestone has been reached. The status can be reset to Run when desired.

	Indicates a restart process. If a step failed and you corrected the problem, you can set the step to restart from the point of failure.
	Indicates that the process is running.
	Indicates a failure has occurred that needs immediate attention. This appears if a Data Mover script, SQL script , or project copy step fails. Resolve the error before continuing with processing.
	Indicates a warning for this step which does not need immediate attention. The job continues processing with no adverse affects. After the job completes, review the steps in a warning state and evaluate for further action.
	Indicates that the step was completed by the system.
	Indicates this step was completed manually.
	Indicates this step is filtered at the job level. Steps filtered at the job level will not execute and are equivalent to Complete. To hide these steps, select View, and deselect Steps Filtered at the Job Level.
	Indicates this step is filtered by a filter query. Steps filtered by filter query will not execute and are equivalent to Complete. To hide these steps, select View, and deselect Steps Filtered by Filter Query.

When you are ready to run your upgrade job, select Run from the Change Assistant toolbar. Monitor the status of the automated upgrade steps in the Step Details box. After a automated step is completed running in Change Assistant, you can view logs, scripts and update job properties for individual steps.

Note: Change Assistant uses Application Designer and Data Mover in the background to perform many of the tasks. When using Change Assistant, make sure that any current Application Designer and Data Mover sessions running on the same workstation as Change Assistant are closed before running Change Assistant.

Viewing Upgrade Logs

You can view all the logs generated by the automated processes. After the process runs, you can select a step to view.

To view a log:

1. Highlight or select the step.
2. Select Edit > View Log.

3. Click OK

Note: If a step encounters an error, Change Assistant will automatically display the View Log.

Note: On the left side of the file list, Change Assistant displays both error and success symbols. These indicate which step logs contain errors to help you troubleshoot.

Viewing Scripts

You can view SQL and Data Mover scripts that are used to automate processes. Before the step that contains the script runs, you can view or modify the original script. After the process runs, you can view or modify the updated script and then restart the step.

To view a script:

1. Highlight or select the step.
2. Select Edit, View Script.
3. On the View Script dialog box, select the script you wish to view and click OK.

Modifying Job Properties

You may want to maintain a record of how long your upgrade takes. In that case, you can view and change the dates and durations for steps in the View/Edit Job Properties dialog box.

Change Assistant allows you to set the status for these sub-steps: DBTSFIX, UpgradePeopleTools and LoadBaseData.

To modify job properties:

1. Highlight or select the step.
2. Select Edit, Job Properties.
3. Enter changes to a specific job property, or add comments, and click OK.

Running Process Scheduler Steps

This section discusses how to:

- determine when to run Process Scheduler steps.
- prepare to run Process Scheduler steps.
- work with Process Scheduler steps.
- ensure Process Scheduler security authentication.

Determining When to Run Process Scheduler Steps

Running the ProcessScheduler step type is designed to improve performance and quicken completion times of long-running, data-intensive steps, that can be run in parallel in an application upgrade. In most cases, the steps that would require Process Scheduler processing are delivered in your upgrade template configured to run on a Process Scheduler server. However, if you are creating a custom template, decide that improved performance can be gained by running a step through Process Scheduler, as opposed to running through a remote agent, you can configure a process to be run by a ProcessScheduler step.

Before setting up an upgrade process to be run through Process Scheduler:

- always consult your specific upgrade documentation for any recommendations, considerations, or restrictions.
- make sure Process Scheduler is configured and defined within your upgrade environment.

Note: Refer to the PeopleSoft upgrade documentation for your upgrade path for additional information.

Preparing to Run Process Scheduler Steps

Before running an upgrade process though Process Scheduler, the following items need to addressed:

Task	*Documentation Reference*
Set up Process Scheduler.	See Process Scheduler
Define Process Scheduler servers in your upgrade database.	See Specifying Database Process Scheduler Settings.
Include a ProcessScheduler step type in your upgrade template.	See Step Parameters.

Working With Process Scheduler Steps

This section discusses how to:

- View Process Scheduler logs.
- Restart Process Scheduler steps.
- Cancel Process Scheduler steps.

Viewing Process Scheduler Logs

If in your upgrade environment you have configured Change Assistant to be able to access Process Scheduler logging information, you can view the Process Scheduler processing information from within Change Assistant just as you would for any other step (click on the step and select Edit, View Log).

The status returned by Change Assistant for the step matches the status returned by Process Scheduler itself. The log files generated by Process Scheduler are not parsed for warnings or errors. Therefore, even though Change Assistant may show a status of Complete for a Process Scheduler step type, you should review the generated log files for more details.

Restarting Process Scheduler Steps

If a Process Scheduler step has failed or has been stopped, you can restart the process by setting the step to Restart. This is most useful for restart-aware process definitions using Application Engine. When a step has been set to Restart, Change Assistant resubmits the process requests to Process Scheduler.

Canceling Process Scheduler Steps

While Change Assistant is executing the ProcessScheduler step, you can kill the step, by clicking on the step and selecting Run, Kill. This is equivalent to stopping or cancelling scheduled processes on the Process Scheduler. When you 'kill' the step, Change Assistant connects to the Process Scheduler, which issues "cancel" commands to the appropriate processes.

Ensuring Process Scheduler Security Authentication

PeopleSoft Change Assistant uses the PROCESSREQUEST component interface object to submit jobs to run on the PeopleSoft Process Scheduler server. You must ensure the user submitting the process has the appropriate authentication set for the PROCESSREQUEST object in the database the process runs against. You must edit security permissions to run the PROCESSREQUEST object.

To set up PROCESSREQUEST component interface security:

1. Log in to PeopleSoft through the browser.
2. Select PeopleTools, Security, Permissions & Roles, Permission Lists.
3. Select the permission list for which you want to set security. The Permission List component appears.
4. Access the component interfaces page and select the PROCESSREQUEST component interface.
5. Click Edit.

   The Component Interface Permissions page appears, showing all of the methods (both standard and user-defined) in the component interface and their method access.
6. Set the access permission for each method.

   Select Full Access or No Access. You must grant full access to at least one method to make the component interface available for testing and other online use.
7. Click OK, and then Save.

Chapter 24

Using Data Conversion Utilities

Understanding Data Conversion Utilities

The Upgrade Data Conversion Application Engine Programs are organized into a series of Drivers or Groups that guide the flow and order of execution at runtime for a particular upgrade path.

This topic contains information regarding People Tools Impact Analysis (PTIA) and the PS_PTIA_DCAEPGMS table. The PTIA process consists of two Application Engine programs and is intended to optimize the data conversion process by analyzing Source and Target tables and state records to determine actual dependencies between Application Engine sections. This allows you to run your data conversion process during your PeopleSoft application upgrade with optimal performance.

Using the PTIA Data Conversion Process

This section discusses:

- Understanding the PTIA Data Conversion Process
- Reviewing PTIA Initial Analysis
- Reviewing Dependency Analysis
- Reviewing Runtime for PTIADATACONV
- Reviewing PTIA Reporting

Understanding the PTIA Data Conversion Process

The PeopleTools Impact Analysis (PTIA) process uses many pieces of the previous style data conversion delivered in PeopleSoft 9.1 applications and lower. For example, PTIA uses the Application Engine section grouping and sequencing in the PS_PTIA_DCAEPGMS table for its dependency modeling. The PTIA process also uses the terminology – *root or top section*. A *root or top section* is an Application Engine section defined in PS_PTIA_DCAEPGMS. We use *root or top section* to distinguish between sections being called from the data conversion program as opposed to sections being called from an Application Engine call section step.

The PTIA process includes analyzing the insert, update, and delete SQL steps in your data conversion to determine the Source and Target tables and state records that are used. This includes analyzing dynamic SQL, App Classes, SQLExec's, and platform-specific code.

The Application Engine program gathers a list of Application Engine sections required for data conversion from a given upgrade path. These sections are analyzed and SQL statements are extracted and stored in the Application Engine Analyzer repository. Each SQL statement is analyzed to derive a list of tables that are manipulated or queried during the execution of that SQL. Once all the SQL is analyzed, the information is used to derive section dependency information, which is then saved in the Application

Engine Analyzer repository. PTIA allows the Application Engine data conversion to run out of the box on a number of threads.

There are two types of analysis for PTIA: initial and dependency. This section will describe both analysis types in detail.

Reviewing PTIA Initial Analysis

This section discusses:

- Understanding Initial Analysis
- Reviewing Data Conversion Query Parsing
- Reviewing Custom Data Conversion Code
- Reviewing Table Usage Information
- Reviewing Non Parsable SQL
- Reviewing the Data Conversion Repositories

Understanding Initial Analysis

The first part of the PTIA process is the PTIAANALYSIS Application Engine, also known as the Application Engine Analyzer. PTIAANALYSIS accepts one parameter for the upgrade path, and then queries PS_PTIA_DCAEPGMS to retrieve all the groups and sections for that upgrade path, ordering by group and sequence. Starting with the first group and first sequence, PTIAANALYSIS parses each Application Engine section definition following the flow from step to step and through any nested call sections. As it follows the flow, it inserts rows into the PS_PTIA_ANALYSIS table for each Application Engine Section, Step, and Action it comes across. PTIAANALYSIS maintains a counter as it goes and increments the counter as it writes each Action to the PS_PTIA_ANALYSIS table. By the end of this first task, the PS_PTIA_ANALYSIS table will describe the entire upgrade from top to bottom, from the first Application Engine section in the first Upgrade Group to the last section in the last Upgrade Group. By querying the PS_PTIA_ANALYSIS table and ordering by PTIA_AESTMTSEQ, the whole will be described, including any nested call sections.

It is important to note that the PS_PTIA_ANALYSIS table contains every actual Step in the chosen upgrade path. During the data conversion runtime phase, it is likely that not all these steps will be executed because specific data composition and various application options will prevent some sections or steps from running. With the PTIA process, data composition can affect the data conversion runtime flow, which makes it impossible to predetermine the exact runtime flow the conversion will follow.

The PTIAANALYSIS Application Engine reads the data conversion code for your defined upgrade path (where the path is defined in the PS_PTIA_DCAEPGMS table with PTIA_UPG_CONV_TYPE= “MAIN”).

The Application Engine Analyzer program leverages two PeopleCode functions included with PeopleSoft PeopleTools 8.50 or higher. The two PeopleCode functions are:

- GetProgText: A function that retrieves a PeopleCode program as text.
- ResolveMetaSQL: A function that returns a string of SQL text that has had its metasql resolved.

Reviewing Data Conversion Query Parsing

After PTIAANALYSIS determines the upgrade path flow, it traverses the flow again looking at all the different Step Actions to determine which SQL is being executed by that Step. Most action types are straightforward; SQL, Do Select. PeopleCode is the most complicated action type. A Java program parses the PeopleCode and pulls all the SQL executed in the PeopleCode. The results of the action type analysis end up in a table called PS_PTIA_DTLIDSQLS, which stores a reference to PS_PTIA_ANALYSIS, along with the SQL statements associated with each Step Action. In the case of PeopleCode, there may be many rows in the PS_PTIA_DTLIDSQLS table for each PeopleCode reference in PS_PTIA_ANALYSIS. In addition, a second shadow table, called PS_PTIA_DTLIDSQLSR, is also populated during action type analysis. The only difference between PS_PTIA_DTLIDSQLS and PS_PTIA_DTLIDSQLSR is that PS_PTIA_DTLIDSQLSR contains the fully resolved SQL statements. For example, if the original SQL in a Step was:

```
UPDATE PS_BEN_DEFN_COST SET RATE_TBL_ID = %Substring(%Sql(UPG_HC_221,RATE_TBL_ID),1⇒
,4) %Concat '-2' WHERE RATE_TYPE='2' AND RATE_TBL_ID IN ( SELECT RATE_TBL_ID FROM P⇒
S_UPG_BN_RATES WHERE RATE_TYPE='2')
```

Then this would be resolved to platform-specific SQL. In the case of SQL server it would be:

```
UPDATE PS_BEN_DEFN_COST SET RATE_TBL_ID = SUBSTRING(RTRIM(RATE_TBL_ID),1,4) + '-2' ⇒
WHERE RATE_TYPE='2' AND RATE_TBL_ID IN (SELECT RATE_TBL_ID FROM PS_UPG_BN_RATES WHE⇒
RE RATE_TYPE='2')
```

Each of these SQL statements is further parsed to determine the tables that participate in the query. The results are stored in the PS_PTIA_DTLIDTBLS table. A query can have zero or one target tables. If the query is an INSERT, UPDATE, DELETE, etc, then there will be one target. If the query is a select statement, then there will be no target table. For the previously stated query, you would expect to see 2 rows in the PS_PTIA_DTLIDTBLS table. The first row would be for the PS_BEN_DEFN_COST table with an PTIA_TABLEUSAGE value of T because it is the target table of the query. The second row would be for the PS_UPG_BN_RATES table with an PTIA_TABLEUSAGE value of S because it is a source table in the query.

At this point we have gathered all the information we need about the specific upgrade path to build a dependency model. The dependency model is solely based on which tables are affected by which steps and follows some very simple rules. Most of these rules are inherent in the Upgrade Group model.

Reviewing Custom Data Conversion Code

You can include custom data conversion code in the Initial Analysis and subsequent steps in the PTIA process by adding a row (or rows) to the PS_PTIA_DCAEPGMS table for each custom Application Engine section that is to be executed, where a row is defined as PTIA_UPG_PATH, PTIA_UPG_GROUP, SEQ_NUM, AE_APPLID, AE_SECTION, ACTIVE_FLAG, PTIA_UPG_CONV_TYPE, PTIA_UPG_GROUP_LVL.

Reviewing Table Usage Information

The data conversion analysis process attempts not only to identify the tables that are used in a given Application Engine step, but also how the tables are being used in the context of each step.

This information is stored in the analysis tables and documented in the Table Usage and Action columns of delivered PTIA reports, such as PTIA0001.SQR.

Valid values for the Table Usage column are:

- *S* for Data Source

- *T* for Data Target
- *X* for Unknown

Note: An X value in the Table Usage column for the PS_PTIA_DUAL, PS_PTIA_COMMON_AET, PS_PTIA_NORECNAME, or PS_PTIA_STATE_AE tables is expected and does not impact the subsequent Dependency Analysis Process.

See Reviewing Dependency Analysis

Valid values for the Action column are:

- CREATE
- DELETE
- DROP
- INSERT
- SELECT
- TRUNCATE
- UPDATE
- UPDSTATS
- UNKNOWN
- OTHER

A valid value for the action “Unknown” is only applicable to PeopleCode steps and only occurs in instances when the parser encounters syntax such as `GETRECORD`, `GETROWSET`, `CREATERECORD`, or `CREATEROWSET`, and cannot determine which actions were being done against the variable.

A valid value for the action “Other” occurs in instances when the parser encounters syntax such as the “Invalid SQL Override” or other non-SQL statements such as application function calls.

Reviewing Non Parsable SQL

The data conversion analysis process may mark certain SQL statements as non parsable. This designation refers to SQL statements that the Application Engine Analysis process could not correctly process. When a SQL statement is marked non parsable, there are three options that you can use:

- Modify the SQL so that the Application Engine Analyzer can process the statement. The following table compares sample non parsable and parsable SQL statements:

NON PARSABLE SQL	PARSABLE SQL
UPDATE %Table(%BIND(RECNAME)) SET RELATIONSHIP = ’C’ WHERE RELATIONSHIP IN (’S’, ’D’)	• UPDATE %TABLE(BN_834_MEMBER) SET RELATIONSHIP = ’C’ WHERE RELATIONSHIP IN (’S’, ’D’) • UPDATE %TABLE(DEP_BEN_EFF) SET RELATIONSHIP = ’C’ WHERE RELATIONSHIP IN (’S’, ’D’) • UPDATE %Table(EMERGENCY_CNTCT) SET RELATIONSHIP = ’C’ WHERE RELATIONSHIP IN (’S’, ’D’)

- For non parsable SQL statements in PeopleCode, add an override line directly above the non parsable SQL to manually document the Source and Target tables that are in use.

Note: There is no override option for Application Engine SQL steps that are marked as non parsable.

Note: Entering inaccurate or incomplete information in the override statement may result in data conversion sections being run in the incorrect dependent order, which can produce incorrect conversion results, such as data errors.

Note: Tables defined in the override statement require the *PS_* prefix.

Correct = PS_JOB

Incorrect = JOB

The following table gives sample override lines for various situations:

Syntax	Sample Override Lines
When Source and Target tables are explicitly known and static	For example: • REMSQLANALYSIS:T:<Tgt Table>,<Tgt Table>:S:<SRC Table>,<SRC Table>; • REMSQLANALYSIS:T::S:<SRC Table>,<SRC Table>; • REMSQLANALYSIS:T:<Tgt Table>,<Tgt Table>:S:;

Syntax	*Sample Override Lines*
When Source and/or Target Tables are determined based on a query	For example: • REM SQLANALYSIS:T:%SQL(SQLid [, paramlist]):S:[table name]; • REM SQLANALYSIS:T:<Tgt Table>,<Tgt Table>:S: %SQL(SQLid [, paramlist]); • REM SQLANALYSIS:T:%SQL(SQLid [, paramlist]):S: %SQL(SQLid [, paramlist]); • REM SQLANALYSIS:T::S:%SQL(SQLid [, paramlist]); • REM SQLANALYSIS:T:%SQL(SQLid [, paramlist]):S:; Where: *SQLid*: Specify the name of an existing SQL definition. *paramlist*: Specify a list of arguments for dynamic substitutions at runtime. The first argument replaces all occurrences of %P(1) in the referenced SQL definition, the second argument replaces %P(2), and so forth. **Note:** The paramlist arguments must be static values. Variable values in the parmlist are not permitted. **Note:** The Query is resolved at the time the Data Conversion Analysis is executed. It is NOT resolved during the Data Conversion Runtime. **Note:** The Query must return one or more valid RECNAME values. No other return results are permitted.
Where there is no Source or Target table to be defined an/or the non parsable SQL is to be excluded from the table and dependency analysis.	REMSQLANALYSIS:T::S:PS_PTIA_NORECNAME; **Note:** The “REMSQLANALYSIS:T::S:;” syntax is not a valid override and will be marked as “Invalid” by the PTIAANALYSIS Program.

- Leave the SQL as it is. This results in the non parsable SQL being marked as “dependent” on all steps that exist prior to it, and all steps subsequent to the non parsable SQL become dependent on it.

  Note: This will likely result in slowing the runtime of data conversion and is *not* recommended.

Reviewing the Data Conversion Repositories

The tables in the Data Conversion Analysis repository hold the following data:

- Step actions stored in execution order.
- SQL clauses extracted from step actions.
- Tables featured in SQL clause.
- Bind variables used in SQL.

Analysis information is stored in the following tables:

- PS_PTIA_DCAEPGMS
- PS_PTIA_ANALYSIS
- PS_PTIA_ANALYSISTX
- PS_PTIA_DATACONV
- PS_PTIA_DTLIDSQLS
- PS_PTIA_DTLIDSQLSR
- PS_PTIA_DTLIDTBLS
- PS_PTIA_RUNDEPEND
- PS_PTIA_SECDEPEND
- PS_PTIA_SECLISTTMP
- PS_PTIA_STEPDEPEND

The following Analysis tables make up the PTIA process:

PS_PTIA_DATACONV

The PS_PTIA_DATACONV table is based on the table definition for PS_PTIA_DCAEPGMS. It stores the upgrade Application Engine sections for the chosen upgrade path.

COLUMN	*DESCRIPTION*
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS
PTIA_DBTYPE	Stores the text equivalent of the standard DBTYPE codes
PTIA_UPG_GROUP	Upgrade Group
PTIA_UPG_GROUP_LVL	Upgrade Group Level
PTIA_UPG_CONV_TYPE	Conversion type: MAIN or DDL
SEQ_NUM	Upgrade Sequence Copied from PS_PTIA_DCAEPGMS
AE_APPLID	Upgrade Application Engine Copied from PS_PTIA_ DCAEPGMS

COLUMN	DESCRIPTION
AE_SECTION	Upgrade Application Engine Section Copied from PS_PTIA_DCAEPGMS
ACTIVE_FLAG	Active Flag Copied from PS_PTIA_DCAEPGMS
PTIA_RUNDURATION	Elapsed time for this section to run during data conversion
PTIA_RUNSTATUSFLAG	Run Status Flag (Y-complete, N-not run yet, R-Running, F-Failed)
PTIA_GUID	GUID generated by the Data Conversion runtime engine

PS_PTIA_ANALYSIS

This is the main analysis table. The Application Engine Analyzer (PTIAANALYSIS) writes a row to this table for every Action in each Root Section of the specified upgrade path.

COLUMN	DESCRIPTION
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS
PTIA_DBTYPE	Stores the text equivalent of the standard DBTYPE codes
PTIA_UPG_GROUP	Upgrade Group
PTIA_UPG_GROUP_LVL	Upgrade Group Level
PTIA_UPG_CONV_TYPE	Conversion type: MAIN or DDL
SEQ_NUM	Upgrade Sequence copied from PS_PTIA_DCAEPGMS
PTIA_TOPAEAPPLID	Upgrade Application Engine copied from PS_PTIA_DCAEPGMS
PTIA_TOPAESECTN	Upgrade Application Engine Section copied from PS_PTIA_DCAEPGMS
PTIA_TOPAESTEP	Upgrade Section Step
PTIA_TOPAESEQNUM	Upgrade Section Sequence Number
PTIA_AELEVEL	Nesting level for Call Section
AE_APPLID	Actual Application Engine Program (same as PTIA_TOPAEAPPLID if PTIA_AELEVEL is 1)
AE_SECTION	Actual Section (same as PTIA_TOPAESECTN if PTIA_AELEVEL is 1)

COLUMN	DESCRIPTION
AE_STEP	Actual Step (same as PTIA_TOPAESTEP if PTIA_AELEVEL is 1)
AE_SEQ_NUM	Actual Seq Num (same as PTIA_TOPAESEQNUM if PTIA_AELEVEL is 1)
MARKET	Market
DBTYPE	DBTYPE
AE_DO_SECTION	If Step Action is Call Section, then this is the section to be called
AE_DO_APPL_ID	If Step Action is Call Section, then this is the program to be called
AE_DYNAMIC_DO	Indicates the Call Section is a dynamic call section
STEP_DESCR	Step Description
AE_STMT_TYPE	Action Type e.g. S-SQL, P-PeopleCode, D-DoSelect, H-DoWhen etc
PTIA_STMTTYPENUM	Numeric identified for AE_STMT_TYPE (used for ordering step actions)
PTIA_AESTMTSEQ	Sequence used to order the steps actions for the whole upgrade
AE_REUSE_STMT	Standard Application Engine Reuse Statement flag
AE_DO_SELECT_TYPE	Standard Application Engine Do Select Type
DETAIL_ID	Section.Step.Action identifier used as a key to most PTIA tables
PTIA_INFO1	Extra Information mostly related to FUNCLIB calls
PTIA_INFO2	Extra Information mostly related to FUNCLIB calls
PTIA_INFO3	Extra Information mostly related to FUNCLIB calls
PTIA_INFO4	Extra Information mostly related to FUNCLIB calls
PTIA_INFO5	Extra Information mostly related to FUNCLIB calls
SQLID	For SQL step, the SQLID of the SQL this step action executes
PTIA_STMTDESCR	Description copied from Application Engine Step Description

COLUMN	DESCRIPTION
PTIA_HASPARENTS	This Step has dependencies on other one or more other Steps
PTIA_HASCHILDREN	One or more other Steps have a dependency on this step
PTIA_HASWHERE	The SQL has a where clause – Mostly used by PeopleSoft Development

PS_PTIA_DTLIDSQLS

This table holds a reference to every SQL in the conversion code for the specified upgrade path.

COLUMN	DESCRIPTION
PTIA_GUID	GUID generated by the Data Conversion runtime engine
DETAIL_ID	Section.Step.Action identifier used as a key to most PTIA tables
AE_APPLID	Actual Application Engine Program
DBTYPE	DBTYPE
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS
PTIA_DBTYPE	Text equivalent of the standard DBTYPE codes
PTIA_UPG_CONV_TYPE	Conversion type: MAIN or DDL
PTIA_SQLNUM	SQL Number, for PeopleCode there may be many SQL statements
PTIA_AESTMTLEN	Length of the text of the SQL statement
PTIA_OBJ_TYPE	S-SQL or P-PeopleCode
TABLE_NAME	Main Table in the SQL Statement, Blank if SQL is SELECT with many tables
PTIA_DMLACTION	INSERT, UPDATE, DELETE, SELECT etc
PTIA_LINENUM	Refers to the PeopleCode line number where the SQL is defined
PTIA_SQLPASSDPARSE	Indicates whether SQL parser was able to successfully parse the SQL statement
DESCR254	Description column

COLUMN	DESCRIPTION
PTIA_PARAMCLAUSE	Bind variable used in the SQL
PTIA_INFO1	Extra Information mostly related to FUNCLIB calls
PTIA_INFO2	Extra Information mostly related to FUNCLIB calls
PTIA_INFO3	Extra Information mostly related to FUNCLIB calls
PTIA_INFO4	Extra Information mostly related to FUNCLIB calls
PTIA_INFO5	Extra Information mostly related to FUNCLIB calls
PTIA_CHUNKSEQ	Statement Chunk Sequence
PTIA_TEXTCHUNK	Statement executed by this Step

PS_PTIA_DTLIDSQLSR

This table differs slightly from the PS_PTIA_DTLIDSQLS table in that the SQL statement has been fully resolved into platform-specific SQL. This makes it much easier to see what is happening in the SQL.

COLUMN	DESCRIPTION
PTIA_GUID	GUID generated by the Data Conversion runtime engine
DETAIL_ID	Section.Step.Action identifier used as a key to most PTIA tables
AE_APPLID	Actual Application Engine Program
DBTYPE	DBTYPE
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS
PTIA_DBTYPE	Text equivalent of the standard DBTYPE codes
PTIA_UPG_CONV_TYPE	Conversion type: MAIN or DDL
PTIA_SQLNUM	SQL Number, for PeopleCode there may be many SQL statements
PTIA_CHUNKSEQ	Statement Chunk Sequence
PTIA_TEXTCHUNK	Statement executed by this Step

PS_PTIA_DTLIDTBLS

This table holds a reference to every SQL in the conversion code for the specified upgrade path and which Tables or Records are in use for each piece of SQL.

COLUMN	DESCRIPTION
PTIA_GUID	GUID generated by the Data Conversion runtime engine
DETAIL_ID	Section.Step.Action identifier used as a key to most PTIA tables
AE_APPLID	Actual Application Engine Program
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS
PTIA_DBTYPE	Text equivalent of the standard DBTYPE codes
PTIA_UPG_CONV_TYPE	Conversion type: MAIN or DDL
PTIA_SQLNUM	SQL Number, for peoplecode there may be many SQL statements
RECNAME	Record Name
TABLE_NAME	Associated Table Name
PTIA_TABLEUSAGE	T-Target, S-Source
PTIA_TABLETYPE	R-Record, S-State Record, U-Upgrade Table, V-View, T-TempTable
PTIA_INFO1	Extra Information mostly related to FUNCLIB calls
PTIA_INFO2	Extra Information mostly related to FUNCLIB calls
PTIA_INFO3	Extra Information mostly related to FUNCLIB calls
PTIA_INFO4	Extra Information mostly related to FUNCLIB calls
PTIA_INFO5	Extra Information mostly related to FUNCLIB calls

PS_PTIA_STEPDEPEND

By querying PS_PYIA_DTLIDTBLS and PS_PTIA_ANALYSIS, it is possible to determine which steps have dependencies and what those dependencies are.

COLUMN	DESCRIPTION
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS

COLUMN	DESCRIPTION
PTIA_DBTYPE	Text equivalent of the standard DBTYPE codes
PTIA_UPG_CONV_TYPE	Conversion type: MAIN or DDL
PTIA_P_UPG_GROUP	Parent Data Conversion Group
PTIA_P_UPGGRPLVL	Parent Data Conversion Group Level
PTIA_P_SEQNUM	Parent Application Engine Section Sequence Number
PTIA_P_TOPAEAPPLID	Parent Data Conversion Application Engine Program
PTIA_P_TOPAESECTN	Parent Data Conversion Application Engine Section
PTIA_P_TOPAESTEP	Parent Data Conversion Application Engine Step
PTIA_P_TOPAESEQNUM	Parent Data Conversion Application Engine Step Sequence
PTIA_P_AEAPPLID	Parent Application Engine Program
PTIA_P_AESECTION	Parent Application Engine Section
PTIA_P_AESTEP	Parent Application Engine Step
PTIA_P_AESEQNUM	Parent Application Engine Step Sequence within the Section
PTIA_P_AESTMTSEQ	Parent Application Engine Step Sequence across whole upgrade
PTIA_P_DETAILID	Parent Application Engine Step Detail ID
PTIA_P_SQLNUM	Parent Application Engine Detail ID SQL Sequence
PTIA_C_UPG_GROUP	Child Data Conversion Group
PTIA_C_UPGGRPLVL	Child Data Conversion Group Level
PTIA_C_SEQNUM	Child Application Engine Section Sequence Number
PTIA_C_TOPAEAPPLID	Child Data Conversion Application Engine Program
PTIA_C_TOPAESECTN	Child Data Conversion Application Engine Section
PTIA_C_TOPAESTEP	Child Data Conversion Application Engine Step
PTIA_C_TOPAESEQNUM	Child Data Conversion Application Engine Step Sequence
PTIA_C_AEAPPLID	Child Application Engine Program

COLUMN	DESCRIPTION
PTIA_C_AESECTION	Child Application Engine Section
PTIA_C_AESTEP	Child Application Engine Step
PTIA_C_AESEQNUM	Child Application Engine Step Sequence within the Section
PTIA_C_AESTMTSEQ	Child Application Engine Step Sequence across whole upgrade
PTIA_C_DETAILID	Child Application Engine Step Detail ID
PTIA_C_SQLNUM	Child Application Engine Detail ID SQL Sequence
PTIA_TABLENAME	Common table referenced by the parent and child step
PTIA_P_TABLEUSAGE	Parent table usage T-Target, S-Source
PTIA_C_TABLEUSAGE	Child table usage T-Target, S-Source

PS_PTIA_ SECDEPEND

This table is an aggregation of PS_PTIA_STEPDEPEND to the Section level.

COLUMN	DESCRIPTION
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS
PTIA_DBTYPE	Text equivalent of the standard DBTYPE codes
PTIA_UPG_CONV_TYPE	Conversion type: MAIN or DDL
PTIA_P_UPG_GROUP	Parent Data Conversion Group
PTIA_P_UPGGRPLVL	Parent Data Conversion Group Level
PTIA_P_TOPSEQNUM	Parent Application Engine Section Sequence Number
PTIA_P_TOPAEAPPLID	Parent Data Conversion Application Engine Program
PTIA_P_TOPAESECTN	Parent Data Conversion Application Engine Section
PTIA_P_AESTMTSEQ	Parent Application Engine Step Sequence across whole upgrade
PTIA_C_UPG_GROUP	Child Data Conversion Group
PTIA_C_UPGGRPLVL	Child Data Conversion Group Level

COLUMN	DESCRIPTION
PTIA_C_TOPSEQNUM	Child Application Engine Section Sequence Number
PTIA_C_TOPAEAPPLID	Child Data Conversion Application Engine Program
PTIA_C_TOPAESECTN	Child Data Conversion Application Engine Section
PTIA_C_AESTMTSEQ	Child Application Engine Step Sequence across whole upgrade
PTIA_DEPENDSOURCE	Dependency Rule
PTIA_DEPENDRULE	DEPENDENT or INDEPENDENT
PTIA_EXCLUDEFLAG	Indicates whether this dependency should be excluded from the runtime dependency calculation

PS_PTIA_RUNDEPEND

This table represents the section dependency model. You can query this table for any given data conversion Application Engine Section to determine what it depends on and what depends on it. The runtime data conversion Application Engine (PTIADATACONV) uses this table to determine which sections are eligible to run.

COLUMN	DESCRIPTION
PTIA_UPG_PATH	Upgrade Path copied from PS_PTIA_DCAEPGMS
PTIA_DBTYPE	Text equivalent of the standard DBTYPE codes
PTIA_P_UPG_GROUP	Parent Data Conversion Group
PTIA_P_TOPSEQNUM	Parent AE Section Sequence Number
PTIA_P_TOPAEAPPLID	Parent Data Conversion AE Program
PTIA_P_TOPAESECTN	Parent Data Conversion AE Section
PTIA_C_UPG_GROUP	Child Data Conversion Group
PTIA_C_TOPSEQNUM	Child AE Section Sequence Number
PTIA_C_TOPAEAPPLID	Child Data Conversion AE Program
PTIA_C_TOPAESECTN	Child Data Conversion AE Section
PTIA_DEPTH	Dependency Nesting

Reviewing Dependency Analysis

This section discusses:

- Understanding Dependency Analysis
- Reviewing Data Conversion Runtime Rules

Understanding Dependency Analysis

The table usage information identified in the Initial Analysis is subsequently used to determine the dependencies between AE Steps. The Step Dependency Information is then aggregated to the "Root Section" level where a Root Section is defined as a row in the PS_PTIA_DCAEPGMS table (PTIA_UPG_PATH, PTIA_UPG_GROUP, SEQ_NUM, AE_APPLID, AE_SECTION, ACTIVE_FLAG, PTIA_CONV_TYPE, PTIA_UPG_GROUP_LVL).

Reviewing Data Conversion Runtime Rules

The following rules are the data conversion runtime rules:

- Dependencies are derived from tables referenced in SQL or PeopleCode actions in Upgrade Sections.
- Dependencies follow the Upgrade Group sequencing. If Section ABC in Upgrade Group 1 updates a given table, then any Section assigned a higher sequence than ABC that updates or queries that same table cannot run until Section ABC is complete.
- Upgrade groups are further grouped into levels. For example, objects defined in Level 2 are dependent on objects defined in Level 1. Additionally, objects defined in Level 3 are dependent on objects defined in Level 1 and Level 2.
- Upgrade groups within the same level do not depend on each other. If Section QWE in Upgrade Group 2 updates table FFF and Section ASD in Upgrade Group 3 also updates table FFF and Upgrade Groups 2 and 3 are at the same level, there is no dependency created.
- Upgrade groups create dependencies on sections within their own upgrade group and upgrade groups of lower levels. If Section ABC in Upgrade Group 1 updates table FFF and Section QWE in Upgrade Group 2 also updates table FFF, and Upgrade Group 1 is in a lower level than Upgrade Group 2, then Section QWE becomes dependent on Section ABC.
- Tables as sources do not create dependencies. If Section ZXC in Upgrade Group 1 selects from table FFF, and then Section BNM in Upgrade Group 1 also selects from table FFF, no dependency is created.
- If a Section has a SQL statement that PTIAANALYSIS cannot understand, the SQL is flagged as non parsable from the parser point of view (the Data Conversion will still run fine) and a hard dependency is created. This means for every Section with a query that cannot be parsed, it becomes dependent on every Section sequentially above it in its Upgrade Group, and on every Section in Upgrade Group 1. Furthermore, every Section sequentially afterward becomes dependent on it.
- Usage of the PS_PTIA_DUAL, PS_PTIA_COMMON_AET, or PS_PTIA_NORECNAME tables never results in a dependency.

Example of Dependency Rules Calculation

In the following example, the highlighted row (with values in *italics*) would be dependent on itself and all items in Level's MAIN-1 and MAIN-2, but not the other items in Level MAIN-3 nor items in Level DDL-1.

PATH	***GROUP***	***SEQ_NUM***	***AE_APPLID***	***AE_ SECTION***	***PTIA_CONV _TYPE***	***GROUP_ LEVEL***
HC89	1	260	UPG_HR89	HCHRS01	MAIN	1
HC89	1	265	UPG_FG89	FGHCS01	MAIN	1
HC89	3	230	UPG_BN89	HCBNS06	MAIN	2
HC89	4	165	UPG_GPBR90	HCBRP040	MAIN	2
HC89	7	40	UPG_EP89	HCEPS25	MAIN	2
HC89	7	50	UPG_EP89	HCEPS30	MAIN	2
HC89	10	20	UPG_TL89	HCTLK01	MAIN	2
HC89	80	140	UPG_TL90	HCTLP04	MAIN	3
HC89	80	160	UPG_TL90	HCTLP06	MAIN	3
HC89	*85*	*170*	*UPG_PY90*	*HCPYM01*	*MAIN*	*3*
HC89	85	180	UPG_PY90	HCPYP01	MAIN	3
HC89	10	200	UPG_PY90	HCPYP09	DDL	1
HC89	10	210	UPG_PY90	HCPYP10	DDL	1

Reviewing Runtime for PTIADATACONV

This section discusses:

- Understanding Runtime for PTIADATACONV
- Querying the PTIA Tables

Understanding Runtime for PTIADATACONV

All runtime information for PTIADATACONV is stored in the following tables:

- PS_PTIA_DATACONV
- PS_PTIA_RUNSTATUS
- PS_PTIA_RUNDETAIL

- PS_PTIA_RUNCOUNT

The PTIADATACONV Application Engine leverages the Dependency Analysis to optimize the runtime of the data conversion. The runtime of the data conversion is improved in the new PeopleSoft release by running multiple instances of PTIADATACONV in parallel, executing against a single set of dependency information. The optimal number of instances to be initiated will vary.

PTIADATACONV determines which “Root Sections” are able to run and executes them. A Root Section is able to run when all Root Sections that are dependent on it have completed successfully.

In the event that multiple root sections are able to run at the same time, steps that have the largest number of dependent Root Sections and/or Root Sections that have the longest runtime (in a previous run), are given priority.

In the event of failure, the instance of PTIADATACONV that encountered the error will mark the step as “Failed” and stop. All other instances of PTIADATACONV will continue to run. Steps that are dependent on a “Failed” step will be marked as “Blocked” and will not be executed as part of the current run. Upon restarting the process, the “Failed” section and any “Blocked” sections will be executed.

The following list describes the PTIADATACONV program flow:

- The run is initialized.

  This initial phase determines if this is a brand new run or if it is a restart of a previously failed run. If it is a new run, then PTIADATACONV sets up a thread in PS_PTIA_RUNSTATUS.

- PTIADATACONV performs a simple test to verify that there is work to do.

  If there is work to do, then PTIADATACONV runs Data Conversion Application Engine Sections that have not already run. This is a fairly simple Do While loop that counts eligible sections left to run. If there are no more sections left to run, processing stops. The work inside the loop consists of executing a process to check the status of any other thread that is running. If a thread dies, it cannot clean itself up, so one of the other threads has to perform the cleanup. The cleanup mostly consists of setting the status flag in PS_PTIA_DATACONV to “F” for the AE Section that failed.

- SQLs run to look for work to do.

  The SQL object PTIA_FINDSECTIONTORUN finds the next eligible section to run. If the query returns nothing, we execute another SQL object called PTIA_COUNTSECTIONSNOTDONE to count how many Sections are left to run. If PTIA_FINDSECTIONTORUN returns no work to do and PTIA_COUNTSECTIONSNOTDONE returns Sections still need to be run, then there must be a Section already running that must complete before anything else can run. If there is no work to do, the loop issues a pause before the loop completes and executes the next loop.

- PTIADATACONV performs more housekeeping to reset statuses on successful completion of all Data Conversion Application Engine Sections.

- A completion message is written to the log file.

Reviewing PTIA Reporting

This section discusses:

- Understanding PTIA Reporting

- Reviewing the Tables Referenced Report
- Reviewing the Customization Impacts Report
- Reviewing Execution Report by Section – Duration
- Reviewing Execution Report by Section – Start Time
- Reviewing the Execution Report by Step
- Reviewing the Execution by Thread Report
- Reviewing the Thread Duration Report
- Reviewing the Execution Comparison Report
- Reviewing the Table Analysis Report
- Reviewing the Data Conversion Report

Understanding PTIA Reporting

You can query all tables populated and leveraged by PTIA (as identified previously) through the various platform specific query tools or psquery. You can gather information in the PTIA tables to identify the following:

- Tables referenced in the data conversion code.
- Steps impacted by customizations (prior to the initial data conversion run).
- Performance issues (after the initial data conversion run).
- Impact of changes (run to run timing comparisons).

Oracle has delivered a series of standard reports to address the most commonly accessed information in the PTIA repository.

Reviewing the Tables Referenced Report

PTIA0001.SQR lists all tables referenced within the Application Engine data conversion programs. For each table listed, the report displays the section and step in which it is used, whether it is a data source or data target table, and the type of SQL statement in which it is referenced. This report is sorted by table name. Data for this report comes from the PS_PTIA_ANALYSIS, PS_PTIA_DTLIDSQLS, and PS_PTIA_DTLIDTBLS tables. This report can be run anytime after the PTIAANALYSIS Application Engine program has run and populated the PTIA tables used by this SQR.

Reviewing the Customization Impacts Report

PTIA0002.SQR shows the section/steps within the Application Engine data conversion programs that referenced tables with custom added fields. This report is sourced from the PS_PTIA_ANALYSIS table and the PSPROJECTITEM table. This report must be run after the customizations project has been compared against the New Release Demo database.

Reviewing Execution Report by Section – Duration

PTIA0003.SQR shows the duration or execution time for each Application Engine section. Since this report is at a section level, the information is sourced from the PS_PTIA_RUNDETAIL table. The report is ordered by execution time with the poorest performing steps at the top. This report can be run anytime after the PS_PTIA_RUNDETAIL table has been populated for the data conversion run on which you want to report.

Reviewing Execution Report by Section – Start Time

PTIA0004.SQR shows the duration or execution time for each section. Since this report is at a section level, the information will be sourced from the PS_PTIA_RUNDETAIL table. The report would be ordered by start time so that you can see the order in which the sections were executed. This report can be run anytime after the PS_PTIA_RUNDETAIL table has been populated for the data conversion run on which you want to report.

Reviewing the Execution Report by Step

PTIA0005.SQR shows the execution time for each section and the associated steps that were run.

This report requires a trace of 16,384 or higher.

Since this report is at a step level, it assumes that a trace of 16,384 or higher has been run so that the step information could be obtained from the PS_PTIA_TIMINGS_DT table. If the appropriate trace has not been run, then a report is not created and output files will be produced. The report will be ordered by execution time with the poorest performing steps at the top.

Reviewing the Execution by Thread Report

PTIA0006.SQR shows the execution timing of each Application Engine section run as part of the data conversion process. This report is sorted so that you can see which sections were executed by each thread. This report is sourced from the PS_PTIA_RUNDETAIL table.

Reviewing the Thread Duration Report

PTIA0007.SQR shows the total duration time for each thread used during the data conversion process. This report is sourced from the PS_PTIA_RUNDETAIL table. It can be run anytime after the PS_PTIA_RUNDETAIL table has been populated from the data conversion run on which you want to report.

Reviewing the Execution Comparison Report

PTIA0008.SQR shows the execution duration from the current run of data conversion as compared to the execution duration from the previous run of data conversion. This report is sourced from the PS_PTIA_RUNDETAIL table. This report can be run anytime after the PS_PTIA_RUNDETAIL table has been populated for the data conversion runs on which you want to report.

Note: Run this SQR after data conversion is finished. This report will help fine-tune the data for a subsequent upgrade pass.

Reviewing the Table Analysis Report

PTIA0009.SQR indicates how a particular application table is impacted by the create/alter scripts as well as the data conversion process during the PeopleSoft upgrade. This report is sourced

from the PS_PTUALTRECDATA, PS_PTUALTRECFLDDAT, PS_PTIA_ALTRECDATA, PS_PTIA_ANALYSIS, and PS_PTIA_DTLIDTBLS tables. This report can be run after the Alter Analyzer and the AE Analyzer processes have successfully completed. This report is designed to be run against the initial pass database as the data stored in the tables during the Move to Production will differ.

Reviewing the Data Conversion Report

Each of the upgrade data conversion sections contains comments that describe the processing performed by the section. Oracle delivered an SQR (PTIA0010.sqr) to list all of these comments by the group and sequence numbers that determine how they run. The name of this report is PTIA0010.

To run PTIA0010:

1. Using SQRW, run SQR PTIA0010 on your copy of Production database.
2. When prompted for upgrade path, enter (for example):

   HC90

   CR90

   CR91

Using the Upgrade Driver Program

The sequence of Application Engine sections that are run by an upgrade driver is maintained in the PS_PTIA_DCAEPGMS table. The Application Engine sections defined in the PS_PTIA_DCAEPGMS table are referred to as *root sections*.

There are two categories of Upgrade Groups:

- MAIN – Core Data Conversion
- DDL – Data Conversion sections that contain Drop Table Statements (only)

Upgrade groups contain one or more Application Engine sections that are ordered within the group by sequence number. The Application Engine program PTIADATACONV is used to execute the MAIN and the DDL data conversion groups.

When data conversion is executed using the PTIADATACONV Application Program, the sequence number is used to determine the “Relative Run Order” of Application Engine sections that reference the same table or tables, but not the “Absolute Run Order” of the upgrade group(s).

This section discusses:

- Defining an Upgrade Path
- Accessing the Define Data Conversion Page

Defining an Upgrade Path

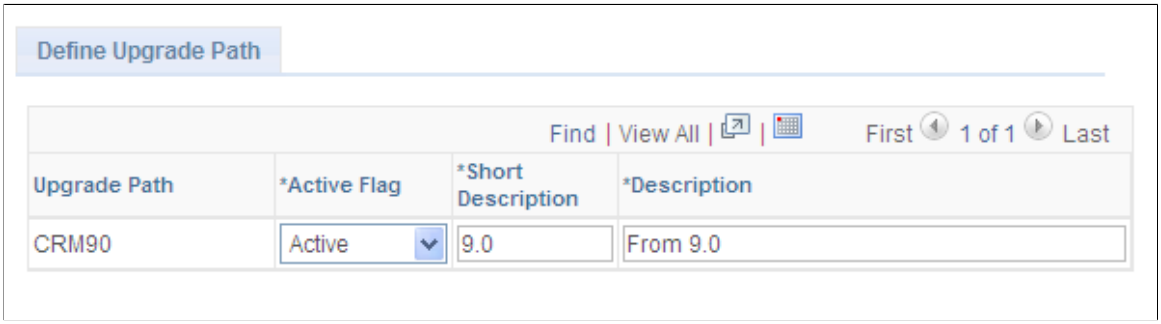
Before you can define data conversion sections, you must define an upgrade path.

To define an upgrade path:

1. From your browser, sign in to the Demo database.
2. Select PeopleTools >Lifecycle Tools >Upgrades >Define Upgrade Paths.
3. The Define Upgrade Path page appears.
4. Click theAdd a New Value tab.
5. Enter a value for Upgrade Path.
6. Click Add.
7. Select a value for Active Flag.
8. Enter description for the new upgrade path.
9. Click Save.

Image: Define Upgrade Path page

This example illustrates the fields and controls on the Define Upgrade Path page.



After you have defined an upgrade path, you can add sections for the upgrade path on the Define Data Conversion page.

Accessing the Define Data Conversion Page

Before you run data conversion, you may need to change what the Upgrade Driver program runs. You can add, remove, or deactivate Application Engine sections through the Define Data Conversion page.

To access the Define Data Conversion page:

1. From your browser, sign in to the Demo database.
2. Select PeopleTools, Lifecycle Tools, Upgrades, Define Data Conversion.
3. The Define Data Conversion page appears.
4. Enter your upgrade path.

   For example:

   HC90

CR90

5. Click Search.

   The Define Data Conversion page displays information for the selected upgrade path, as shown in the example below. Following the example of the Define Data Conversion page are descriptions for each section of the page.

   Image: Define Data Conversion page

   This example illustrates the fields and controls on the Define Data Conversion page. You can find definitions for the fields and controls later on this page.

Define Data Conversion

Personalize | Find | View 100 | First 1-25 of 167 Last

Upgrade Path	*Program Name	*Group Number	*Group Level	*Conv Type	*Section	*Sequence	*Active Flag	Short Description	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL01	5	Active	HR_SUCC_PLN_HDR	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL02	10	Active	HR_SUCC_PLN_DTL	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL03	15	Active	CAREER_DEVELOP	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL04	20	Active	CAREER_STRENGTH	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL05	25	Active	CAREER_WEAKNESS	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL06	30	Active	CAREERPATH_TBL	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL07	35	Active	SEQUENCE/VALUE fields	Long Descr
HC90	UPG_HR90	1	2	Main	HCHRL08	40	Active	STATEMENT fields	Long Descr
HC90	UPG_HRFR90	1	2	Main	HCFRL01	45	Active	Updating EDIT_2483_FRA	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL01	50	Active	PS_EMPL_CHECK_LANG	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL02	55	Active	PS_MU_SETUP_TBL	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL101	60	Active	PS_ADDRESSES	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL102	65	Active	PS_EMAIL_ADDRESSES	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL103	70	Active	PS_ACTN_REASON_BRA	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL104	75	Active	PS_ACT_RSN_TBL_ESP	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL105	80	Active	PS_PER_ORG_ASGN	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL07	85	Active	OWS/Clairvia upgrade	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL108	95	Active	PS_RUN_CNTL_SCRTYxx	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL12	100	Active	PS_EMPL_CHKLST_ITM	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL03	105	Active	PS_JOB	Long Descr
HC90	UPG_HC90	1	2	Main	HCHCL04	110	Active	PS_DIVERSITY	Long Descr

Upgrade Path	This field contains the upgrade path on which the section will be run.
Program Name	This is the Application Engine program that contains the section.
Group Number	This is the group number. All sections with the same group number will be run during the same run of the PTIA_DATACONV Application Engine program.
Group Level	This is the group level.
Conv Type	This is the conversion type. PTIA supports two categories: MAIN and DDL.
Section	This is the section that will be called from the PTIA_DATACONV Application Engine program.

Sequence	This is the order in which the sections will be called during the run of PTIA_DATACONV for the group number.
Active Flag	This field determines whether the section will be run. If the value of this field is *Active*, the section will be run. If the value is *Inactive*, it will not be run. If you need to remove a section, change the value in this field to *Inactive*.
Short Description	This field contains the Section description.
Long Descr	This field is optional.

This section also discusses:

- Adding a new Section on the Define Data Conversion Page.
- Inactivating a Section on the Define Data Conversion Page.

Adding a new Section on the Define Data Conversion Page

Follow the instructions below to add a new section to the Define Data Conversion page.

Note: To add a new section, the Application Engine program and section must exist on the Demo database.

To add a new section to the Define Data Conversion page:

1. From your browser, sign in to the Demo database.
2. Select PeopleTools >Lifecycle Tools >Upgrades >Define Data Conversion.
3. The Define Data Conversion page appears.
4. Enter your upgrade path.

   For example:

   HC90

   CR90
5. Click Search.

   The Define Data Conversion page displays information for the selected upgrade path.
6. Add a new row.
7. Select a value for Program Name.
8. Enter a value for Group Number.

Note: Each group number corresponds to a data conversion step in the PeopleSoft Change Assistant template. If you select a group number that already exists in the PS_PTIA_DCAEPGMS table, your section will be executed when PeopleSoft Change Assistant runs the data conversion step that corresponds to the group number you selected. Alternatively, if you assign a group number to your new section that does not already exist in PS_PTIA_DCAEPGMS, you must add a new step to your PeopleSoft Change Assistant template. The new template step will have the same properties as the other data conversion steps, except for the group number specified in the step properties Parameters box.

9. Enter values for Group Level and Conv Type.
10. Select a value for Sectionand enter value for Sequence.
11. Select a value for Active Flag.
12. The Short Descriptionfield is populated from the Section description. The Long Descrfield is optional.
13. Click Save.

Inactivating a Section on the Define Data Conversion Page

Follow the instructions below to deactivate a section on the Define Data Conversion page. If a section is deactivated, the section will not run as part of data conversion.

To inactivate a section on the Define Data Conversion page:

1. From your browser, sign in to the Demo database.
2. Select PeopleTools >Lifecycle Tools >Upgrades >Define Data Conversion.
3. The Define Data Conversion page appears.
4. Enter your upgrade path.

   For example:

   HC90

   CR90
5. Click Search.
6. Find the row with the Program Name and Section you want to remove and change the value of the Active Flag field to *Inactive*.
7. Click Save.

Part VI

Comparing and Merging

Chapter 25

Using Review Managed Object or Merge Select Object Types Action

Comparing and Copying Managed Objects Overview

You create and maintain upgrade projects using the Application Designer project management features. Many of the same features are accessible through Project Administration in Change Assistant. Projects can be viewed and copied and compare reports can be executed and viewed either through Change Assistant Project Administration or Application Designer.

Related Links

"Using Projects" (PeopleTools 8.57: Application Designer Developer's Guide)

"Preparing Projects for an Upgrade" (PeopleTools 8.57: Lifecycle Management Guide)

"Setting Project Properties" (PeopleTools 8.57: Application Designer Developer's Guide)

Administering Projects

To access the Administering Projects tool:

1. In Change Assistant, select Tools >Change Actions.
2. Select Review Managed Object or Merge Select Object Types.
3. Click Next and select Compare/Copy Managed Objects.
4. Click Finish and select the environment to use from the list.

   Note: The environment and all associated DLLs for the PS Home are loaded. The environment does not have to be on the same PeopleTools release as Change Assistant.

   If the environment has not been created, you will need to create the database .

   a. Click Cancel on the Select Environment page.

   b. Select Tools, New Database.

   c. Define the database.

      See Defining Databases

   d. Select Tools, Project Administration.

   e. Select the database from the list.

5. Select File, Open to open an existing definition. Definition types are:

Managed Object Compare	Select this option to open the compare reports for a project. Only compare reports created with the option *Generate Output to Tables* are available from the drop down list.
Project	Select this option to display the project status and actions. You can open projects that have been created in Application Designer.

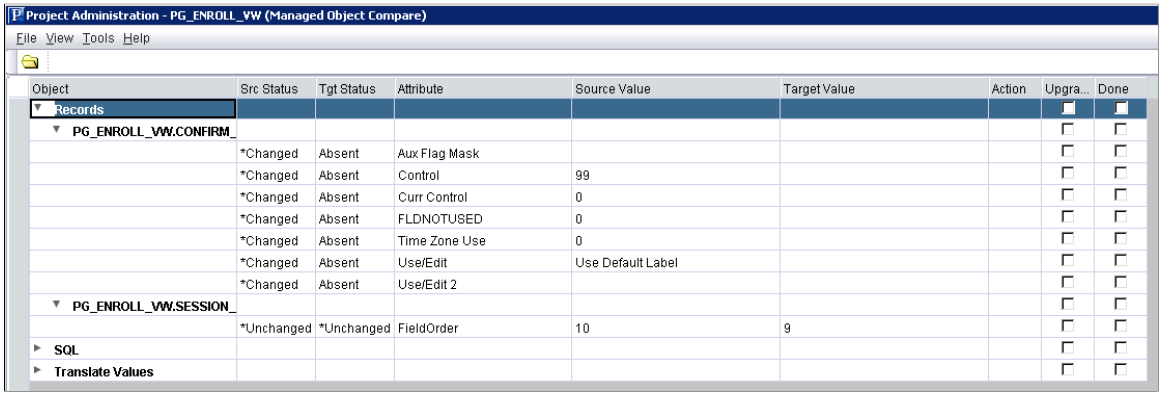
If you are already in Review Managed Object or Merge Select Object Types action, you can open the Project Administration menu from the toolbar by selecting Tools >Project Administration.

Viewing Managed Object Compare Reports

When you select the Managed Object Compare and select a project, the compare report is displayed. You can expand and collapse the objects to display.

Image: Managed Object Compare page

This example illustrates the fields and controls on the Managed Object Compare page. You can find definitions for the fields and controls later on this page.



Object	Src Status	Tgt Status	Attribute	Source Value	Target Value	Action	Upgra...	Done
Records								
PG_ENROLL_VW.CONFIRM_								
	*Changed	Absent	Aux Flag Mask					
	*Changed	Absent	Control	99				
	*Changed	Absent	Curr Control	0				
	*Changed	Absent	FLDNOTUSED	0				
	*Changed	Absent	Time Zone Use	0				
	*Changed	Absent	Use/Edit	Use Default Label				
	*Changed	Absent	Use/Edit 2					
PG_ENROLL_VW.SESSION_								
	*Unchanged	*Unchanged	FieldOrder	10	9			
SQL								
Translate Values								

The Project Administration interface can logically be divided into three areas for the compare report:

1. Project-based data
2. Compare results
3. Copy actions

Project-Based Data

These columns display details for definitions in the compare project:

Object	Displays the name of the definition, plus any other key values, in a hierarchical tree view.
Src (Source) Status	Displays the definition status in the source (current) database.
Tgt (Target) Status	Displays the definition status in the source (current) database.

Definition Status

By default, Source Status and Target Status are set to Unknown.

Following a compare, the values in the Source Status and Target Status columns are updated as follows:

Unknown	Definition has not been compared. This is the default status for all definitions inserted manually into a project and the permanent status of all non-comparison definitions.
Absent	The definition was found in the other database, but not in this one. When upgrading to a new PeopleSoft release, all new PeopleSoft definitions should have Absent status in the target database and all of your custom definitions should have Absent in the source database.
Changed	The definition has been compared, the LASTUPDOPRID value is PPLSOFT, and the LASTUPDDTM value is greater than the date/time stamp of the comparison release database. This indicates that PeopleSoft modified the definition since the comparison release.
Unchanged	The definition has been compared, the LASTUPDOPRID value is PPLSOFT, and the LASTUPDDTM value is less than or equal to the date/time stamp of the comparison release database. This indicates that PeopleSoft modified the definition prior to the comparison release.
***Changed**	The definition has been compared, the LASTUPDOPRID value is *not* PPLSOFT, and the LASTUPDDTM value is greater than the date/time stamp of the comparison release database. This indicates that a customer modified the definition since the comparison release.
***Unchanged**	The definition has been compared, the LASTUPDOPRID value is *not* PPLSOFT, and the LASTUPDDTM value is less than or equal to the date/time stamp of the comparison release database. This indicates that a customer modified the definition prior to the comparison release.
Same	The definition has been compared and is defined the same in both databases. When a definition in one database has this status its counterpart in the other database will have the equivalent status. This status can be seen when performing a project comparison because with a project comparison the definitions are static; the project is not repopulated based on the comparison results. This status is not seen in a database comparison, because when doing so the project is populated only with definitions defined differently.

See "Determining Definition Status" (PeopleTools 8.57: Lifecycle Management Guide).

Compare Results

The following table describes the columns that display compare results.

Attribute	The attribute of the definition being compared.
Source Value	The value for the attribute in the source database.
Target Value	The value for the attribute in the target database.

Copy Actions

By default Action is set to Copy and Upgrade is checked.

The following table describes the columns that enable you to specify copy actions.

Action	Displays the action that is performed if the definition is copied into the target database.
Upgrade	Select to upgrade the definition during a copy.
Done	The system changes the Done checkbox to selected when the definition has been copied. You cannot select Done check boxes yourself, but you can deselect them. Only definitions that have Upgrade selected and Done deselected are copied during an upgrade.

See "Working with Upgrade Definition Columns" (PeopleTools 8.57: Lifecycle Management Guide).

Filtering

Select View, Filtering to define filters for the Source or Target status column.

Select View, Filtering to filter the listed items based on the following statuses for either source or target:

- Absent
- Changed
- Changed*
- Same
- Unchanged
- Unchanged*
- Unknown

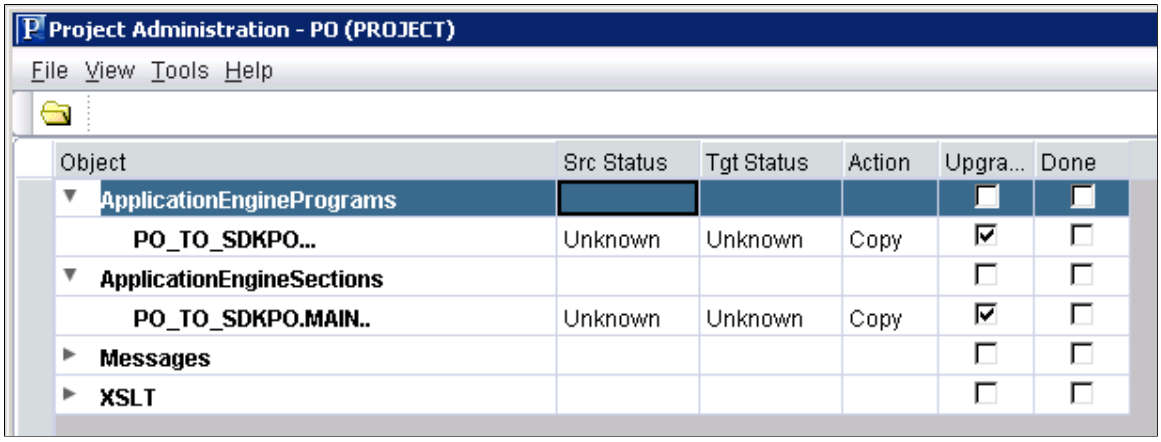
A checkmark indicates that a status is selected. By default, all statuses are selected.

Viewing Projects

When you select Projects and select a project, the project status is displayed. You can expand and collapse the objects to display.

Image: Project Administration - Project before compare

This example illustrates the fields and controls on the Project Administration - Project before compare.



Project Administration allows you to perform all of the same actions as in Application Designer Upgrade View for the project.

For details see "Working with Upgrade Definition Columns" (PeopleTools 8.57: Lifecycle Management Guide)

Working With Project Administration Menu Options

This section describes the menu options available when using Project Administration.

File Menu

The File menu contains these Project Administration options:

Menu Option	*Description*
Open	Opens a managed object compare or project.
Save Project	Saves the project. **Note:** Only available for projects.
Save Project As	Creates a copy of the project. **Note:** Only available for projects.
Project Properties	Opens the Project Properties dialog box. **Note:** Only available for projects.
Exit	Exits Project Administration.

View Menu

The View menu contains these Project Administration options:

Menu Option	*Description*
Filtering	Select the status to display for the source and target database.

Tools Menu

The Tools menu contains these Project Administration options:

Menu Option	*Description*
Validate Project	Run the validate utility to make sure that all definitions included in the project actually exist in your database.
Compare and Report	Run a compare report to a database. **Note:** Only available for projects.
Copy Project	Copy the project to a database. **Note:** Only available for managed object compare or project.

Comparing Definitions

To compare definitions in Project Administration:

1. In Change Assistant, select Tools, Project Administration.

   Note: The action type must be Compare/Copy Managed Objects.

2. Select the Source database from the available environments or create a new environment and click OK.
3. Select File, Open and select the definition type Project.
4. Select the Project you want to compare and click Open.
5. Select Tools, Compare and Report, To Database.

   Select the Target database from the available environments or create a new database and click OK.

   Note: You must exit Project Administration and select New Database to create a new database.

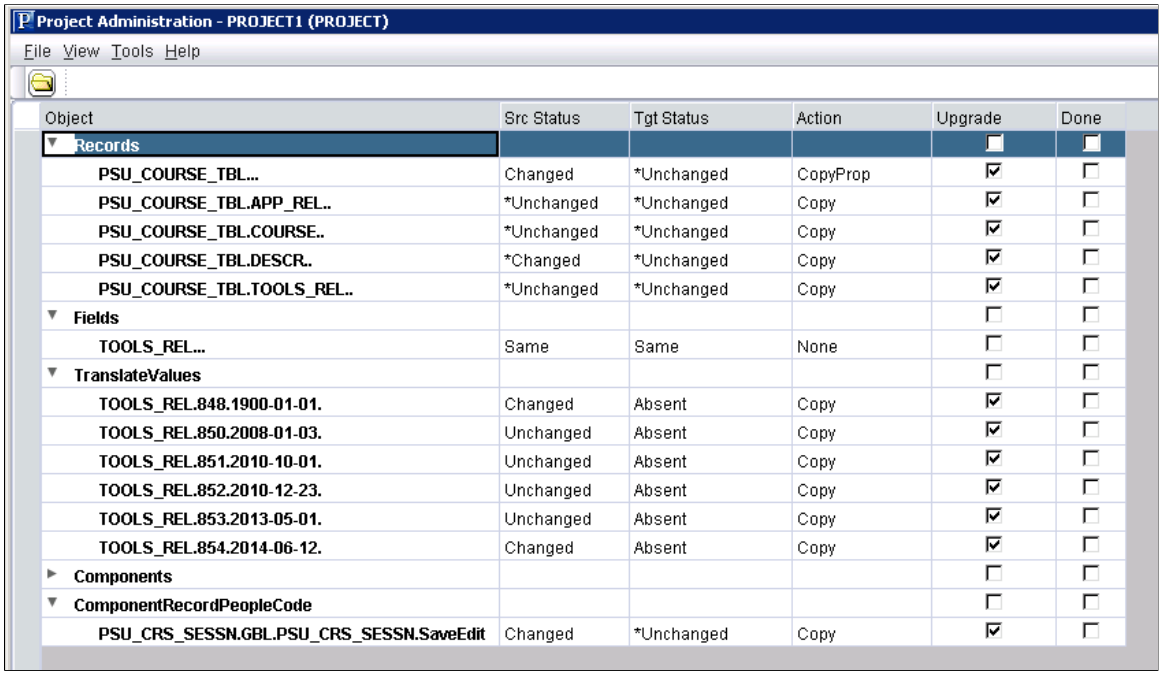
6. The Compare and Report Dialog is displayed. Enter your compare options and then click Compare.

The Compare and Report dialog box is the same as Application Designer. For details see "Setting Upgrade Options" (PeopleTools 8.57: Lifecycle Management Guide)

7. The Compare Report will be populated, expand each section to view.

Image: Project Administration window with compare results

This example illustrates the fields and controls on the Project Administration window with compare results. You can find definitions for the fields and controls later on this page.



Object	Src Status	Tgt Status	Action	Upgrade	Done
Records				☐	☐
PSU_COURSE_TBL...	Changed	*Unchanged	CopyProp	☑	☐
PSU_COURSE_TBL.APP_REL..	*Unchanged	*Unchanged	Copy	☑	☐
PSU_COURSE_TBL.COURSE..	*Unchanged	*Unchanged	Copy	☑	☐
PSU_COURSE_TBL.DESCR..	*Changed	*Unchanged	Copy	☑	☐
PSU_COURSE_TBL.TOOLS_REL..	*Unchanged	*Unchanged	Copy	☑	☐
Fields				☐	☐
TOOLS_REL...	Same	Same	None	☐	☐
TranslateValues				☐	☐
TOOLS_REL.848.1900-01-01.	Changed	Absent	Copy	☑	☐
TOOLS_REL.850.2008-01-03.	Unchanged	Absent	Copy	☑	☐
TOOLS_REL.851.2010-10-01.	Unchanged	Absent	Copy	☑	☐
TOOLS_REL.852.2010-12-23.	Unchanged	Absent	Copy	☑	☐
TOOLS_REL.853.2013-05-01.	Unchanged	Absent	Copy	☑	☐
TOOLS_REL.854.2014-06-12.	Changed	Absent	Copy	☑	☐
Components				☐	☐
ComponentRecordPeopleCode				☐	☐
PSU_CRS_SESSN.GBL.PSU_CRS_SESSN.SaveEdit	Changed	*Unchanged	Copy	☑	☐

Related Links

"Reviewing Upgrade Settings" (PeopleTools 8.57: Lifecycle Management Guide)

Copying Definitions

To copy definitions in Project Administration:

1. In Change Assistant, select Tools, Project Administration.

   Note: The action type must be Compare/Copy Managed Objects.

2. Select the Source database from the available databases and click OK.
3. Select File, Open and select Project .
4. Select the Project you want to copy and click Open.
5. Review the Action and Upgrade columns to insure you have the correct selections.
6. Select Tools, Copy, To Database.

Select the Target environment from the available environments or create a new environment and click OK.

7. The Copy Database dialog is displayed. Enter your copy options and then click Copy.

   The Copy Database dialog box is the same as Application Designer. For details see "Copying Projects to a Target Database" (PeopleTools 8.57: Lifecycle Management Guide)

8. The Done column will be updated when the copy is complete

Validating Projects

An important part of the PeopleSoft upgrade process involves validating your upgrade project. PeopleSoft Application Designer includes a validate utility to make sure that all definitions included in the project actually exist in your database. This same functionality is available in Project Administration.

To validate a project:

1. Open the project in Project Administration.
2. Select Tools, Validate Project.

Related Links

"Validating Projects" (PeopleTools 8.57: Application Designer Developer's Guide)

Understanding Merging PeopleCode, SQL, XSLT Programs

Change Assistant enables you to compare the same PeopleCode, SQL or XSLT programs shared among three databases. You can view the text together while the system detects each difference and clearly indicates the differences using visual queues. During this comparison, you choose which lines from each program to carry forward into the merged version.

Beginning a New Merge Session

To begin a new merge session in Change Assistant:

1. Select Tools, Change Actions.
2. Select Compare/Copy Managed Objects or Merge Select Object Types.
3. Click Next.
4. Select Begin New Merge Session.
5. Click Finish.
6. Select your merge databases and merge type and click Next.

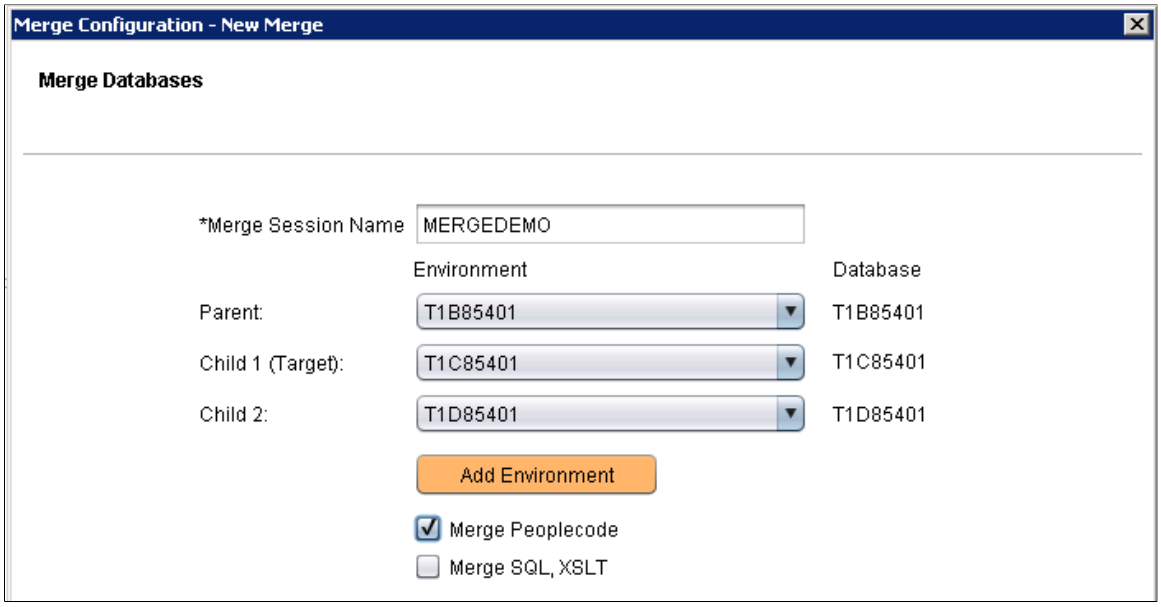
7. Define the merge rules and click Next.
8. Click Merge to start the full database merge.

Selecting Merge Databases

The merge is a 3–way merge, so you must select the parent and child databases for the merge.

Image: Merge Databases page

This example illustrates the fields and controls on the Merge Databases page. You can find definitions for the fields and controls later on this page.



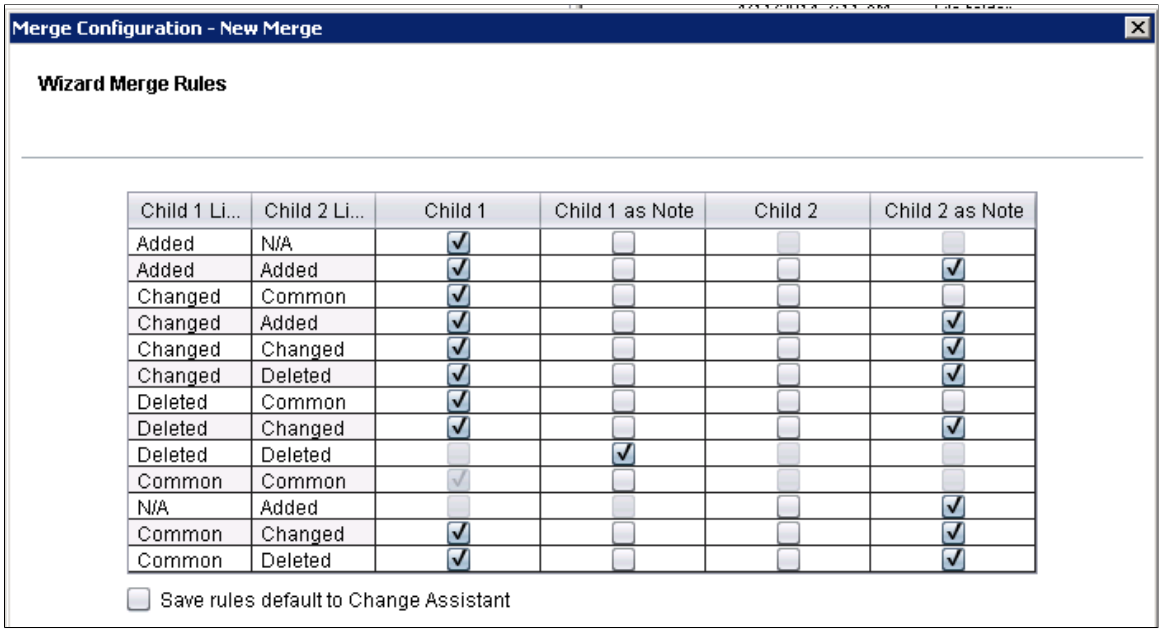
Merge Session Name	Enter a name for the merge session.
Parent Database	Select an environment for the parent database.
Child 1 Database (Target)	Select an environment for the child 1 database.
Child 2 Database	Select an environment for the child 2 database.
Add Environment	Click this button to add a new database. The database configuration wizard will open. See Defining Databases
Merge PeopleCode	Select for a PeopleCode merge.
Merge SQL, XSLT	Select to merge SQL and XSLT

Defining Merge Rules

Use the Merge Configuration page to define how the code will be merged.

Image: Wizard Merge Rules page

This example illustrates the fields and controls on the Wizard Merge Rules page. You can find definitions for the fields and controls later on this page.



Child 1 Li...	Child 2 Li...	Child 1	Child 1 as Note	Child 2	Child 2 as Note
Added	N/A	✓			
Added	Added	✓			✓
Changed	Common	✓			
Changed	Added	✓			✓
Changed	Changed	✓			✓
Changed	Deleted	✓			✓
Deleted	Common	✓			
Deleted	Changed	✓			✓
Deleted	Deleted		✓		
Common	Common	✓			
N/A	Added				✓
Common	Changed	✓			✓
Common	Deleted	✓			✓

Using the Merge Interface

When you perform a merge, Change Assistant:

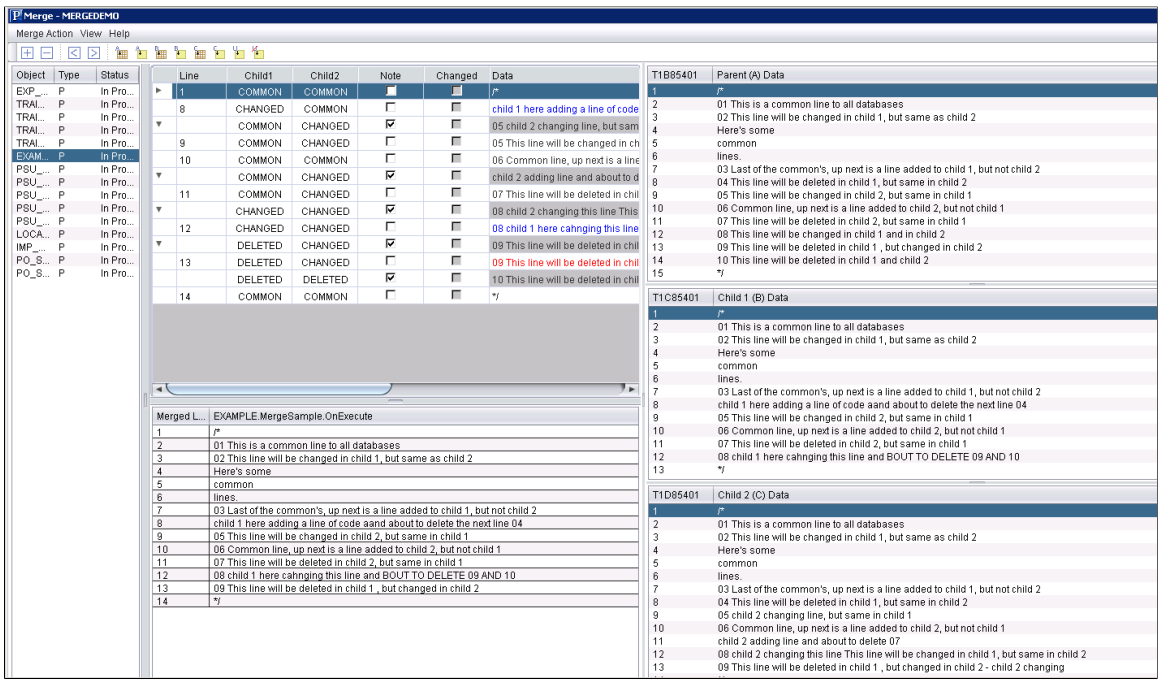
- Compares the Parent database to the Child 1 database to detect changes in Child 1.
- Compares the Parent database to the Child 2 database to detect changes in Child 2 of those objects changed in Child 1.
- Displays the compare results on the merge page.

Merge Page

When the full database merge has completed, the Merge page is displayed.

Image: Merge page

This example illustrates the fields and controls on the Merge page. You can find definitions for the fields and controls later on this page.



The Merge page contains these panes:

- Program list
- Merge edit pane
- Merge output pane
- Parent (A) Data
- Child 1 (B) Data
- Child 2 (C) Data

Program List

This pane lists the programs that were changed in Child 1 (If something was changed only in Child 2, it won't show up here).

If the entire program name is not visible, hover over the name to display a tooltip with the full name.

Double-click an item in the list to open it for merging.

You can select a status for each program to indicate whether it is in progress, completed, or has no action.

Merge Edit Pane

Change Assistant displays the comparison in the merge edit pane. Lines from Child 1 and Child 2 are listed in the merge pane and in the output pane according to the merge rules.

In the merge edit pane, the Action column shows the state of the line and the database to which it belongs. The lines are also color coded to show the state of each line. The color codes are, by default:

Action	***Color***
COMMON	Black
ADDED	Green
CHANGED	Blue
DELETED	Red
COMMENT	Gray
READ ONLY	Black

Select View, Colors and Fonts to change the line display attributes.

Common lines are grouped in collapsed sections. Click the expand icon to expand each section.

Click in the text area of a line to edit the text.

To add lines to the merge edit pane from the individual data panes :

1. Highlight a line in the data pane.
2. Highlight a line in the merge edit pane.

   The new line will be inserted below the highlighted line.
3. Click an action icon to either insert the line or insert it as a note.

To add a blank line or delete a line, select the line and click the Add line icon or the Delete line icon on the Merge toolbar.

The Merge toolbar contains these options:

Add line.

Delete line.

Previous difference.

Next difference.

	Insert Parent line.
	Insert Parent line as note.
	Insert Child 1 line.
	Insert Child 1 line as note.
	Insert Child 2 line.
	Insert Child 2 line as note.

Merge Output Pane

The output pane displays the current merge results. Initially, the output pane displays the results of the comparison based on the merge rules. When you apply changes, the new merge appears in the pane.

Data Windows

When you select a program, Change Assistant displays the three versions of the program in the respective Parent, Child 1, and Child 2 windows.

Merge Menu

The Merge menu contains these options:

New Session	Create a new merge session.
Open Session	Open an existing merge session. [Crashes CA]
Save Session	Save the session.
Apply to Target	Apply changes to the Child 1 (Target) database and display the merged program in the merge worksheet pane.
Set Merge Rules	Opens the Edit Session Rules dialog. See Defining Merge Rules.
Purge Session	Purge the merge.

Appendix A

Working With Scripts

Understanding Process, Scripts, and Syntax

Before Change Assistant runs SQL and Data Mover scripts, it determines whether the scripts need updating. This ensures that logs are sent to directories that are known to Change Assistant and that the scripts run properly.

The following table shows the processes, what scripts are updated, and the updated syntax.

Process	***Script Files***	***Updated Syntax***
DataMoverBootstrap DataMoverUser LoadBaseData	<process name>.dms	SET LOG statements
DB2 z/OS SQL Commands SQL Scripts UpdatePeopleTools	<process name>.sql	CONNECT TO … SET CURRENT SQLID =
Oracle SQL Commands SQL Scripts UpdatePeopleTools	<process name>.sql	WHENEVER SQLERROR EXIT SET ECHO ON SET TIME ON SPOOL… SPOOL OFF EXIT
DB2 UDB SQL Commands SQL Scripts UpdatePeopleTools	<process name>.sql	CONNECT TO …

Running Scripts Outside of Change Assistant

If you are running a script outside of Change Assistant, keep in mind that the default behavior of Change Assistant is to stop when any errors are encountered. To replicate that behavior outside of Change Assistant, you will need to run the script using the correct options. The following table displays the

command line options required per database platform to either stop at errors or continue when errors are encountered.

Database	***Stop/Continue at Errors***
Oracle	Exit on error: <sqltool> <accessID>/ <password>@<dbname>@<scriptname> Prepend script with: `WHENEVER SQLERROR EXIT` Continue on error: <sqltool> <accessID>/ <password>@<dbname>@<scriptname> Prepend script with: `WHENEVER SQLERROR CONTINUE`
DB2 z/OS	Exit on error: <sqltool> /c /w /i DB2 -tvf <script name> -z <log name> -s Continue on error: <sqltool> /c /w /i DB2 -tvf <script name> -z <log name>
DB2 LUW	Exit on error: <sqltool> /c /w /i DB2 -vf <script name> -z <log name> -s Continue on error: <sqltool> /c /w /i DB2 -vf <script name> -z <log name>
Microsoft SQL Server	Exit on error: <sqltool> -U <accessID> -P <password> -s <server name> -D <database name> -i <script name> -o <log name> -e -n -I -b Continue on error: <sqltool> -U <accessID> -P <password> -s <server name> -D <database name> -i <script name> -o <log name> -e -n -I

Appendix B

Modifying Step Properties and Parameters

Step Types

When creating custom steps, select one of these step types.

Note: When creating step types that Application Designer executes, such as Build Project or Compare and Report, if there are specific settings that need to be set for Application Designer, make sure to specify those using the Build, Upgrade, or Object Types buttons that appear to the right of the Step Type drop-down list box. Use these buttons to save any necessary settings to the Change Assistant template. At run time, any Application Designer settings saved in the template override the current settings for Application Designer on the machine where an Application Designer process runs.

Step Type	*Definition*
Application Engine	Runs the Application Engine process indicated by the Script/Procedure value under Step Properties.

Step Type	*Definition*
ApplicationEngineWithRunControl	Runs an Application Engine process with run controls. Use the Options button to select the application engine program and enter the run control parameters. ADS application engine process PTADSAEPRCS is used to copy an ADS project a a file, copy an ADS project from a file, validate an ADS project from file, or compare an ADS project from a file. For an example of ADS Compare/Copy see Setting AE With Run Control Options for ADS Compare/Copy Global Payroll (GP) application engine programs are used to move GP rules and data between databases. There are 7 application engine programs available. The same parameters are used for all the GP application engine programs. Run Control ID needs to be the same name as the Package ID. Package ID is the Package ID of the rule package. Version indicates if this package is to be versioned, the default is Y. For an example of GP-Import Rule see Setting Global Payroll Options Search Framework - Schedule Index runs the application engine program PTSF_SCH_INDEX to build a Search Framework search index. The run control options are the same as the Build Search Index page. For an example of Schedule Search Index see Setting Search Framework Options for AE With Run Control For more information on search indexes see "Building Search Indexes" (PeopleTools 8.57: Search Technology). The Logging Suffix option can be used to create a unique log file for the step.
Build Project	Builds the project specified in the step properties parameter as #Project= (for example, #Project=ALLTABS). The project is built through the PeopleTools command line. Use the Build button to select options based on the instructions in the update documentation for your product and path. **Note:** The Build dialog box that appears displays identical options to Application Designer. See "Selecting Build Options and Running the Build Process" (PeopleTools 8.57: Application Designer Developer's Guide).

Step Type	***Definition***
Compare And Report	Runs the project compare (which produces compare reports) process using the project specified in the step properties parameter as #Project= (for example, #Project=ALLTABS). The compare is performed through the PeopleTools command line. For the Compare and Report and all Copy ... step types, use the Upgrade button to select the appropriate options, which are identical to those provided for Upgrade Options in Application Designer. See "Setting Upgrade Options" (PeopleTools 8.57: Lifecycle Management Guide).
Compare from file	Runs the project compare (which produces compare reports) process using the project specified in the step properties parameter as #Project= (for example, #Project=PROJECT1). The compare is performed through the PeopleTools command line. Use the Upgrade button to select the definition types to compare and enter the Import/Export Directory that contains the file. Use the Options button on the Compare from File dialog box to select the appropriate options, which are identical to those provided for Upgrade Options in Application Designer. See "Setting Upgrade Options" (PeopleTools 8.57: Lifecycle Management Guide).
Compile PeopleCode	Compiles PeopleCode based on database or project. Use the Options button to select the PeopleCode to compile. For the database, you can select either all PeopleCode or just directive PeopleCode. For a project select Project and enter the project name.
Copy Database	Copies a project from the source database to the target database as specified under the Step Properties. The project used is the one specified in the step properties parameter as #Project= (for example, #Project=ALLTABS). The copy is performed through the PeopleTools command line.
Copy from file	Copies a project from a file. This is used in conjunction with the Copy To File. It uses the project specified in the Step Properties parameter as #Project= (for example #Project=ALLTABS). Use the Upgrade button to select the definition types to copy and enter the Import/Export Directory that contains the file.
Copy to file	Copies a project to a file. This is used in conjunction with the Copy From File option. It uses the project specified in the Step Properties parameter as #Project= (for example #Project=ALLTABS). Use the Upgrade button to select the definition types to copy and enter the Import/Export Directory for the file.

Step Type	*Definition*
Create Customization Project	Creates a customization project within Change Assistant. Use the Options button to launch the Create Project dialog box where you can select any combination of definition types to include in the project, such as pages, records, fields and so on, as well as the user IDs. You can enter multiple user IDs separated by commas. The customization project will include all managed objects for the object types selected that have any of the user IDs selected as the last user ID for the object. If user ID all is selected, the project will contain all managed objects for the object types selected where the last user ID for the object is not “PPLSOFT’.
Create project	Creates a project within Change Assistant. Use the Object Type button to launch the Create Project dialog box where you can select any combination of definition types to include in the project, such as pages, records, fields and so on. **Note:** If you select Pages, the system inserts all the page types into the project, including pages, subpage and secondary pages.
Merge project	Merges two project definitions. For example, this is used in upgrades during the "Merge IB Project" step, which merges pre and post-PeopleTools 8.48 Integration Broker metadata.
Data Mover-Bootstrap	Runs Data Mover scripts as the access ID specified in the credentials panel in the Apply Wizard (bootstrap mode).
Data Mover-User	Runs Data Mover scripts as the user ID specified in the credentials panel in the Apply Wizard (non-bootstrap mode).
DBTSFIX	(Applies to DB2 z/OS, DB2 LUW, and Oracle). Change Assistant determines the source and target releases of the databases defined under Step Properties as Source and Target. Once this is completed, Change Assistant determines which release scripts need to be generated by the DBTSFIX sqr to produce release scripts for your environment.
Deploy file	Deploys files in change packages to different servers. **Note:** COBOL files are deployed to src/cbl for non-Windows platform. When you select the DeployFile type, an Additional Settings button is available to set: • File Reference ID • File Type Code

Step Type	***Definition***
FileCopy	Enables you to copy files or directories. File Copy properties include: • Source Path • Destination Path • Overwrite Existing Files check box. The Source and Target Paths can be defined as: • actual paths for example: *C:\temp* • variables for example: *%STAGINGDIRECTORY%* • combination of variables and fixed paths for example: *%STAGINGDIRECTORY%\IMAGE*
ExecuteProcess	Enables you to include custom processes, such as bat files, that you can run as part of a Change Assistant job. Enter the file path to the file in the Parameters edit box. For example, if you want to run backup.bat, enter the following in the Parameters edit box: *c:\bat\backup.bat* **Note:** Your custom file needs to be able to close without needing human interaction. Change Assistant does not officially recognize the step as being successfully completed until the processes ran by the bat file have been closed.
ExportTemplate	This step exports the current template. Typically this step would be included in a Update change package.
Load Base Data	Change Assistant determines the source and target releases when running either the DBTSFIX or UpgradePeopleTools steps (depending on your database type). Once these are determined, Change Assistant will dynamically define which Load Base Data scripts need to be run for the original target release and the languages that you have installed.
Manual Stop	Defined as a step you must run manually. Change Assistant automatically sets the run status to Stop. After you have manually completed the step, you must change the Job Status to Complete.

Step Type	***Definition***

ProcessScheduler	Runs the specified upgrade process through Process Scheduler. To further define the step, you use these *required* parameters:
	
	#USE_PRCS_SERVER=
	
	#PROCESS_TYPE=
	
	#PROCESS_NAME=
	
	#RUNCONTROLID=
	
	#NUM_INSTANCES=
	
	Note: If you don't specify the value to each parameter correctly, the step will fail.
	
	Example: To run one instance of an Application Engine program on SERVER1, specify parameters as:
	
	`#USE_PRCS_SERVER=SERVER1`
	`#PROCESS_TYPE=Application Engine`
	`#PROCESS_NAME=MYAE`
	`#RUNCONTROLID=TEST`
	`#NUM_INSTANCES=1`
	
	Example: To run three instances of an SQR report (XRFWIN) on SERVER2, specify parameters as:
	
	`#USE_PRCS_SERVER=SERVER2`
	`#PROCESS_TYPE=SQR Report`
	`#PROCESS_NAME=XRFWIN`
	`#RUNCONTROLID=MYID`
	`#NUM_INSTANCES=3`
	
	See Step Parameters.

PTFTest	This step is used to run a PTF test. Use the following parameters: • #TST - test name • #TC - test case • #PFX - test case prefix
SQL Command	Runs the SQL command defined in the Parameters value under the Step Properties. Change Assistant runs the command using the SQL Query tool specified in the Database Configuration dialog box. For most SQL Query Tools, Change Assistant stops on an error.
SQL Script	Runs the SQL script defined in the Script/Procedure value under the Step Properties. Change Assistant runs the script using the SQL Query tools specified on the Database Configuration. For most SQL Query Tools, Change Assistant stops on an error.

Step Type	*Definition*
SQL Script DBO	Runs the SQL Script defined in the Script/Procedure value under the Step Properties, using the DB Owner ID. The DB Owner and password is set for the database when the *Set DB Owner Credentials* is selected on the database definition.
SQR Report	Runs SQRs using the pssqr command line. If parameters are included in the Parameters section of the step properties, Change Assistant will obtain the SQR settings from the database definition. See Setting SQR Report Output Options
SyncDatabaseInfoToCA	This step updates all of the target information to Change Assistant. This step will run as part of the Cleanup and Administrative tasks in the Change Assistant Job.
SyncDatabaseInfoToPUMSource	This step is only used for PUM updates. If the user selects Yes on the Synchronize Target Metadata (Requires Source) radio button on the Change Package Settings page, this step is executed in the job to update all of the target database information to the PI.
UpdateChangePackage	UpdateChangePackage is a specialized function within the Change Packager relating to the updating of change packages created using Update Manager.
UpdateCurrentHomes	This step updates the database Current Homes PS_HOME information by setting the Current PS_HOME to the value of the New PS_HOME for Database definition associated to the DB Orientation (Source or Target) of the step. It does not update the PS_APP_HOME or PS_CUST_HOME. Typically this step would be included in a PeopleTools Upgrade.
UpgradePeopleTools	Change Assistant determines the source and target releases of the databases defined under Step Properties as Source and Target. Once this is completed, Change Assistant then determines which Release scripts to run in order to upgrade your PeopleTools release from the original source release to the new target release.

Note: There is no limitation to the number of steps you can add to a template.

Setting AE With Run Control Options for ADS Compare/Copy

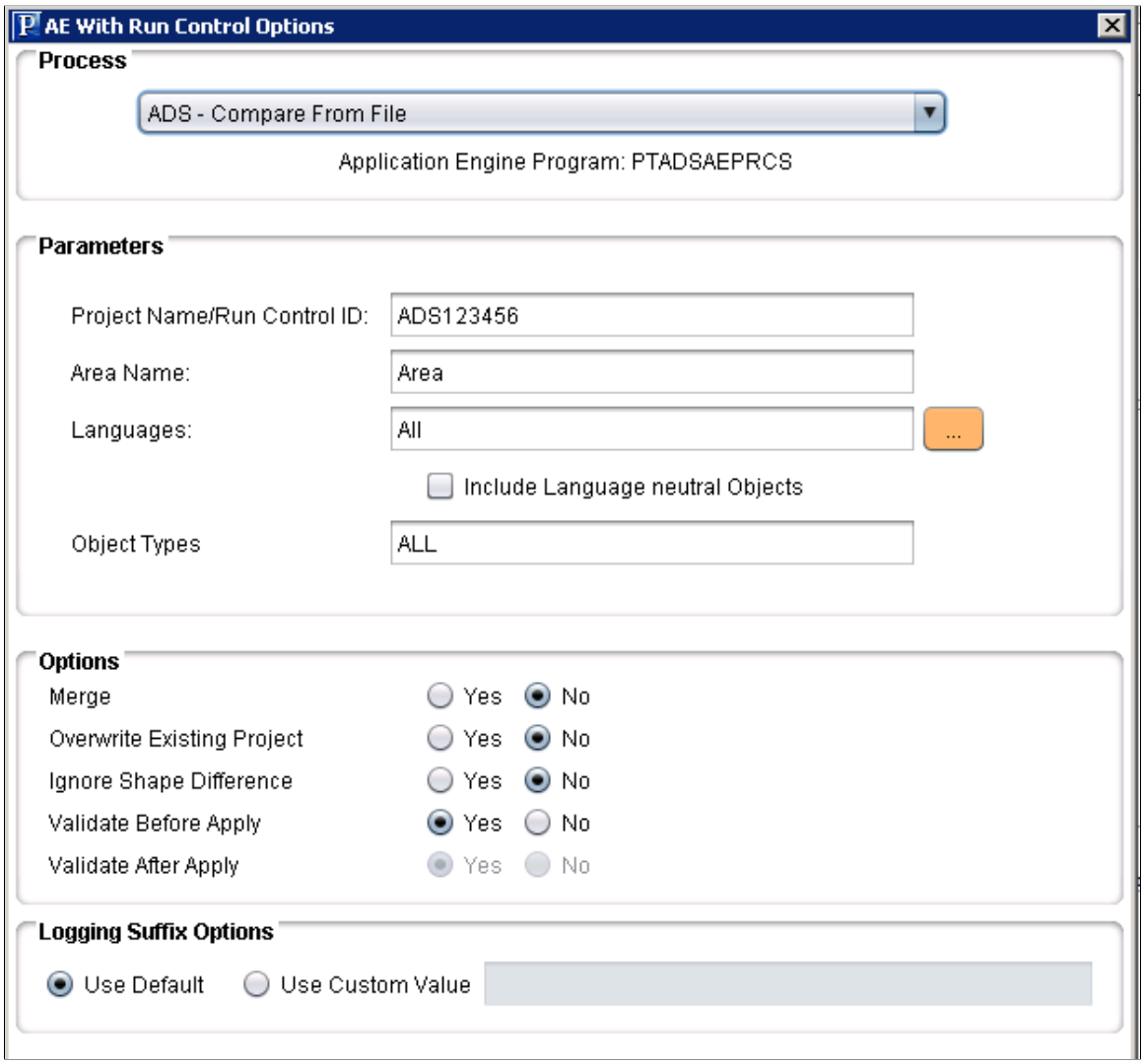
The application engine process PTADSAEPRCS is used to copy an ADS project a a file, copy an ADS project from a file, validate an ADS project from file, or compare an ADS project from a file.

To set the AE run control options:

1. Insert a new step in the template and select Type *ApplicationEngineWithRunControl* or open an existing step with the type *ApplicationEngineWithRunControl*.
2. Make sure the orientation is set correctly.
   - Source is used for Copy to File.
   - Target is used for Compare From File and Copy From File.
3. Click the Options button.

Image: AE With Run Control Options

This example illustrates the fields and controls on the AE With Run Control Options page. You can find definitions for the fields and controls later on this page.



Process Select the AE process, For ADS, the options are:

- Compare From File
- Copy to File

- Copy From File
- Validate From File

Project Name/Run Control Enter the ADS Project Name. The project name is also used as the run control and is automatically populated in the Run Control ID.

Area Name Enter the name of the area (folder) for the file. When you select Copy to File, the file will be written to the Staging directory defined for the job in a folder PTADSAEPRCS\<area name>. For example:

D:\Staging\PTADSAEPRCS\TOOLS

Languages Select the languages

Include Language Neutral Objects Select to include language neutral objects (COMMON).

Object Types ALL will include all data sets in the project. To select only specific data sets, enter the data set name or names separated by comma.

Merge Select Yes to merge target configurations on the Copy From File.

Overwrite Existing Select Yes if you want to overwrite an existing file.

Ignore Shape Difference Select Yes if you want to ignore shape difference. The allowed shape changes include adding records or fields to a data set definition.

Validate Before Apply Select Yes to validate the data set before it is compared or copied from file.

Validate After Apply Select Yes if you want to check integrity after the copy.

Logging Suffix Options Select whether to use the default log name or enter a custom suffix value for the log file name.

The suffix is used to create a unique output log file name for the step.

Note: Depending on the action selected, the available options are enabled.

Setting Global Payroll Options

Global Payroll (GP) application engine processes include:

- GP-Import Rule
- GP-Compare Rule
- GP-Compare Rule AE Report

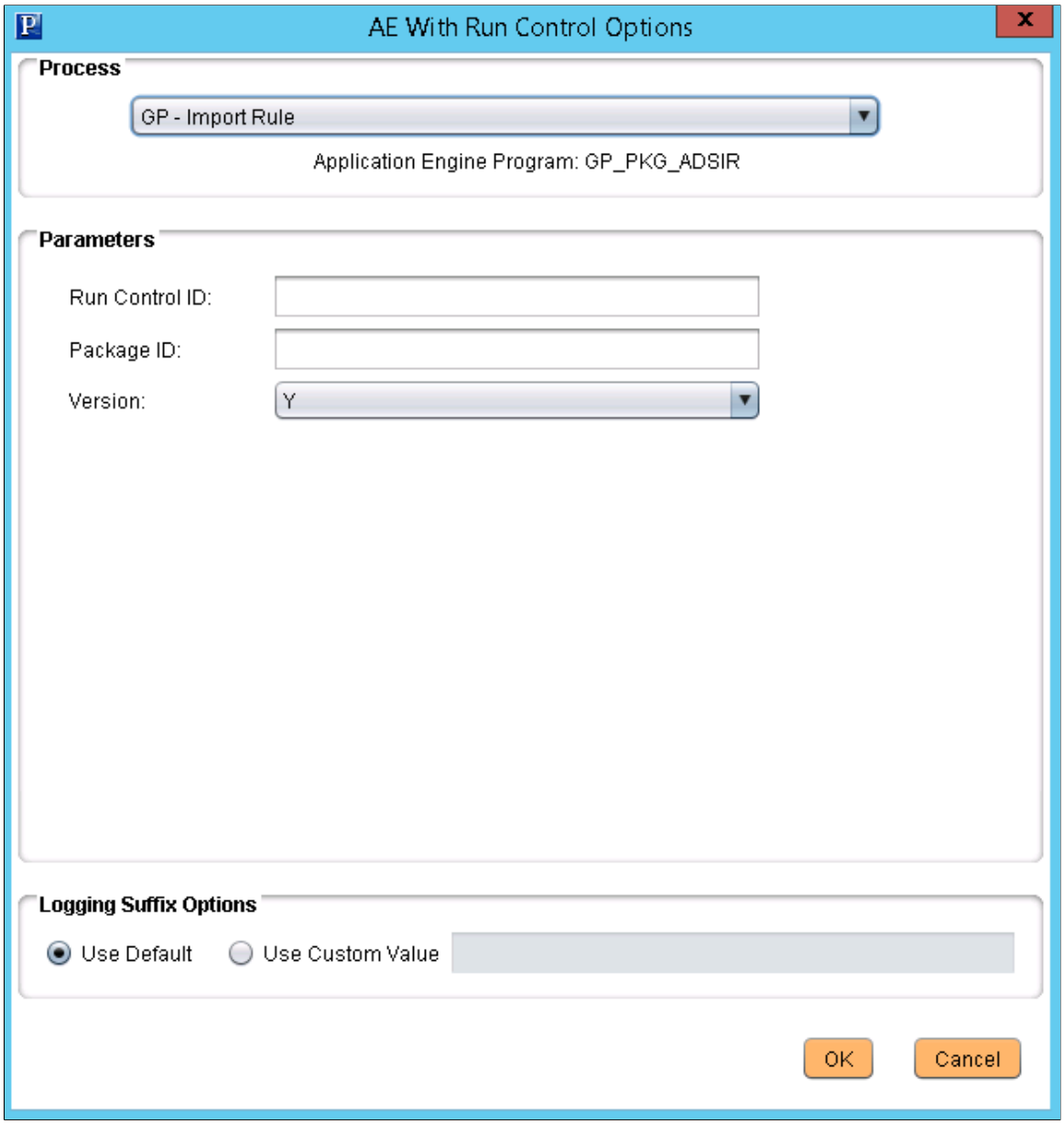
- GP-Upgrade Rule
- GP-Import Non Rule
- GP-Compare Non Rule
- GP-Upgrade Non Rule

To set the AE run control options:

1. Insert a new step in the template and select Type *ApplicationEngineWithRunControl* or open an existing step with the type *ApplicationEngineWithRunControl*.
2. Make sure the orientation is set correctly.
   - Source is used for Copy to File.
   - Target is used for Compare From File and Copy From File.
3. Click the Options button.

Image: AE With Run Control Options Showing GP-Import Rule

This example illustrates the fields and controls on the AE With Run Control Options page. You can find definitions for the fields and controls later on this page.



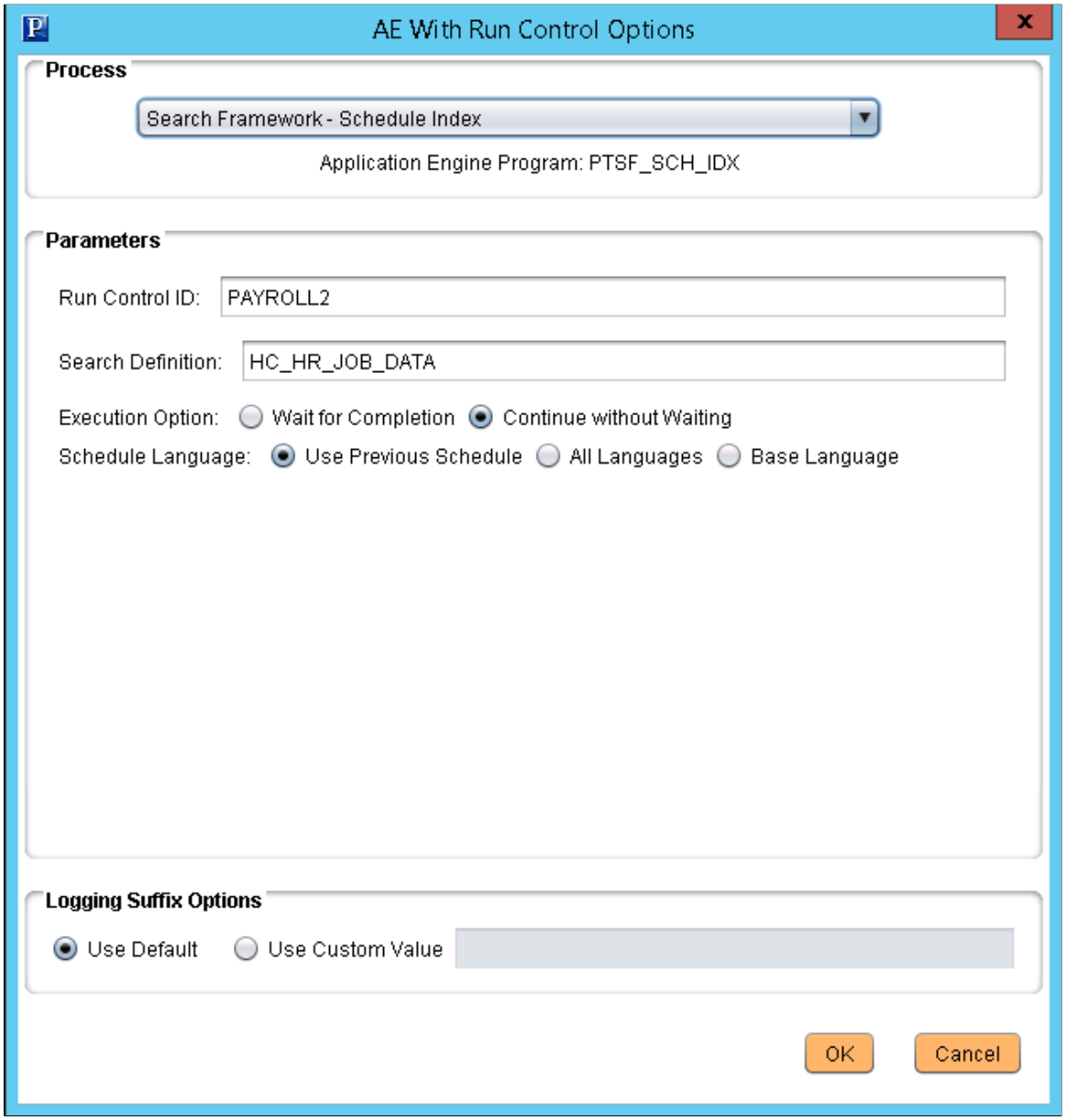
Run Control ID	Run Control ID needs to be the same name as the Package ID.
Package ID	Package ID is the Package ID of the rule package.
Version	Indicates if this package is to be versioned, the default is Y.
Logging Suffix Options	Select whether to use the default log name or enter a custom suffix value for the log file name. The suffix is used to create a unique output log file name for the step.

Setting Search Framework Options for AE With Run Control

Search Framework- Schedule Index is used to schedule a build for the search index.

Image: AE With Run Control Options Showing Search Framework-Schedule Index

This example illustrates the fields and controls on the AE With Run Control Options page with Search Framework-Schedule Index selected. You can find definitions for the fields and controls later on this page.



Run Control ID	Enter the run control id.
Search Definition	Enter the Search definition.
Execution Option	Select whether to Wait for Completion or Continue without waiting.

Schedule Language	Select the schedule language.
Logging Suffix Options	Select whether to use the default log name or enter a custom suffix value for the log file name. The suffix is used to create a unique output log file name for the step.

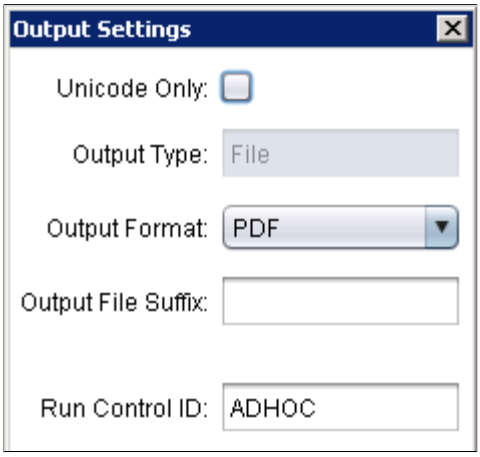
Setting SQR Report Output Options

To set SQR output options:

1. Insert a new step in the template and select Type *SQRReport* or open an existing step with the type *SQRReport*.
2. Enter the report name in the Script/Procedure field.
3. Click the Output Settings button.

   Image: SQR Output Settings dialog box

   This example illustrates the fields and controls on the SQR Output Settings dialog box. You can find definitions for the fields and controls later on this page.



Unicode Only	Select this checkbox for Unicode Only.
Output Type	Currently File is the only supported value and is read-only.
Output Format	Select the output format. The allowable output values are PDF, HTML, and SPF. The default is SPF
Output File Suffix	Enter an output file suffix if applicable. The suffix is used to create a unique output log file name for the step. A change package may run the same SQR multiple times, the suffix will ensure unique output log files.
Run Control ID	Enter the run control ID. The default is AD HOC.

4. Click OK.
5. Click OK on the step

Step Parameters

Depending on the step type, you may need to include additional parameters in the Parameter edit box of the Step Properties dialog box.

Parameter	***Description***
#Project=	Used primarily for functions that require a project name, like Build Project, Create Project, and Merge Project. For the Merge Project step type, you can specify two projects separated by a comma. For example: `#PROJECT=PRJ656265,PRJ656265_IB_PRE848`
#Directory=	Used when you need to run a script that is not located in the one of standard home directories defined for the environment. For example: `#Directory=#OutputDirectory`

#RunLocation=
 	
#FileLocation=
	By default the scripts and processes are run on one of the current home directories defined for the environment. However if the script or process needs to run on the new release, you need to specify the new release home directories using the variable #ALL_NEW_PATHS_TGT. Example:
	
	`#RunLocation=#ALL_NEW_PATHS_TGT`
	`#FileLocation=#ALL_NEW_PATHS_TGT`

#P1 through #P5=	Used to pass parameters to SQR reports, for example, TEST. sqr. In this case, you would pass the necessary value, such as: `#P1=#OutputDirectory`
#OutputDirectory=	Used to specify the Output Directory variable that is defined in the Options, Change Assistant, Directories screen.
#NT=	Used for DB2 Command Center, for Non-Terminated SQL Scripts. **Note:** The #NT parameter applies to DB2 LUW only. It is ignored for DB2 zOS.
#Type=	Enables you to specify the type of record to insert into the project. Choose from the following record types: All Records, Table, View/Query, View/Derived, SubRecord, Stored Procedure, Temporary Table, Dynamic View.
#RCID=	Enables the user to override the run control ID used for Application Engine processes.

Parameter	***Description***
#CI =	Connect ID (Used for Data Mover – Tools).
#CW =	Connect password (Used for Data Mover – Tools).
#EXTRACT_DMS=	Extracts DMS export script from file (Used for Data Mover – Tools).
#DBSETUP=	Extracts dbsetup DMS import script from file and database connectivity parameters (Used for Data Mover – Tools).
#DATLOCATION=	Specifies the location of the .dat file (Used for Data Mover – Tools).
#UNICODE=	Generates DMS script for UNICODE database (default is NON-UNICODE) (Used for Data Mover – Tools).
#TABLESPACE=	Default tablespace (PTMINITS) (Used for Data Mover – Tools, DB2 LUW, Oracle and Informix only).
#DBSPACE=	Physical dbname.tablespace (PTMINIDB.TABLESPACE)) (Used for Data Mover – Tools, DB2 z/OS only).
#STOGROUP_TS=	Storage group for tablespace (Used for Data Mover – Tools, DB2 z/OS only).
#STOGROUP_IDX=	Storage group for index (Used for Data Mover – Tools, DB2 z/OS only).
#TABLEOWNER=	Database owner ID (same as sqlid and tableowner) (Used for Data Mover – Tools, DB2 z/OS only).
#INDEXSPC=	Default tablespace (PTMINITS) (Used for Data Mover – Tools, Informix only).
#USE_PRCS_SERVER=	(Used only for ProcessScheduler step types). Enter the name of the Process Scheduler server to run the step. Valid values are SERVER1 or SERVER2, which correlate to the Process Scheduler server definitions you have defined in your upgrade environment.
#PROCESS_TYPE=	(Used only for ProcessScheduler step types). Enter the process type, as defined in Process Scheduler. For example, Application Engine, SQR Report, Data Mover, and so on. **Note:** This parameter is case sensitive. That is, the value must appear in the exact case as the process type in Process Scheduler. For example, for an Application Engine program, the process type parameter should appear as *PROCESS_TYPE=Application Engine*, not *PROCESS_TYPE=APPLICATION ENGINE*.

Parameter	*Description*
#PROCESS_NAME=	(Used only for ProcessScheduler step types). Enter the process name, such as DDDAUDIT.
#RUNCONTROLID=	(Used only for ProcessScheduler step types). Enter the appropriate run control ID. **Note:** If NUM_INSTANCES is greater than one, Change Assistant will append unique sequence numbers to the end of the Run Control ID before requests are submitted to the Process Scheduler. This is required for submitting multiple instances of the same process. If NUM_INSTANCES is equal to one, Change Assistant will NOT append unique sequence numbers to the end of the Run Control ID.
#NUM_INSTANCES=	(Used only for ProcessScheduler step types). Used by Change Assistant to schedule multiple processes through Process Scheduler as individual process requests. However, the actual number of instances simultaneously executed on the Process Server is controlled by the Max Concurrent setting for the process type in the Process Scheduler server definition.
#TST	Used with the PTFTest step to identify the test
#TC	Used with the PTFTest step to identify the test case.
#PFX	Used with the PTFTest step to identify the test prefix.

Variables for All Step Types that Use Path

The order by which the PeopleTools runtime will pick up objects from the file system is as follows:

1. Staging directory
2. PS_CUST_HOME
3. PS_APP_HOME
4. PS_HOME

Change Assistant will loop through the paths in order of precedence until it finds the first instance of the file object at which time it will execute the step.

The following variables can be used for parameters requiring a path.

Variable	*Description*
#ALL_PATHS_TGT	Uses the path values defined for the target database current environment.

Variable	*Description*
#ALL_PATHS_SRC	Uses the path values defined for the source database current environment.
#ALL_PATHS_ODMO	Uses the path values defined for the copy of demo database current environment.
#ALL_PATHS_PROD	Uses the path values defined for the production database current environment.
#ALL_OLD_PATHS_TGT	Uses the path values defined for the target database old environment.
#ALL_PATHS_TGT_CBL	The location of COBOL files differs depending on whether you are using Windows or Linux. Cobol files are stored in: • PS_HOME/src/cbl/base for Windows • PS_HOME/src/cbl for Linux This parameter is used to find the path for COBOL files. **Note:** This parameter is only available for #FILELOCATION.

Platform Used in Command Line

Steps where the command line includes the platform are:

- ApplicationEngine
- ApplicationEngineWithRunControl
- BuildProject
- CompareAndReport
- CopyDatabase
- CopyfromFile
- CopyToFile
- CreateProject
- MergeProject
- DataMoverBootstrap
- DataMoverUser
- SQLCommand
- SQLScript
- SQRReport

Consolidating Data Mover Scripts

When Change Assistant encounters a Data Mover step, it collects similar Data Mover steps below this step and generates a consolidate Data Mover script. The newly generated Data Mover script is then executed through a single data mover session.

In order to consolidate the Data Mover steps the following criteria must be met:

- On 8.56 or higher Tools version
- Identical Data Mover step type (DataMoverUser or DataMoverBootStrap)
- Identical Orientation in Step Properties (Source or Target)
- Identical Parameters value in Step Properties
- Allow for Errors = N in Step Properties
- Run Concurrently = N in Step Properties
- Step status = Run/Restart
- Step is not filtered out from job
- Continuous Data Mover steps

Appendix C

Clearing Environment Management Framework Cache

Clearing Environment Management Framework Cache Overview

To ensure consistent behavior across all the elements of the Environment Management Framework, at times, it is necessary to clear the cache stored within each element. Clearing the cache just on the web server for the Hub, for example, is not sufficient. To re-initialize the entire framework, you need to perform this cleanup on:

- All agents
- Change Assistant
- Viewer
- Hub

When to Clear Environment Management Framework Cache

After analyzing customer environments and consulting PeopleSoft support, the following list reflects the most common situations in which it is recommended that you clear cache files:

- After applying a maintenance pack. Maintenance packs deliver a large number of files. Clearing the cache after applying a maintenance pack may increase performance for applying future updates.
- After applying a PeopleTools patch. Information related to previous PeopleTools releases stored in the cached directories can cause a variety of issues for Change Assistant.
- After receiving a warning during file deploys or during the validate process (Tools, Validate). This is typically related to cached references to peer IDs that are no longer used. Clearing the cache removes references to unused peer IDs.
- After Change Assistant hangs during re-validation. This is often a sign of cache issues.
- After receiving notifications that you need to apply prerequisites that have already been applied.

Note: The above list reflects the most common situations when cache should be cleared, not every possible situation. If you are encountering unexpected behavior, one element of your troubleshooting should be clearing the cache.

Clearing EMF Cache

To clear EMF cache:

1. Close the Change Assistant, stop all agents, and stop PSEMHUB.
2. Delete cache files from Change Assistant, agents, and Viewer.
   a. Navigate to the following EMF locations:

EMF Element	***Location***
Change Assistant	Change Assistant installation location. For example, c:\Program Files\PeopleSoft\Change Assistant \envmetadata
Agents	PS_AGENT_HOME\PSEMAgent\envmetadata **Note:** If PS_AGENT_HOME is not defined, the data is stored in PS_HOME.
Viewer	PS_HOME\PSEMViewer\envmetadata

   b. Delete the following directories:

      \PersistentStorage

      \ScratchPad

      \transactions (if it exists)

      \data\ids

   c. For Change Assistant and agents only, delete the following file:

      \data\search-results.xml

3. Delete cached files on PSEMHUB.
   a. On the web server, navigate to PIA_HOME\webserv\peoplesoft\applications*domain*\PSEMHUB \envmetadata.
   b. Delete the files stored in these directories:

      \scratchpad

      \PersistentStorage

      \transactions (if it exists)

   c. Delete all objects in \data (files and subdirectories, but not the \data directory).

      For example,

\data*.*

4. Restart PSEMHUB.
5. Restart all agents.
6. Restart Change Assistant and Environment Management Viewer as needed.

Appendix D

Troubleshooting Change Assistant and EMF

Peer Cannot Connect to the Hub

When an Environment Management peer (typically an agent or the viewer) can't communicate with the hub, the following error messages appear in the logs and stdout:

```
Broken connection - attempting to reconnect
RemoteException while connecting to server - retrying attempt 1
RemoteException while connecting to server - retrying attempt 2
RemoteException while connecting to server - retrying attempt 3
```

The peer periodically attempts to reconnect to the hub (by default every ten seconds) with the parameters that are specified in the configuration.properties file.

Determining the Error Condition

The peer may not be able to communicate with the hub for one of the following reasons:

- The peer is started but the hub is not started.

  The peer reconnects once the hub is started.

- The peer is started but the web server is configured to run on a different machine.

  Edit the configuration.properties file and change the hubURL parameter.

- The peer is started but the web server is configured to listen on a different port.

  Users continue to see the error messages described previously. Edit the configuration.properties file and change the port number for the hubURL parameter. Shut down and restart the peer.

- The peer is running and communicating with the hub, and the PIA web server is shut down.

  Users see the broken connection error message. Once the PIA web server is started, the connection is restored.

When the peer has a pinginterval configuration parameter set to a high value (60 seconds or more), the following exception might appear in the log:

```
INFO Thread-48 org.apache.commons.httpclient.HttpMethodBase - Recoverable
 exception caught when processing request WARN Thread-48
org.apache.commons.httpclient.HttpMethodBase
- Recoverable exception caught but MethodRetryHandler.retryMethod() returned
false, rethrowing exception Broken connection - attempting to reconnect
Sending pulse from 'com.peoplesoft.emf.peer:id=5'
```

This is due to an HTTP client connection timeout which does not affect functionality.

Ensuring the Correct Configuration

To ensure that you've configured the peer (agent or viewer) to properly connect with the hub, try each of the following actions in turn:

- Ping the hub host machine.

  At a command prompt, enter `ping machinename`, using the machine name configured in the hubURL setting. You should see messages indicating a reply from the machine.

- Ping the hub host domain.

  At a command prompt, enter `ping hostdomain`, using the fully qualified domain name as it's configured in the hubURL setting; for example, *mymachine.example.com*. You should see messages indicating a reply from the machine.

- Use an IP address in the hubURL.

  In configuration.properties, replace the domain name in the hubURL setting with the machine's IP address, then restart the peer.

- Ensure that you specify the right port number in the hubURL.

  In configuration.properties, the port number in the hubURL setting must be <PIA port> if you set up PIA for a single server. In single server configurations, the hub uses the same port to which PIA is configured.

  In multi-server configurations, the hub uses the application default port, which is 8001. If you need to change this setting, it must be done in the web server configuration files.

Agent-Specific Resolutions

If an agent is still experiencing connection difficulties, delete the following agent directories if they exist:

- *PS_HOME*\PSEMAgent\envmetadata\data\ids
- *PS_HOME*\PSEMAgent\envmetadata\PersistentStorage
- *PS_HOME*\PSEMAgent\envmetadata\transactions

Note: You must also delete these directories after you install an additional hub on the same machine which doesn't replace the existing hub, then shut down the old hub and start the new hub using the same settings.

Viewer-Specific Resolutions

If the viewer Java application can't connect to the hub, first ensure that you specify the right port number when launching the viewer program.

If you set up PIA for a single server, 80 is the default port number, if you set up PIA for multiple servers, 8081 is the default listening port number for PSEMHUB.

If the viewer is still experiencing connection difficulties, delete the following viewer directories if they exist:

- *PS_HOME*\PSEMViewer\envmetadata\data\ids

- *PS_HOME*\PSEMViewer\envmetadata\PersistentStorage
- *PS_HOME*\PSEMViewer\envmetadata\transactions

Note: You must also delete these directories after you install an additional hub on the same machine which doesn't replace the existing hub, then shut down the old hub and start the new hub using the same settings.

Error Initializing Agent

When starting agents, if you receive the following error message, determine whether an agent is already running:

```
Error initializing agent. Verify if another agent is not
running on this machine or if you have the required permission to run the
agent.
```

If the console for the agent is not visible, check the task manager for the list of Java processes that are currently running. Stop a running agent by invoking the scripts to stop the agents and then restart the desired agent.

Determine whether the agent port is available. If not, choose a different port to start the agent.

Distributed Object Manager Errors

When running process, such as Application Engine, through the Process Scheduler (by way of Change Assistant) the following error can occur if you do not have security set appropriately for the PROCESSREQUEST.

```
Connecting to App Server: 192.0.2.1:9000
Error, exception caught: Distributed Object Manager: Page=Create Language=%2 (1,4)
```

See Ensuring Process Scheduler Security Authentication.

Cloned Databases Not Being Unique

When copying databases, it is extremely important to delete the GUID value in the new (copied) database. If not deleted, the hub will assume that the two environments are the same, leading to confusing environment records.

To resolve this, set the value of the GUID field in the PSOPTIONS table to <space> in the new database. You can insert the blank value in the PSOPTIONS table using the SQL tool at your site. The next time an application server connects to the database, the system generates a new, unique GUID.

Large SQL Scripts Fail on Microsoft SQL Server

In some situations, depending on various factors, such as memory available on the Change Assistant workstation, large SQL scripts can fail when run against Microsoft SQL Server. For example, this can occur when running the Microsoft conversion script during an upgrade.

To resolve this issue:

- Set the step executing the SQL script to run manually.
- Split the script into at least three separate scripts and run them individually.

Process Scheduler Logs Retrieved Using FTP Losing Formatting

When reviewing Process Scheduler files retrieved by way of FTP, in some cases formatting is lost.

This is typically an issue with the ANSI setting on the FTP server. For example, on a vsftpd server, in the vsftpd.conf file, make sure `ascii_download_enable` is set to *YES*. If not, stop the FTP daemon, modify the setting, and restart the FTP daemon. (Adjust this information as needed for your FTP server).

Viewing Change Assistant Log Files

Change Assistant provides the following log files:

- Job log file
- Step execution logs
- Create change package log

Job Log File

The job.log file is a consolidated file that includes all of the information entered in the Apply Wizard, as well as execution status of all the tasks and steps in the change package. There are five Apply Wizards in Update Manager action.

- Apply Change Package
- Apply PeopleSoft Release Patch
- Apply PeopleTools Patch
- Upgrade Tools
- Upgrade Application

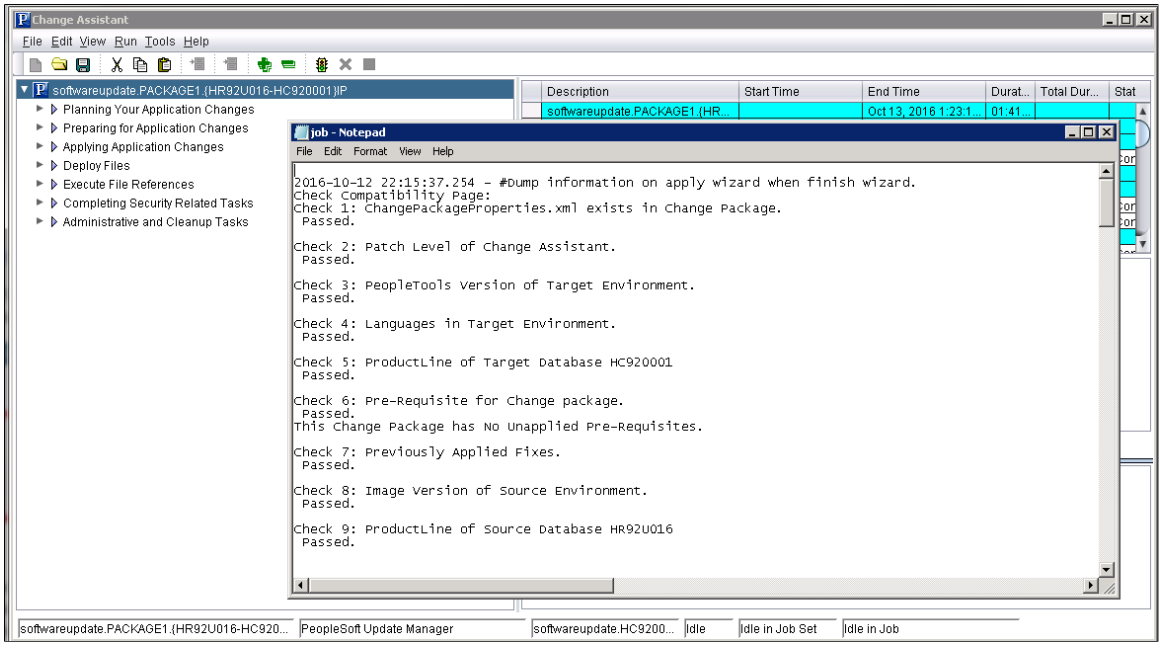
The log file will contain the information on Check Compatibility, Apply Summary pages, as well as information about the Target and PUM Source environments. Once the job starts to execute, the execution status of each step will be logged. This consolidated job log can be used to check the environment settings, track the status of job, or review the job.

The job log is located in the folder generated for the change package job in the output directory defined on the Change Assistant General Settings page, for example C:\CA\output \updPACKAGE1_1476310350534\job.log.

You can also access the job log from Change Assistant by right-clicking on the job name and selecting View Log.

Image: Accessing job log from Change Assistant

This example illustrates accessing job log from Change Assistant. Right-click on the job name and select View Log.



The job log includes:

- Check Compatibility Page
- Apply Summary Page
- PI Environment
- Step/job execution status during job execution

Step Execution Logs

As a job executes, the logs are placed in the output directory specified in Change Assistant in a folder with the job name. For each step there several logs created:

Log File	*Description*	*Example*
*_Search.log	Indicates whether or not the file for the step was found.	CP_BUILD_search.log Searching for file of bin\client\winx86\pside.exe in D:\PT8.54.21_Client_ORA\ – File Found.

Log File	*Description*	*Example*
*_CA.log	Displays the command line used.	CP_BUILD_CA.log Command Line: D:\PT8.54.21_Client_ORA \bin\client\winx86\pside.exe -CT ORACLE -CS -CD HC920001 -CO PS -CP * -PJB PACKAGE1 -HIDE -QUIET -SS NO - SN NO -MN -LF D:\Labs\PUM\Output \softwareupdatePACKAGE1{HR92U016- HC920001}IP\CP_BUILD_cmdline.log -CI people -CW *
*.log	Output of command line execution, created by the command itself.	CP_BUILD.log SQL Build process began on 10/13/2016 at 12:00:20 AM for database HC920001. SQL Build process ended on 10/13/2016 at 12:00:25 AM. 78 records processed, 0 errors, 0 warnings. SQL Build script for Create Tables written to file D:/Labs/PUM/Staging/ softwareupdatePACKAGE1{HR92U016- HC920001}IP/Scripts/CP_crttbl.sql. ...
*_cmdline	Lists command line parameters used.	CP_BUILD_cmdline.log PeopleSoft Project Command Line Build Project Project Name: PACKAGE1 Tools Release: 8.54. 21 2016-10-13 : 00.00.20 -CT Source Database Type = ORACLE -CS Source Database Server = -CD Source Database Name = HC920001 -CO Source Database Operator = PS Command line process successfully completed.
*_out.log	For SQR, Application Engine, Data Mover, and Filter steps this log lists parameters used and results, as well as path to output files if applicable.	RESETVERSIONS_OUT.log PeopleTools 8.54.21 - Application Engine Copyright (c) 1988-2016 Oracle and/or its affiliates. All Rights Reserved Application Engine program VERSION ended normally

Create Change Package Log

Change Assistant will save information about progress and status shown on Change Assistant UI to a log file. The log file also contains basic information such as PUM Source Database, tools version, operation system type, source/target database information, download directory, tools location, and so forth.

The log for creating a change package is cpcreate log for the package. The log is placed in <output directory>\logs\createcp\<packagename>.log. For example *C:\PUM\Output\logs\createcp\PK1.log*.

The log shows the shows progress and status for creating the Change Package. This is an example of a cpcreate log:

```
Change Assistant version: 8.57.00
Operating System: Windows Server 2012 R2
2018-04-30 13:56:25.122 - PUM Source Database : H92CDPUM
2018-04-30 13:56:25.126 - Download Directory : C:\PUM\Downloads\
2018-04-30 13:56:25.128 - Connecting to Source Database...
2018-04-30 13:56:26.347 - Retrieving Database Information from Source Database...
2018-04-30 13:56:37.931 - Synchronizing Source Database Information to Database Def⇒
inition in Change Assistant...
2018-04-30 13:56:39.068 - Source Tools Bin Location : C:\PT8.57-120W\bin\client\win⇒
x86
2018-04-30 13:56:39.133 - Source Tools Release : 8.57.00
2018-04-30 13:56:39.135 - Change Package GUID : 0409985a-4cb0-11e8-b113-b11fa0e5185⇒
f
2018-04-30 13:56:39.136 - Creating Change Package 1 of 1: PK1
2018-04-30 13:56:39.138 - Loading Project PK1
2018-04-30 13:56:39.445 - Validating File Reference ...
2018-04-30 13:56:39.447 - Copying Project to File ...
2018-04-30 13:56:47.224 - Copying Files Needed for Doc Generation...
2018-04-30 13:56:47.263 - Querying Source Envrioment Information...
2018-04-30 13:56:47.283 -   Base Language :ENG
2018-04-30 13:56:47.292 -   Installed Language :[ENG]
2018-04-30 13:56:47.301 -   Application Release Label :HRMS 9.20.00.550
2018-04-30 13:56:47.302 - Creating Change Package content ...
2018-04-30 13:56:47.780 - Creating Template ...
2018-04-30 13:56:48.629 - Finalizing Change Package the first time ...
2018-04-30 13:56:48.879 - Generating Non-Manage Object Scripts : PK1
2018-04-30 13:56:48.889 - Generating Security Scripts : PK1
2018-04-30 13:56:48.922 - Updating Change Package Manifest ...
2018-04-30 13:56:53.978 -   Image Type : PUM
2018-04-30 13:56:53.985 -   Image Version : 25
2018-04-30 13:56:54.028 -   Target Environment Tools version : 8.56.07
2018-04-30 13:56:54.043 -   Target Environment Languages : [ENG]
2018-04-30 13:56:54.055 - Generating Documentation ...
2018-04-30 13:56:54.609 - Finalizing Change Package ...
2018-04-30 13:56:55.906 - Updating package status ...
2018-04-30 13:56:55.926 - Completed Successfully
2018-04-30 14:39:52.383 - Connecting to Source Database...
2018-04-30 14:39:53.725 - Retrieving Database Information from Source Database...
2018-04-30 14:40:04.876 - Synchronizing Source Database Information to Database Def⇒
inition in Change Assistant...
```

If the create change package fails, the log will indicate *Completed with Error*. This is an example of a failed change package.

```
Change Assistant version: 8.57.00
Operating System: Windows Server 2012 R2
2018-04-30 13:12:17.121 - PUM Source Database : H92CDPUM
2018-04-30 13:12:17.126 - Download Directory : C:\PUM\Downloads\
2018-04-30 13:12:17.147 - Connecting to Source Database...
2018-04-30 13:12:18.299 - Retrieving Database Information from Source Database...
2018-04-30 13:12:33.353 - Synchronizing Source Database Information to Database Def⇒
inition in Change Assistant...
2018-04-30 13:12:34.633 - Source Tools Bin Location : C:\PT8.57-120W\bin\client\win⇒
x86
2018-04-30 13:12:34.700 - Source Tools Release : 8.57.00
```



```
2018-04-30 13:12:34.702 - Change Package GUID : fb7b99f8-4ca1-11e8-b113-b11fa0e5185⇒
f
2018-04-30 13:12:34.704 - Creating Change Package 1 of 1: UDPKG1
2018-04-30 13:12:34.710 - Loading Project UDPKG1
2018-04-30 13:12:34.950 - Validating File Reference ...
2018-04-30 13:12:38.378 - Change Package was not created, see invalid File Referenc⇒
es

Invalid File Reference(ID-UPD26637235_01_EXP_DMS,Type Code-MAINT):File path CCL dat⇒
a cannot be found in source database.
Invalid File Reference(ID-UPD26637235_02_IMP_DMS,Type Code-MAINT):File path CCL dat⇒
a cannot be found in source database.
Invalid File Reference(ID-UPD26637235_03_SETUP_DOC,Type Code-MAINT):File path CCL d⇒
ata cannot be found in source database.
Invalid File Reference(ID-UPD26650168_PRP_SPL_DMS,Type Code-MAINT):File path CCL da⇒
ta cannot be found in source database.
Invalid File Reference(ID-UPD26650179_PRP_SPL_DMS,Type Code-MAINT):File path CCL da⇒
ta cannot be found in source database.
Invalid File Reference(ID-UPD26731230_PRP_SPL_DMS,Type Code-MAINT):File path CCL da⇒
ta cannot be found in source database.

Total number:6
2018-04-30 13:17:40.526 - Completed with Error
```

If the change package is defined using the command line, a special date time stamp is appended to each line in the log.

```
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\User1>CD C:\CA

C:\CA>changeassistant.bat -MODE UM -ACTION CPCREATE -UPD CP3
PUM Source Database : H92CDPUM
Download Directory : C:\PUM\Downloads\
Retrieving Database Information from Source Database...
Synchronizing Source Database Information to Database Definition in Change Assis
tant...
Source Tools Bin Location : C:\PT8.57\bin\client\winx86    at Mon Apr 30 17
:31:25 MDT 2018
Source Tools Release : 8.57.00    at Mon Apr 30 17:31:25 MDT 2018
Change Package GUID : 4b63e1d8-4cce-11e8-90a8-c99c39c8fa80    at Mon Apr 30 17:3
1:25 MDT 2018
Creating Change Package 1 of 1: CP3    at Mon Apr 30 17:31:25 MDT 2018
Loading Project CP3    at Mon Apr 30 17:31:25 MDT 2018
Validating File Reference ...     at Mon Apr 30 17:31:25 MDT 2018
Copying Project to File ...    at Mon Apr 30 17:31:25 MDT 2018
Copying Files Needed for Doc Generation...    at Mon Apr 30 17:31:26 MDT 2018
Querying Source Envrioment Information...    at Mon Apr 30 17:31:26 MDT 2018
  Base Language :ENG    at Mon Apr 30 17:31:26 MDT 2018
  Installed Language :[ENG]    at Mon Apr 30 17:31:26 MDT 2018
  Application Release Label :HRMS 9.20.00.550    at Mon Apr 30 17:31:26 MDT 2018

Creating Change Package content ...     at Mon Apr 30 17:31:26 MDT 2018
Creating Template ...    at Mon Apr 30 17:31:26 MDT 2018
Finalizing Change Package the first time ...    at Mon Apr 30 17:31:27 MDT 2018
Generating Non-Manage Object Scripts : CP3    at Mon Apr 30 17:31:27 MDT 2018
Generating Security Scripts : CP3    at Mon Apr 30 17:31:27 MDT 2018
Updating Change Package Manifest ...    at Mon Apr 30 17:31:27 MDT 2018
  Image Type : PUM    at Mon Apr 30 17:31:29 MDT 2018
  Image Version : 25    at Mon Apr 30 17:31:29 MDT 2018
  Target Environment Tools version : 8.56.07    at Mon Apr 30 17:31:29 MDT 2018
  Target Environment Languages : [ENG]    at Mon Apr 30 17:31:29 MDT 2018
Generating Documentation ...    at Mon Apr 30 17:31:29 MDT 2018
Finalizing Change Package ...    at Mon Apr 30 17:31:30 MDT 2018
Updating package status ...    at Mon Apr 30 17:31:30 MDT 2018
Completed Successfully

C:\CA>
```


Errors Found in Log Files

Change Assistant scans log files that are generated when various processes run, such as SQL, Data Mover, SQR, CopyDatabase and so on. The following table describes what logs are produced and what Change Assistant determines to be an error:

The log files generated by Process Scheduler are not parsed for warnings or errors. Therefore, even though Change Assistant may show a status of Complete for a Process Scheduler step type, you should review the generated log files for more details.

Processes	***Log File***	***Error***	***Warning Status***
Application Engine	<process name>_out.log	Restart Failed. Invalid, Error. Abended. Abort. Not Defined.	Warning.
Build Project CompareAndReport CopyDatabase CopyFromFile CopyToFile CreateProject	<process name>.log	Error. Invalid PeopleCode. Copy process cancelled. Project <xxx> does not exist.	Warning.
DataMoverBootstrap DataMoverTools DataMoverUser LoadBaseData	<process name>_out.log **Note:** Any logs generated by the Data Mover SET LOG statement will also be available.	Unsuccessful. PSDMTX Error.	Warning.
DBTSFIX SQRReport	<process name>_0.out <process name>_out.log	TNS Error. Program Aborting. Not Defined Error.	NA
Deploy File	<process name>_out.log	Failure. • Unable to connect. • Environment Management Components are Unavailable. Warning status.	NA

Processes	***Log File***	***Error***	***Warning Status***
DSAutoGeneration DSCompile DSCustomReport DSPatchCorrection DSPatchImport	<process name>_out.log <process name>.log	Failed. Warning status.	NA
DSGetLogs DSInitialImport DSRunJob	<process name>_out.log <process name>_detailed.log <process name>.log	Failed. Warning status.	NA
ProcessScheduler		The log files generated by Process Scheduler are not parsed for warnings or errors. Therefore, even though Change Assistant may show a status of Complete for a Process Scheduler step type, you should review the generated log files for more details	
SQLCommand SQLScript UpdatePeopleTools	<process name>.log	DB2 z/OS and DB2 UDB: • SQLSTATE=value (value cannot be 02000). • SQLxxxxxN. • DB2xxxxxE. Oracle: ORA. Microsoft SQL Server: • Msg[Microsoft]. • Cannot open database, access denied. • Specified SQL Server not found. Transaction rolled back. • ConnectionOpen (Connect()). • Login failed.	Warning.

