
PeopleTools 8.62: Change Assistant and Update Manager

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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.

Hosted PeopleSoft Online Help

You can access the hosted PeopleSoft Online Help on the [Oracle Help Center](#). The hosted PeopleSoft 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. The hosted PeopleSoft Online Help is available in English only.

To configure the context-sensitive help for your PeopleSoft applications to use the Oracle Help Center, see [Configuring Context-Sensitive Help Using the Hosted Online Help Website](#).

Locally Installed PeopleSoft Online Help

If you're setting up an on-premises PeopleSoft environment, and your organization has firewall restrictions that prevent you from using the hosted PeopleSoft Online Help, you can install the online help locally. Installable PeopleSoft Online Help is made available with selected PeopleSoft Update Images and with PeopleTools releases for on-premises installations, through the [Oracle Software Delivery Cloud](#).

Your installation documentation includes a chapter with instructions for how to install the online help for your business environment, and the documentation zip file may contain a README.txt file with additional installation instructions. See *PeopleSoft 9.2 Application Installation* for your database platform, "Installing PeopleSoft Online Help."

To configure the context-sensitive help for your PeopleSoft applications to use a locally installed online help website, see [Configuring Context-Sensitive Help Using a Locally Installed Online Help Website](#).

Downloadable PeopleBook PDF Files

You can access downloadable PDF versions of the help content in the traditional PeopleBook format on the [Oracle Help Center](#). 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.

<i>Typographical Convention</i>	<i>Description</i>
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.
& (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.

<i>Typographical Convention</i>	<i>Description</i>
⇒	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

Select About This Help in the left navigation panel on any page in the PeopleSoft Online Help to see information on the following topics:

- Using the PeopleSoft Online Help.
- Managing hosted Online Help.
- Managing locally installed PeopleSoft Online Help.

PeopleTools Related Links

[PeopleTools 8.62 Home Page](#)

[PeopleSoft Search and Insights Home Page](#)

“PeopleTools Product/Feature PeopleBook Index” (Getting Started with PeopleTools)

[PeopleSoft Online Help](#)

[PeopleSoft Information Portal](#)

[PeopleSoft Spotlight Series](#)

[PeopleSoft Training and Certification | Oracle University](#)

[My Oracle Support](#)

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Please include the applications update image or PeopleTools release that you’re using.

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	<u>Connect with PeopleSoft on LinkedIn</u>

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:

<i>Term</i>	<i>Definition</i>
Apply Updates	Any systems that are not Update Manager enabled will use the Apply Updates to apply updates downloaded from My Oracle Support.

Term	Definition
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.
View PUM Automated Merge Sessions	If Object Merge is enabled, this action can be used to display the merge session and review how the code was automatically merged based on the merge rules.
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.

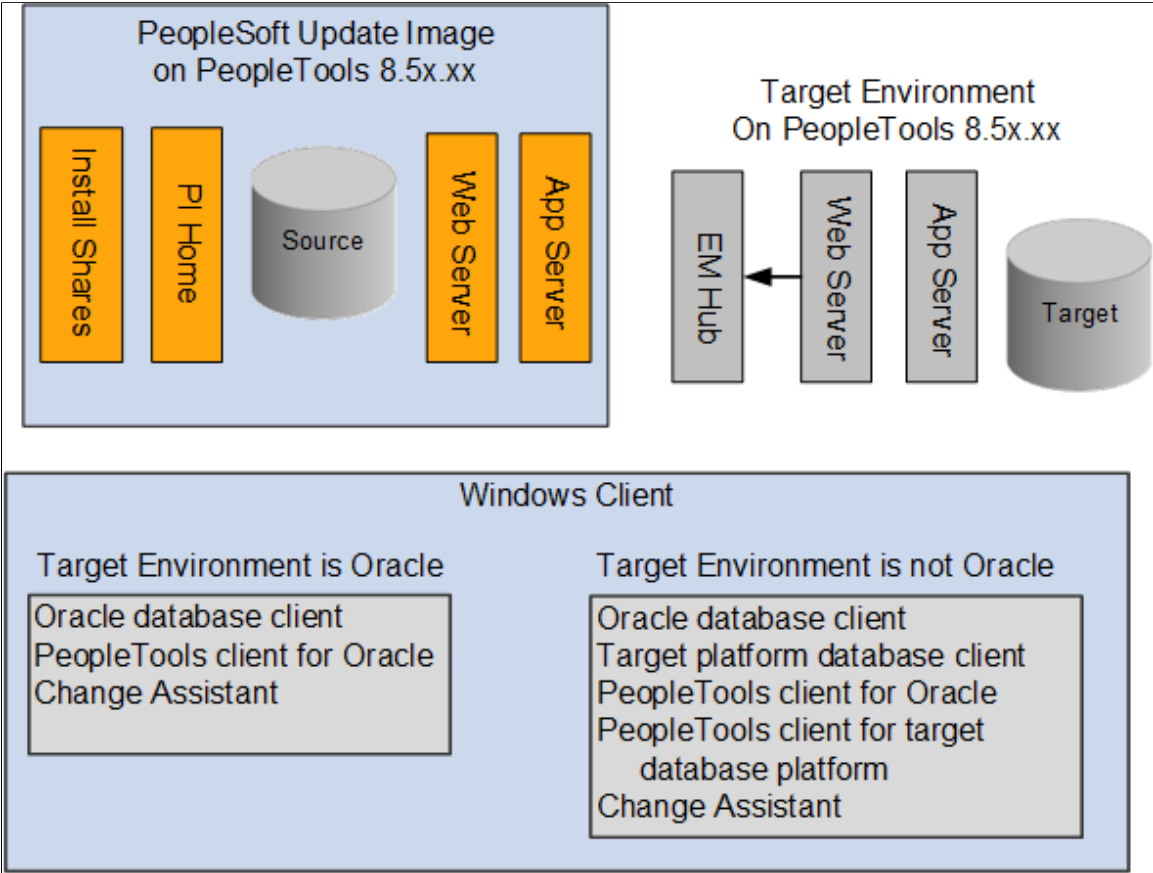
Quick Start

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

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 <i>PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.5x)</i> .

Step	Reference
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 <i>Update Manager</i> 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 .

Step	Reference
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 <i>PeopleSoft PeopleTools 8.5x Deployment Packages Installation</i>
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 <i>PeopleSoft Deployment Packages Installation (PeopleSoft PeopleTools 8.5x)</i> .
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 <i>PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.5x)</i> .
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*\web\serv\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: The Environment Management agent is installed in the PSEMAgent directory in *PS_HOME* when you deploy PeopleTools.

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:

<i>Term</i>	<i>Definition</i>
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.

Term	Definition
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:

<i>Executable</i>	<i>Description</i>
<i>version.exe</i> 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).

Executable	Description
<i>version</i> -PSCA.exe For example, 85014-PSCA.exe	Contains <i>only</i> 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.

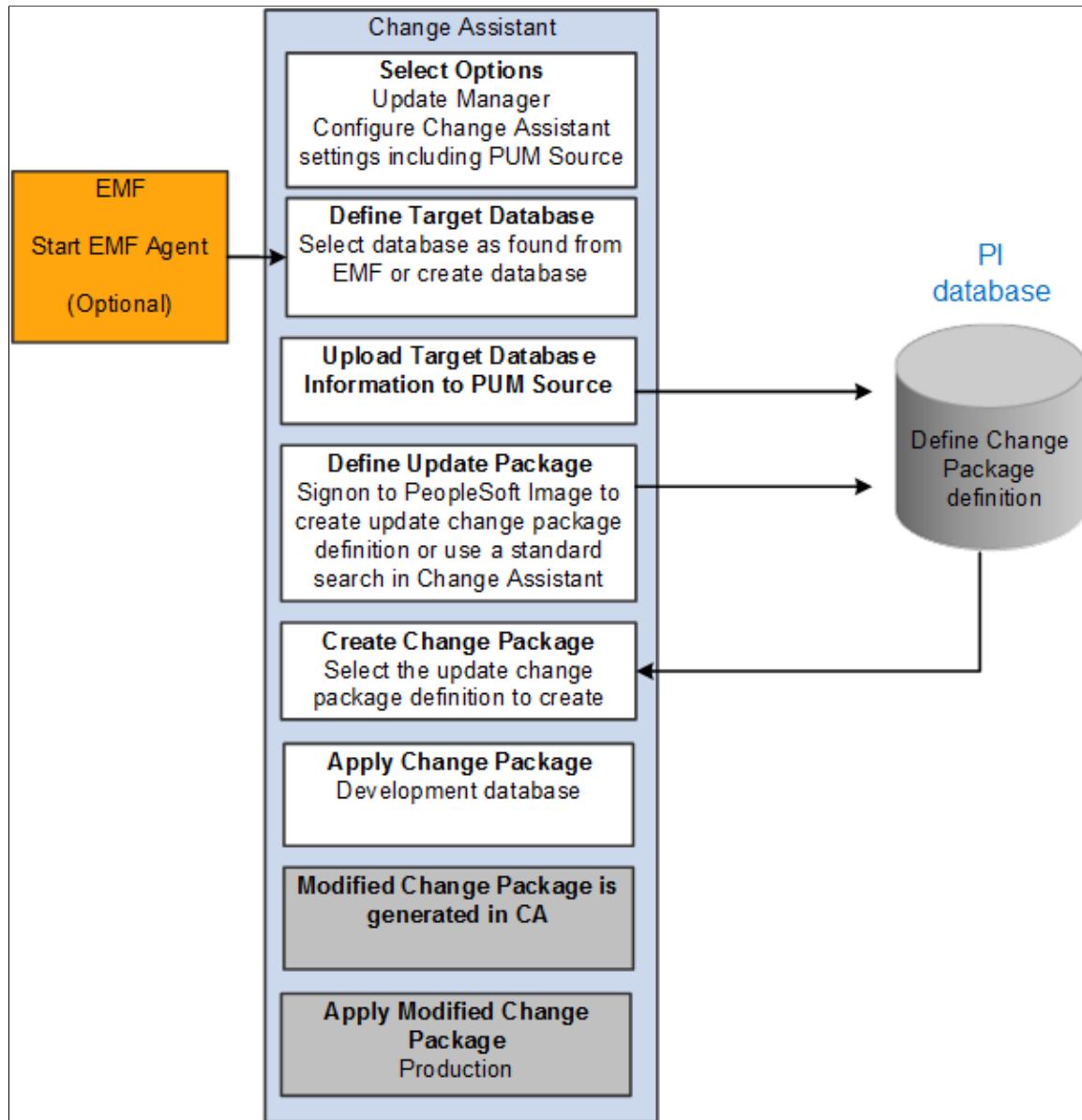
- Change Package Utilities
- Maintaining Test Repository

See [Update Manager Dashboard Overview](#)

- Change Packager

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

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 <i>Initial Pass</i> 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 <i>Subsequent Pass</i> or <i>Move to Production Pass</i> 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.
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:

Term	Definition
Source database	The source database is the database <i>from which</i> the new changes are coming.
Target database	The target database is the database <i>to which</i> 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.

Action	Databases and Paths Used
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.
Upgrade PeopleTools	Target database with path for current environment and a path for the new PeopleTools home.

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:

<i>Configuration Parameter</i>	<i>Description</i>	<i>Default Value</i>
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.

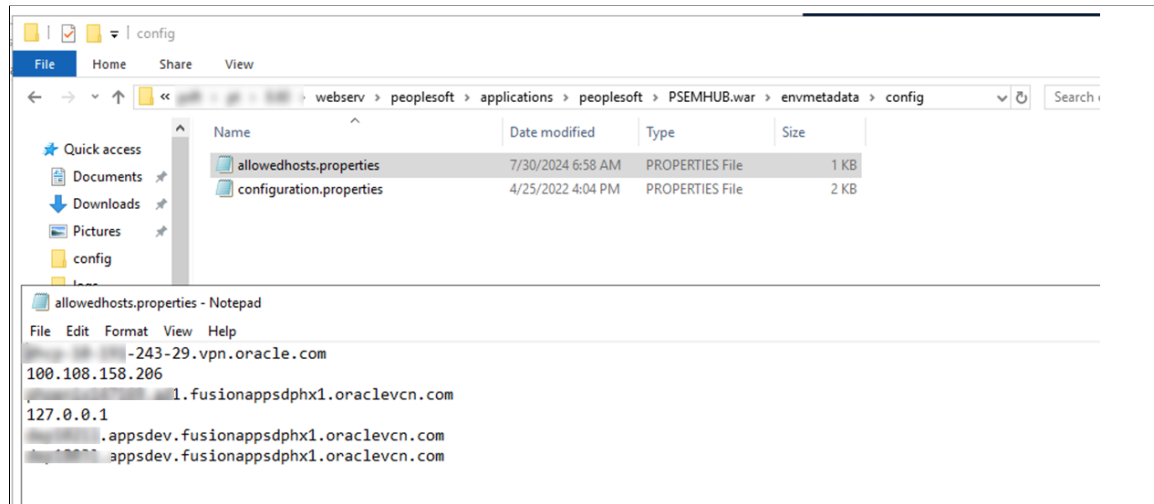
Hub Security Considerations

Environment Management framework supports HTTP and HTTPS connection.

If the EM Hub server uses the connection type HTTP or one-way SSL, then the client hostname or IP address need to be added to the allowedhost.properties file so that the client host is allowed to make a connection request.

The allowedhost.properties file is available in /webserv/peoplesoft/applications/peoplesoft/PSEMHUB.war/envmetadata/config/.

This example illustrates the sample `allowedhost.properties` file.



Note that the local host IP 127.0.0.1 is added by default to enable local PSEMAgent to ping EM Hub running on the same server. You can remove this IP if not required.

In the application log file, you will find logs that shows rejected connection requests from clients that are not added in the `allowedhost.properties` file. Use the information in the log file to resolve the connection issue.

Keystores and Truststores

A Keystore consists of a database containing a private key and an associated certificate, or an associated certificate chain. The certificate chain consists of the client certificate and one or more certification authority (CA) certificates.

A Truststore contains only the certificates trusted by the client (a “trust” store). These certificates are CA root certificates, that is, self-signed certificates.

For details on configuring keystore and truststore, refer “Implementing WebLogic SSL Keys and Certificates” (System and Server Administration).

For details on generating encrypted passwords, refer “Generating a Unique Encryption Key” (Security Administration)

Running the Environment Management Hub

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\websrv\domain\stopWebLogic.cmd* PSEMHUB on Windows and *PS_HOME/websrv/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).	<code>http://hostname:port/PSEMHUB/hub.</code>
agentport	A port that the agent uses for internal life cycle management.	5283.

Configuration Parameter	Description	Default Value
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).
SSL	Connects to EM Hub with HTTP or HTTPS connection. The options are: • None (Allowed List)- Lets to connect with HTTP connection. When you select this option, the keystore and truststore related fields will be disabled. • Server Certificates Only (Allowed List)- Lets to connect with one-way SSL. When this option is selected, keystore and keystore password fields are disabled. However, truststore related fields are enabled • Client and Server Certificate- Lets to connect with EM Hub using two-way SSL. When this option is selected, keystore and truststore related fields are enabled.	None (Allowed List)
Keystore	This is the path to keystore file.	NA

Configuration Parameter	Description	Default Value
Keystore password	The keystore password stored in the psvault file. The password is stored in the PSCipher format.	NA
Truststore	This is the path to truststore file.	NA
Truststore password	The password is stored in the PSCipher format.	NA
psvault	This is the psvault file location where the encrypted keystore and truststore passwords are stored.	NA

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`” (System and Server Administration)
- “Securing `PS_HOME` on UNIX” (System and Server Administration)
- “Securing `PS_HOME` on Windows” (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.

See [Starting an Agent in the Background on UNIX](#).

See [Starting an Agent With PSEMAgent Windows Service](#).

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.

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” (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.

<i>Argument</i>	<i>Description</i>	<i>Sample Output</i>
version	Returns the version of the agent.	Version:8.45 Build Number: 109

Argument	Description	Sample Output
shutdown	Shuts down a previous instance of the agent if it is running.	If the agent does not exist: <pre>Shutting down Agent.... Unable to detect a running agent... Instance does not exist</pre> If the agent exists: <pre>Shutting down Agent.... Shut down normally</pre>
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)
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/envmetadata/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:

- PeopleSoft Update Image DPK
See [Installing Change Assistant from PeopleSoft Update Image DPK](#)
- 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](#)

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 only supports a command line version of Change Assistant for Update Manager mode.

Linux is not supported for target databases that are below PeopleTools 8.57.17.

Installing Change Assistant from PeopleSoft Update Image DPK

Starting with PeopleTools 8.59, when you deploy the PeopleSoft Update Image from the DPK, Change Assistant will be installed and configured for the PUM Source. The installation will create folders for staging, output, and download directories. The Image and REST credentials are also updated in the PUM database.

Note: This Change Assistant installation is for the exclusive use of PUM Automated Updates and should not be used for any other purpose.

See *PeopleSoft Deployment Packages for Update Images Installation* for the current PeopleSoft PeopleTools release.

See [Setting Credentials for Automation](#).

Installing Change Assistant from PeopleTools Client DPK

PeopleTools Client deployment is documented in *PeopleSoft PeopleTools 8.5x 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\PeopleSoft\Change Assistant:

```
Please specify the directory to install Change Assistant [C:\Program Files\PeopleSoft\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 8.5x)*, 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.

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

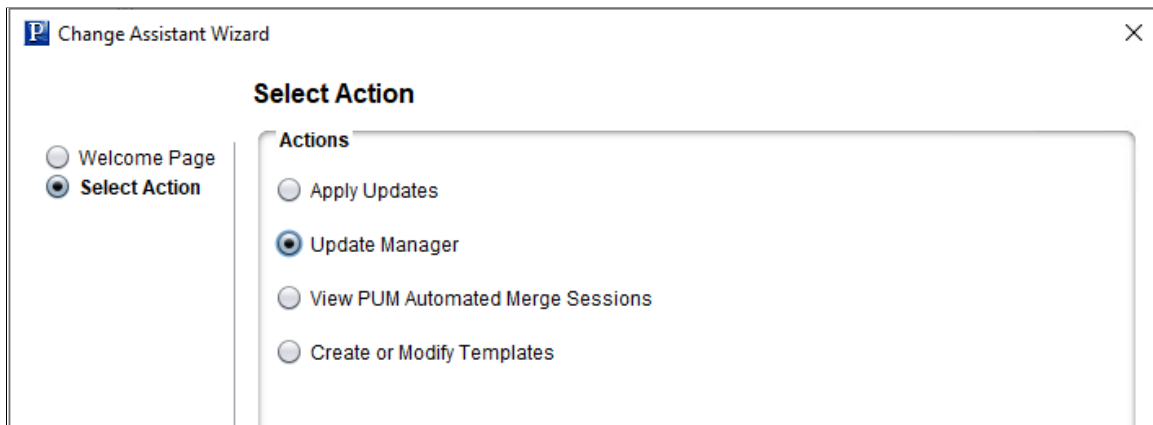
[Cloned Databases Not Being Unique](#)

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.

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.

Field or Control	Description
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 <i>Required For Install</i> 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

Field or Control	Description
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.
Merge Select Object Types	Select this option to review the merge session details that were created as part of the change package apply.

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 check box 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.

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.

Database Wizard

Task Steps

Define Database

Define Database

Type:Oracle

Database Name:H92CD01C

User Information

User ID:PSUser Password:**

Access ID:emdboAccess Password:*****

Connect ID:peopleConnect Password:*****

☐ Set DB Owner Credentials

DBOwner ID:DBOwner Password:

SQL Client Tool:C:\psft\db\oracle-server\12.1.0.2\BIN\sqlplus.exe

Current Homes

PS Home:C:\PT8.56.10_Client_ORA\

PS App Home:C:\HR92

PS Cust Home:C:\customdirectory

SQR Settings

SQR Executables (SQRBIN)<PS_Home>\bin\sqr\<plat>\binw

SQR Flags (PSSQRFLAGS)-ZIFC:\PT8.56.10_Client_ORA\sqr\pssqr.ini

PSSQR Path<StagingDir>sqr;<Cust_Home>sqr;<App_Home>sqr;<PS_Home>sqr

☐ Configure New Homes for Upgrade

☐ Configure Process Scheduler for Upgrade

☐ Configure PeopleSoft Test Framework

BackNextFinishCancel

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

Field or Control	Description
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.

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Field or Control	Description
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 <i>not</i> a PeopleSoft user ID, such as <i>VP1</i> or <i>PS</i>. Examples of access IDs are <i>sa</i> or <i>sysadm</i>. 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” (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 <i>Set DB Owner Credentials</i> 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.

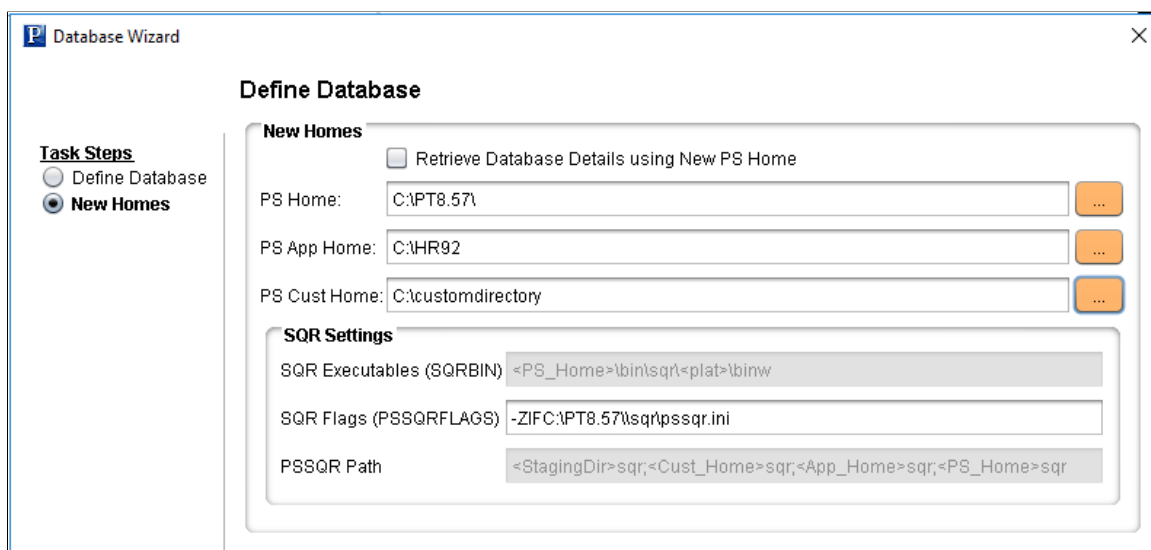
Field or Control	Description
SQL Client Tool	Select the correct executable for the database platform. Valid SQL query executables for each platform are: • DB2: db2cmd.exe • Microsoft SQL Server: sqlcmd.exe • Oracle: sqlplus.exe Note: Change Assistant uses the command line version of the .exe, not the 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 path names 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.

Field or Control	Description
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 a PeopleTools 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.

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.



Field or Control	Description
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.

Field or Control	Description
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.

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

Field or Control	Description
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 (PSPRCSSRV.EXE and so on).
JSL Port	Enter the domain's JSL port (listener port).

Field or Control	Description
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. • File Copy: Select if Process Scheduler is running on a Windows or Linux server. Users needs to map a Windows or NFS share path as a network drive. To copy log files when using Process Scheduler on Linux server: 1. Install NFS share on Linux. 2. Set up NFS share for Log/output directory. 3. Map the shared folder on your Windows machine as a network drive. Note: If the network drive is protected, Windows prompts for user ID and password before mapping. 4. Add this mapped folder path as Log/output Directory while adding database to Change Assistant in Process Scheduler settings. Otherwise, you can directly download log files from Process Monitor on the PIA page. If running Change Assistant on Linux, user must mount the NFS share to a local path and configure the same in Change Assistant database definition. 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.

<i>Field or Control</i>	<i>Description</i>
Log/output Directory	Applies to File Copy. Enter the path to where the Process Scheduler logs are located on the server. This is the (mapped) path on the Change Assistant workstation.

Specifying PeopleSoft Test Framework Settings

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

<i>Field or Control</i>	<i>Description</i>
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: <pre><machine_name>:<https_port></pre> For example: <pre>rtdc79614.example.com:443</pre> If the https port is the default 443 the port is optional. You can also enter a complete https URL in this format: <pre>https://<machine_name>:<https_port>/PSIGW/HttpListeningConnector</pre> For example: <pre>https://rtdc79614.example.com:443/PSIGW/HttpListeningConnector</pre>
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.

<i>Field or Control</i>	<i>Description</i>
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.

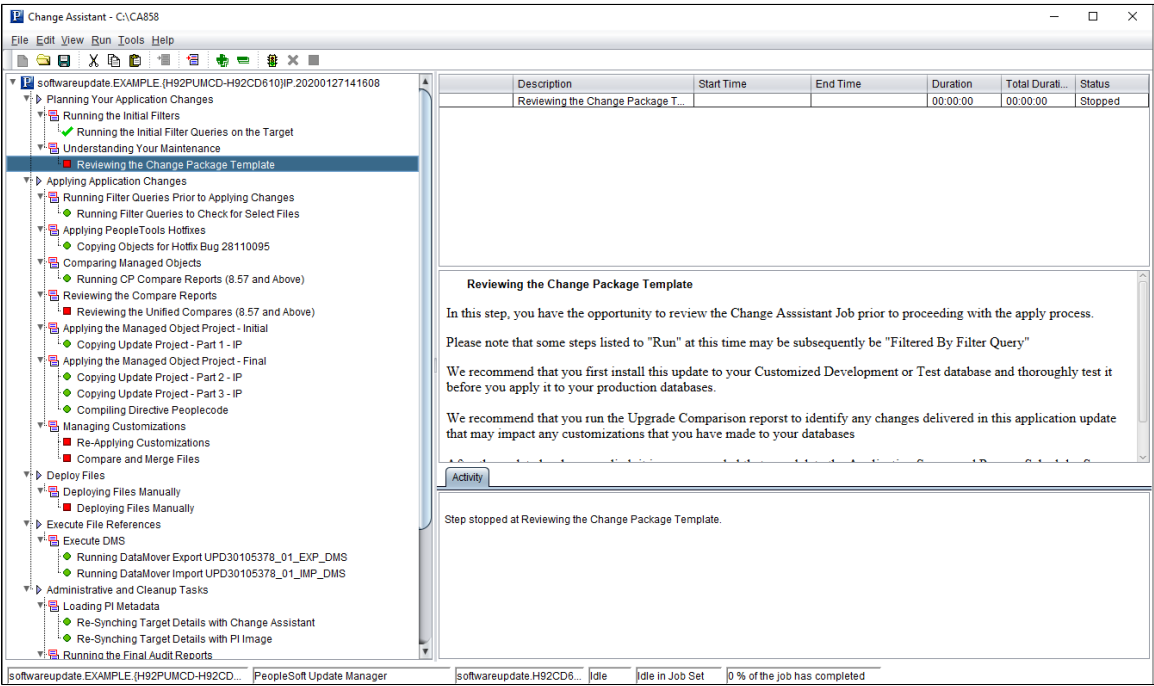
Change Assistant enables you to:

- 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.

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.
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).
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.

Menu Option	Description
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 <i>PS_HOME</i> 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 force stop the process (select Run, Force Stop). When you relaunch Change Assistant you can resume at the point where you force stopped 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.

Menu Option	Description
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 <i>logfile_2</i>, <i>logfile 3</i>, 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.
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.

Menu Option	Description
Cancel	Stops the processing of a Change Assistant job <i>after</i> the currently running process completes.
Kill	Stops the processing of a Change Assistant job completely and immediately, <i>including</i> 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 Image	Enabled when action type is Update Manager. Uploads the target database information to the PUM source.
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
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

Menu Option	Description
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
Apply Required for Upgrade Package	Enabled when action type is Update Manager. See Defining an Upgrade Package
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.

Menu Option	Description
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
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 View PUM Automated Merge Sessions. Allows you to delete the merge session data and the corresponding merged objects. For more details, refer to Retaining Object Merge Data Session in Enabling PUM Automated Merge.
Scan Configuration	Enabled when action type is Apply Updates. 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 [Constructing Command Lines for Configuring Change Assistant](#).

- 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

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

Export&Import Settings Wizard

Export/Import

☒ Export/Import

☒ Export

Export Settings

Export to: C:\Settings\casettings.zip

☐ Import

Import Settings

☒ Import from other Change Assistant installation

Change Assistant Directory:

☐ Import from configuration backup

Settings Backup Directory:

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.

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&Import Settings Wizard

Select Details

☐ Export/Import
☒ **Select Details**

Details

Options

☒ Export existing settings(option, layout, merge color and font, etc)

☒ Database Definitions

	Database	Tools Version
☒	T1B85707	8.57
☒	T1C85801	8.57

Field or Control	Description
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.

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

Export&Import Settings Wizard

Export/Import Status

☐ Export/Import
☐ Select Details
☒ **Status**

Status

Exporting is done, The exported configuration backup file is created successfully:
C:\PUM\Output\casettings.zip

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

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

Export&Import Settings Wizard

Export/Import

☒ Export/Import

☐ Export

Export Settings

Export to: ...

☒ Import

Import Settings

☒ Import from other Change Assistant installation

Change Assistant Directory: ...

☐ Import from configuration backup

Settings Backup Directory: ...

▼

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.

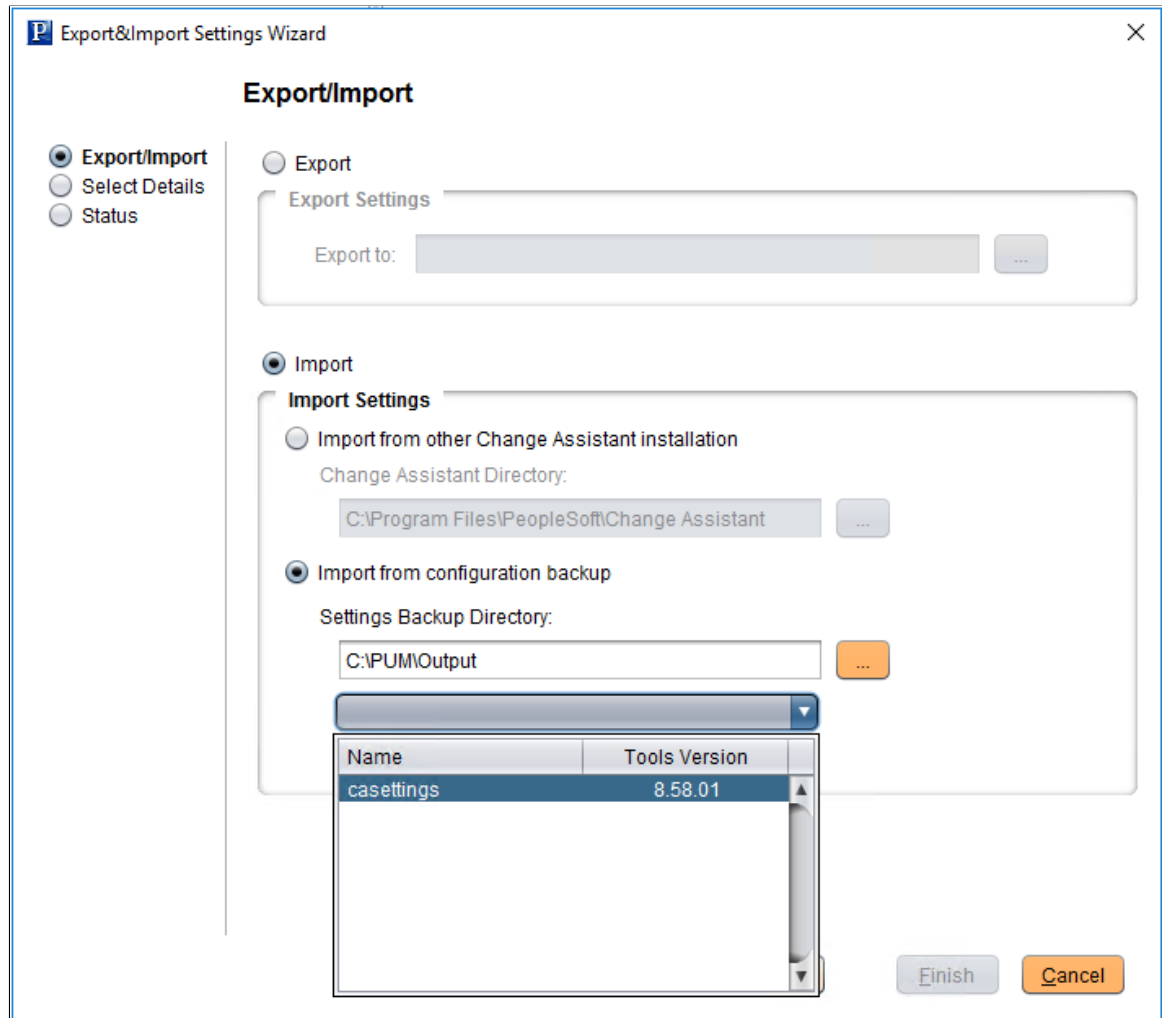
This example illustrates the fields and controls on the Import from other Change Assistant Installation option.

The screenshot shows the 'Export/Import Settings Wizard' dialog box. The title bar includes a 'P' icon and the text 'Export&Import Settings Wizard'. The dialog has a close button (X) in the top right corner. The main title is 'Export/Import'. On the left, there is a sidebar with two radio buttons: 'Export/Import' (selected) and 'Export'. The main area is divided into two sections: 'Export Settings' and 'Import Settings'. The 'Export Settings' section has a radio button for 'Export' and a text field labeled 'Export to:' with a browse button (...). The 'Import Settings' section has a radio button for 'Import' (selected) and two options: 'Import from other Change Assistant installation' (selected) and 'Import from configuration backup'. The 'Import from other Change Assistant installation' option has a text field labeled 'Change Assistant Directory:' with the path 'C:\Program Files\PeopleSoft\Change Assistant' and a browse button (...). The 'Import from configuration backup' option has a text field labeled 'Settings Backup Directory:' with a browse button (...).

- Import from configuration backup

Select the directory and file.

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 exist 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.

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.

Export&Import Settings Wizard

Select Details

☐ Export/Import
☒ **Select Details**

Details

Options

☒ Overwrite existing settings(option, layout, merge color and font, etc)

☒ Database Definitions

	Database	Definition exists
☒	T1B85707	no
☒	T1C85801	no

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

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

Export&Import Settings Wizard

Export/Import Status

☐ Export/Import
☐ Select Details
☒ **Status**

Status

Validating Options...
Validating Options... Done

Validating Database...
- Validating T1C85801...done.
Validating Database... Done

Importing Options...
Importing Options... Done

Importing Database...
-Importing T1C85801... Done
Importing Database... Done

Importing is done, it is recommended to review the Options and Database definitions before using.

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.

- Merge Repository and PUM Automated Updates

Exporting PUM Data from Current PUM Source

To export PUM data on the current PUM source:

1. From the Change Assistant menu, select Tools, Options, PUM Source.

Alternatively, select Tools, Change Actions, Update Manager, PUM Source .

2. Click Manage for Migrate Customer Data.
3. Select Export PUM(User) Metadata From Existing PUM Source.
4. Select the current PUM database.
5. Select the metadata to export.

See [Using PUM Data Migration Page](#)

6. 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.

7. Deselect Import PUM(User) Metadata to New PUM Source.
8. Click Import/Export.

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

9. 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 Tools, Options, PUM Source.
3. Click Manage for Migrate Customer Data.
4. Deselect Export PUM(User) Metadata From Existing PUM Source.
5. Select Import PUM(User) Metadata to New PUM Source.
6. Either select the new PUM Source database or click the Create button to open the Define Database Wizard and define the database.
7. Select the metadata to export.

See [Using PUM Data Migration Page](#)

8. Select whether to overwrite existing data or ignore duplicates.
9. Select Specify.
10. In the Import From field select the path and file for the DAT file exported from the old PUM Source.
11. 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, Options, PUM Source tab, then click Manage for Migrate Customer Data.

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.

PUM Data Migration

PUM(User) Metadata from Existing PUM Source

☒ Export PUM(User) Metadata from existing PUM Source

H92PUMCD Create

Data Type

☒ Customization Repository ☒ Merge Repository

☒ Test Repository ☒ PUM Automated Updates

☒ Package Definitions

Export To: ...

☒ Import PUM(User) Metadata to New PUM Source

H92PUM01 Create

Data Type

☒ Customization Repository ☒ Merge Repository

☒ Test Repository ☒ PUM Automated Updates

☒ Package Definitions

☒ Overwrite if exists ☐ Ignore duplicate

File Type

☒ Same As Export ☐ Specify

Import From: ...

Import / Export Cancel

Field or Control	Description
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.
Customization Repository	Select to export the customization repository.
Test Repository	Select to export the test repository.
Package Definitions	Select to export change package definitions.
Merge Repository	Select to export Merge Repository. You can also export merge session history tables to maintain different versions of customization object in the merge repository. Refer to Retaining Object Merge Data and Session in Enabling PUM Automated Merge.
PUM Automated Updates	Select to export PUM Automated Update settings and jobs. Note: Only applies to PUM Images on PeopleTools 8.59 and above.
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.
Customization Repository	Select to import customization repository.
Test Repository	Select to import test repository.
Package Definition	Select to import change package definitions.

Field or Control	Description
Merge Repository	Select to import Merge Repository. You can also import merge session history table to maintain different versions of customization object in the merge repository. Refer to Retaining Object Merge Data and Session in Enabling PUM Automated Merge .
PUM Automated Updates	Select to import PUM automated update settings and jobs.
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.

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.

Change Assistant Action	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.

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 Properties [X]

Step Definition | Filter Queries

Step Description: Copying Update Project - Part 1 - IP

Script/Procedure: PKG21

Type: CopyFromFile [v] **Upgrade**

Parameters: #PROJECT=PKG2

From Tools Release: [=] [v] All

Run Location: Local [v] Products: [...] All

Orientation: Target [v] Platforms: [...] All

Languages: [...] All

Apply Type:

- ☒ Initial Pass
- ☐ Subsequent Pass
- ☐ Move To Production

Allow for Errors:

- ☐ Yes
- ☒ No

Run Concurrently:

- ☐ Yes
- ☒ No

OK **Cancel**

Term	Definition
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 <i>SYSAUDIT</i>. 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 <i>SQRReport</i>. Detailed information related to each step type appears elsewhere in this PeopleBook. See Step Types

Term	Definition
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 from the drop-down list box to indicate ranges of releases. The default values are <i>All</i> with the = operator. The operator drop-down list box enables you to express greater than, less than, equal to, and 'in' relationships. The <i>in</i> 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: <i>8.48,8.49</i> 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: • <i>Source</i> • <i>Target</i> • <i>Copy of Current Demo</i> • <i>Production</i> • <i>Not Applicable</i> Step type and type of upgrade determine valid orientation settings. See Source and Target Databases.

Term	Definition
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: • <i>Initial Pass</i>: refers to the initial application of a change package a target database. • <i>Subsequent Pass</i> refers to any passes to additional target databases before moving to production. • <i>Move to Production</i>: 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 <i>Move to Production</i> 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 <i>Yes</i>, if the step encounters errors the system does not perform any error handling and continues on to the next step. Default is set to <i>No</i>.

Term	Definition
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 <i>No</i>. • a step type of <i>Manual Stop</i>. • the Maximum Concurrent Processes value, as set on the Change Assistant Options dialog box. By setting Run Concurrently to <i>Yes</i>, 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

Term	Definition
	• 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.

Term	Definition
	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:

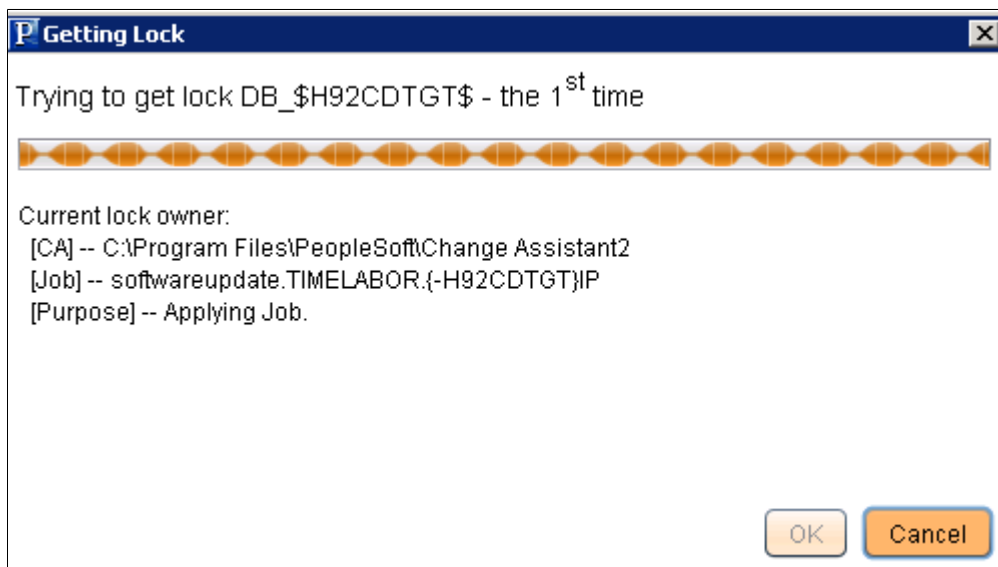
Term	Definition
 Run	Indicates that Change Assistant runs this step or process automatically without manual intervention.
 Stop	Indicates that Change Assistant stops on this process. It also indicates that there may be manual steps to perform for this step. Review the documentation window for further instructions. After completing the work described in a manual step, you must set the status to <i>Complete</i> .
 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.

Term	Definition
 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.

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.

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.

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.

The screenshot shows the 'Step Properties' dialog box with the 'Step Definition' tab selected. The fields and controls are as follows:

- Step Description:** Running the Initial Filter Queries on the Target
- Script/Procedure:** Filter0001
- Type:** FilterQuery (dropdown menu)
- Define Filter Queries:** Button
- Parameters:** Empty text area
- From Tools Release:** = (dropdown) All (text field)
- Run Location:** Local (dropdown)
- Products:** ... All (text field)
- Orientation:** Target (dropdown)
- Platforms:** ... All (text field)
- Languages:** ... All (text field)
- Apply Type:**
 - ☒ Initial Pass
 - ☒ Subsequent Pass
 - ☒ Move To Production
- Allow for Errors:**
 - ☐ Yes
 - ☒ No
- Run Concurrently:**
 - ☐ Yes
 - ☒ No
- OK** and **Cancel** buttons at the bottom right.

Field or Control	Description
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.

Field or Control	Description
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.

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 Definition

Filter ID:

Database is PeopleTools 8.55.23 or Greater

Description:

used to verify whether Database is on PT855 Patch Level 23 or greater.

☐ System Query

Source Platform = Target Platform

Filename

Filter If True

☒ User Defined

Query Definition:

SELECT COUNT(*) FROM PS_MAINTENANCE_LOG WHERE RELEASELABEL like 'PeopleTools 8.55%' and RELEASELABEL >= 'PeopleTools 8.55.23';

Numeric

>=

1

Field or Control	Description
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.

Field or Control	Description
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.

Field or Control	Description
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 <i>Filter if True Value</i> 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:

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

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 Properties

Step Definition

Filter Queries

Step will be filtered if:

☒ All Filter Queries listed Return True Values

☐ One Filter Query listed Returns True Value

Filter Name	Filter Identifier	Description
Filter0001	EM Hub is Not Enabled	Filter if EM Hub is Not Enabled

Field or Control	Description
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 be 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.

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
- LANGINSTALL = Install language(s) on PUM Source

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 -TGTEHV <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
-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

Parameter	Description
-CS	Database Server Name (Optional)
-OID	Owner ID (Optional)
-UDI	Unicode (Required) - Y = Yes - N = No
-CO	User ID (Required)
-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 <i>all</i> , a single or multiple products. For example: -INP all -INP FMA -INP FMA.REA,SMA

<i>Parameter</i>	<i>Description</i>
-PL	Product Line (Optional)
-IND	Industry (Required) Specify either <i>all</i> , or a specific industry. For example: • -IND all • -IND Commercial
-INL	Languages (Required) Specify either <i>all</i> , or a specific languages. For example: • -INL all • -INL ENG,FRA
-INBL	Base language (Required)
-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)

Parameter	Description
-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 concurrent 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> -SSL <Y or N> -KEYSTORE <path to KeyStore file> -KEYSTOREPWD =><keystore password> -TRUSTSTORE <path to TrustStore file> -TRUSTSTOREPWD <truststor=>e password> -EMC <chunck size> -EMPING <ping interval> -EMDRV <drives to crawl> -SR=>CYN <Y or N> -SRCENV <PUMsource database name> -PUH <PUM PS Home> -PIA <PUM 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

Parameter	Description
-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)
-PSH	PS Home (Optional)
-PAH	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)
-SSL	Connect to EM Hub with HTTP or HTTPS connection. SSL options are: - None (Allowed List) (Default) - Server Certificates Only (Allowed List) - Client and Server Certificate
-KEYSTORE	The path to keystore file
-KEYSTOREPWD	The keystore password stored in psvault file
-TRUSTSTORE	The path to truststore file
-TRUSTSTOREPWD	The truststore password stored in psvault file
-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)

Parameter	Description
-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:

<i>Parameter</i>	<i>Description</i>
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) UPLDTGT = Upload target database
-TGTEENV	Target database (Required)
-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

Constructing Command Line to Install Languages

Use the LANGINSTALL action to install languages in the PUM Source. The following command formats are available:

- Command line format to install languages that exist on a selected target environment.

```
Changeassistant.bat -MODE UM -ACTION LANGINSTALL -TGTEENV <Target Env>
```

- Command line format to install selected languages.

```
Changeassistant.bat -MODE UM -ACTION LANGINSTALL -LANG <Language codes comma s⇒  
eparated>
```

Parameter	Description
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) LANGINSTALL = Install language
-TGTEENV	Target environment
-LANG	Language code For multiple languages, use commas to separate the codes. For example: -LANG ESP,FRA

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.

This command includes ability to enable or disable object merge.

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> -DATATYPE <ty⇒
```



```
pe> -DATATYPE <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)
-DATATYPE	The definition type to export. There are 5 type definitions: Package Definitions, Customization Repository, Test Repository, Merge Repository, and PUM Automated Updates. (Optional) • ALL = Select all the types. (default) • PKGDEFN = Export package definitions. • CUSTRPST = Export customization repository • TESTRPST = Export test repository • MERGERPST = Export merge repository. • PAU = Export PUM automated updates. 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 customer data from the selected data file to the new PUM source Database.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION IMPCUSTDATA -NEWSRCENV <new PUM DB> -DATATYPE =>
<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
-NEWSRCENV	Name of the new PUM source Database. (Required)
-DATATYPE	The definition type to export. There are 5 type definitions: Package Definitions, Customization Repository, Test Repository, Merge Repository, and PUM Automated Updates. (Optional) • ALL = Select all the types. (default) • PKGDEFN = Export package definitions. • CUSTRPST = Export customization repository • TESTRPST = Export test repository • MERGERPST = Export merge repository. • PAU = Export PUM automated updates. 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.

Parameter	Description
- 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 upload customer data to the PUM source Database. This action is also used to enable or disable Object Merge.

Command line format:

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -RPSTTYPE <CUST|TEST> -PRJTYPE <M=>
O|ADS> -PRJFROMDB <DB:project> -MRGOPT <Y|N> -PRJFROMFILE <file name> -NEWPRJ <DB:p=>
roject> -REPLACE <Y|N> -ERRORCONTINUE <Y|N>
```

or

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

Example command line to upload customization project from H9257P08 database project TEST_AE_PC.

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -RPSTTYPE CUST -PRJTYPE MO -PRJFR=>
OMDB H9257P08:TEST_AE_PC -REPLACE Y
```

Example command line to upload customization project from H9257P08 database project TEST_AE_PC and enable object merge.

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -RPSTTYPE CUST -PRJTYPE MO -PRJFR=>
OMDB H9257P08:TEST_AE_PC -REPLACE Y -MRGOPT Y
```

Note: This command first updates the merge option in PUM Source database and then uploads the project.

Example command line to enable object merge.

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -MRGOPT Y
```

Example command line to disable object merge.

```
Changeassistant.bat -MODE UM -ACTION UPLDCUSTDATA -MRGOPT N
```

The parameters for UPLDCUSTDATA action are:

<i>Parameter</i>	<i>Description</i>
-MODE	Change Assistant Action (Required) UM = Update Manager
-ACTION	Action name (Required) UPLDCUSTDATA = Upload customer metadata and test data.
-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.
-MRGOPT	Enable Object Merge (Optional) • Y = Enable object merge. • N = Disable object merge.
-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. This option can't be used with -MRGOPT.
-NEWPRJ	Create new database project Example: -NEWPRJ DB1:custprj1

<i>Parameter</i>	<i>Description</i>
-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
-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

- 4 = Job completed with warnings

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.*

Note: From 8.60, you can create and apply change packages from separate jobs. Earlier defining, creating, and applying change package was executed consecutively in change assistant command line mode in a single job.

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 -TGTEENV<TARGET ENVIRONMENT> -UPD <change package> -SEARCHNAME <SYSTEM SEARCH NAME OR CUSTOMER SEARCH NAME> -PKGDESC <PACKAGE 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
-TGTEENV	Target environment (Required) Example: -TGTEENV H92CD540
-UPD	Update ID of change package. (Required)] Example: -UPD 11111
-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
-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 -TGTEENV <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 -TGTEHV HC920001 - UPD PKG1
```

In this example the target database is named HC920001 and 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
-TGTEHV	Target database
-UPD	The Change Package to apply. (Required) Specify either <i>all</i> , 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)

Parameter	Description
-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)
-RESUMEJOB	Specify the parameter value: - COMPLETECONTINUE To mark the first failed step or manual stop step to status COMPLETED MANUALLY 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. - WARNINGSREVIEWED To retrieve and review the job which stopped with warnings, and then set to status COMPLETED MANUALLY. This is similar to COMPLETECONTINUE resume option.

<i>Parameter</i>	<i>Description</i>
-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> -RESETJOB <Y or N>
```

or

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

3. You can re-apply PRPs using the REPLACE parameter.

If the REPLACE parameter is set to N, then from the given list of PRPs, the PRPs that you applied previously will not be reapplied. Only the PRPs that are not yet applied will be applied in the current run.

This is an example of re-applying PRPs when the REPLACE parameter is N:

```
Changeassistant.bat -MODE UM -ACTION PRPAPPLY -UPD PRJ34526338_I45;PRJ345134⇒
```

```
63_I45;PRJ34526732_I45;PRJ34513987_I45 -EXONERR Y -REPLACE N
```

In this example, you want to re-apply the change packages
PRJ34526338_I45;PRJ34513463_I45;PRJ34526732_I45;PRJ34513987_I45.

The command line log displays:

```
REPLACE parameter is not set. Already applied PRPs will not be re-applied.
```

If the REPLACE parameter is set to Y, then Change Assistant needs to apply all the PRPs from the given list.

This is an example of re-applying PRPs when REPLACE parameter is Y:

```
Changeassistant.bat -MODE UM -ACTION PRPAPPLY -UPD PRJ34526338_I45;PRJ345134⇒  
63_I45;PRJ34526732_I45;PRJ34513987_I45  
-EXONERR Y -REPLACE Y
```

The command line log displays:

```
REPLACE parameter is set. Applied PRPs will be re-applied on PUM source.
```

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

<i>Parameter</i>	<i>Description</i>
-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
-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 -TGTEENV <target database> -UPD <change 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
-TGTEENV	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)
-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 -TGTEENV <target database> -UPD <change 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
-TGTEENV	Target environment (Required)
-UPD	Update ID of change package. (Required)] Example: -UPD PTU854
-OUT	Path to log file. (Optional)
-WARNINGOK	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 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 -TGTEENV <target database> -UPD <change 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
-ACTION	Action name (Required) UPGAPPLY=Apply PTU
-TGTEENV	Target environment (Required)
-UPGSRC	Upgrade source environment (Required)

Parameter	Description
-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 <hostname>#c:\pt8.53-102-r1 • -FS <hostname>#c:\pt8.53-102-r1; <hostname>#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 -TGTEHV <target database> -UPD <change 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 -TGTEHV HC920001 - UPD PKG1
```

In this example the target database is named HC920001 and 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
-TGTEENV	Target database (Required) Optional if TYPE is IPSRC
-UPD	The Change Package to apply. (Required) Specify either <i>all</i> , 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 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 -TGTEENV <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 -TGTEHV HC920001 - UPD PKG1
```

In this example the target database is named HC920001 and 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
-TGTEHV	Target database (Required) Optional if TYPE is IPSRC
-UPD	The Change Package to apply. (Required) Specify either <i>all</i> , 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

Parameter	Description
-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)
-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
-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 -TGTEENV <target database> -UPD <change 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 -TGTEENV HC920001 - UPD PKG1
```

In this example the target database is named HC920001 and 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
-TGTEENV	Target database (Required) Optional if TYPE is IPSRC

Parameter	Description
-UPD	The Change Package to apply. (Required) Specify either <i>all</i> , 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

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 <i>all</i> , a single or multiple Change Packages to apply to the specified environment. For example: • -UPD all • -UPD PKG1 • -UPD PKG1,upd222222
-FS	File Server path to apply the Change Package to the specific environment. (Required) Select either <i>all</i> 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)

Parameter	Description
-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

Constructing Command Line to View and Delete Merge Sessions

You can view active merge session details and delete the specified merge session along with the written back version of objects.

This section discusses how to:

- View merge sessions.
- Delete merge sessions.

View Merge Sessions

You can list or view merge sessions of a configured PUM source database or a specific database environment.

View Merge Sessions of Configured PUM Source

The GETMRGSESSN action lets you to list or view the merge sessions of all the configured PUM source databases.

Command line format:

```
-MODE UM -ACTION GETMRGSESSN
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION GETMRGSESSN
```

<i>Parameter</i>	<i>Description</i>
-MODE	Change Assistant mode (Required) UM
-ACTION	Change Assistant action (Required) GETMRGSESSN = Get Merge Session

View Merge Sessions of Specified Database Environment

When you provide database name along with the GETMRGSESSN action in the command line, Change Assistant lists all the merge sessions of the specified database.

Command line format:

```
MODE UM -ACTION GETMRGSESSN -ENV <DATABASE_NAME>
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION GETMRGSESSN -ENV H92143SR
```

<i>Parameter</i>	<i>Description</i>
-MODE	Change Assistant mode (Required) UM
-ACTION	Change Assistant action (Required) GETMRGSESSN = Get Merge Session
-ENV	Specify the database.

Delete Merge Session

You can delete merge sessions from configured PUM source and any specific database.

Delete Merge Session from Configured PUM Source

The DELMRGSESSN action lets you to delete merge sessions of the configured PUM source database.

Command line format:

```
-MODE UM -ACTION DELMRGSESSN -SESSION <SESSION_NAME>
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION DELMRGSESSN -SESSION MRGOBJSQL
```

Change Assistant queries with the session name and deletes the merge session.

<i>Parameter</i>	<i>Description</i>
-MODE	Change Assistant mode (Required) UM
-ACTION	Change Assistant action (Required) DELMRGSESSN = Delete Merge Session
-SESSION	Merge session name.

Delete Merge Session from Specified Environment

You can delete merge session from a specific database. When you provide session name and database name, Change Assistant queries for the session in the specified database environment and deletes the session.

Command line format:

```
-MODE UM -ACTION DELMRGSESSN -ENV <DATABASE_NAME> -SESSION <SESSION_NAME>
```

Example command line:

```
Changeassistant.bat -MODE UM -ACTION DELMRGSESSN -ENV H92143SR -SESSION MRGOBJSQL
```

<i>Parameter</i>	<i>Description</i>
-MODE	Change Assistant mode (Required) UM

Parameter	Description
-ACTION	Change Assistant action (Required) DELMRGSESSN = Delete Merge Session
-ENV	Specify the database.
-SESSION	Merge session name.

Note that DELMRGSESSN and GETMRGSESSN throws error code 1, if:

- no PUM source is configured.
- the specified merge session does not exists.
- the specified database is a lower version than PeopleTools 8.60.

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=PTRN
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
```


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). The DPK downloads are available in the following versions:

- 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.

- VirtualBox

This download to deploy the PeopleSoft Update Image using a VirtualBox Virtual Machine.

Note: You can use PeopleSoft Cloud Manager to automate the creation of PUM source environments and the configuration of target databases. Oracle recommends Cloud Manager as an alternative to VirtualBox to deploy your PUM source environment.

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 Image](#) and [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 Manager 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 applying 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 actions:

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*.

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](#)

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.

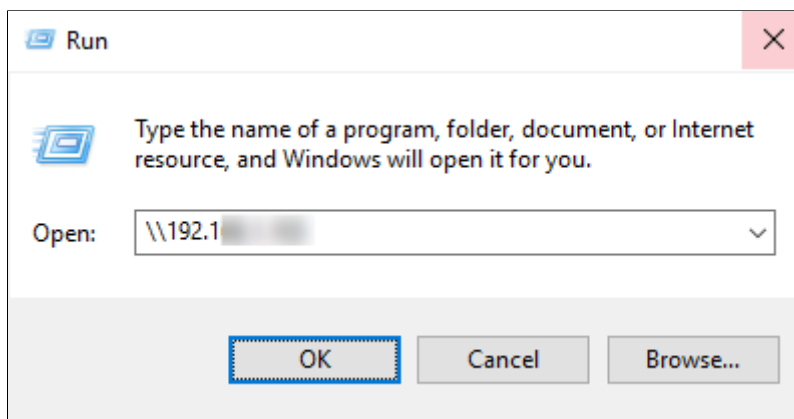
- Change Assistant installed from the *PS_HOME* directory for the PeopleSoft Update Image on the Microsoft Windows client. However if the target database is at a higher release level than the PeopleSoft Image, then the latest tools version must be used to install Change Assistant. For example, the customer 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.

This example illustrates the fields and controls on the Microsoft Windows Run dialog box with IP address.



The shared drive includes 3 folders:

The *<product>_pi_home* folder contains all files needed for patching.

The *<product>_app_home* folder contains the application home for the PUM source.

The tools-client folder includes the following:

- client-858

The client-858 folder includes a Readme file, a manifest with version information, archives, and scripts for deployment of the PeopleSoft PeopleTools 8.58 client home folder.

- client-859

The client-859 folder includes a Readme file, a manifest with version information, archives, and scripts for deployment of the PeopleSoft PeopleTools 8.59 client home folder.

- client-860

The client-860 folder includes a Readme file, a manifest with version information, archives, and scripts for deployment of the PeopleSoft PeopleTools 8.60 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 19c 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 *PeopleSoft PeopleTools Deployment Packages Installation*.

The script uses the information you supplied and carries out the following validations and deployments:

- Oracle 19c database client for the Update Image source database (PI). The setup process determines whether a 64-bit Oracle 19c database client is present on the Microsoft Windows client machine for connectivity to the source database. If not, the setup process installs it.
- PeopleSoft PeopleTool 8.59 and 8.60 require 64-bit Oracle 19c. PeopleSoft PeopleTools 8.58, 8.57, 8.56, 8.55, and 8.54 require a 64-bit Oracle 12c Database Client installation. PeopleSoft PeopleTools 8.53 requires the 32-bit Oracle 12c database client.
- 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 8.58.03.

- 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 8.57.14.
- 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 tnsnames 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 tnsnames.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.

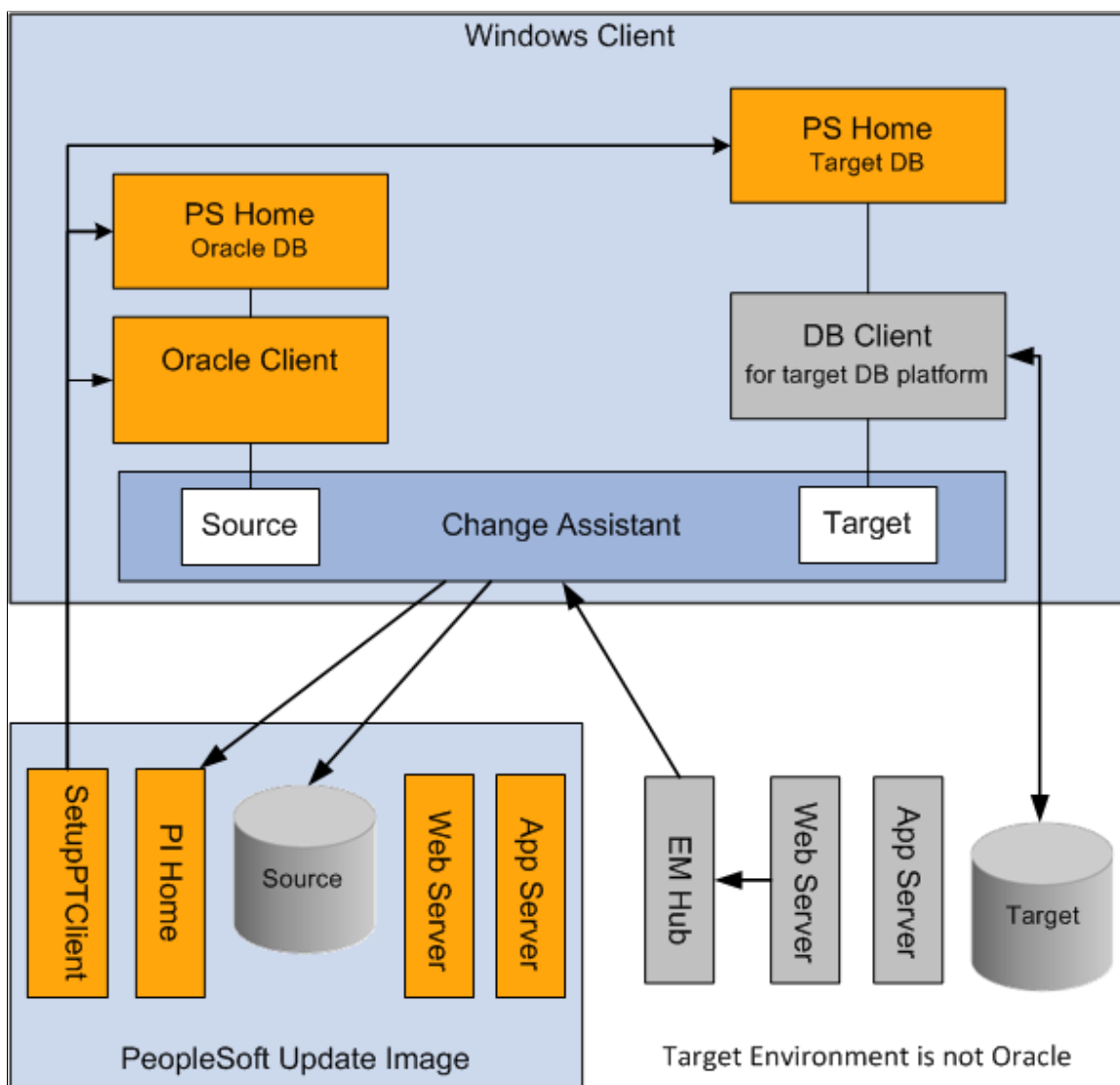
Microsoft Windows Client Configuration

This table describes the Microsoft Windows client installs and when it needs to be installed.

<i>Microsoft Windows Client machine install</i>	<i>When you need this install</i>
Oracle database 64-bit client	Always install for PUM source.

<i>Microsoft Windows Client machine install</i>	<i>When you need this install</i>
Enter the tnsnames entry into the tnsnames.ora file	Always enter tnsnames entry for PUM source database. If target database is on Oracle enter the tnsnames entry for the target database.
PeopleTools 8.60 client	Always install for PUM source.
PeopleTools 8.53 through 8.58	Install the PeopleTools client that matches the target environment. Note: If your target database is on a different release than the PUM source, you will have 2 PS homes.
Oracle database 32-bit client	Required if target environment is on PeopleTools 8.53.
Target database client environment Set up database connectivity.	Required if target environment is not on Oracle.

This diagram illustrates the relationship between the Microsoft Windows client running Change Assistant and the PI when your target database is not Oracle.



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 8.60 and the Target PS Home will be on the same release as the target database.

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. (Optional)

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 8.58 and later 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.peoplesoft.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” (Security Administration) and “Setting Data Migration Permissions” (Lifecycle Management Guide).

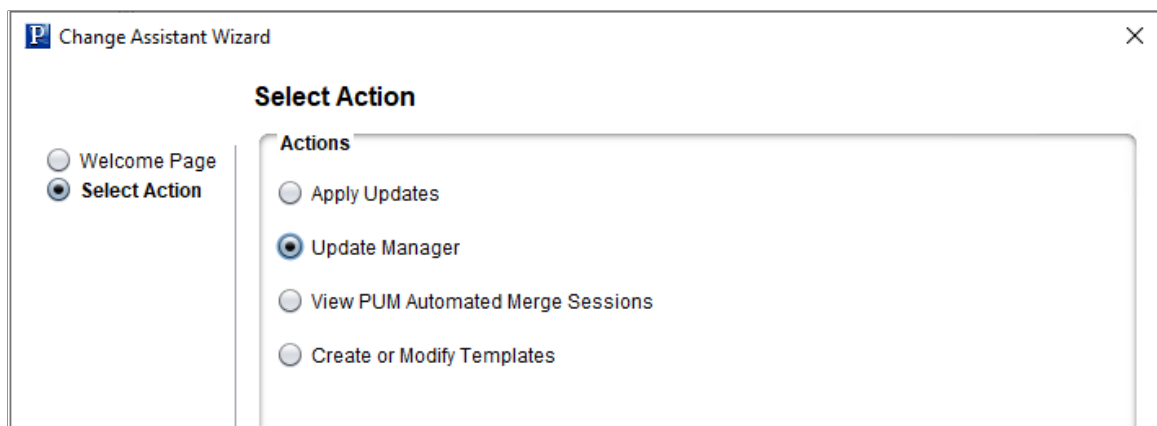
Starting Change Assistant

To start Change Assistant:

1. Select Start, Programs, PeopleSoft Change Assistant 8.6x.xx, where x.xx refers to the release/patch number or use the Shortcut on the desktop.
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.

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:

Note: The Change Assistant instance installed from the PUM DPK will already be configured. See [Installing Change Assistant from PeopleSoft Update Image DPK](#)

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](#).

Setting General Options

If Change Assistant was installed from the PeopleSoft Update Image DPK, this page will be populated with the folders created as part of the install.

See [Creating and Applying Change Packages](#)

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.

The screenshot shows the 'Change Assistant Wizard' window with the 'General Options' tab selected. The window has a sidebar on the left with three radio buttons: 'Welcome Page', 'Select Action', and 'Options'. Under 'Options', the 'General' sub-tab is selected. The main area is titled 'General Options' and contains two sections: 'Settings' and 'Default Path Information for Change Assistant'.

Settings Section:

- ☒ Show Welcome Page
- Maximum Concurrent Processes: 1 (spin box)
- PS Home Server TCP Port Range: 6151 - 6320
- PS Home Server Maximum Instances: 5
- Time Out for Locking(Seconds,Max=99999): 300
- Data Mover Consolidation Maximum Script Limit: 1000

Default Path Information for Change Assistant Section:

- *PS Home: C:\psft\pt\ps_home8.59.02
- *Staging Directory: C:\PUM\Staging\
- *Output Directory: C:\PUM\Output\
- *Download Directory: C:\PUM\Downloads
- *SQL Query Tool: C:\psft\td\oracle-server\19.3.0.0\bin\sqlplus.exe

At the bottom of the window are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'.

Field or Control	Description
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 TCP Port Range	Specify the port range for 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.

Field or Control	Description
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.

Setting PUM Source Options

The PUM Source Options page is used to define the PUM source as well as managing the Customization Repository, Test Repository and Migrating Customer Data.

Note: When Change Assistant is installed as a part of the PeopleSoft Update Image DPK, the PUM Source database is defined in Change Assistant.

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

Field or Control	Description
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

Field or Control	Description
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.
PUM Source Additional Settings	Select Install to install additional languages on the PUM Source. See Installing Additional Languages
Customization Repository	This section is used to manage the Customization Repository. See Creating Customization Repository.
Test Repository	Select Manage to enable the Test Repository and upload tests to the PUM source. See Creating Test Repository.
Metadata Management	Select Manage to migrate metadata from a previous PUM Source. See Migrating PUM Data.

When you click OK, Change Assistant will validate the connection to the PUM Source database.

Installing Additional Languages

To install additional languages on the PUM source, select the Install button.

This example illustrates the fields and controls on the PUM Source Language Installation page. You can find definitions for the fields and controls later on this page.

PUM Source Language Installation

PUM Source language install

Source Database: H92NEWCD

Installed languages: ENG

☒ Select languages to install based on existing database definition

Target Environment(s): H92MLTGT

Installed Languages: ENG,ESP,FRA

☐ Select languages manually

☐ Canadian French ☐ Danish ☐ Dutch
☐ Spanish ☐ Finnish ☐ French
☐ German ☐ Italian ☐ Japanese
☐ Korean ☐ Polish ☐ Portuguese
☐ Russian ☐ Swedish ☐ Thai
☐ SCHinese ☐ TChinese

Install Close

Field or Control	Description
Select language to install based on existing database definition	Select this radio button if you have defined a target database that includes additional languages. When you select the target environment, the installed languages will be displayed.
Select languages manually	Select this radio button to manually select the languages to install.

Setting EM Hub Options

EM Hub Options

Use this page to configure the EM Hub options for the target database.

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.

Update Manager Options

General **PUM Source** **EM Hub** **Additional**

Environment Management

☒ Configure EMHub For Deploy File

*Server Host Name: localhost

*Server Host Port: 8443

*Chunk Size: 2048

*Ping Interval: 60000

Security Management

*SSL: Client and Server Certificate

*Truststore: C:/Users/GEORGE/Documents/client-keystore.jks.txt ...

*Truststore Password: *****

*Keystore: C:/Users/GEORGE/Documents/client-truststore.jks.txt ...

*Keystore Password: *****

Test

Ping [] View

OK Cancel

Field or Control	Description
Configure EMHub For Deploy File	Select this check box 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 than 1024KB in a software update.
Ping Interval	Ping interval is in milliseconds for Change Assistant to contact the hub for new messages.

Field or Control	Description
SSL	You can choose to allow connections from clients who are part of the allowlist or use two-way SSL. The different connections are: • None (Allowed List)- Connects with EM Hub using HTTP connection. When this option is selected, keystore and truststore related fields are disabled. • Server Certificates Only (Allowed List)- Lets to connect with one-way SSL. When this option is selected, keystore and keystore password fields are disabled. However, truststore related fields are enabled • Client and Server Certificate- Lets to connect with EM Hub using two-way SSL. When this option is selected, keystore and truststore related fields are enabled. If the EM Hub server uses the connection type HTTP or one-way SSL, then the client hostname or IP address need to be added to the allowedhost.properties file so that the client host is allowed to make a connection request. The allowedhost.properties file is available in /webserv/peoplesoft/applications/peoplesoft/PSEMHUB.war/envmetadata/config/. For details, refer Configuring the Environment Management Hub.
Truststore	Select the truststore file.
Truststore Password	Enter the truststore password which is encrypted and then stored in psvault file.
Keystore	Select the keystore file. For details on configuring keystore and truststore, refer “Implementing WebLogic SSL Keys and Certificates” (System and Server Administration).
Keystore Password	Enter the keystore password which is encrypted and then stored in psvault file. For details on generating encrypted passwords, refer “Generating a Unique Encryption Key” (Security Administration)

Field or Control	Description
Ping	Click to verify a valid server URL. If you see <i>Service is off</i> to the right of this button, then you must correct the server URL and ping again until you see <i>Service is on</i> .
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.

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.

The screenshot shows the 'Environment Management Hub Summary' window. It contains three main sections:

- Environment(s) defined in Change Assistant**: A table showing details for environment EP92U044.

Server	Host	App Home	PS Home	Cfg Home	Release
App Server	phoe...	c:\psft860\ptfsc...	c:\psft860\ptips...	NA	8.60.00
Batch Server	phoe...	c:\psft860\ptfsc...	c:\psft860\ptips...	NA	8.60.00
Web Server	phoe...	NA	NA	c:\Users\cdefeo...	14.1.1.0.0
- Environment(s) not defined in Change Assistant**: A table with headers for Environment, App Server, Batch Server, and Web Server, but it is currently empty.
- File Server Summary**: A table showing file server details.

Host	Path	Release
phoe...	c:\PT8.59.10_Client_ORA	PeopleTools 8.59.10
phoe...	c:\psft860\ptfscm_app_home	PeopleSoft Financials and Supply Chain Managem...
phoe...	c:\psft860\ptips_home8.60-919...	PeopleTools 8.60.00
phoe...	c:\PT8.60-918W_2206210503_...	PeopleTools 8.60.00

Field or Control	Description
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.

Field or Control	Description
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.

Setting Additional Options

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.

Change Assistant Wizard

Additional Options

☐ Welcome Page
☐ Select Action
Options
☐ General
☐ PUM Source
☐ EM Hub
☒ **Additional**

Notification Settings

☐ Send Email Notifications
 SMTP Server:
 Port:
 Send To:
 Return Address:

Proxy

Host:
 Port:
☐ Anonymous Proxy
☐ Microsoft Proxy Server Windows Domain:
☒ Other Proxy Servers

Notification Settings Section

Field or Control	Description
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

Field or Control	Description
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

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.

Change Assistant Wizard

Select Task

What would you like to do?

Update Manager Tasks

- ☐ Validate Change Assistant EMF Settings
- ☐ Upload Target Database Information to Image
- ☐ Define Change Package
- ☐ Create Change Package
- ☐ Apply Change Package
- ☐ Apply Translation Delta Package
- ☐ Apply Downloaded PeopleSoft Release Patchset to PeopleSoft Image

Application Upgrade Tasks

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

PeopleTools Tasks

- ☒ 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

Options

- ☐ Welcome Page
- ☐ Select Action
- ☐ General
- ☐ PUM Source
- ☐ EM Hub
- ☐ Additional

Tasks

- ☒ Select Task

Back **Next** **Finish** **Cancel**

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.

<i>Field or Control</i>	<i>Description</i>
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

Field or Control	Description
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
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:

Field or Control	Description
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.

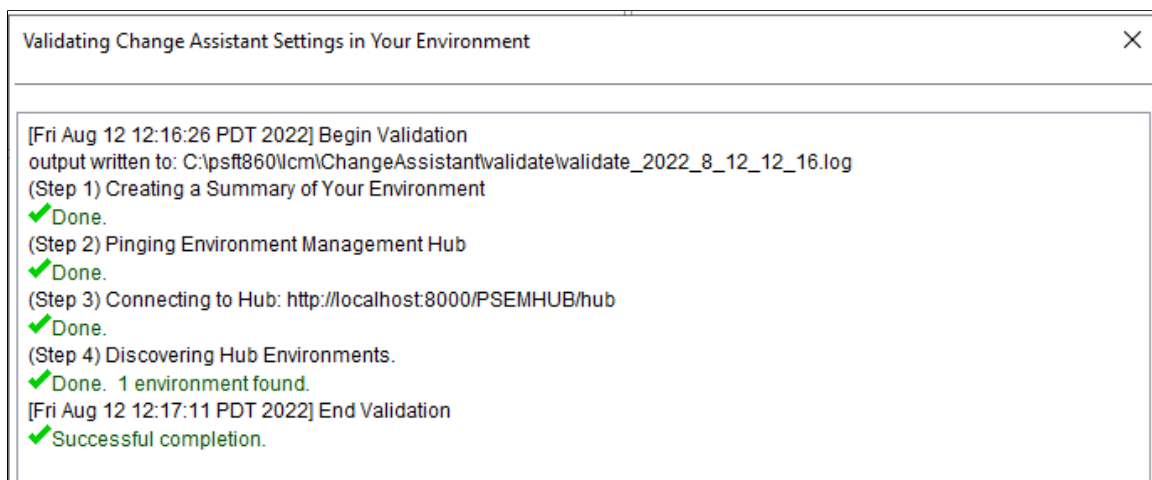
Validating Change Assistant EMF Settings

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.

This example illustrates the fields and controls on the Validating Change Assistant Settings in Your Environment dialog box



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.

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.

Field or Control	Description
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.

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.

The screenshot shows the 'Change Package Wizard' dialog box with the title 'Define Change Package'. On the left, there is a sidebar with 'Define CP' and 'Select' (indicated by a radio button). The main area has three sections:

- PUM Source Database:** A text field containing 'H92PUMCD'.
- Define a New Change Package in Update Manager Dashboard:** This section is selected with a radio button. It contains an orange button labeled 'Click Here to Open Browser and Connect to the PUM Source Database'.
- Define a New Change Package in Change Assistant:** This section is unselected. It contains a 'Package Definition' box with:
 - 'Target Database:' dropdown menu showing 'H92CD610'.
 - 'Package Name:' text field.
 - 'Package Description:' text field.

At the bottom, there is a 'Search Definition Option' section with two radio buttons: 'Standard System Search Criteria' (selected) and 'Previously Defined Search Criteria'.

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.

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.

Change Package Wizard

Define Change Package

Define CP
☒ Select

PUM Source Database
 H92PUMCD

☐ Define a New Change Package in Update Manager Dashboard
 Click Here to Open Browser and Connect to the PUM Source Database

☒ Define a New Change Package in Change Assistant

Package Definition

Target Database: H92CD610

Package Name: CRITICAL

Package Description: Critical updates for my installed products

Search Definition Option

☒ Standard System Search Criteria ☐ Previously Defined Search Criteria

Field or Control	Description
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.

This example illustrates the fields and controls on the Previously Defined Search Criteria page.

Change Package Wizard

Define Change Package

Define CP
☐ Select
☒ Search

PUM Source Database
H92PUMCD

Package
Target Database: H92CD610
Package Name: EXAMPLE2
Tools Release: 8.57.07

Select	Search	Description
☒	DEMO	DEMO
☐	EXAMPLE	EXAMPLE
☐	TL_ENH	TL_ENH

☐ Proceed to Create Change Package Wizard after Package Definition

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.

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.

Field or Control	Description
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.

From PeopleTools 8.60, Change Assistant exports minimal Managed Object (MO) project that is sufficient for the change package create process. The entire MO project is exported during the change package apply process as the source apply step. This is applicable to the package types RFU, PUM, DLT, TDP, and UPG available in the Update Manager mode.

Note: This minimal MO project should not be used to run any compares with the Target database since it is a minimal package.

Using PUM Automated Updates

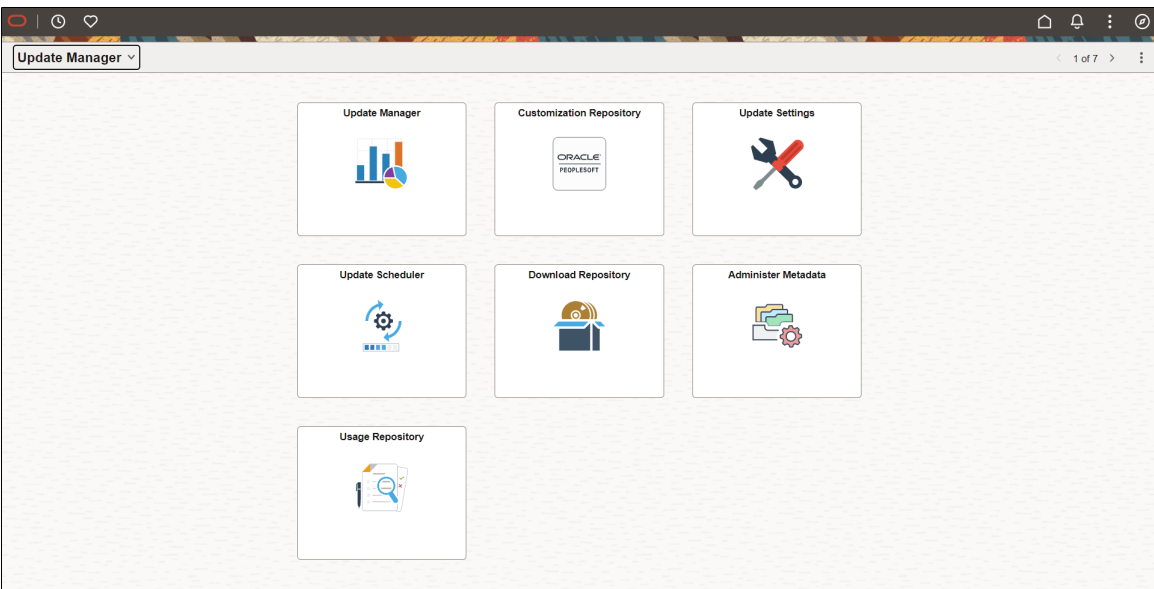
Understanding PUM Automated Updates

Customers can configure Update Manager to automatically download Application Update Image DPKs, PRPs, apply the PRPs, define and create change packages, as well as apply the source only steps.

See [Installing Change Assistant from PeopleSoft Update Image DPK](#) and *PeopleSoft Deployment Packages for Update Images Installation (PeopleSoft PeopleTools 8.60)*.

The Update Manager Homepage provides the tiles to set up automations and schedule updates.

This example illustrates the fields and controls on the Update Manager Homepage. You can find definitions for the fields and controls later on this page.



Term	Definition
Update Settings	Select this tile to view or modify MOS credentials, notifications and settings. See Setting Credentials for Automation .
Update Scheduler	Select this tile to define and schedule jobs. See Scheduling Update Jobs .

Term	Definition
Download Repository	Select this to view downloads. See Viewing Download Repository
Customization Repository	Select this tile to manage customizations when selecting updates in the PUM Search.
Administer Metadata	Select this tile to define and manage databases using Update Manager.
Usage Repository	Select this tile to fetch usage monitor data from different databases.

Note: PUM Automated Updates requires a full-tier installation; that is, all components must reside on the same server.

Setting Credentials for Automation

The Update Settings component contains three pages:

- Settings
- Notifications
- Subscription

Setting Credentials

Automation requires the proper credentials. MOS credentials are necessary to download the PRPs from My Oracle Support (MOS) and must be entered by the customer. The Image and REST services credentials are auto-updated during DPK installation, these credentials can be added or modified as necessary. The REST credentials will be used by the Download Manager to communicate the status of PRPs downloads.

Note that PAU uses OAuth 2.0 for authentication.

Note: PAU needs access to <https://updates.oracle.com> to download DPKs and PRPs.

Note: When using VirtualBox to install a PUM environment, a proxy configuration is required for the downloads depending on the customer network settings and the VirtualBox network configuration.

Use the Settings page to review and enter credentials.

This example illustrates the fields and controls on the Settings page for MOS Credentials. You can find definitions for the fields and controls later on this page.

Settings

Settings

Notifications

Subscriptions

Settings

MOS Credentials

User ID

Password

Image Credentials

REST Service Credentials

PUM Source Settings

Save

These MOS credentials are used to connect to MOS, while downloading PRPs from MOS. When the page is saved, the system will validate connectivity to MOS using the credentials, encrypt the credentials and save to the database.

Field or Control	Description
User ID	Enter the user ID for your My Oracle Support account.
Password	Enter the password for your My Oracle Support account.

This example illustrates the fields and controls on the Image Credentials section. You can find definitions for the fields and controls later on this page.

Settings

Settings

Notifications

Subscriptions

MOS Credentials

Image Credentials

DB User ID

Connect ID

Access ID

DB Admin ID

DB Password

Connect Password

Access Password

DB Admin Password

REST Service Credentials

PUM Source Settings

Initially these credentials are provided from the DPK when the PUM environment is deployed, then through the Automated Configuration Manager (ACM).

These credentials need to be updated if they are changed in the PUM source. All credentials are encrypted before storing in the database.

Field or Control	Description
DB User ID	Database User ID.
DB Password	Database password.
Connect ID	Connect Id for the database.
Connect Password	Connect ID password.
Access ID	Access Id for the database.
Access Password	Access ID password
DB Admin ID	Database Administrator ID.
DB Admin Password	Database Administrator ID password.

This example illustrates the fields and controls on the REST Service Credentials. You can find definitions for the fields and controls later on this page.

The screenshot shows a web interface for 'Settings'. On the left is a sidebar with 'Settings' (highlighted), 'Notifications', and 'Subscriptions'. The main content area is titled 'Settings' and includes a 'Save' button. It contains several expandable sections: 'MOS Credentials', 'Image Credentials', 'REST Service Credentials' (which is expanded), and 'PUM Source Settings'. The 'REST Service Credentials' section has two input fields: 'User ID' with the value 'PS' and 'Password' with masked characters. A vertical scrollbar is visible on the left side of the main content area.

Initially these credentials are provided from the DPK when the PUM environment is deployed, then through the Automated Configuration Manager (ACM).

These credentials need to be updated if the REST Service credentials are changed in the PUM source.

REST Services are used by the Download Manager that downloads PRPs to communicate status of downloads. The user ID must have permission list PTPT4300.

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

The screenshot shows the 'PUM Source Settings' interface. On the left is a sidebar with 'Settings' highlighted. The main panel has a 'Settings' header and a 'Save' button. Below this are four expandable sections: 'MOS Credentials', 'Image Credentials', 'REST Service Credentials', and 'PUM Source Settings'. The 'PUM Source Settings' section is expanded, showing three toggle controls: 'Enable Customization' (checked), 'Enable Merge' (checked), and 'Enable test' (unchecked). A link labeled 'Mergeable Objects' is located to the right of the 'Enable Merge' control.

Use the PUM Source Settings to enable the upload of customization projects and enable object merge.

Field or Control	Description
Enable Customization	Enables the upload of customizations to the PUM Source. Note that you can set up customization repository from Change Assistant as well. See Understanding Customization Repository
Enable Merge	Enables object merge for PeopleCode, SQL and XSLT objects in your Customization Repository. When object merge is enabled in the PUM source, the upload Customization fetches the object merge data in the Customization project (Peoplecode, SQL and XSLT) and schedules version update Application Engine to set the appropriate object version to the mergeable objects uploaded. Note that you can enable object merge from Change Assistant as well. See Understanding PUM Automated Merge
Enable test	Enables the upload to test repository.
Mergeable Objects	Shows a list of mergeable objects.

Viewing Notifications

Use the Notifications page to set up preferences for notifications.

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

Update Manager

Notifications

Settings

Subscriptions

Notifications

Alert Notification

Distribution ID Type

1

User

Distribution ID

VP1

+

-

Distribution ID Type

2

Role

Distribution ID

LifeCycle Tools

+

-

On Initiation

No

On Success

Yes

On Failure

Yes

Email Notification

Save

Field or Control	Description
Distribution ID Type	Select User or Role.
Distribution ID	Enter the User ID or role name.
On Initiation	Select Yes to be notified when an automated update job is initiated.
On Success	Select Yes to be notified when an automated update job runs to success.
On Failure	Select Yes to be notified when an automated update job fails.
Email Notification	Select to send email notifications. Note: For details, see Email Details

If Email Notification is selected, enter the SMTP details:

This example illustrates the fields and controls on the Email details section. You can find definitions for the fields and controls later on this page.

Email Notification ☒

SMTP Server Details

Server Name

Port Number

Connection Security

None

User Name

Password

Test SMTP Connection

Email Details

Email To

Email CC

On Initiation

No

On Success

No

On Failure

No

200

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Field or Control	Description
Server Name	Enter the SMTP mail server from which you receive the error or completion messages.
Port Number	Enter the port from which you want to access the email.
Connection Security	Select the connection security. SSL/TLS type connection
User Name	Enter the user name to log in to the SMTP server.
Password	Enter password for SMTP user name.
Email To	Enter the email address.
Email CC	Enter the email address.
On Initiation	Select Yes to send an email when an automated update job is initiated.
On Success	Select Yes to send an email when an automated update job runs to success.
ON Failure	Select Yes to send an email when an automated update job fails.

Email Details

The email notification for tasks, such as, Download PRPs from MOS or Apply PRPs to PUM Source, contains all relevant details.

Task	Details
Download PRPs from MOS or Apply PRP to PUM Source	Displays the: - PRP name, description and download time. - Link to the Job Monitor page. - Link to the PRP Details page that has details of all PRPs downloaded or applied. When user runs Download and Apply PRP in one PAU job, it sends two emails with list of PRPs downloaded and PRPs applied.
Define Change Package/ Create Package	Displays the: - Change Package name, database name, search scope, and search name. - Link to the Job Monitor page.
Apply Change Package	Displays the success or failure status and link to the Job Monitor page.

This example illustrates the fields and controls on the PRP Details page.

PRP Details

Job Name: DEMO_TESTPRPAPPLY Task Name: Apply PRP Task State: COMPLETED

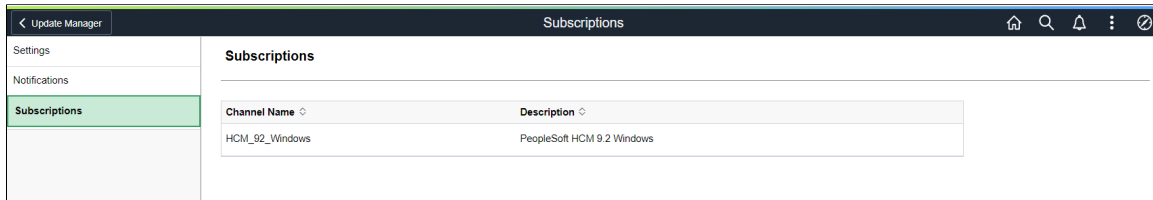
Below are the PRPs processed

PRP Name ¹	Artifact Name ¹	Apply Date Time ¹	Status ¹
updPRJ33454386	GPIK: NI INCORRECT FOR RETRO FOR A NEW HIRED EMPLOYEE	03/15/22 11:09:58AM	Applied
updPRJ33566293	GPIK 9.2 GPIK START OF YEAR (SOY) 2022 - 23	03/15/22 11:09:58AM	Applied
updPRJ33605487	GPMX_2022 LEGAL CHANGES UPDATE CFDI VERSION 4.0 2022	03/15/22 11:09:58AM	Applied
updPRJ33617006_I41	CAN: CREATE 2021 T4A PDF TEMPLATE FOR BI PUBLISHER PROCESSING	03/15/22 11:09:58AM	Applied
updPRJ33626686	UNABLE TO SEND W-2C AVAILABILITY NOTIFICATION	03/15/22 11:09:58AM	Applied
updPRJ33661965	GPUS: FEDERAL WITHHOLDING TAX UPDATES FOR 2022	03/15/22 11:09:58AM	Applied
updPRJ33671121	OHIO LOCAL CCA EFW2 CHANGES FOR 2021 REPORTING: MODIFY RS RECORD	03/15/22 11:09:58AM	Applied
updPRJ33672565_I41	GP MYS: INCOME TAX BRACKET UPDATE FY2022	03/15/22 11:09:58AM	Applied
updPRJ33685042_I41	CONSOLIDATED U.S. TAX TABLE CHANGES - TAX UPDATE 22-A	03/15/22 11:09:58AM	Applied
updPRJ33714850_I41	TAX UPD 2022-REACTION TO LPGE 2022	03/15/22 11:09:58AM	Applied
updPRJ33716890_I41	GPFRA LEG CHANGE- TAX UPDATE JANUARY 2022	03/15/22 11:09:58AM	Applied
updPRJ33718250	IREN REPORT 2022 / BASE YEAR 2021	03/15/22 11:09:58AM	Applied

Viewing Subscriptions

The subscriptions page displays the default channel information corresponding to the deployed PeopleSoft Image.

This example illustrates the fields and controls on the Subscriptions page.

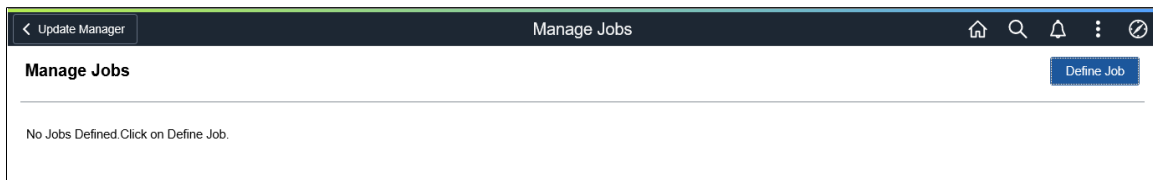


Scheduling Update Jobs

From the Update Manager Homepage, select the Update Scheduler tile.

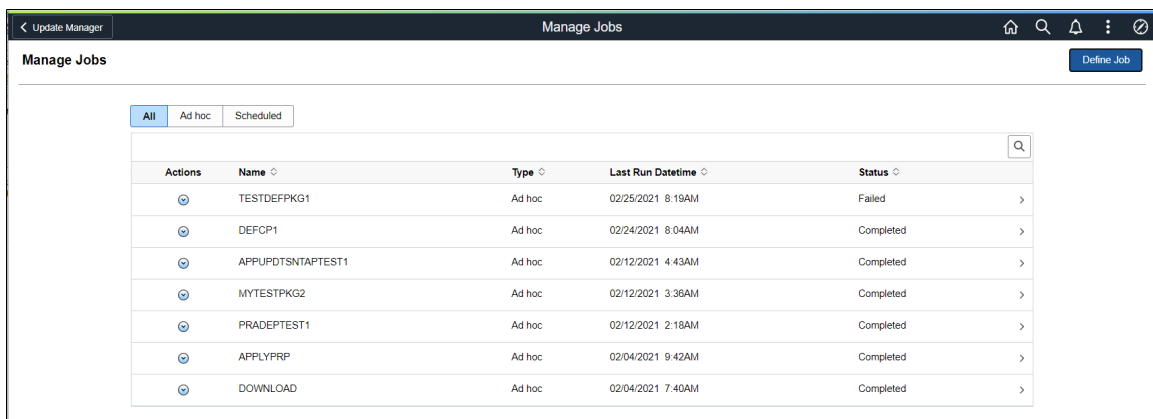
The first time you access the Manage jobs page no jobs will be defined. Use the Define Job button to define jobs. See [Defining Jobs](#).

This example illustrates the fields and controls on the Manage Jobs when no jobs have been defined.



After job have been defined and scheduled or run, the Manage Jobs page will display the Job Status.

This example illustrates the fields and controls on the Manage Jobs page. You can find definitions for the fields and controls later on this page.



Field or Control	Description
Actions	Actions include: • Delete Select to delete a job. • Run Select to run a job. • Resume Select to resume a failed job or after a manual stop. • History Select to review the job history.
>	Use the > icon to view the Job Monitor. The Job Monitor can also be accessed by clicking the row. For details, refer Viewing Job Monitor

Defining Jobs

Select the Define Job button on the Manage Jobs page to define a new PAU job.

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

Field or Control	Description
Name	Enter a job name.

Field or Control	Description
Type	Select the job type: - Ad hoc The job can be triggered from the Define Job page or the Manage Jobs page. - Scheduled The job will run at the scheduled time. You can set a recurrence schedule. Note: Scheduled Jobs cannot be run on an ad hoc basis through the Managed Jobs page. In case of failure or manual stop, the job can be resumed but not run on an ad hoc basis.
Download Application Update Image	Select Yes to download Application Update Image DPKs. Starting with PeopleTools 8.60, customers can download an Application Update Image DPKs from the Update Manager (Define Job) page. Customer will be able to download Application Update Image DPK based on the application pillar environment in use. For example, you can schedule or download HCM Application Update Image DPKs from an HCM PUM source. Note: You can continue to download Application Update Image DPKs manually from My Oracle Support or Oracle Software Delivery Cloud as in previous releases. For more details, refer Downloading Application Update Image DPKs
Download PRPs from MOS	Select Yes to download PRPs from MOS. Note: The Download Manager validates each PRP before downloading and ignore PRPs that are incompatible with the currently installed PeopleSoft Image.
Apply PRPs to PUM Source	Select Yes to Apply PRPs to PUM Source.
Define Change Package	Select Yes to Define Change package using Previously Defined or Standard System search criteria. See Defining Change Package.
Create Package	Select Yes to create the defined change package.

Field or Control	Description
Apply CP (IP: Source Only Steps)	Select Yes to apply the source only steps. The Source Steps Only option runs the initial pass on the PUM source and creates all files that are contained in the change package. Once the initial pass has completed, a modified change package is created that contains all the files. The modified update change package can then applied to the target database using the Target Only option.

Scheduling Jobs

On the Define Job page, select Type: Scheduled.

This example illustrates the fields and controls on the Defining Scheduled Job. You can find definitions for the fields and controls later on this page.

Field or Control	Description
Type	Scheduled
Run Date	Select the date and time to run the job.
Recurrence	Use this option to set up the job on a recurring schedule. Select the recurrence name from the drop down list. To add a new recurrence definition see “Defining Recurrence Definitions” (Process Scheduler)

Downloading Application Update Image DPKs

On the Define Job page, select Download Application Update Image.

You can run a job for this Download Application Update Image task on an ad hoc or scheduled basis.

Note: The Download Application Update Image task cannot be combined with other tasks, such as, Create Package. It requires a separate job to run.

This example illustrates the fields and controls to download Application Update Image DPK.

Define Job

Define Job

Run

Save

Cancel

Name

TEST

Type

Ad hoc

Download Application Update Image

Yes

Image for Virtual Box

Yes

Image for Windows

No

Image for Linux

No

File Directory

C:\HCM02A\Download\DPK

Download PRPs from MOS

No

Apply PRPs to PUM Source

No

Define Change Package

No

Create Package

No

Apply CP (IP: Source Only Steps)

No

Field	Description
Image for Virtual box, Image for Windows, Image for Linux	The three types of Application DPKs or Update Image patch sets that is available for download.
File Directory	Specify the directory to download the DPK. It can be any relevant path in Process Scheduler to which PAU has access. It can be a local path or network path (Windows or Linux machine). In Windows, it is not recommended to use mapped shared folder as download location for the PAU DPK. If shared folder path is provided, it is recommended to provide the complete UNC path. Example of UNC path is, \\server-name\shared-resource-pathname. This directory is validated to check if sufficient space is available on file system for the current download job.

Note that when any PAU job runs, the other PAU jobs, such as download or apply PRP and create or define Change Package, are in queue.

Defining Change Package

When you select to Define a Change Package, you will need to enter additional information.

After you Save the job, you can run the job directly from this page using the Run button.

This example illustrates the fields and controls on the Define Job page for defining a change package PAU job.

<i>Field or Control</i>	<i>Description</i>
Package Name	Enter a name for the change package.
Package Suffix	Select a suffix, choices are: - Date(yyymmdd) - Date(yymmdd)
Package Description	Optionally add a description.
Target DB	Select the target database from the drop down list.
Select the Search Scope	Search Scope choices are: - Previously Defined - Standard System
Search Name	Select the search name from the drop down list.

Creating and Applying Change Packages

You can define a change package and create the change package in different PAU jobs. These two jobs are completely independent.

Prior to PeopleTools 8.60, you had to define and create change packages in a single job.

Use the Create Package task in PAU job to create change packages that are either defined in the Define Change Package wizard in the Update Manager tile or in the PAU job.

This example illustrates the fields and controls to search for the change packages defined in Update Manager tile or in the PAU job.

Define Job

Define Job

RunSaveCancel

NameTEST

Cancel

TypeAd hoc

Lookup

Download Application Update Image

Download PRPs from MOS

Apply PRPs to PUM Source

Define Change Package

Create Package

Package Name

Apply CP (IP: Source Only Steps)

Search for: Package Name

Search Criteria

Package Name (begins with)TEST

Package Type

Database Name (begins with)

SearchClear

Search Results

Package Name T1	Package Type T1	Database Name T1
TEST1	Update	HRBALA
TEST123	Update	HRBALA
TEST345	Update	HRBALA
TEST66	Update	HRBALA
TEST77	Update	HRBALA
TEST987	Update	HRBALA

Select the Apply CP (Source Only Steps) option, to apply the change package created. This option applies only the source only steps.

Viewing Job History

Select the History action from the Manage Jobs page to view the job history.

This example illustrates the fields and controls on the Job History page. You can find definitions for the fields and controls later on this page.

Manage Jobs

Job History

TESTCPAPPLY

Return to Manage Jobs

04/22/2022 4:44 AM

StatusCOMPLETED

Activity	Status	View Job Template
1 Create Change Package	Completed	
2 Apply Change Package	Completed	

Download Logs

Field or Control	Description
Status	There are two status fields. Job level status- Displays the current status of the job. The status can be COMPLETED only when the all the activities within the job has a COMPLETED status. Activity level status- Displays the status of an activity in the job.

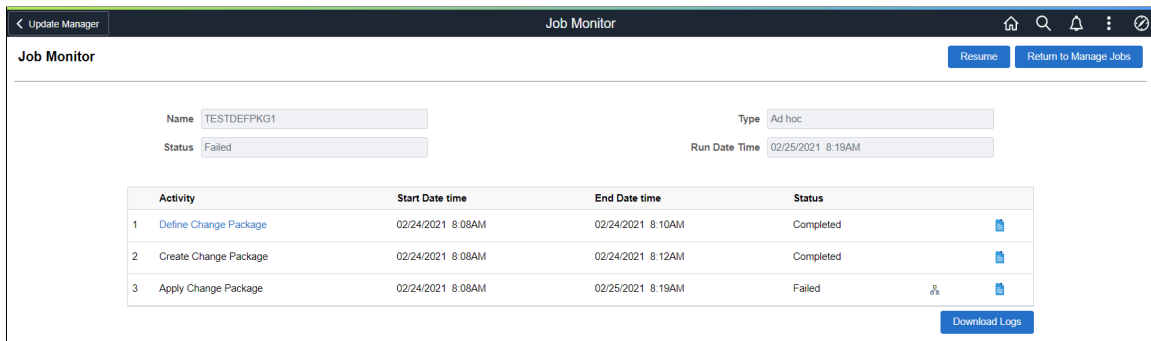
Field or Control	Description
	Select to view the job template detail. This template appears only for Apply Change Package and Apply PRP tasks.
	Select to view the job log for the activity.
Download Logs	Select to download the logs.

Viewing Job Monitor

Use the Job Monitor to monitor the status of job activities, logs, and download logs.

To view the Job Monitor, from the on the Manage Jobs page either click the row for the job or use the > icon.

This example illustrates the fields and controls on the Job Monitor page. You can find definitions for the fields and controls later on this page.



Job Monitor

Resume Return to Manage Jobs

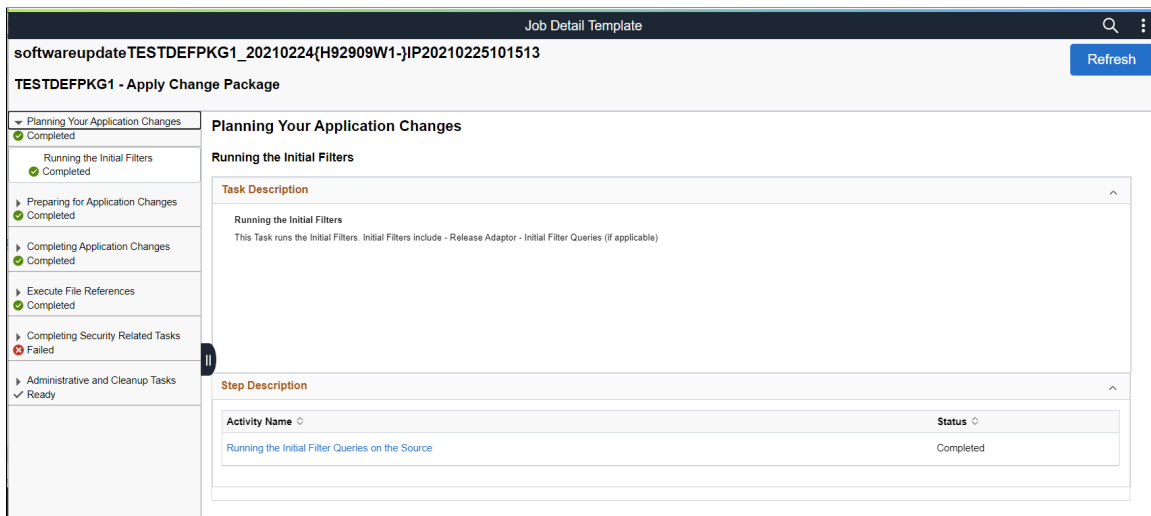
Name: TESTDEFPKG1 Type: Ad hoc
Status: Failed Run Date Time: 02/25/2021 8:19AM

Activity	Start Date time	End Date time	Status
1 Define Change Package	02/24/2021 8:08AM	02/24/2021 8:10AM	Completed
2 Create Change Package	02/24/2021 8:08AM	02/24/2021 8:12AM	Completed
3 Apply Change Package	02/24/2021 8:08AM	02/25/2021 8:19AM	Failed

Download Logs

Field or Control	Description
	Select to view the job template.
	Select to view the job log.
Download Logs	Select to download a zip file which includes all the logs for the job.

This example illustrates the fields and controls on the Job Detail Template. You can find definitions for the fields and controls later on this page.



The list of chapters, tasks and steps are listed on the left hand side of the page. Select the chapter, task or step to view.

Resuming a Job

Select the Resume button on the Job Monitor page to resume a job.

You can resume a job:

- If the job encounters a manual stop.
- If a PRP fails with 'Applied with Warnings' status.

If the job encounters a manual stop, the user must mark the step as complete and continue to run the job.

If the job fails for on a step in the template, the user can select to either Mark the step as manually complete and continue to run the job or Mark the step to restart and continue to run the job.

This example illustrates the fields and controls on the Resume Job. You can find definitions for the fields and controls later on this page.

Resume Job
Close

Failed at step Copying EODP_SYSDATA_EXP_DMS to Staging Directory

Apply Change Package has Failed

To Continue the job, Please choose the required action

☐ Mark the step as manually complete and continue to run the job

☒ Mark the step to restart and continue to run the job

Continue

Sometimes a PRP fails when a job stops with the 'Applied with warnings' status. Review the warnings to fix the issue and resume to apply the PRP from the Job Monitor page.

Viewing Download Repository

From the Upgrade Manager Homepage, select the Download Repository tile to view the downloaded PRPs.

This example illustrates the fields and controls on the Download Repository page.

Download Repository				
Downloaded From MOS				
Name	Downloaded Datetime	Artifact Type	File Size	
MODIFY TAX810CO.SQR FOR NEW REPORTING PERIOD DATE FORMAT EFF Q4-2020	2021-02-04T07:40:00.000000	MOS - PRP	582.81 KB	>
MODIFY TAX960LC TO BLANK FILL REC 298-307 FOR COLUMBUS, OH	2021-02-04T07:40:00.000000	MOS - PRP	617.15 KB	>
ADMINISTER CREATE DELEGATION DOES NOT WORK WHEN DELEGATE HAS MULTIPLE JOBS	2021-02-04T07:40:00.000000	MOS - PRP	584.66 KB	>
SOURCE TAX REVISION 2021 - MULTIPLE PAYMENTS ISSUE FOR HOURLY EMPLOYEES	2021-02-04T07:40:00.000000	MOS - PRP	830.85 KB	>
HCM ACA PRIOR YEARS MANIFEST FILE USING TY2020V1.0 SCHEMA AS OF MID JAN 2021	2021-02-04T07:40:00.000000	MOS - PRP	908.72 KB	>
GPUS: FEDERAL WITHHOLDING TAX UPDATES FOR 2021	2021-02-04T07:40:00.000000	MOS - PRP	866.75 KB	>
TAX UPD 2021 - CRETA CHANGES DUE RED BULLETIN 2020/20- CONCENTRATE SCHEDULE	2021-02-04T07:40:00.000000	MOS - PRP	745.22 KB	>
GP MEX: SUB EMP PAG DEDUCTION IS NOT BEING CALCULATED FOR SOME EMPLOYEES	2021-02-04T07:40:00.000000	MOS - PRP	1.16 MB	>
GP NZL - SL THRESHOLD & TAX RATE - STATUTORY CHANGES EFFECTIVE 1ST OF APRIL 2021	2021-02-04T07:40:00.000000	MOS - PRP	1.36 MB	>
GPFR LEIG CHANGE- TAX UPDATE JANUARY 2021	2021-02-04T07:40:00.000000	MOS - PRP	640.69 KB	>
DELIVER XMLP UPDATES FOR AS, GU AND VI TO SUPPORT YEAR-END 2020	2021-02-04T07:40:00.000000	MOS - PRP	1.11 MB	>
TAX UPD 2021-CHANGES ON TAX ALGORITHM DUE LPGE 2021	2021-02-04T07:40:00.000000	MOS - PRP	973.09 KB	>
GPFR: DSN EVENT REPORTING SHOULD SPLIT FILE PER EMPLOYEE/EVENT	2021-02-04T07:40:00.000000	MOS - PRP	728.15 KB	>

Click on a row or use the > icon to view the PRP details. Details will list the bugs and patch files included in the PRP.

This example illustrates the fields and controls on the PRP Details page.

Details

BUG Number 32375152

Description ADMINISTER CREATE DELEGATION DOES NOT WORK WHEN DELEGATE HAS MULTIPLE JOBS

Language American English

Translation Available No

Classification General

Last Update Date/Time 02/02/21 12:51:09

Release Date/Time 02/02/21 12:51:09

Patch Location C:\MyWork\Development\PT859909W_MT\pt\CA\download\prp\generic\HCM\37\updPRJ32375152...

Fixed Bugs

BUG Number	More Information
32377802	PERFORMANCE OF EOEN_ALERT APP ENGINE PROCESS
32375152	ADMINISTER CREATE DELEGATION DOES NOT WORK WHEN DELEGATE HAS MULTIPLE JOBS

Patch Files

File Name	File Size
updPRJ32375152_I37.zip	584.66 KB

Viewing Maintenance Levels of Non-Source Environment

The About Applied Updates page lets customers know how current is their non-source environment. The non-source environment can be development, test, or production database where the change packages are applied.

The maintenance related data, which is used to assess how current is the non-source environment, resides in the PUM source. The Change Package Apply process transfers this data to the non-source environment.

Users with the PTPT4310 permission list and the Lifecycle Updates role can view the About Applied Updates page (PeopleTools, LifeCycle Tools, About Applied Updates).

This example illustrates the fields and controls on the About Applied Updates page.

The screenshot shows a web application interface titled "About Applied Updates". It is divided into three main sections:

- Environment Information:** Displays "Database EP86002A" and "Tools Version 8.60".
- Current to Image:** A table showing the status of various fixes:

Fix Description	Count
All Delivered Fixes	46
All Delivered Fixes For Installed Product	46
All Delivered Regulatory Fixes For Installed Product	46
Most Recent Image of Any Applied Fix	47
- Last Applied Package Details:** Displays "Package Name AAR_TEST", "Apply Date 11/04/2016", and "Target Used to Create Package IN14V".

The Current to Image section on About Applied Updates page lets know the customers how current is their non-source environment.

This information is displayed to PUM administrator as well. For details, refer [Managing Databases](#) and [Viewing Maintenance Levels of Target Environment](#)

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.

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.



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

Folders	Description
Define Change Package	This folder contains links to the various types of change packages. See Defining Change Package
Change Package Utilities	This folder contains links to Change Package utilities. See Using Change Package Utilities
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 8.59: 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 > About This PeopleSoft Image**

This example illustrates the fields and controls on the About PeopleSoft Image page.

The screenshot shows the 'About PeopleSoft Image' page with the following content:

About PeopleSoft Image

Database	H92PUM01	Tools Version	8.59
Description		Tools Patch Level	1
Base Language	ENG	PI Version	35
Image Type	External	Template Version	35

Installed Languages

Language Code: English

Included Bugs

BUG Number	Product	Subject	Fixed Date	Details
11253102	HR	PSFT 500892000-ADMINISTER WORKFORCE: HIGHLIGHTED FIELDS REQUIRED ERROR DURING RE	02/21/2017	
11460124	PY	UNEXTRACTED VOUCHERS CAUSE DUPLICATE KEY ERROR WHEN RERUNNING PY	06/10/2014	

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. Bug Percent by Tag
3. Bug Percent by Image
4. Bugs by Product
5. Enhancements by Image
6. Enhancements by Prod
7. Enhcmnt by Min Tools
8. Applied Bugs by Image
9. Bugs by Language
10. Bugs by Image From
11. Bugs by Dependency
12. Customization Impacts

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
- Bug Type
- Component
- Sub Component
- Posted date

Certain pivot grids have additional columns:

- *Database Bugs by Tags* 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.

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	Cor
☐	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 CANCELTION - MODIFICATION FOR EXISTING ADMINISTRATOR OBJECTS	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
☐	H92CDTGT	24405541	19	NEW CODE FOR ABSENCE CANCELTION	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
☐	H92CDTGT	24405978	19	ABSENCE CANCELTION NEW OBJECTS FOR ADMINISTRATORS	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
☐	H92CDTGT	24451507	19	ABSENCE CANCELTION FROM ADMINISTRATOR AWE EVENT ENTRY FOR 854	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
☐	H92CDTGT	24406140	19	ABSENCE CANCELTION NEW OBJECTS FOR FLUID	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse
☐	H92CDTGT	24417952	19	ABSENCE CANCELTION FROM CLASSIC PAGES FOR 854	Severe Loss of Service	Unapplied	HCM Absence Management	Installed	BugFix	Abse

Field or Control	Description
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.

- Review the bugs listed in the grid and select the Action check box for the bugs you want to include in your Change Package.

This example illustrates bugs selected to add to a change package.

Actions Select All Clear									
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

- Click the Actions drop down and select Add to Change Package.
- The Enter Change Package Name page is displayed.

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.

Enter Change Package Name

Action

Create

Name

ABS_BUGS_33

Description

Absence Management bugs

Next

Field or Control	Description
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.

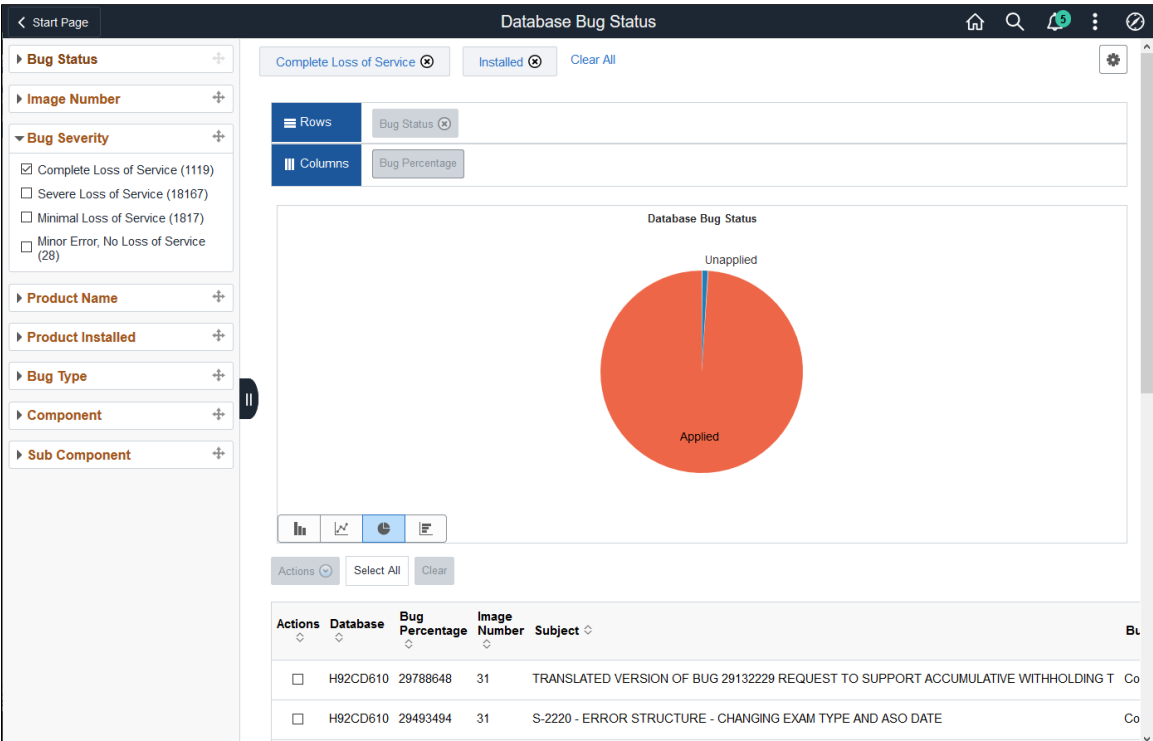
- Click Next.
- The change package wizard will open on Step 6 of 6.

See [Define Update Package Wizard Step 6 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.

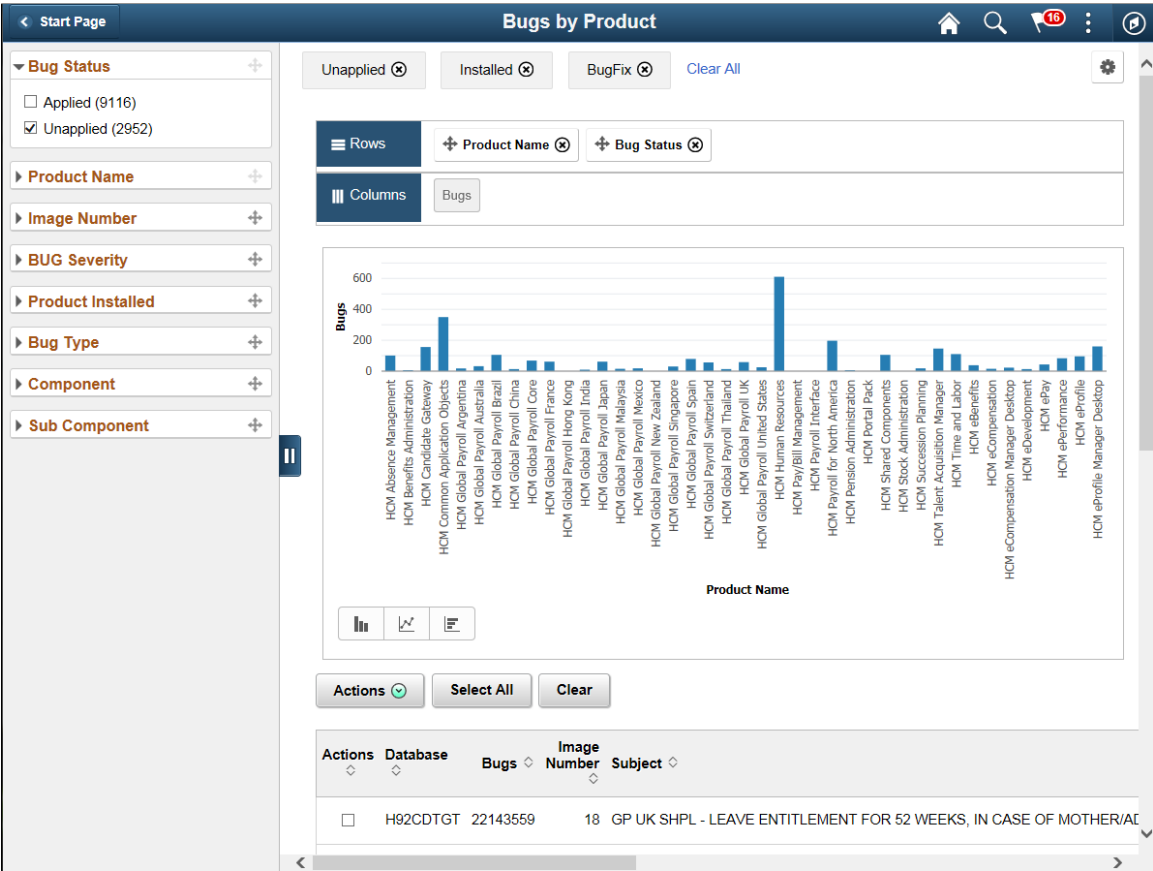
This example illustrates the fields and controls on the Database Bug Status pivot grid. This example displays the pivot grid filtered by Installed products and Complete Loss of Service.



Bugs by Product

This pivot grid displays the status of all installed products. Use the filters to determine what bugs need to be applied.

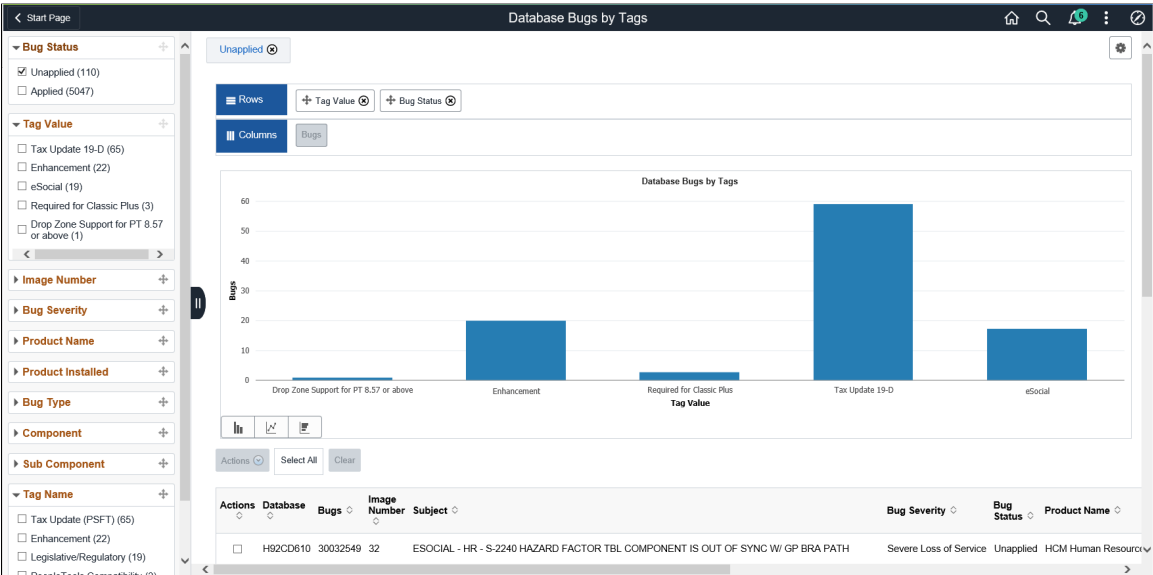
This example illustrates the fields and controls on the Bugs by Product. In this example the filter was changed to show unapplied bugs.



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.

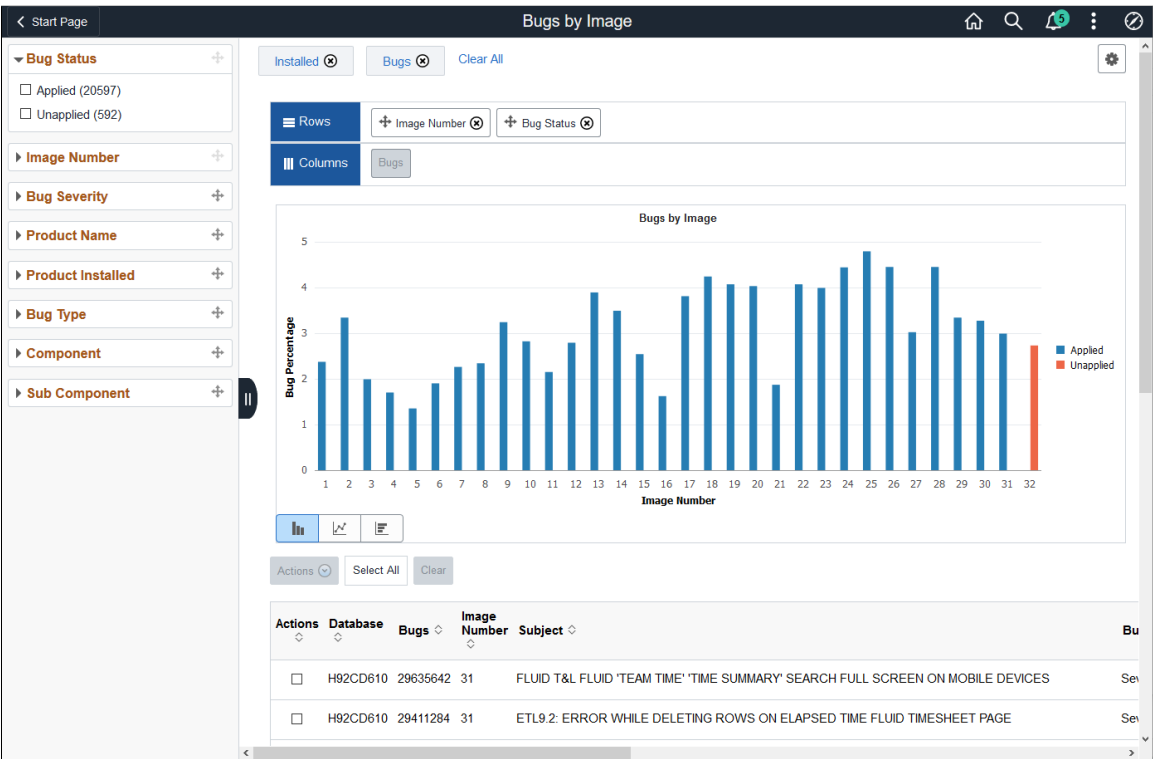
This example illustrates the fields and controls on the Database Bugs by Tags. This example id filtered by unapplied..



Bugs by Image

This pivot grid displays the bug status by Image, which can be used to track your maintenance strategy.

This example illustrates the fields and controls on the Bugs by Image. This example shows a database that is current through image 31.

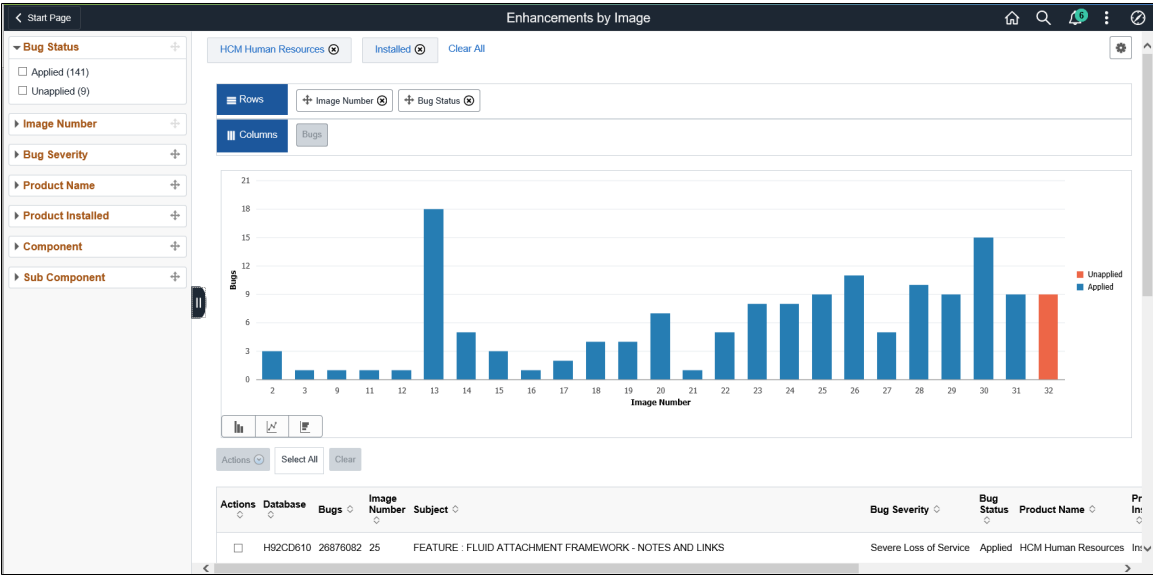


Note: When filtering the Bug Status by Image pivot grid, select only one Product Status at a time.

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.

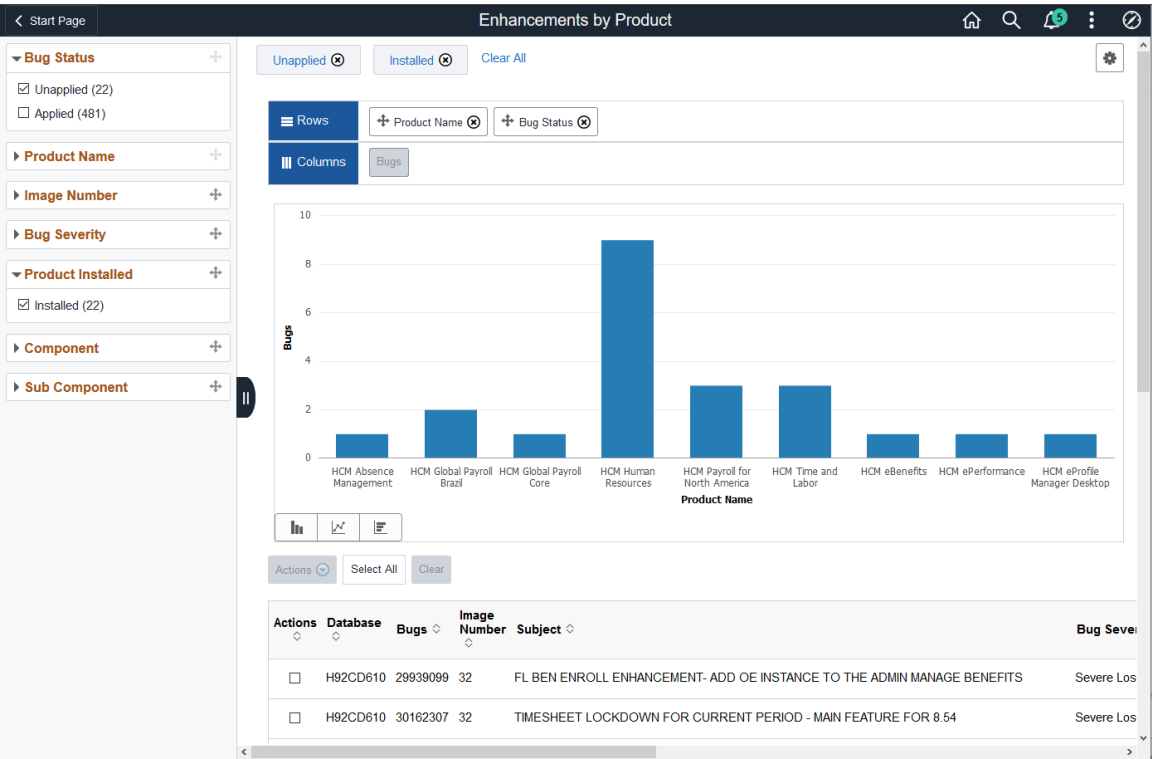
This example illustrates the fields and controls on the Enhancements by Image pivot grid filtered by product and installed..



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.

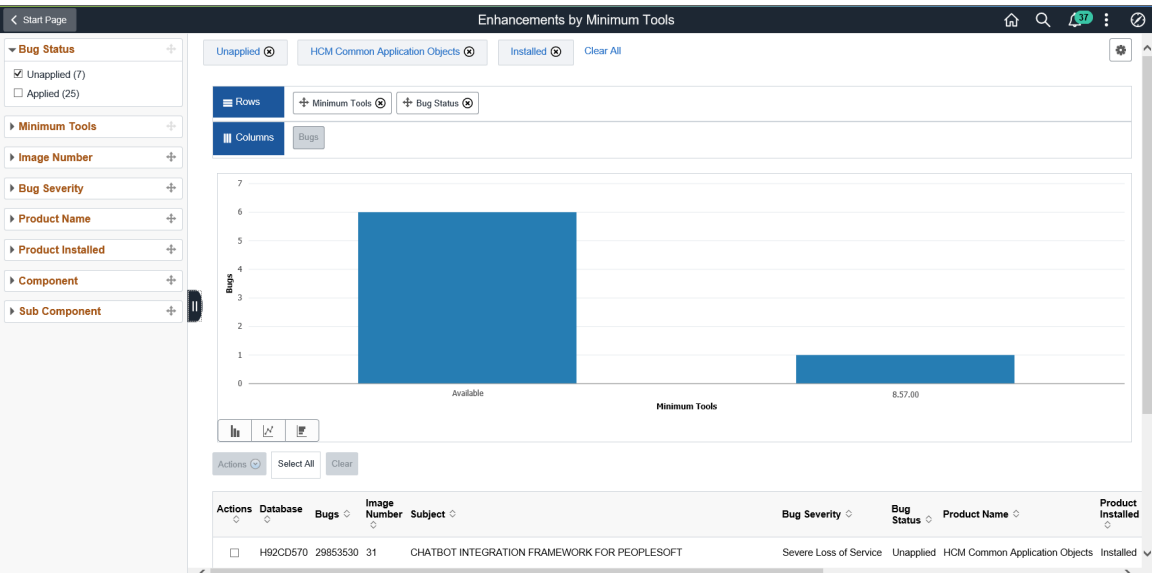
This example illustrates the fields and controls on the Enhancements by Product.



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 illustrates the fields and controls on the Enhancements by Minimum Tools for a target database that is on 8.56.09.

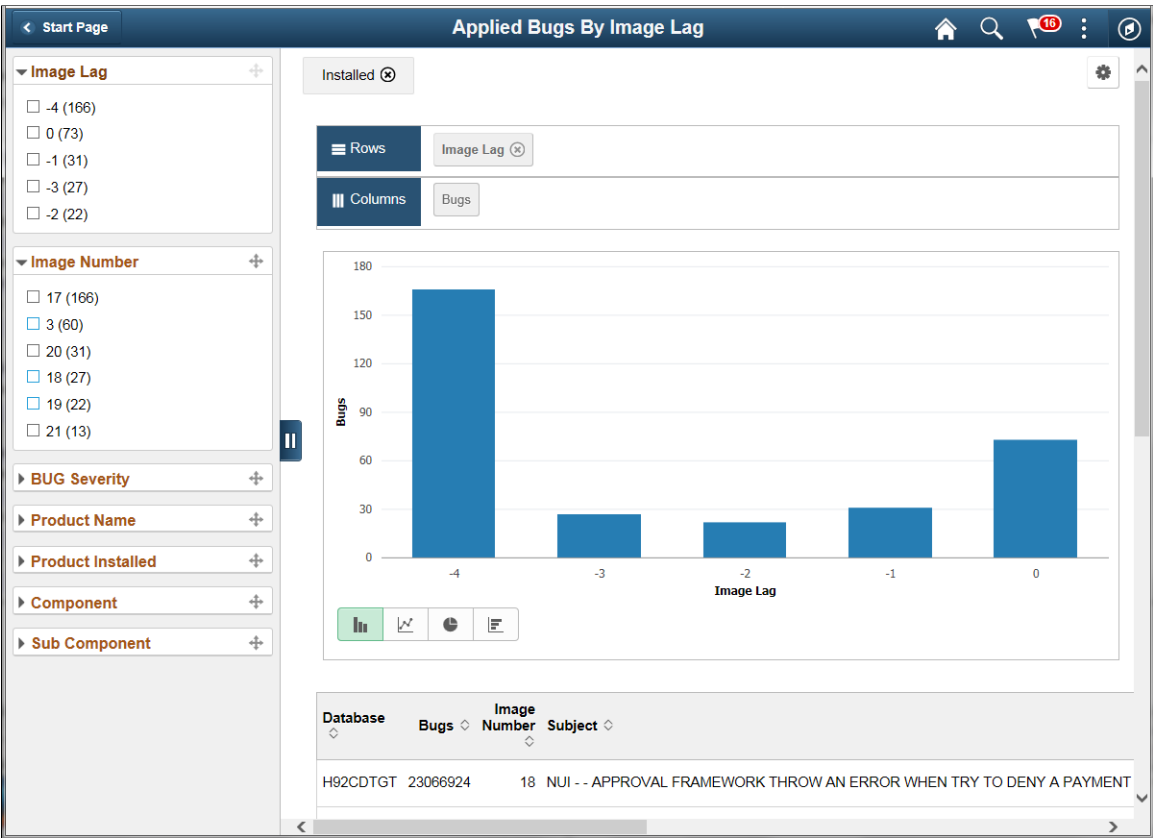


Applied Bugs by Lag Image

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.

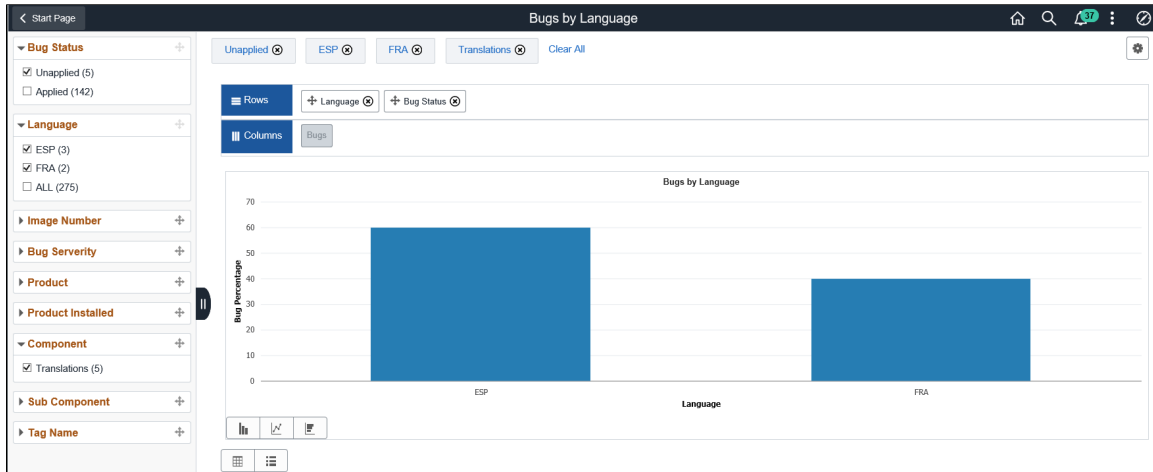
This example illustrates the fields and controls on the Applied Bugs by Lag Image. In this example, the current PI is 21 (0). For the bugs you have applied using PI 21, you can see the PI when the bug was available, image 20 (-1,) image 19 (-2), image 18 (-3), and image 17 (-4).



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.

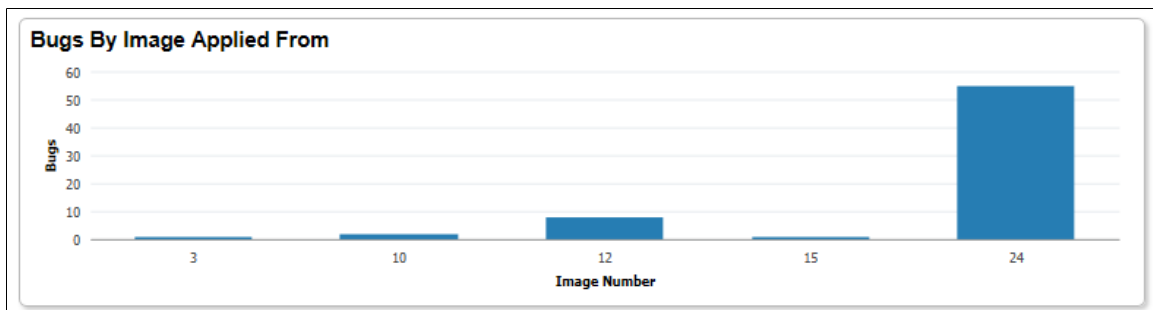
This example illustrates the fields and controls on the Bugs by Language pivot grid.



Bugs By Image Applied From

This pivot grid displays all bugs and enhancements based on the image they were 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.

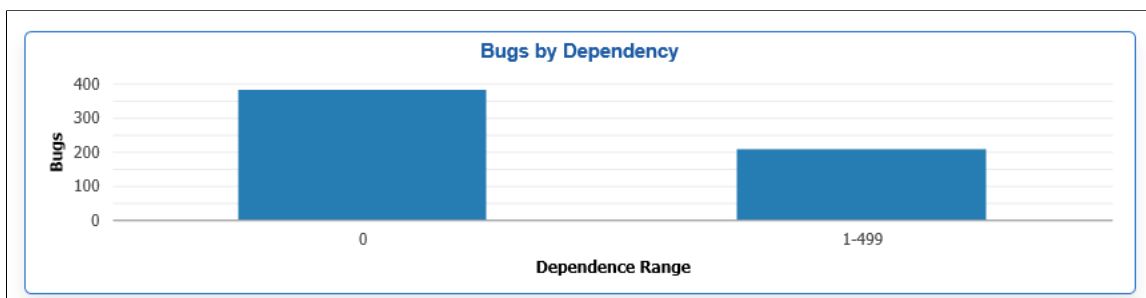


Bugs By Dependency

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.

This example illustrates the fields and controls on the Bugs by Dependency pivot grid.



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](#)

Using Change Package Utilities

Update Manager Utilities include:

- Review Change Package
- Delete Change Package
- Merge Change Package
- Analyze Applied PRP(s)

Reviewing Change Package

Navigation:

Select **My Update Manager Dashboard > Change Package Utilities > Review Change Package**

Select the Change Package.

You can also select the Review Package Definition link on the Define Change Package Step 6 of 6 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.

Review Change Packages

Database
Description
Package Name
Last Updated on
Package Status
Package Create Date
Package Description

H92CD640
CANDIDATE
03/18/2021 10:26:48AM
Package Created
03/18/21 12:30:28PM
CANDIDATE

Migrated No

Search Scope All Other Search Criteria
Dependency Calculation Standard

Summary of Metadata for this Package

Metadata Type	Status
Template	Available
Included Bug Fixes	Available
Excluded Bug Fixes	Available
Included Managed Objects	Available
Included ADS Managed Objects	Available
Customizations Impact	Available
Existing Tests	Available
Components To Test	Available

Included Bug Fixes

1-5 of 188

BUG Number	Product	Subject	User Selected	Details
22309274	HR	JOB EARNINGS DISTRIBUTION BY PERCENTAGE DOES NOT WORK FROM TBH WHILE REHIRING		

This example illustrates the fields and controls on the Review Change Package – Included Bug Fixes and Excluded Bug Fixes. You can find definitions for the fields and controls later on this page.

Included Bug Fixes

1-5 of 1665

BUG Number	Product	Subject	User Selected	Applied	User Excluded	Min Tools	Required For Upgrade	Custom Impact	Is Used	Test Exists	Requisite	Details
22508392	PY	MODIFY W-2/W-2C PRINT PROCESSES TO PARTIALLY MASK EMPLOYEE SOCIAL SECURITY NUMBE										
22975021	PY	CAN: CTX910LD GENERATES WARNING FOR #INTERIM_B-1 AFTER 15-E										
22983392	PY	PAYCHECK TEMPLATES USE DIFFERENT EFF DATES BETWEEN PRINTING AND ESS										
22983511	PY	PRENOTE REPORTS (DDP005 & DDP006) REPORT PRENOTES NOT ON DDP001 FILE										
22983818	PY	RETROPAY EARNINGS REMAINING IN EXTRACTED STATUS										

Excluded Bug Fixes

1-5 of 726

BUG Number	Product	Subject	User Selected	Applied	User Excluded	Min Tools	Required For Upgrade	Custom Impact	Is Used	Test Exists	Requisite	Details
21386295	PY	ADD NEW MESSAGE TO CALC TO IDENTIFY EMPLOYEE WITH FUTURE DATED BALANCES						Run Calc	No			
21785471	PY	LST TAXABLE GROSS CALCULATED INCORRECTLY WHEN EE HAS A PRE-TAX DEDUCTION REFUND						Run Calc	No			

This example illustrates the fields and controls on the Review Change Package – Included Managed Objects and Included ADS Managed Objects. You can find definitions for the fields and controls later on this page.

Included Managed Objects

*Project

TESTCP_20220422

1 - 700 of 6188

1-5 of 700

View 100

Project	Object Type	Customization Count	Is Customized	Is Used	Object Value 1	Object Value 2	Object Value 3	Object Value 4
TESTCP_20220422	App Engine Program			No	DC23556290			
TESTCP_20220422	Activity			No	REVIEW_CHANGE_FEDW4_2020_INFO			
TESTCP_20220422	App Engine Program			No	DC23592503			
TESTCP_20220422	Activity			No	PROCESS_BATCH_FINAL_CHQ_CAN			
TESTCP_20220422	App Engine Program			No	DC22535583			

Included ADS Managed Objects

*ADS Project

TESTCP_20220422PTM

1-2 of 2

View All

Primary Information

Object Values 4 - 8

Project	Data Set Name	Customization Count	Data Set Record	Object Value 1	Object Value 2	Object Value 3
TESTCP_20220422PTM	PTPFB_GROUPLET		PTPFB_GROUPLET	HC_PY_IC_DIR_DEP_TL_FL		

This example illustrates the fields and controls on the Review Change Package – Customizations Impact and Existing Tests. You can find definitions for the fields and controls later on this page.

Customizations Impact

1-1 of 1

View All

Customization Name	Description	Include in Package
MY_CUSTOMIZATIONS	MY_CUSTOMIZATIONS	Yes

Existing Tests

1-10 of 63

View All

Test Name	Description	Include in Package
A_10270_LOCATION_CHANGE_01	A_10270_LOCATION_CHANGE_01	Yes
A_10310_21884318ACTIVITY_01	A_10310_21884318ACTIVITY_01	Yes
BUG17507975ASSIGNSCHED	BUG17507975ASSIGNSCHED	Yes
BUG_17591045_NO_BASIC_SEARCH	BUG_17591045_NO_BASIC_SEARCH	Yes

The Review Change Package page is displayed only to provide information on the change package. Incomplete packages will not display all of the fields.

Field or Control	Description
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.

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Field or Control	Description
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.
Excluded Bugs	For change packages that are complete, you see a grid displaying the list of excluded bugs in the change package. The Is Used field indicates interaction of objects, which are part of excluded bugs, with Usage Repository data. It can have Yes or No value.

Field or Control	Description
Included Managed Objects	For change packages that are complete, you see a grid listing the Managed Objects included in this package. The Is Used field indicates whether the object is referenced in Usage Repository. The values are: • Yes- If the managed object is referenced in the bug and the Usage Repository after usage calculation. • No- If the managed object is not referenced in the bug and the Usage Repository after usage calculation. • Not In Use- The managed objects are not uploaded in the Usage Repository. The Is Customized field is used to show if the object is part of the customization or not. This field can have the following values: • Yes- Object belongs to the Customization repository and is customized. • No- Though the object is part of Customization repository, it is a non-customized object. • Blank- Object does not belongs to the Customization repository.
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.

Bug Details

Click the Details button on the Included Bug Fixes and Excluded Bug Fixes grid to access the Bug Details page.

The Bug Details page details the bug-specific Change Package information.

Bug Details

BUG Number 21386295 **Minimum Tools Release(s)**  8.53.00

Subject ADD NEW MESSAGE TO CALC TO IDENTIFY EMPLOYEE WITH FUTURE DATED BALANCES

Delivered in Image 28

Severity 2 Severe Loss of Service

Product Name PeopleSoft Enterprise HCM Payroll for North America

Resolution To avoid the 805 abend that user faces during CONFIRM process, we have introduced a new warning message(MSGID 000618), which would be generated in calculate phase and would warn user about the future rows in balance records (EARNING, DEDUCTION and TAX). PSPSTCAL.cbl and pspstcal.dms has been modified for the same.

Also, the message generated by PAY036.sqr (Pre-confirm audit) has been modified to make it more meaningful.

Summary of Metadata for this Package

Metadata Type	Status
Tags Defined by Bug	Available
Managed Objects Included in Update	Available
ADS Managed Objects Included in Update	Not Applicable
Pre-requisite Bugs	Available
Post-requisite Bugs	Available
Customizations Impact	Not Applicable
Existing Tests	No Data Available
Components To Test	No Data Available

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.

This example illustrates the fields and controls on the Change Package Template page.

Change Package Template

Database

H92CD640

Description

Package Name

CANDIDATE

Last Updated on

03/18/2021 10:26:48AM

Package Status

Package Created

Change Package Template

1-20 of 178

View 100

Chapter	Task	Step	Step Script
Planning Your Application Changes	Running the Initial Filters	Running the Initial Filter Queries on the Target	Filter0001
Planning Your Application Changes	Running the Initial Filters	Running the Initial Filter Queries on the Source	Filter0011
Planning Your Application Changes	Understanding Your Maintenance	Reviewing the Change Package Template	
Preparing for Application Changes	Exporting Non-Managed Metadata	Running DataMover - Access Group Export	accgp_e
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	CANDIDATEPTM
Applying Application Changes	Running Filter Queries Prior to Applying Changes	Running Filter Queries to Check for Select Files	Filter0010

Deleting Change Packages

Navigation:

Select **My Update Manager Dashboard** > **Change Package Utilities** > **Delete Change Packages**

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

Delete Change Packages

User ID

PS

Search Options

Package Name

Find

Database Name

Clear

Package Status

Package Type

Select Change Packages

1-3 of 3

View All

	Package Name	Database	Status	Migrated	Type	Image Number	Last Update Date/Time	Package Description	Details
☐	EXAMPLE	H92CD610	Package Created	No	Update	32	01/27/20 7:10:30AM	EXAMPLE	
☐	ENHANCEMENTS	H92CD610	Complete	No	Update	32	01/30/20 11:47:44AM	ENHANCEMENTS	
☐	TL_ENH	H92CD610	Complete	No	Update	32	01/27/20 11:17:50AM	TL_ENH	

Deselect All

Delete Selected Package Definitions

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Field or Control	Description
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**

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.

Merge Change Packages

Step 2 of 6

Merge bugs from existing change packages into a new change package.

1
2
3
4
5
6

Previous
Next

Enter Change Package Name

The change package name must be unique for the user-selected target database.

Database	H92CD911	PeopleTools Release	8.57.00
Description			
Package Name			

Action
☒ Create
☐ Edit

Package Name

MERGE_EXAMPLE

Package Description

Merge Example

Field or Control	Description
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 **My Update Manager Dashboard** > **Change Package Utilities** > **Analyze Applied PRP(s)**

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.

Analyze Applied PRP(s)

Analyze Applied PRP(s)

Packages listed on this page were identified as having been impacted by the subsequent apply of a PRP to the Image.

Filter Options

☒ Show All
☐ Show Conflicts Only

1-7 of 7
View All

	Package Name	Type	Conflict Resolved	Initial Bug Count	Resolved Bug Count	Updated on
☐	NM4	Update	Yes	38	38	03/29/18 1:55:54AM
☐	NM5	Update	Yes	1255	1256	03/29/18 1:56:06AM
☐	NN	Update	Yes	1795	1795	03/27/18 3:07:07AM
☐	NN5	Update	Yes	1795	1796	03/27/18 3:06:19AM
☒	SYS1	Update	No	1426	Pending	03/27/18 2:43:49AM
☐	TTRRFUU1RFU	Required For Upgrade	Yes	11	14	03/27/18 3:05:28AM
☒	TTRRFUU2RFU	Required For Upgrade	No	14	Pending	03/27/18 2:52:12AM

Select All

Deselect All

Recalculate Selected Package Definitions

<i>Field or Control</i>	<i>Description</i>
Filter Options	Set the filter to show all or conflicts only.
Package Name	Name of the unapplied Change Package definition.

Field or Control	Description
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.

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 Source Image.
- Visualization of customization impact in the PUM Search.
- Ability to take action based on identified customization impacts, including PUM automatic merge for PeopleCode, SQL, and XSLT.
- 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.

- Create the project using PJRCUST, using one of these 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” (Lifecycle Management Guide)

Important! Your target database must be on PeopleTools 8.55 or above 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.

Note: PUM Automatic Merge only supports the project from database.

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” (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

The PUM Source Options page contains a section to setup the customization repository.

This example illustrates the fields and controls on the PUM Source Options — Customization Repository. You can find definitions for the fields and controls later on this page.

Field or Control	Description
Object Merge	Select Enabled to enable object merge.
Customization Repository	The Customization Repository will display Disabled until you upload some customizations. Select Manage to upload customizations.
Default Merge Rules	The Edit button is available to set default merge rules after customizations have been uploaded. GG: PSFTPT-48417, The Edit button is available to set the global default merge rules after customizations have been uploaded. You also have an option to modify the merge rules of a specific session and re-run the merge analysis without editing the global default merge rules. See Viewing PUM Automated Merge Sessions, Merge Action Menu.

Navigation:

From the Change Assistant menu select Tools, Options, PUM Source Options. Select Manage button for the Customization Repository.

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.

Manage Customization Repository

PUM(User) Data Loader

PUM Source Database
H92PUM01

Project(s) to Load Into PUM Source

Select Existing Project File(s) Select Existing Database Project(s) Create New Database Project

☒	Project Name	Type	Location	Upload Status	Project Type	Target Repository
-------------------------------------	--------------	------	----------	---------------	--------------	-------------------

Remove Selected Projects View Log

Load Exit

There are 3 options for uploading customization data:

- Select Existing Project File(s)

Note: This option is grayed out if object merge is enabled.

- 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)

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.

Select Existing Project File(s)

Target Repository:

Customization

Project Type:

Managed Objects

Object Merge:

Disabled

Folder:

C:\My_Projects

...

Search:

Search...

☐	Project Name	Description	User
☒	MY_CUST1		PS
☐	MY_TESTS		PS

Add Selected

Cancel

<i>Field or Control</i>	<i>Description</i>
Target Repository	Customization is selected and read only.

Field or Control	Description
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.
Object Merge	Disabled for Existing Project Files.
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 Selected button to return to the Upload Customer Data to Image page.

Select Existing Database Project(s)

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.

☐	Project Name	Description	User
☒	DEMOCUST		PS
☐	DEMOCST2		PS

<i>Field or Control</i>	<i>Description</i>
Target Repository	Customization is selected and read only.
Project Type	For Customizations, the project types are: - Managed Objects - ADS Managed Objects
Object Merge	Indicates if object merge is enabled or disabled.
Database	Select the target database that contains the project.
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.

This example illustrates the fields and controls on the Select Existing Database Project(s) for ADS Managed Objects.

P

Select Existing Database Project(s)

×

Target Repository:

Customization

Project Type:

ADS Managed Objects

▼

Object Merge:

Disabled

Database:

H92CDTGT

▼

Search:

aca_pg

☐	Project Name	Description	User
☐	ACA_PG	ACA pivot grid configurations	PS

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.

P

Create New Database Project

×

Database:

H92TGT01

▼

Project Name:

DB_PROJECT

Object Merge:

Disabled

Select Object Type

☒ All Customized Managed Objects

Field or Control	Description
Database	Select the database that contains the customizations.
Project Name	Enter the Project Name.
Object Merge	Indicates if object merge is enabled or disabled.

Field or Control	Description
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'.

Using Customization Repository

The Customization Repository provides the following components to manage the customizations:

1. Manage Customizations
2. Manage Repository Objects
3. Run Customization Calculation

Managing Customizations

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 the Customization Repository tile from the Update Manager Homepage.

The Manage Customizations Search page is displayed.

This example illustrates the fields and controls on the Manage Customizations Search page. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Manage Customizations' interface. On the left, a sidebar contains three items: 'Manage Customizations' (highlighted in green), 'Manage Repository Objects', and 'Run Customization Calculation'. The main content area is titled 'Manage Customizations' and includes a 'Search Customization' button and an 'Add Customization' button. Below these are three input fields: 'Customization Name' (with the value 'BEN'), 'Description', and 'Owner'. There are 'Search' and 'Clear' buttons. A table titled 'Select Customization' is displayed below the input fields. The table has three columns: 'Customization Name', 'Description', and 'Owner'. The table contains one row with the values 'BEN_CUSTOMIZATIONS', 'BEN_CUSTOMIZATIONS', and 'UNKNOWN' respectively. A right arrow is visible at the end of the row.

Field or Control	Description
Customization Name	The Customization Name is the name used to group customizations. 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. You can add additional Customization names using the Add Customization button to regroup the uploaded objects as needed.
Description	You can add a description on the Manage Customization page to assist in searching for customized objects.
Owner	You can add an owner on the Manage Customization to assist in searching for customized objects

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 Repository

Manage Customizations

Manage Repository Objects

Run Customization Calculation

Manage Customizations
PRJ30154290
[Return to Search](#)

Run Customization Calculation

Save

Details

Description
PRJ30154290

Owner
UNKNOWN

Added to Repository
05/04/2022 1:47AM

Last Updated Oprid
PS

Additional Details

Preferences

Do you want to make this Customization Active
Yes

Do you want to Include these Customized objects in Package
Yes

Attachments

You have not added Attachment
Add Attachment

Customized Objects

Manage Objects
Manage Application DataSets

+

Object Type	Object Value 1	Object Value 2	Object Value 3	Object Value 4	Customization	3 Way Merge Enabled	
Panel Group PeopleCode	TL_ENTER_TIME_FLU	GBL	SavePostChange		No	Yes	Object Version History
Panel Group Record Field PeopleCode	TL_ENTER_TIME_FLU	GBL	TL_ELP_TIME_WRK	TL_SUBMIT_PB	FieldEdit	No	Yes
Panel Group Record Field PeopleCode	TL_PRE_POP_ELP_FL	GBL	TL_ELAPSED_WRK	SUBMIT_PB	FieldChange	No	Yes

Field or Control	Description
Description	Use this field to provide a more detailed description of the customization.

Field or Control	Description
Owner	Specify the owner for the Customization.
Added to Repository	Read only field with the date the project was uploaded.
Last Updated Oprid	Read only field displaying the User ID that uploaded the customization.
Additional Details	Add any additional details to describe the customization objects in this group.
Do you want to make this Customization Active	Specify whether the customized objects in this Customization group are active. - No The customized objects are excluded from the calculation analysis. When you define a change package that contains a bug fix which impacts the customized object, the Custom Impact column will display <i>Excluded</i>. - Yes (default) The customized objects are included in the calculation analysis. When you define a change package that contains a bug fix which impacts the specified customization, the Custom Impact column will display <i>Included</i>.
Do you want to Include these Customized objects in Package	Specify whether bug fixes which impact the customized object should be, by default, included or excluded from change package creation. - No – exclude from package creation The customization objects are excluded from the calculation analysis. When you define a change package that contains a bug fix which impacts the customized object, the Custom Impact column will display <i>Excluded</i>. 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 The customized objects are included in the calculation analysis. When you define a change package that contains a bug fix which impacts the specified customization, the Custom Impact column will display <i>Included</i>.

Field or Control	Description
Add Attachment	Add documents pertaining to the customization from your local. You can upload documents of type TXT, Microsoft Excel, Microsoft Word, and PDF.
Customized Objects	The customized objects grid lists the object type, object values, if it is a customization, and if 3 way merge is enabled.

Adding Customizations

To manually add customizations:

1. Select Customization Repository from the Update Manager homepage.
2. Select Add Customization
3. Enter the Customization name and click Add.
4. Enter the details and preferences.
5. Initially, no objects will be associated with the Customization.
6. Select either Managed Objects or Manage Application DataSets.
7. Use the Add Object to Customization button to add the objects.
8. From the Add Managed Objects page or Add Application DataSets page, search for and select the objects to add.

Note: All objects that have been uploaded to the Customization Repository are available to add.

9. Use the Add icon (+) to add additional objects to the customization.

Note: Objects must be added one at a time.

10. Save the Customization.
11. Run the Customization Calculation.

This example illustrates the fields and controls on the Manage Customizations page for a new customization.

The screenshot shows the 'Manage Customizations' page in the 'Customization Repository'. The page has a sidebar with navigation links: 'Manage Customizations', 'Manage Repository Objects', and 'Run Customization Calculation'. The main content area is titled 'Manage Customizations' and shows details for a customization named 'BENEFITS_CHGS'. There are buttons for 'Run Customization Calculation' and 'Save'. The details section includes fields for 'Description', 'Owner', 'Added to Repository' (02/27/2021 12:26PM), and 'Last Updated Opriid' (PS). There is also an 'Additional Details' section with a dropdown arrow. Below this is a 'Preferences' section with two toggle switches: 'Do you want to make this Customization Active' (Yes) and 'Do you want to include these Customized objects in Package' (Yes). At the bottom is a 'Customized Objects' section with a 'Manage Objects' button and a message 'No Objects associated in this Customization'. There is also an 'Add Object to Customization' button.

This example illustrates the fields and controls on the Example Add Managed Objects page. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Add Managed Objects' dialog box. It has a title bar with a close button. Inside, there are fields for 'Object Type' (set to 'Record') and 'Object Name' (set to 'DEP'). Below these are 'Search' and 'Clear' buttons. A section titled 'Select Object' contains a table with the following data:

Object Type	Object Value 1	Object Value 2	Object Value 3	Object Value 4
Record	DEP_BENEF_VW			
Record	DEP_BEN_ADDR			

Deleting Customizations

To delete an object from the Customization:

1. Select Customization Repository from the Update Manager homepage.
2. Open the Customization Name.
3. Select the – (delete row) action in the customized object grid.
4. You will be prompted that the row will be deleted when the customization is saved.

If a customization is deleted, the customization calculation must be re-run to ensure that the correct metadata exists in the database.

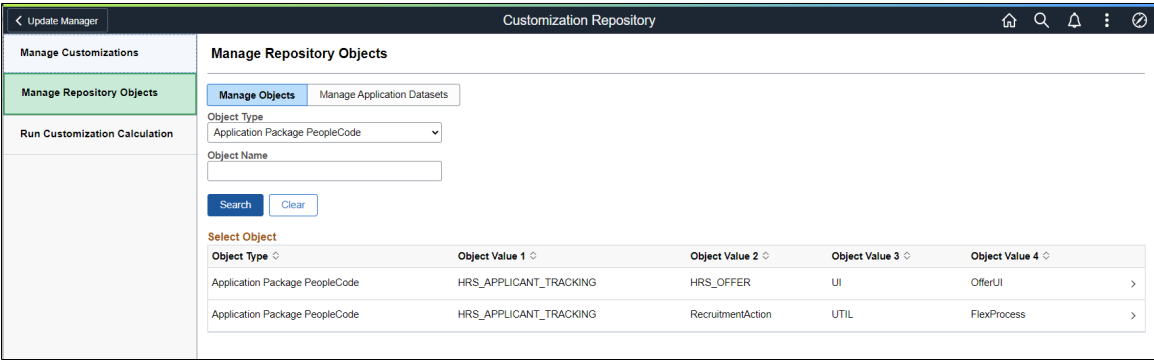
Manage Repository Objects

The Manage Customized Objects page contains a list of the customized objects. The same object may exist in more than one customization.

To access the Customization Repository page, select the Customization Repository tile from the Update Manager Homepage.

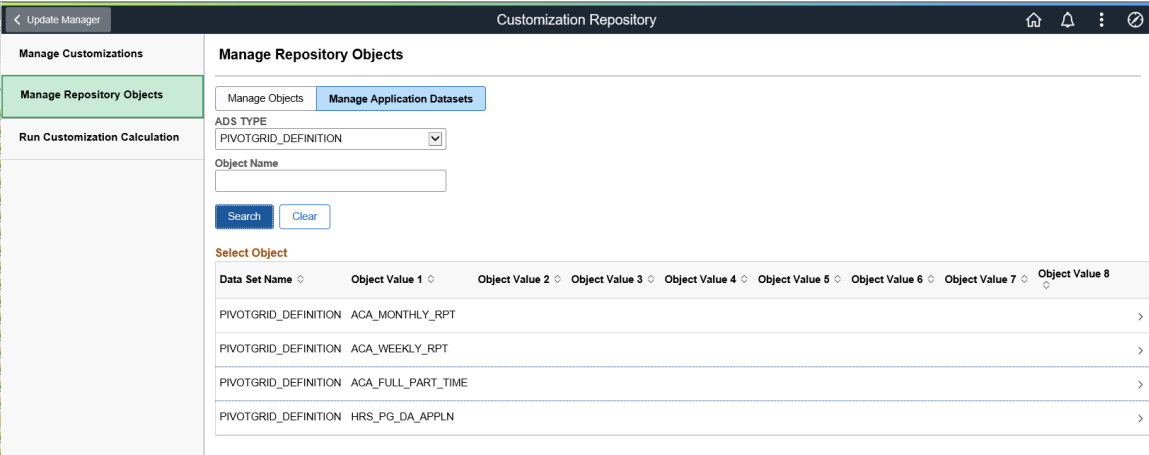
Select Manage Repository Objects.

This example illustrates the fields and controls on the Manage Repository Objects page. You can find definitions for the fields and controls later on this page.



Field or Control	Description
Object Type	Use the Object Type editbox to display customizations by object type.
Object Name	Use the Object Name editbox to display customizations for a specific object names.
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.
>	Click to open the Add/Delete Customization References page.

This example illustrates the fields and controls on the Manage Application Datasets page. You can find definitions for the fields and controls later on this page.

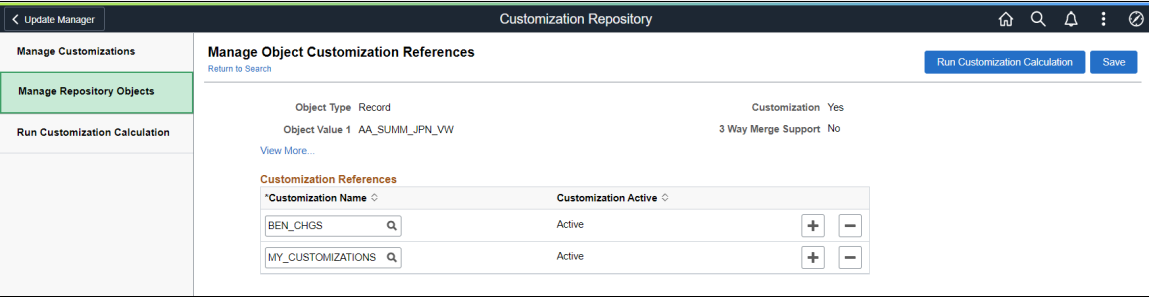


Field or Control	Description
ADS Type	Select the ADS Type to display..
Object Name	Use the Object Name editbox to display customizations for specific object names.
Data Set Name	Name of the Data Set.
Object Value 1–8	These are the key columns used to identify an ADS managed object in PUM and ADS managed object projects
Customizations	Displays the customization count. Click the count link to open the Add/Delete Customization References page.

Adding and Deleting Customization References

To add or delete customization references, click Data Set Name or the > icon. This will open the Manage Object Customization Reference page. The list of customizations to add to an object is limited to the list of customizations defined in the Customization Repository.

This example illustrates the fields and controls on the Manage Object 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 Save.

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 Save.

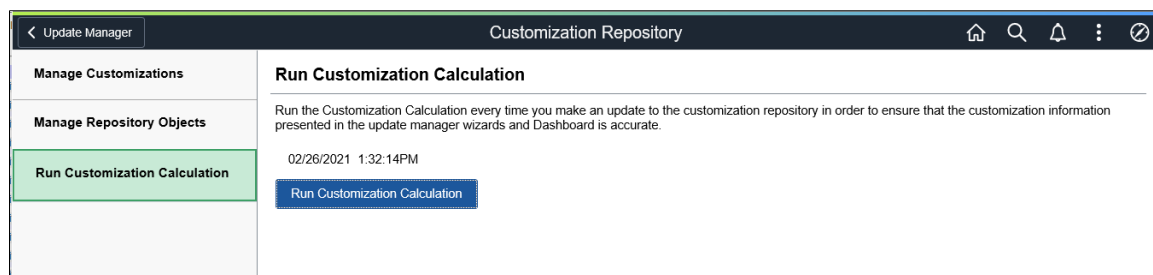
Note: If a customization reference is deleted, the Customization Calculation must be rerun.

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 Run Customization Calculation page is used to run the calculation for the customizations identified in the Customization Repository.

Both the Manage Customizations page and the Manage Object Customization References have a button to Run Customization Calculation. You can also access this page by selecting the Run Customization Calculation from the left hand menu on the Customization Repository.

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 status is dependant on which option you selected on the Manage Customizations page. *Included* indicates you want to include the definition in the change package and *Excluded* 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.

Using Administer Metadata

Defining and Managing Databases Using Update Manager

This topic discusses how to define and manage databases using Update Manager.

Defining Databases with Update Manager

Use the Define Database page to retrieve data from customer-maintained databases to PUM source database by invoking the provider API from the PUM source.

Customer-maintained database can be:

- The target database.
- An old PUM source containing the customization repository, which is on an older PUM Image.

See [Migrating PUM Data](#).

You can fetch data from customer-maintained databases without having to configure its PeopleSoft client information in Change Assistant.

Important! Integration objects created as part of provider REST service will be delivered for customer-maintained databases environments on PeopleTools releases prior to 8.60.

Only minimal information, such as, hostname and credentials, are fetched from the target database.

Prior to PeopleTools 8.60, target databases needed to be defined in Change Assistant. In PeopleTools 8.60 and higher, you can define the database in Update Manager.

For instructions on defining databases in Change Assistant, refer [Defining Databases](#)

Navigation

Update Manager > Administer Metadata > Manage Database > Define DB

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

Field or Control	Description
Database Name	Enter the database name.
Description	Use this field to provide a more detailed description of the new database.
Hostname	Enter the hostname of the webserver for the target database.
Port Number	Enter the port number of the webserver for the target database. This is the port used to create the REST Base URL.
Node Name	Enter the default local node name of the target database. This is the node used to create the REST Base URL.
Fetch DB Information	Click this button to invoke REST API for the environment specified as the hostname. If the connection is successful, the REST API returns basic database information, such as, PeopleTools version of the target database, languages installed, and base language. This information is stored in the PUM source database.
Orientation	Name: Based on the information returned after the connection is successful, you can define a role or orientation for the PeopleSoft PUM source database. For details, refer the succeeding section on database orientation. Status- Use this field to set the orientation Active or Inactive .

Once you define the database, it appears on the Manage Database page.

Database Orientation

You can assign a role or orientation for the defined database.

Based on the orientation, you can retrieve different metadata from the customer maintained database.

The database role or orientation options are:

Orientation	Description
Customization Instance	Sets the defined database (remote database) to upload customization projects. Customization projects contain either custom or deliver-objects that are customized by the customers. Customizations are uploaded using a project which has these objects.
Source-Old	Sets the defined database (remote database) as old PUM source, which contains maintenance bug metadata that is required to analyze and create Change Packages. When the next PeopleSoft Image releases, customer can use this metadata and proceed with the PUM activities. Run the Retrieve Old PUM Metadata activity from the Defined Activity page on this database to retrieve customer metadata such as, package definitions of the old PUM source, customization repository data, test repository data, PUM automated updates from the old PUM source.
Target	Sets the defined database (remote database) as the target database and retrieves target information. Target database, which is on an older release, contains information, such as maintenance log. You can use the target database information, to create a change package for applying upgrade or update maintenance.
Usage Monitor	Sets the remote database as the Usage Monitor database. Customers can use the usage data to analyze and then add objects to the Change Package. For details, refer to Handling Usage Monitor Data

Based on the orientation, different database activities appear for the remote database.

There can be multiple orientation for a remote database.

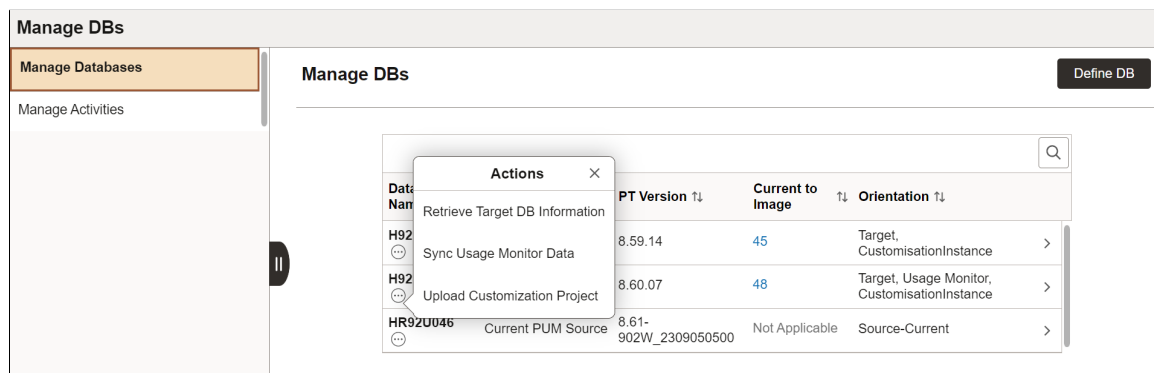
For details on the database activities, refer [Defining and Managing Database Activities](#).

Managing Databases

The Manage DBs page lists databases that were defined and uploaded through Change Assistant or defined in the Define Database page in PAU.

Initially the page displays a single row with the current PUM source database, which has only the Source-Current orientation. The current PUM source details will be read-only.

This example illustrates the fields and controls on the Manage DBs page. You can find definitions for the fields and controls later on this page.



The Actions options on the database activities appear for each database based on the database orientations defined for this database. The database can have multiple orientations.

In this example, the database on the second row (H92TD906) has three database activities based on the orientations selected. The Upload Customization Project database activity appears only because one of the orientation is Customisation Instance. Suppose you select one of the activities, such as, Sync Usage Monitor Data, then the Define Activity page opens with the pre-defined parameters.

For more information on database activities, refer [Defining Database Activities](#).

Note: The Current to Image number appears when you run the Retrieve Target DB Information activity for the chosen database.

For further details, refer [Viewing Maintenance Levels of Target Environment](#)

Viewing Maintenance Levels of Target Environment

From PeopleTools 8.61, you can know how current is your target database. The PUM source calculates the highest Image maintenance number where 90% or more of the delivered fixes up to that Image number are applied to the target database.

The calculation of the highest Image maintenance number is:

- relative to all delivered fixes applied.
- relative to all delivered fixes applied for installed products only.
- relative to all delivered regulatory fixes applied for installed products only (if applicable).

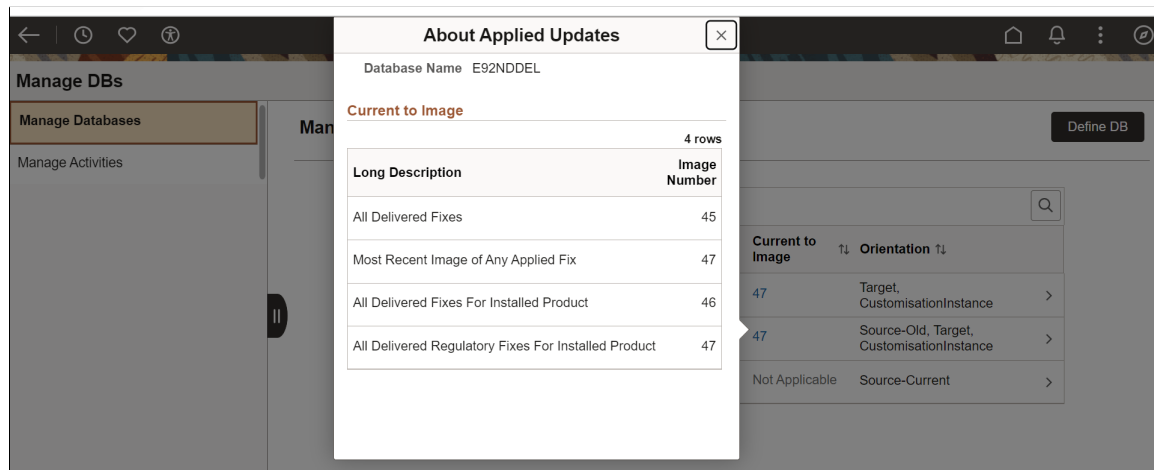
- based on the most recent Image of any applied fix.

There are two options to view this information.

First, On the Manage DBs page, click the Current to Image link to view the About Applied Updates page.

The About Applied Updates page provides a quick view of the details.

This example illustrates the fields and controls on the About Applied Updates page.



In this example,

- All Delivered Fixes- 90% or more of all the delivered maintenance that are applied are up to Image 45.
- Most Recent Image of Any Applied Fix- the highest Image number among all the fixes applied to the target database is Image 47.
- All Delivered Fixes For Installed Product- 90% or more of the delivered fixes applied for the Installed products in the Target database is up to Image 46.
- All Delivered Regulatory Fixes For Installed Product- 90% or more of the delivered regulatory fixes applied for the Installed products in the Target database is up to Image 47.

Second, on the Manage DBs page, click the database with orientation Target to view the Define Database page. The Define Database page opens to display the Current to Image section and other details as well.

The Current to Image section lets you know how current is your Target database.

This example illustrates the fields and controls on the Define Database- Current to Image section.

Define Database

Manage Databases

Manage Activities

Define Database

Cancel

Save

Details

Database Name

E92907RD

Host Name

dep04010_appdev_fusionappsdp1

Node Name

E92907RD

OPRID

VP1

Connect ID

people

Date Updated

10/17/2023 10:20PM

Fetch DB Information

Description

DEP DB

Port Number

8000

Use Https

☐

Password

Connect Password

PT Version

8.61-907R_2310100500.00

Orientation

Name ↕

Status ↕

Target

Active

+

-

Current to Image

4 rows

Long Description	Image Number
All Delivered Fixes	45
Most Recent Image of Any Applied Fix	47
All Delivered Fixes For Installed Product	46
All Delivered Regulatory Fixes For Installed Product	47

If the maintenance data is not uploaded from Target database to PUM source, then the Current to Image section displays the following message:

Upload Maintenance Log to view information. You can use Retrieve Target DB Information activity.

Defining and Managing Database Activities

This topic discusses how to define and manage database activities.

Defining Database Activities

You can run database activities on customer-maintained databases on a scheduled or ad hoc basis to fetch different metadata and perform various PUM activities.

The different activity options for a database are available based on the orientation assigned while defining the database.

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

Define Activity

Manage Databases

Manage Activities

Define Activity

Run

Save

Cancel

Activity ID

TEST

Type

Ad hoc

Activity

BackUp PUM Metadata

Load Languages

Restore PUM Metadata

Retrieve Old PUM Metadata

Retrieve Target DB Information

Sync Multiple Target DB Information

Synch Customization Repository

Synch Usage Repository

Not all activities can be scheduled. Some of the activities run only on ad hoc basis.

After defining the activity, you can run or save it to run later from the Manage Activity page.

Activity	Description
BackUp PUM Metadata	Run this activity to take a backup of the PUM user metadata from the current source to a file present in the App Server file directory. The file directory is created while provisioning the DPK. The App Server file directory is <PS_CFG_HOME>/<appserver_domain_name>/files Preferences: Select any of these metadata to back up in form of a file from the existing PUM source: - Cust Repository - Merge Repository - Test Repository - Package Definition - PUM Automated Updates If PeopleTools version for the existing source is lower than 8.59, then Merge Repository and PUM Automated Updates options will be disabled. You can schedule or run this activity on ad hoc basis.

Activity	Description
Load Languages	Run this activity to load languages to the current PUM source. This activity runs only on ad hoc basis. Select language based on Target- Select this option and then choose the database. Only databases defined as Target will be available for selection. Languages associated with this database will be displayed. Select language manually- Select this option to manually select languages which are not already installed on existing PUM source. Language list differs from application pillar to pillar. For example, if HCM supports Spanish, it will appear in the language list if the source is a HCM database.
Restore PUM Metadata	To restore the PUM user metadata from the backup file created using the BackUp PUM Metadata activity. This activity runs only on ad hoc basis. Preferences: Select the different metadata that need to be restored from the file: • Cust Repository • Merge Repository • Test Repository • Package Definition • PUM Automated Updates

Activity	Description
Retrieve Old PUM Metadata	Run this activity to fetch PUM user metadata from a database that acts as the old PUM source. Database Options: Only databases with orientation 'Source-Old' will be available for selection. Preferences: Select the different metadata that need to be retrieved from the selected old PUM Source: • Cust Repository • Merge Repository • Test Repository • Package Definition • PUM Automated Updates If the PeopleTools version of the selected database is lower than 8.59, then Merge Repository and PUM Automated Updates options will be disabled. You can schedule or run this activity on ad-hoc basis.
Retrieve Target DB Information	Run this activity to fetch maintenance log, which lists the bugs and features that are already applied, and installed product information from the selected Target database. Database Options: Only databases with orientation 'Target' will be available for selection. You can schedule or run this activity on ad-hoc basis. When you run this activity, the Current to Image section is enabled, which lets the PUM administrator know how current is your target database. For more information, refer, Managing Databases and Viewing Maintenance Levels of Target Environment
Synch Usage Repository	Run this activity to fetch information from the database that is defined as Usage Monitor database. Database Options: Only databases with orientation 'Usage Monitor' will be available for selection.

Activity	Description
Synch Customization Repository	Run this activity to fetch information from the database that is defined as Customization Instance. Database Options: Only databases with orientation 'Customization Instance' will be available for selection. Preferences: This indicates if object merge is enabled or disabled in PUM Source Settings. If you have enabled object merge in PUM Source Settings (Update Settings tile), then all the mergeable objects will be fetched during the upload of the customization project and appropriate version numbers are assigned. Add project to load Customization to Source: Add the customization projects. Click the Details link to view the details, such as, project definition.
Sync Multiple Target DB Information	Run this activity to upload maintenance logs of all the target databases defined in a single job. This activity creates a new PAU job for all the target databases and fetches maintenance log of each database (one by one). If a PAU job already exists for any target database, then that job name will be used.

The Load Languages, BackUp PUM Metadata, and Restore PUM Metadata are source-only activities as these affect only the PUM source database.

The remaining activities can be referred as integration activities as these triggers metadata exchange or synchronization between the source and customer maintained databases.

Managing Database Activities

The Manage Activity page displays the status and details of the activities defined and scheduled or run on the Define Activity page.

This example illustrates the fields and controls on the Manage Activity page. You can find definitions for the fields and controls later on this page.

Manage Activity	
Manage Databases	Manage Activity Define Activity
Manage Activities	
Check Name TL MDACT_2022-06-22-07.08.43.0 MDACT_2022-06-22-06.51.16.0 MDACT_2022-06-22-06.40.20.0 MDACT_2022-06-22-06.37.16.0 Update Delete Run History Adhoc Retrieve Target DB Information Activity TL Sync Usage Monitor Data Sync Merge Repository Objects Retrieve Old PUM Metadata Retrieve Target DB Information Last Run Datetime TL 06/22/2022 7:09AM 06/22/2022 7:00AM 06/22/2022 6:50AM 06/22/2022 6:39AM Status TL Success Success Success Success	

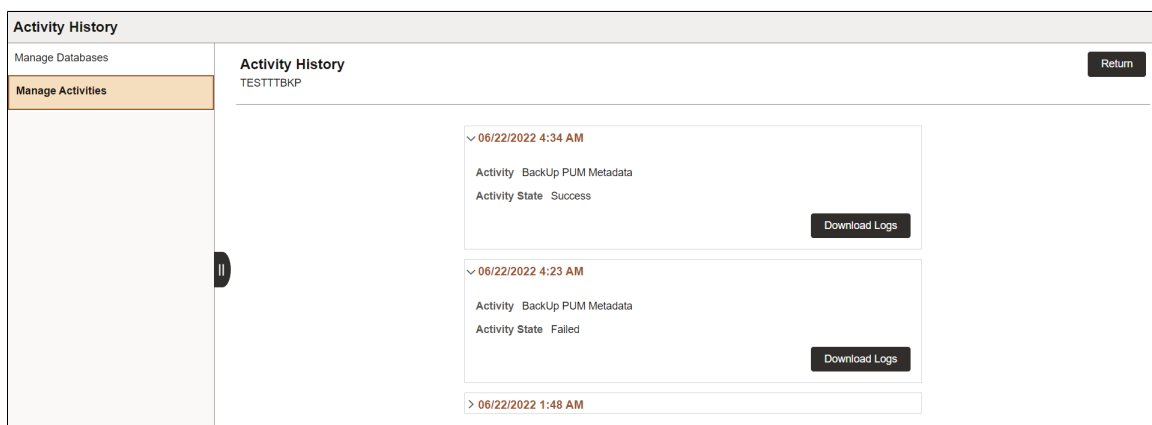
The activities that were saved and not run on the Define Activity page will not show any status on this page.

Actions	Description
Update	Select to edit the activity.
Delete	Select to delete the activity. You can delete scheduled and ad hoc activities.
Run	Select to run the activity that was defined and saved.
History	Select to view the run history and logs of the activity. Alternatively, you can click on the row or the chevron (>) icon to view the history and logs.

Viewing Activity History

Select the History action from the Manage Activity page to view the activity history.

This example illustrates the fields and controls on the Activity History page. You can find definitions for the fields and controls later on this page.



Open the Activity History page of an activity to view the number of activity runs.

History is logged in order of the activity run with the date and status.

Click Download Logs to download the zipped log files. You can review these files and troubleshoot.

Using Usage Repository

Understanding Usage Repository

Usage Repository assists customers in fetching usage monitor data from different databases.

Customers can use this data to analyze and then add objects to the Change Package.

The usage repository can be used to:

- View usage monitor data.
- Run usage calculation.

Usage Monitor data fetched from different databases is stored in the PUM Usage Monitor table.

Handling Usage Monitor Data

From PeopleTools 8.60, Usage Monitor data is fetched from different databases and stored in the PUM Usage Monitor table.

When users upload usage data to PUM source, relevant details are added to the PUM Usage Monitor table.

Usage flags are introduced in this table to indicate the usage of Usage Monitor.

<i>Flag Value</i>	<i>Use</i>
X	Default value, and it indicates that the Usage Monitor is not in use.
Y	This value is used when user uploads usage data in PUM source and Bug Calculation for Usage Monitor data is not done.
N	This value is used when user uploads usage data in PUM source and Bug Calculation for Usage Monitor data is done.

Uploading Usage Data Using Integration Broker

The Usage Monitor data fetched from different databases are uploaded to the PUM Usage Monitor table through the Integration Broker.

To upload the data through Integration Broker, first the PUM source invokes the Usage Instance through REST based APIs.

The APIs import the usage monitor information, which then gets populated into the PUM Usage Monitor table.

You can define a database that can act as a Usage Instance. To define, set the orientation as **Usage Monitor** in the Define Database page (Update Manager, Administer Metadata, Manage Database).

For details, refer to [Defining and Managing Databases Using Update Manager](#).

Next, users can define an activity of type **Synch Usage Repository** to fetch the information from this Usage Instance database. You can define this activity on the Define Activity page (Update Manager, Administer Metadata, Manage Activities).

For details, refer to [Defining and Managing Database Activities](#).

Usage History Table

The usage history table maintains information of the database from which Usage Monitor data is imported.

When Usage Monitor data is fetched from any database for the first time, the usage history table populates the data against that database with last update time value as time of upload.

For the subsequent run, the system verifies if the data exists for that database in the usage history table. If the data exists, then it imports the Usage Monitor data collected after the last update time of the history table and this table will be updated with the latest last update time value. Basically, only the latest data is fetched in subsequent runs.

Viewing Usage Monitor Data

The View Usage Data page displays usage data of each object.

Based on usage data of an object, you can decide to add an object in a Change Package.

This example illustrates the fields and controls on the View Usage Data page.

The screenshot shows the 'View Usage Data' page. On the left is a sidebar with 'View Usage Data' (selected) and 'Run Usage Calculation'. The main area has a 'View Usage Data' header and a search section with 'Object Type' (set to 'Record') and 'Object Value 1'. Below the search are 'Search' and 'Clear' buttons. A table displays usage data with 36 rows. The table has columns: Object Type T1, Object Value 1 T1, Object Value 2 T1, Object Value 3 T1, and Object Value 4 T1. The first three rows are visible:

Object Type T1	Object Value 1 T1	Object Value 2 T1	Object Value 3 T1	Object Value 4 T1
Record	DERIVED_PSWD			
Record	FUNCLIB_PTPP			
Record	PSCAMA			

This example illustrates the fields and controls on the View Usage Object References page.

View Usage Object References		
View Usage Data	View Usage Object References	
Run Usage Calculation	Return to Search	
	Object Type	Record
	Object Value 1	DERIVED_PSWD
	Object Value 2	
	Object Value 3	
	Object Value 4	
	View Less	
	Is Used	Yes

The Is Used field on this page let's you know if the object is being used in a Change Package

Running Usage Calculation

The Run Usage Calculation page lets you to verify all the objects delivered in bugs applied in the PUM source database against the objects uploaded in the Usage Repository and this result is stored in the PUM source table.

A flag is introduced in the PUM source table is used to identify the bugs having objects that are also uploaded in the Usage Repository.

If the value of the flag is **Yes**, then the bug has objects which are also uploaded in the Usage Repository.

If the value of the flag is **No**, then the bug does not have objects uploaded in the Usage Repository.

The flag value helps in setting usage values for a Change Package definition.

This example illustrates the fields and controls on the Run Usage Calculation page.

Run Usage Calculation	
View Usage Data	Run Usage Calculation
Run Usage Calculation	Run the Usage Calculation every time you make an update to the usage repository in order to ensure that the usage information presented in the update manager wizards and Dashboard is accurate.
	Run Usage Calculation

Click the Run Usage Calculation to update the usage calculation.

Using PUM Automated Merge

Understanding PUM Automated Merge

Beginning with PeopleTools 8.59.02, Change Assistant supports object merge for PeopleCode, SQL and XSLT objects in your Customization Repository.

When you enable object merge in Change Assistant and upload customizations to the PUM source, the data for the PeopleCode, XSLT or SQL objects will be included in the merge repository.

If Object Merge is enabled and a change package is created that contains merge enabled objects, the merge rules are used to automatically merge the code.

The merge session contains three sets of data:

- **Baseline Object-** This is the previous version of the delivered object in the PUM source database.
- **Customized Object-** This is the data uploaded by user to the customization and merge repository on the PUM source database.

See [Uploading Customer Data to Image](#).

- **Delivered Object-** This is the PeopleSoft delivered data in the PUM source database.

Object merge does a line by line comparison of PeopleCode, SQL or XSLT objects of customized object and delivered object with the baseline object to determine the change for each line. The change can include adding a new line, changing an existing line, or deleting an existing line. While generating a merged output if there is a conflict during the comparison of a line, then the merge process uses the merge rules to resolve the conflict and choose the user-preferred option.

You can find examples of Object merge in [Enabling PUM Automated Merge](#)

Note that in the initial Change Package create process, Change Assistant exports Object Merge project only with the metadata that is required for the Change Package create process. After running the object merge, the entire project is exported.

From PeopleTools 8.61, you can enable object merge in PAU as well.

Enabling PUM Automated Merge

To enable Object Merge in Change Assistant:

1. In Change Assistant, select Tools, Options.
2. Select the PUM Source tab.

3. Select Enabled for Object Merge to enable object merge.
4. (Optional) Use the Show button for a list of mergeable objects.
5. Select Manage button for the Customization Repository to upload customization projects to the PUM Source. See [Uploading Customer Data to Image](#)

Note: Only *Select Existing Database Object* and *Create New Database Project* options are available on Manage Customization Repository page if Object Merge is enabled.

See [Uploading Customer Data to Image](#)

6. Select Edit button for the Default Merge Rules to review or change the default merge rules.

See [Defining Default Merge Rules](#).

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

The screenshot shows the 'Change Assistant Wizard' window with the 'PUM Source Options' tab selected. The left sidebar contains a tree view with 'Options' and 'Tasks' sections. Under 'Options', 'PUM Source' is selected. The main area contains several sections:

- PUM Source Details:** Includes a checked 'Define PUM Source' checkbox, a dropdown for '*PUM Source Database:' (set to 'HR92PUM1'), a text field for '*PUM(PI_HOME) Directory:' (set to 'C:\psft\ptl\hcm_pi_home\'), and a text field for '*PUM Source PIA URL:' (set to 'http://.../s/signon.html'). Each has a corresponding button (Create, ..., or a button with a right arrow).
- PUM Source Additional Settings:** Includes a text field for 'Installed Languages:' (set to 'ENG') and an 'Install' button.
- Customization Repository:** Includes a dropdown for 'Object Merge:' (set to 'Enabled'), a text field for 'Customization Repository:' (set to 'Enabled'), and a text field for 'Default Merge Rules:'. Each has a button (Show, Manage, or Edit).
- Test Repository:** Includes a text field for 'Test Repository:' (set to 'Disabled') and a 'Manage' button.
- Metadata Management:** Includes a text field for 'Migrate Customer Data:' and a 'Manage' button.

At the bottom of the dialog are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'.

If you enable object merge, the following steps get enabled in Change Assistant. Run these in the order listed:

- Running the Merge Analysis Process
- Backing up Source Objects Prior to Merge Promotion
- Running the Merge Promotion Process
- Exporting Change Package MO Project from Source

- Restoring Source Objects after completing Merge

After these five steps are run, the object merge is complete. Now, the modified Change Package is available that includes your customization.

Note: If you do not enable the object merge, all the PeopleSoft-delivered changes will be applied to the Target database.

Defining Default Merge Rules

The default merge rules provide the basis for the automatic merge.

Select the Edit button for default merge rules to review or modify the default merge rules. This merge rules are considered as global merge settings and can be used in all future merge sessions.

When the merge analysis runs, if a difference is detected for a line of code, this table is used to determine the action to be taken based on the status combination.

This example illustrates the fields and controls on the Default Merge Rules page. You can find definitions for the fields and controls later on this page.

Customized Object Line	Delivered Object Line	Customized Line	Customized Line as Note	Delivered Line	Delivered Line 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	☒	☐	☐	☒

Save as Default Restore Defaults Cancel

Modify the default rules as necessary for your environment.

Customized Line is the data uploaded by user to the customization and merge repository.

Delivered Line is PeopleSoft delivered data in the PUM source.

If Customized Line or Delivered Line is selected, then it is considered for merge whenever there is a merge conflict.

If the Customized Line as Note or Delivered Line as Note column is selected, the customized or delivered line will be displayed as a note and greyed out in the Merge Session. This helps to visualize and verify which line is getting merged or replaced by the merge rules. Basically, these lines are not added to the merged output.

Select the Restore Defaults button to restore the default rules that was already delivered.

Select the Save as Default button to keep the modified merge rule as default.

Review the merge rules in the following table. This table details the merge rules that are displayed in the preceding Default Merge Rules page example.

In this table, the Customized Object Line column shows the result of line by line comparison between the customized object line and the baseline object. The values such as Added, Changed, Deleted, and so on are displayed based on this comparison. Similarly, the Delivered Object Line column displays values based on the line by line comparison between the PeopleSoft delivered object and the baseline object.

Rules	Customized Object Line	Delivered Object Line	Customized Line	Customized Line as Note	Delivered Line	Delivered Line as Note
Added-N/A	Added- This line was newly added by the user.	N/A- No new delivered line is added in the delivered object when compared with the baseline object.	The customized line is selected and will be considered for the merge.	Not selected.	Not available for selection because no new delivered line is added.	Not available for selection.
Added-Added Note: When the newly added customized line and the delivered line are different, then Added-N/A and N/A-Added merge rules will be applicable.	Added- This line was newly added by the user.	Added- PeopleSoft also delivered the same line.	The customized line is selected and will be considered for the merge.	Not selected.	Not available for selection. In this case customized line and delivered line are the same. To prevent duplication, the delivered line is not available for selection.	Not available for selection.
Changed-Common	Changed- This line in the customized object was changed by the user while comparing with the baseline object.	Common- This line in the delivered object is same as the line in the parent (baseline) object. Therefore, there is no change in this line.	The customized line is selected and will be considered for the merge.	Not selected.	Not selected. Note: You can select both the customized line and delivered line in this merge rule.	Not selected.

Rules	Customized Object Line	Delivered Object Line	Customized Line	Customized Line as Note	Delivered Line	Delivered Line as Note
Changed-Added	Changed- This line in the customized object was changed by the user while comparing with the baseline object.	Added- PeopleSoft delivered a new line.	The customized line is selected and will be considered for the merge.	Not selected.	Not selected. Note: You can select both the customized line and delivered line in this merge rule.	Selected. The delivered new line will appear as a note. This note let users know as per this merge rule the customized line will be selected in merge output, not the new line in the delivered object. Helps users to verify which is the conflicting line and which is the chosen line in the merge session.
Changed-Changed	Changed- This line in the customized object was changed by the user while comparing customized object with the baseline object.	Changed- This line in the delivered object is changed by PeopleSoft while comparing with the baseline object.	The customized line is selected and will be considered for the merge.	Not selected.	Not selected.	Selected. The changed line in the delivered object will appear as a note.
Changed-Deleted	Changed- This line in the customized object was changed by the user while comparing customized object with the baseline object..	Deleted- This line in the delivered object is deleted when comparing delivered object with the baseline object.	The customized line is selected and will be considered for the merge.	Not selected.	Not selected.	Selected. In this note, the deleted line from the delivered version is displayed.

Rules	Customized Object Line	Delivered Object Line	Customized Line	Customized Line as Note	Delivered Line	Delivered Line as Note
Deleted-Common	Deleted-This line in the customized object is deleted by the user while comparing customized object with the baseline object.	Common-This line in the delivered object is same as the line in the parent (baseline) object. Therefore, there is no change in this line.	Not available for selection.	Selected. In this note, the deleted line from the customized object is displayed.	Not selected.	Not selected.
Deleted-Changed	Deleted- This line in the customized object is deleted by the user while comparing customized object with the baseline object.	Changed- This line in the delivered object is changed by PeopleSoft.	The deletion of this customized line was considered during the merge.	Not selected.	Not selected.	Selected. The delivered line will be shown as a note.
Deleted-Deleted	Deleted- This line in the customized object is deleted by the user while comparing customized object with the baseline object.	Deleted- This line in the delivered object is deleted while comparing delivered object with the baseline object.	Not available for selection as the line is deleted in both customized object and delivered object.	Selected. In this note, the deleted line from the customized object is displayed.	Not available for selection as the line is deleted in both customized object and delivered object.	Not selected.
Common-Common	Common-This line in the customized object is same as the line in the parent (baseline) object. Therefore, there is no change in this line.	Common-This line in the delivered object is same as the line in the parent (baseline) object. Therefore, there is no change in this line.	The customized line is considered during the merge.	Not selected.	Not available for selection as the line is same.	Not selected.
N/A-Added	N/A-No new customized line is added in the customized object when compared with the baseline object.	Added-PeopleSoft delivered a new line.	Not available for selection because no new customized line is added.	Not selected.	Not selected.	Selected. The newly added line is displayed as a note.

Rules	Customized Object Line	Delivered Object Line	Customized Line	Customized Line as Note	Delivered Line	Delivered Line as Note
Common-Changed	Common- This line in the customized object is same as the line in the parent (baseline) object. Therefore, there is no change in this line.	Changed- This line in the delivered object is changed by PeopleSoft.	The customized line is selected and will be considered for the merge.	Not selected.	Not selected.	Selected. The delivered line will be shown as a note.
Common-Deleted	Common- This line in the customized object is same as the line in the parent (baseline) object. Therefore, there is no change in this line.	Deleted- This line in the delivered object is deleted while comparing delivered object with the baseline object.	The customized line is selected and will be considered for the merge.	Not selected.	Not selected.	Selected. In this note, the deleted line from the delivered version is displayed.

From PeopleTools 8.61, you can choose to modify the merge rules of a specific session and re-run the merge analysis. In this way, you don't have to always edit the default merge rules through Tools, Options, PUM Source tab.

For details on modifying the merge rules of a specific session, see [Viewing PUM Automated Merge Sessions](#), Merge Action Menu.

Versioning of Objects

Customization objects that are uploaded to merge repository are assigned a version number. Only those objects that have version numbers are considered during the merge analysis step.

After running merge analysis, when the promote merge step is run, the merged output is written back to the merge repository with a newly calculated version number.

The versioning format is `nn.xx.yyy`.

where,

`nn`- indicates the Image number.

`xx`- is reserved for future use.

`yyy`- indicates the upload iteration of the object. This increments when the same object is uploaded again.

Example on how versioning is calculated:

Consider a development (target) database which has updates applied from Application Update Image 12. An Object X (Peoplecode, XSLT, or SQL), has been customized by user in the development database.

Assume that the same object X was modified or delivered by multiple bugs (Bug 1, Bug 3, Bug 7, and Bug 8) in the following Images, which were applied to the development database:

- Bug 1 delivered in Image 05.
- Bug 3 delivered in Image 07.
- Bug 7 delivered in Image 11.
- Bug 8 delivered in Image 13.

If bugs Bug 1, Bug 3 and Bug 7 were applied on the development (target) database, then the version of Object X in the PUM Source will be 11.00.001, where:

11- indicates the version of the highest Image in which Object X was modified or delivered.

00- reserved for future use.

001- indicates the upload iteration. In this case, the Object X was uploaded for the first time.

If the same object is uploaded again, then the version of Object X is 11.00.002.

If all the bugs Bug 1, Bug 3, Bug 7, and Bug 8 are applied on the development database, then the version of Object X will be 13.00.001.

An Object Y, which is created by customer, and not delivered by PeopleSoft Images will not be considered for merge. This object is assigned the version 99.00.001 to identify as a customer created object. Object Y is not part of the merge process since there is no equivalent delivered object.

Assume that Bug 9 delivers Object X in Image 14. If the merge process is run using Image 14 with Object X, then the merged version of Object X is assigned 14.00.001 and written-back to the merge repository.

On the Customization Repository pages in PIA, you can view the version numbers of the customization objects.

This example illustrates the fields and controls on the Object Version History page.

Object Version History

Object Value 1 PTIACUSTATT_DVW Customization Yes
 Object Value 2 PTIAATTACHFILENAME 3 Way Merge Support Yes
 Object Value 3 FieldChange

[View More...](#)

3 Way Merge Historic Data 1 row

Merge Object Version	Last Update User ID	Last Update Date/Time
99.00.001	PS	03/11/22 6:51:55AM

The background shows the Customization Repository interface with a list of objects. A red arrow points from the 'Object Version History' link in the background to the dialog box.

Retaining Object Merge Data and Session

Change Assistant writes back merged version of customized objects and merge session details in PUM source as part of the promote merge step.

For subsequent PeopleSoft application maintenance updates, Change Assistant can use the previously written-back merged objects as the latest customizations. This avoids re-upload of customizations.

Note: If you have additional customizations after the last maintenance updates, you have to re-upload those to the PUM source.

Managing versions of customizations and details of merge sessions allows you to:

- Use previous merge session objects for the next merge session.
- Re-run merge sessions multiple times with same version of customization objects.
- Use the appropriate object version of customized objects in different merge use cases as explained below.
- Delete merge sessions, including promoted written-back versions, to roll back to use user uploaded version of customizations in the next run of merge process.

Few use cases on how to select the appropriate object versions of customized objects for merge analysis:

- When you run merge analysis for the first time, there is no record of merge sessions stored in the PUM source. In this case, Change Assistant uses the latest uploaded customization objects for merge analysis. When running merge promotion, the merged version of the object is written-back in the PUM source to be used in subsequent runs of merge process.
- You can run the merge analysis step again with modified merge rules until the merged version of the object is satisfactory. If you want to only change the merge rules to tweak the merge output, but use the same object versions that were used in the previous merge process run, then you can do so by re-running the merge analysis step with same merge session name.

Using the same merge session name, lets you to pick the same set of customization objects that were used in the previous run of that session.

- After running a merge session (SESSN1), an updated merged version of the customization (M1), is written-back to the merge repository tables. On next merge session run (SESSN2), M1 will be used. If you want to revert to using the previous user uploaded version (A) instead of M1, then the merge session that wrote-back the merged version of the object must be deleted, which is SESSN1.

User may also run the previously run merge session SESSN1 which will use same objects for merge which were used in last run.

If you want to upload a new version of the customization object again (A2) and use SESSN2, then all previous merge sessions, including SESSN1, must be deleted. This is a scenario if A2 version is lower than the written-back version of the object (M1) from any previous merge runs (SESSN1).

By deleting all the previous merge sessions (SESSN1), the merge output that was written-back gets deleted (M1). At this point, Change Assistant picks the latest customization that was re-uploaded (A2).

To delete, refer the succeeding section on deleting merge session.

Note: New version of customizations can be uploaded using either Change Assistant or Administer Metadata in Update Manager.

For details on syncing merge repository through Administer Metadata, refer to [Defining and Managing Database Activities](#)

- When the merge analysis step runs on a subsequent change package apply job, the latest version of customization objects are picked from the merge repository. The latest version could either be the written-back version of the customization objects from the previous merge session or the version of the object that was synced through the Administer Metadata; whichever is the highest version of that object.

Delete Merge Session

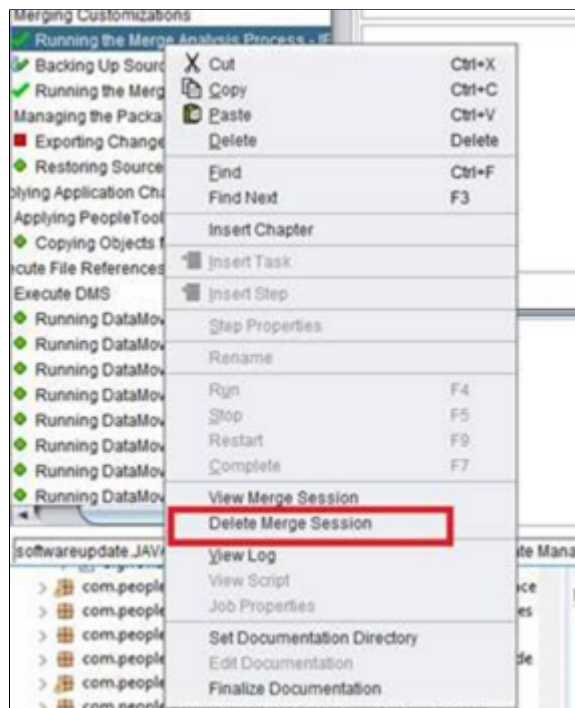
You can delete existing merge sessions in Change Assistant. This deletes the merge session data and the corresponding merged objects.

To delete existing merge session in Change Assistant:

1. Set the action type as View PUM Automated Merge Sessions.
2. Open the Tools menu.
3. Select Merge PeopleCode/SQLT/XSLT option.
4. Next, select Delete Merge Session.

In the Delete Merge Session window, you can select multiple merge sessions to delete using the Shift and down arrow key.

You can also delete a merge session while applying a change package.



You can also delete merge sessions from the command line.

For more details, refer to [Constructing Command Line to View and Delete Merge Sessions](#)

Merge Session History

Change Assistant maintains the merge session details in the merge session history tables.

When customer runs the same merge session multiple times, then Change Assistant can lookup the merge session history tables to use the same set of customized objects that were used for merge analysis. This allows customer to run multiple sessions with changed merged rules.

When a merge session is re-run, Change Assistant deletes the previous merge session with the same merge name and inserts the latest one as the active merge session.

You can migrate (import or export) merge history tables.

In Change Assistant, select Tools, Options, PUM Source tab, then click Manage for Migrate Customer Data.

This example illustrates the fields and controls on the PUM Data Migration page.

PUM Data Migration

PUM(User) Metadata from Existing PUM Source:

☒ Export PUM(User) Metadata from existing PUM Source

E92FSCMS Create

Data Type

☐ Customization Repository ☒ Merge Repository

☐ Test Repository ☐ PUM Automated Updates

☐ Package Definitions ☐ Usage Monitor Repository

Export To: ...

☒ Import PUM(User) Metadata to New PUM Source

E92FSCMT Create

Data Type

☐ Customization Repository ☒ Merge Repository

☐ Test Repository ☐ PUM Automated Updates

☐ Package Definitions ☐ Usage Monitor Repository

☒ Overwrite if exists ☐ Ignore duplicate

File Type

☒ Same As Export ☐ Specify

Import From: ...

Import / Export Cancel

Select the appropriate Merge Repository option to import or export merge history tables.

Applying Change Package That Includes Merge-Enabled Objects

When merge-enabled objects are included in a change package, additional steps will be present in the Change Assistant job template to perform the automatic merge.

The new steps will perform the following update actions:

1. Running the Merge Analysis Process-IP

This step will run the merge analysis process in the initial pass for mergeable objects included in the current change package. The merged code is stored in staging tables.

2. Backing Up Source Objects Prior to Merge Promotion

This step will run Copy to File for existing (delivered) objects from PUM source prior to merge promotion. This file is used to restore the PUM Image to it's original (pre-merge) state after the merging process is complete.

3. Running the Merge Promotion Process-IP

This step will run in the initial pass to promote the staging tables to the PUM Source tables.

4. Exporting Change Package MO Project from Source

This step creates a project with the merged code that is exported back into the change package.

5. Restoring Source Objects After Completing Merge

This step runs the Copy from File to restore the PUM delivered objects from the backup created in the step *Backing Up Source Objects Prior to Promotion*.

6. Running Compare of Vanilla Object Project

This step compares the PeopleSoft delivered version of the objects that were merged to the target database. These secondary compare reports can be used for additional reference when reviewing the primary compare results which compare the *Merged* versions of the mergeable objects to your target database.

7. Updating the Project Actions for Merged Objects

After the Managed Object compare is run, you can review the compare reports which will show how the code was merged.

Note: If the merge steps fail, you can view the Merge Session to resolve any issues. See [Viewing PUM Automated Merge Sessions](#).

Viewing PUM Automated Merge Sessions

The PUM Automated Merge Session displays how the code is automatically merged based on the merge rules. This page can be used if the merge steps in the template fail or to review how the code was merged.

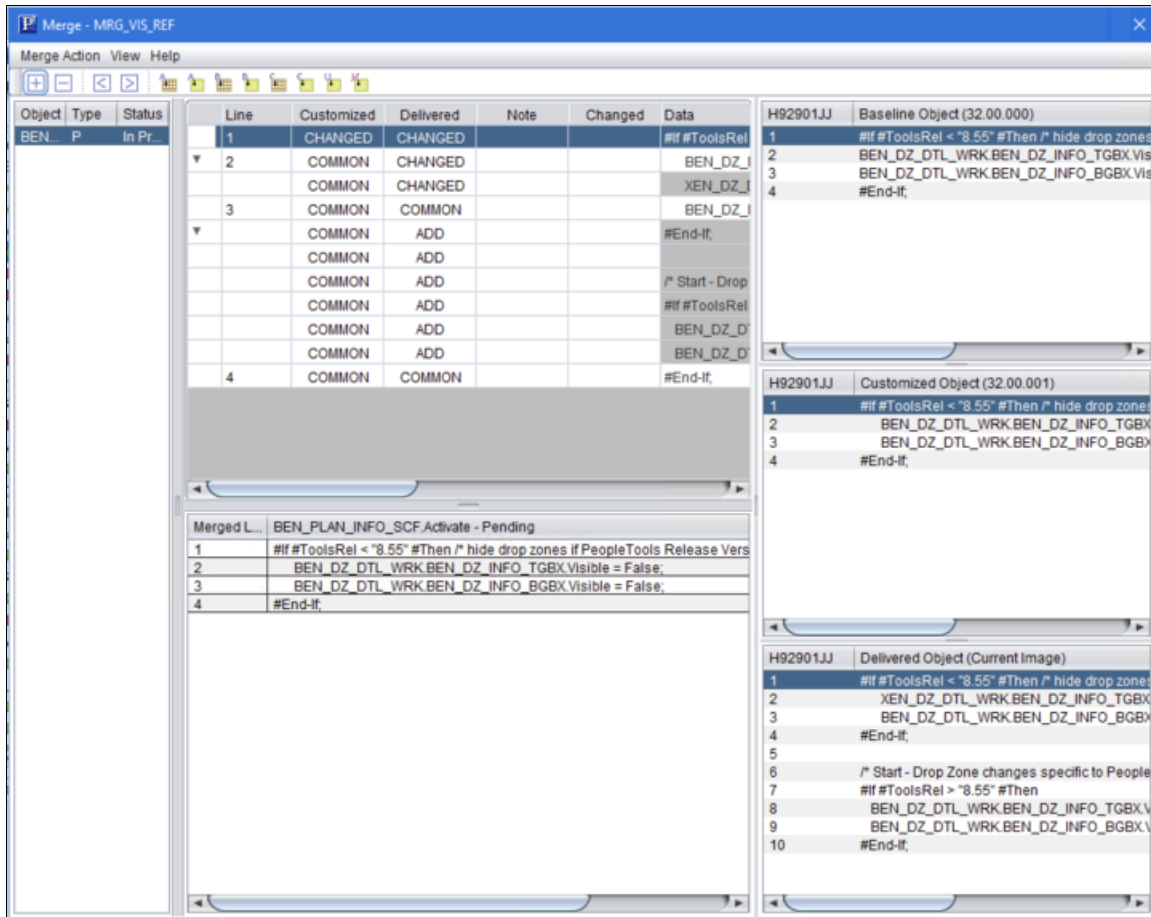
To access a merge session from a Change Assistant job, right-click on the step Running Object Merge and select View Merge Session.

To access a Merge Session in Change Assistant:

1. From the menu, select Change Action.
2. If the Welcome page is displayed, click Next.
3. Select View PUM Automated Merge Sessions and click Next.

4. Select Open Existing Merge Session and click Finish.
5. Select the PUM Source Database and click OK.
6. Select the Merge Session.

This example illustrates the different panes present on the Merge Session page. You can find definitions for the fields and controls later



When the merge analysis is run, the rules defined in the Default Merge Rules page will be applied. Refer [Enabling PUM Automated Merge](#).

For example, the first line in Merge Edit pane shows 'CHANGED' for both Customized Line and Delivered Line. On the Default Merge Rules page (check [Enabling PUM Automated Merge](#), [Defining Default Merge Rules](#)), the merge rule for CHANGED- CHANGED is defined to retain the Customized line and ignore the Delivered line. Therefore, in the result, only the Customized Line is displayed.

The Merge page contains these windows:

- Object list
- Merge edit pane
- Merge output pane
- Baseline Object

- Customized Object
- Delivered Object

The object versions of baseline object and customized object are displayed, which lets you to identify the object versions that participated in merge process.

The Merge Analysis log shows objects and its versions that participated in object merge process.

If the merge promotion step runs successfully, then the status shows 'Promoted.'

If the merge promotion step is not run, then the status shows 'In Progress.'

Merge Action Menu

Menu Option	Description
Save Session	Select to save session.
Edit Merge Session Rules	Select to edit the merge rules of the current merge session. Lets you to modify the merge rules for the current merge session without modifying the default global merge rules, which is defined in Tools, Options, PUM Source tab. For details, review Editing Merge Session Rules.
Delete Merge Session	Select to delete the current merge session.
Exit	Select to exit.

Object List

Header or Option	Description
Object	Mergeable object name.
Type	Object type: • P (PeopleCode) • S (SQL) • X (XSLT)

Header or Option	Description
Status	Object Status: • In Progress (Default status. Will be considered for promote merge) • Completed (Optional - User can mark this as complete after review. Objects with this status as well will be considered for promote merge) • No Action (User can select this if he/she does not want the respective object to be merged in promote merge step) • Applied (Only visible and selected when object is merged in promote merge step)

Merge Edit Pane

Change Assistant displays the comparison in the merge edit pane. Lines from Customized and Delivered are listed in the merge pane and in the output pane according to the merge rules.

In the merge edit pane, the Customized and Delivered 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

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.

- Highlight a line in the merge edit pane.

The new line will be inserted below the highlighted line.

- 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:

<i>Field or Control</i>	<i>Description</i>
	Add line.
	Delete line.
	Previous difference.
	Next difference.
	Insert Parent line.
	Insert Parent line as note.
	Insert Customized line.
	Insert Customized line as note.
	Insert Delivered line.

Field or Control	Description
	Insert Delivered 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 Baseline Object, Customized Object, and Delivered Object windows.

Editing Merge Session Rules

You can modify the merge rules of the current or a specific merge session of the Running the Merge Analysis Process step without having to modify the default global merge rules defined in Tools, Options, PUM Source tab.

To modify the merge rule:

1. Right-click on the Running the Merge Analysis Process step.
2. Select View Merge Session.
3. On the Merge Action menu, select Edit Merge Rules.
4. Modify the merge rules by selecting or de-selecting the check boxes on the Edit Merge Session Rules window.
5. Click the Save for Session button.

To apply the modified merge session rules, re-run the Running the Merge Analysis Process step.

You can keep modifying the merge rules until you get a satisfactory result.

You can choose to set the modified merge rule that gave the satisfactory result as default for the future merge analysis runs by selecting Save as Default button.

This example illustrates the fields and controls on the Edit Merge Session Rules page. You can find definitions for the fields and controls later

Edit Merge Session Rules - MRGOBJECTMERGE_TEST
✕

Customized Object Line	Delivered Object Line	Customized Line	Customized Line as Note	Delivered Line	Delivered Line 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	☒	☐	☐	☒

Save as Default
Save for Session
Restore Defaults
Cancel

Field or Control	Description
Save as Default	Lets you to save the modified merge rule as default. This option is enabled when you modify the current merge rules. If this is disabled, then the rule that you see currently is the default merge rule. You can also directly modify the rules on the Edit Merge Session Rules window and save as default. Note that the modified rules will be used only in the future merge sessions.
Save for Session	This is enabled when you select or de-select the check boxes on the Edit Merge Session Rules window for modifying the current merge session rules. This option lets you to modify the merge rules of the current merge session without modifying the default global merge rules, which is defined in Tools, Options, PUM Source tab. You can modify the merge rules multiple times until there is a satisfactory result.
Restore Default	Lets you to restore the PeopleTools-delivered merge rules.

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 Tests to PUM Source

Navigation:

To upload tests to the PUM source:

1. In Change Assistant, select Tools, Options.
2. Select the PUM Source tab.
3. Select the Manage button for the Test Repository

This example illustrates the fields and controls on the Manage Test Repository page. You can find definitions for the fields and controls later on this page.

The screenshot shows a window titled "Manage Test Repository" with a close button (X) in the top right corner. Inside the window, there is a section titled "PUM(User) Data Loader". Within this section, there is a sub-section titled "PUM Source Database" containing a text field with the value "H92PUM01". Below this, there is another sub-section titled "Project(s) to Load Into PUM Source". This section contains three buttons: "Select Existing Project File(s)", "Select Existing Database Project(s)", and "Create New Database Project". Below these buttons is a table with the following columns: "Project Name", "Type", "Location", "Upload Status", "Project Type", and "Target Repository". The first column has a checkbox with a checkmark. Below the table, there are two buttons: "Remove Selected Projects" and "View Log". At the bottom of the window, there are two buttons: "Load" and "Exit".

☒	Project Name	Type	Location	Upload Status	Project Type	Target Repository
-------------------------------------	--------------	------	----------	---------------	--------------	-------------------

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.

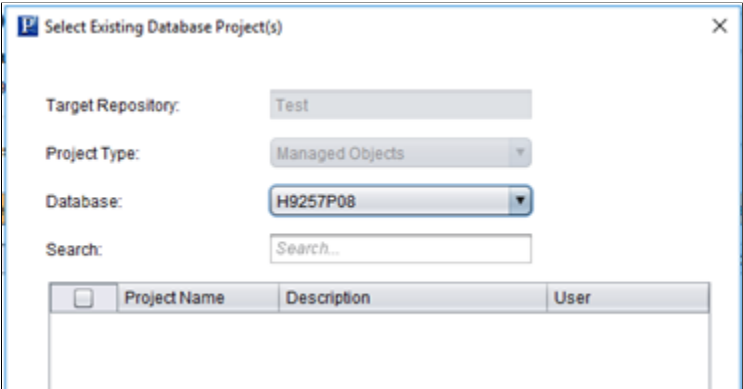
Select Existing Project File(s)

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.

Field or Control	Description
Target Repository	Test is selected and read only.
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)

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.



Field or Control	Description
Target Repository	Test is selected and read only.
Project Type	Tests are always managed object, the field will be grayed.
Database	Select the target database 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

This example illustrates the fields and controls on the Create New Database Project page for the Test Repository. You can find definitions for the fields and controls later on this page.

<i>Field or Control</i>	<i>Description</i>
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**.

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.

Manage Tests

Test Repository

1-10 of 118

Test Name	Description	Include in Package		
A_10270_LOCATION_CHANGE_01	A_10270_LOCATION_CHANGE_01 x	Yes	+	-
A_10310_21884318ACTIVITY_01	A_10310_21884318ACTIVITY_01	Yes	+	-
A_10350_HOME_NAV_BENEFITS_01	A_10350_HOME_NAV_BENEFITS_01	Yes	+	-
A_10400_CANDIDAT_GATEWAY_00	A_10400_CANDIDAT_GATEWAY_00	Yes	+	-
BUG17507975ASSIGNSCHED	BUG17507975ASSIGNSCHED	Yes	+	-
BUG17978847_GRP_LST_SORTSEQ	BUG17978847_GRP_LST_SORTSEQ	Yes	+	-
BUG18613273_OFFCYCL_ADV_DET	BUG18613273_OFFCYCL_ADV_DET	Yes	+	-
BUG_14168143_GP_GL_PREP_ISSUE	BUG_14168143_GP_GL_PREP_ISSUE	Yes	+	-
BUG_16507511_VIEW_ELM_USED_BY	BUG_16507511_VIEW_ELM_USED_BY	Yes	+	-
BUG_17548097_ADD_BANK_PAY_DIST	BUG_17548097_ADD_BANK_PAY_DIST	Yes	+	-

Include Bugs that Reference Components Without Associated Tests in Package
☒ Yes ☐ No

Field or Control	Description
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 <i>Yes</i> to include the bugs in the change package even if the component does not have an associated test. Select <i>No</i> 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**.

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.

Manage Test Objects

Filter By Name

Test Coverage References

1-5 of 80

View All

	Object Type	Object Value 1	Object Value 2	Object Value 3	Object Value 4	Tests
☐	Component	AGC_INFO_FL	GBL			1
☐	Component	EG_EE_FLEX_HIST	GBL			1
☐	Component	EOAWMA_MAIN_FL	GBL			17
☐	Component	EP_APPR_SELECT	GBL			2
☐	Component	GDP_SELECT_PRCS	?PA			1

Select All

Clear All

Delete Selected

Save

Cancel

Field or Control	Description
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.

Field or Control	Description
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.

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.

Add/Delete Test Coverage References

Help

Object Type

Component

Object Value 1

EOAWMA_MAIN_FL

Object Value 2

GBL

Object Value 3

Object Value 4

Test Coverage References

1-5 of 17

View All

Test Name		
CLASSIC_FLUID_SIGNOUT_LIB	+	–
H_10420_APPROVING_JOB_OFFER_03	+	–
LOCATION_CHANGE_TR_10450_03	+	–
NUI_10440_ADDING_HOMEPGE_01	+	–
NUI_10440_ADDING_HOMEPGE_02	+	–

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.

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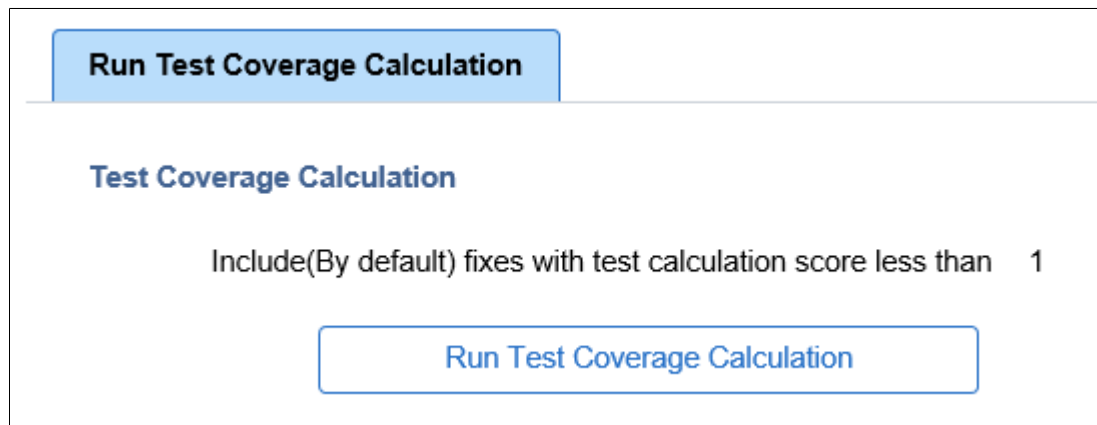
Running Test Coverage Report

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**

This example illustrates the fields and controls on the Test Coverage Calculation page.



Run Test Coverage Calculation

Test Coverage Calculation

Include(By default) fixes with test calculation score less than 1

[Run Test Coverage Calculation](#)

Setting Up Lifecycle Management Insights

Understanding Lifecycle Management Insights

Lifecycle Management (LCM) Insights enables you to visually review the customization level within each environment. This helps you to identify, manage, and optimize your customizations.

LCM Insights combines usage data, PUM metadata along with Managed Object (MO) customization metadata to provide information such as the percentage of customizations in the environment, usage of the customized objects and which customized objects are regularly impacted by application maintenance.

Setting Up LCM Insights

This topic discusses:

- Step1: Creating and consolidating metadata for setting up LCM Insights
- Step2: Preprocessing metadata for setting up LCM Insights

Step1: Creating and Consolidating Metadata for Setting Up LCM Insights

To set up the LCM Insights, first use Change Assistant to create and consolidate metadata and load the resulting metadata in a database defined as Insights database.

To create and consolidate metadata:

1. In Change Assistant, select Tools, Populate Customization Insights.

This example shows the fields to define the settings for populating the Insights.

Customization Insights Wizard

Populate Customization Insights

Customization Insights

- Settings

Insights Settings

PUM Source

PUM Source Database: E92PUMS1

Customizations

Customization Source Database: E92CSTS2 Create

Project Name : PRJ001

Insights

Insights Database: E92INST1 Create

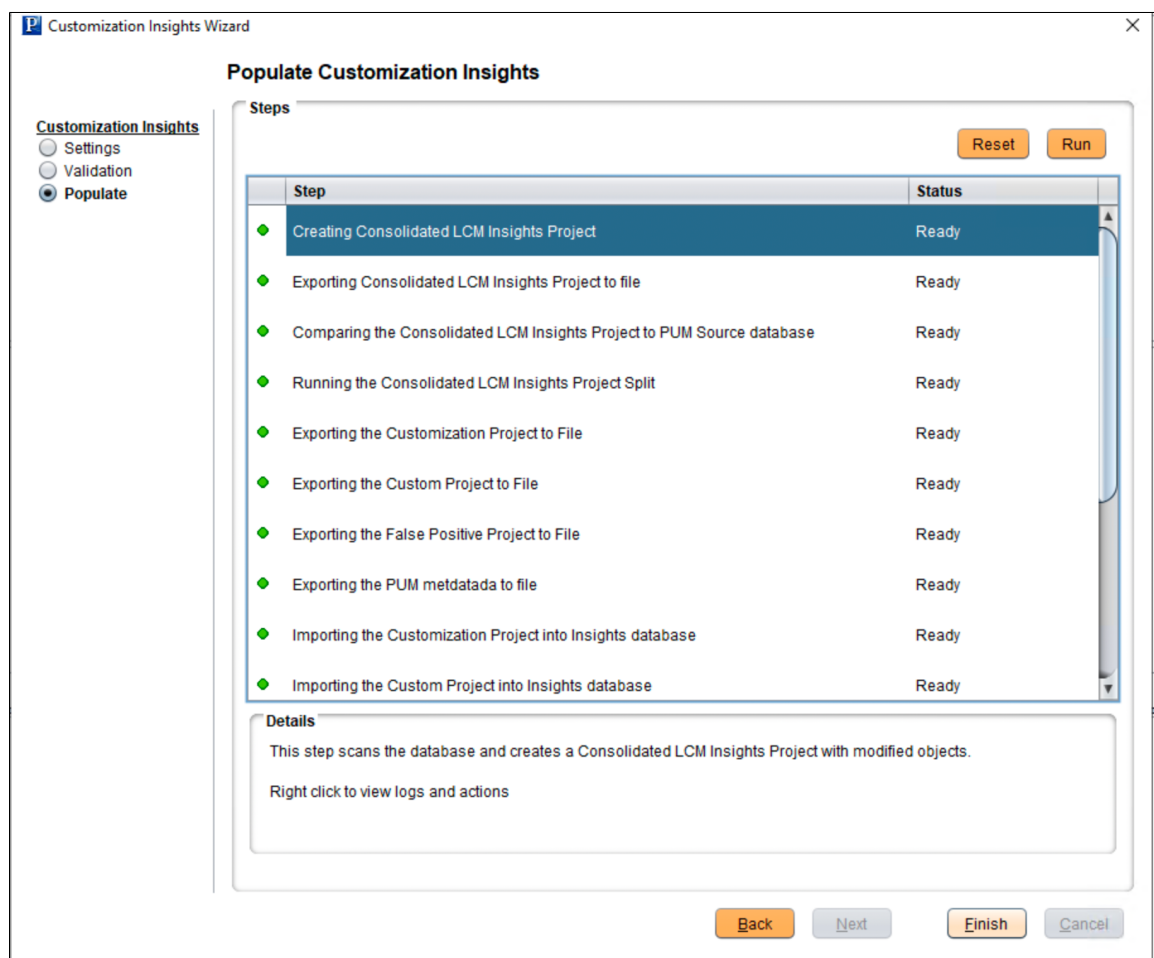
Back Next Finish Cancel

Field	Description
PUM Source Database	This is auto-populated. Ensure to define PUM Source through Tools,Options, PUM Source tab so that the PUM Source database name is auto-populated on this page.
Customization Source Database	Select the Customization source database where the customizations reside.
Project Name	Enter a project name. This project will be used to collect and compare customizations identified in the Customization source database.

Field	Description
Insights Database	Select the Insights database where you intend to view and manage the LCM Insights. Note: As a best practice, it is recommended to use the Production database as the Insights database.

2. Click Next. The Validation page opens where validations are done. Validations include primary checks such as verifying connection to PUM Source, verifying connection to Insights database and so on.
3. Click Next. The page will now run a sequence of steps to create and consolidate the customization and PUM metadata needed for the LCM Insights.

This example shows the steps to create and consolidate various metadata needed for the LCM Insights.



Step	Description
Creating Consolidated LCM Insights Project	This step analyzes the Customization source database, and creates a consolidated LCM Insights project with customized objects. The project name is entered on the Settings- Populate Customization Insights page. The consolidation of the customized objects is needed in order to complete the subsequent compare step in the process.
Exporting Consolidated LCM Insights Project to File	This step copies the consolidated LCM Insights project to a file.
Comparing the Consolidated LCM Insights Project to PUM Source database	This step runs the Compare From File process. The compare is between the Consolidated LCM Insights project file, which contains the customized objects, and the PUM source database. It results in the project definition and compare result being stored in the PUM source database. The compare process is used to determine the true nature of the objects identified as customized in the user environment by comparing their status with PeopleSoft-delivered Managed Objects (MO). The result of this process is then used to categorize or split the customizations in the subsequent steps.
Running the Customization Project Split	This step splits the Consolidated LCM Insights project into three projects based on the different object statuses as identified in the previous compare step. Definition of each customization project: - Customization- Customer modified a PeopleSoft-delivered object. The object compare status will appear as CHANGED/ UNCHANGED in the PUM source. - Custom- Customer has created a net new object. The object compare status will appear as ABSENT in the PUM source. - False Positive customization- Customer has not modified a PeopleSoft-delivered object. However, it appears as customized due to unintended saves, troubleshooting edits and so on. The object compare status will appear as SAME in the PUM source.
Exporting the Customization Project	This step exports only the Customization project definition to a file from the PUM source database.

Step	Description
Exporting the Custom Customization Project	This step exports only the Custom project definition to a file from the PUM source database.
Exporting the False Positive Customization Project	This step exports only the False Positive customization project definition to a file from the PUM source database.
Uploading Customization metadata to Insights database	This step uploads the Customization metadata to the Insights database from the file.
Uploading Custom Customization metadata to Insights database	This step uploads the Custom metadata to the Insights database from the file.
Uploading False Positive Customization metadata to Insights database	This step uploads the False Positive customization metadata to the Insights database from the file.
Exporting PUM Metadata to File	Exports the PUM metadata from the PUM source database to a file. This step exports only a subset of the PUM metadata that is required to set up LCM Insights.
Importing PUM metadata from file into Insights database	This step imports the PUM metadata from file to the Insights database. PUM metadata is used by the LCM Insights to provide details on how the PeopleSoft delivered maintenance (objects) impact your customizations.
Run Customization Counts Process	This step creates object count as part of the preprocessing activity to set up LCM Insights.

Step2: Preprocessing Metadata for Setting Up LCM Insights

The setup is completed by using the PreProcessing Data for Maintenance Insights page in PIA on the Insights database. Use this page to process the incremental updates to customization, usage, PUM, and test metadata.

Navigation

PeopleTools > Lifecycle Tools > Setup LCM Insights

Preprocessing Customization Metadata

The Customization page updates the status of previously identified objects (those identified during the comparison process in Change Assistant) based on their status in the Insights database. If a previously identified custom object is replaced with a PeopleSoft-delivered object, the Insights database reflects a decrease in the count of custom objects by one.

Note that it does not identify net new custom objects.

Currently, the only way to add net new custom objects is to complete the Change Assistant process documented in the preceding section or to manually edit the underlying project definitions and then run this process to update or re-sync.

This example illustrates the fields and controls on the PreProcessing Data for Maintenance Insights-Customization page. You can find definitions for the fields and controls later on this page.

Select the Load Customization Data option to enable users to update customization metadata if there are incremental customizations after the initial load by Change Assistant. The Insights database will reflect the updated customizations.

You can set a schedule with a recurrence option.

Click Run Now to run this job. The status, such as, Success or Failed, will be displayed on the History grid.

Preprocessing Usage Metadata

Use the Usage page to process the usage metadata.

Usage metadata for use with the Insights is collected through Usage Monitor. For details, review “Enabling Usage Monitor” (Usage Monitor).

'Usage data' implies data collected by the Usage Monitor in a Production environment. If the Production environment is not available, data from an alternate source can be used.

However, this alternate environment cannot be the same as the Test data source defined in the subsequent Preprocessing Test Metadata section.

This example illustrates the fields and controls on the PreProcessing Data for Maintenance Insights-Usage page. You can find definitions for the fields and controls later on this page.

Select Load Usage Data option to enable usage data processing.

To retrieve data from an alternate environment or remote database, select the Load from Remote DB option.

Before that, configure the remote database using the Define Usage Source link.

On the Define Usage Source page you can enter the remote database details and the data gets retrieved with PeopleSoft Integration Broker.

Preprocessing PUM Metadata

To load PUM metadata, use the PUM page.

This example illustrates the fields and controls on the PreProcessing Data for Maintenance Insights- PUM page. You can find definitions for the fields and controls later on this page.

Select Load PUM Data option to enable PUM metadata processing.

This option updates the PUM metadata in the Insights database to reflect changes to the PUM source that happened after the initial load in Change Assistant. The changes to the PUM source can happen either through a PRP apply or replacement of the existing PUM source with a new one.

This option removes the need to complete all the processing steps in Change Assistant to update the PUM metadata in the Insights database.

Note: This option also picks the PUM Image number of the PUM Image from which the PUM metadata was obtained, and then displays this Image number on the Insights dashboard.

Click Define PUM Source link to configure the PUM source database.

Preprocessing Test Metadata

Use the Test page to process the test metadata.

Test metadata for use with the Insights is collected through Usage Monitor and does not require the use of PeopleSoft Test Framework (PTF). For details, review, “Enabling Usage Monitor” (Usage Monitor).

This data helps the customers to understand the maintenance cost of their customization.

'Test data' implies data collected by Usage Monitor in a Test environment. If this environment is not available, data from an alternate source can be used.

However, this alternate environment cannot be the same as the Usage data source defined in the preceding Preprocessing Usage Metadata section.

This example illustrates the fields and controls on the PreProcessing Data for Maintenance Insights- Test page. You can find definitions for the fields and controls later on this page.

PreProcessing Data for Maintenance Insights	
Customization	Test
Usage	
PUM	
Test	
Preload Test Data Load Test Data ☒ Load from Remote DB ☒ Define Test Source Schedule ☐	
History	

Select Load Test Data option to enable test metadata processing.

Use the Load from Remote DB option to retrieve test metadata from a remote database.

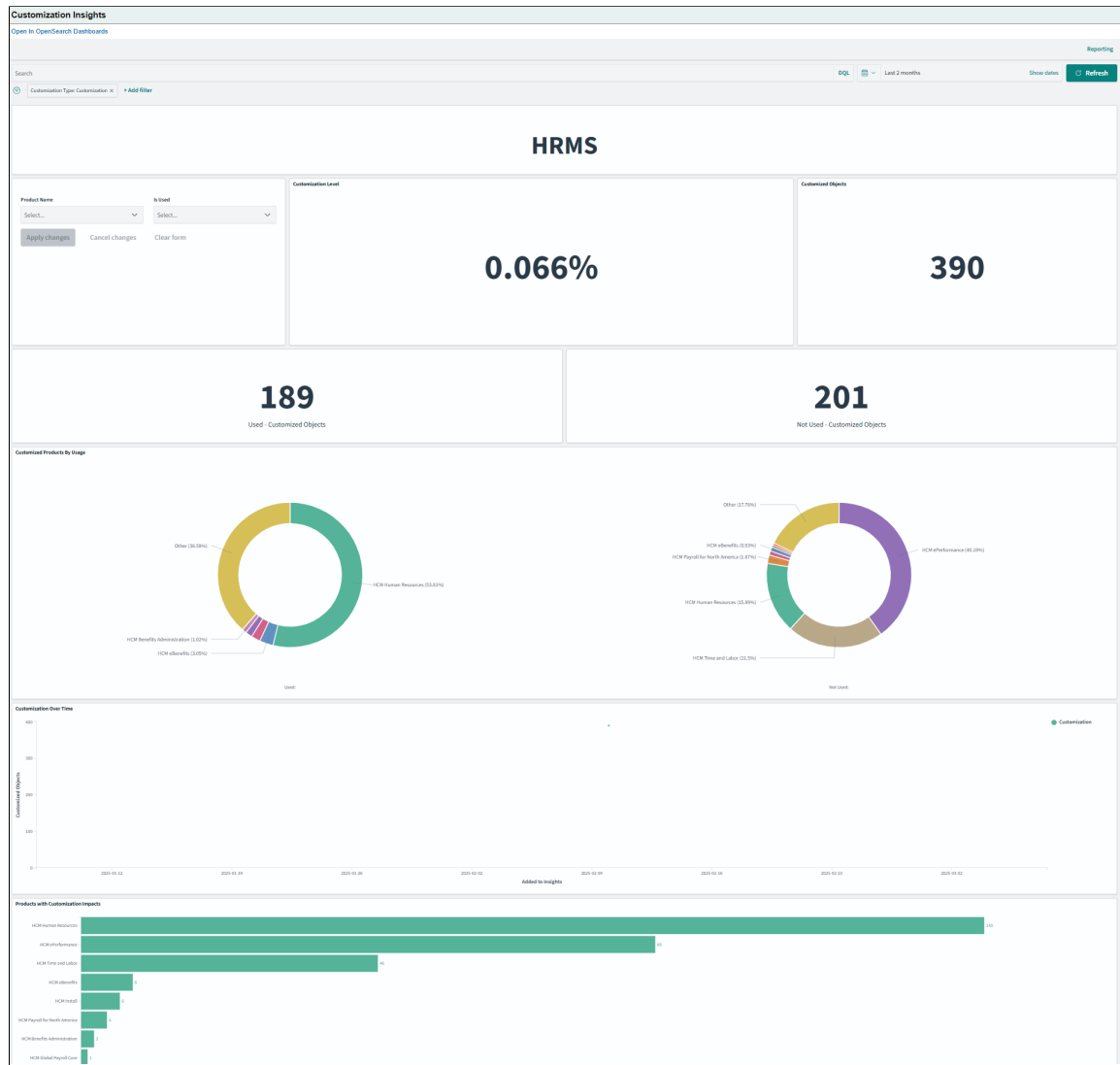
Before that, configure the remote database using the Define Test Source link.

Reviewing LCM Insights

LCM Insights can be configured for any PeopleSoft application, such as FSCM, HCM, Campus Solutions, and so on.

It requires an 8.62 PeopleSoft Update Image. So, this feature will be available with the first 8.62 PeopleSoft Update Image for your PeopleSoft application.

This is an example of a Customization Insights page.



Defining Change Packages

Understanding Change Packages

There are 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, code line, 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. Unapplied 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.

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 > 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.

This example illustrates the fields and controls on the Select Target Database.

Select Target Database

H92CD640

H92CDTGT

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 Update Package.

The second step is to enter an update package name.

This example illustrates the fields and controls on the Update Package Step 2 of 6 page. You can find definitions for the fields and controls later on this page.

Update Package Step 2 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1 2 3 4 5 6 Previous Next

Enter Change Package Name
The change package name must be unique for the user-selected target database.

Database	H92CDTGT	PeopleTools Release	8.58.03
Description			
Package Name			

Action ☒ Create ☐ Edit

Package Name Q

Package Description

Field or Control	Description
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 is displayed.

Change Package Options

On the Change Package Options page, you can select whether to edit or replace the change package.

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.

Change Package Options

×

Help

The selected package definition 'TL_ENH' already exists.

Edit

Replace

Cancel

Field or Control	Description
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.

This example illustrates the fields and controls on the Update Package Step 3 of 6 page. You can find definitions for the fields and controls later on this page.

Update Package

Step 3 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

123456

PreviousNext

Select Search Method

DatabaseH92CDTGT

PeopleTools Release8.58.03

Description

Package NameEXAMPLE

Update Manager Options

☒ Standard System Search Criteria

☐ Previously Defined Search Criteria

☐ All Other Search Criteria

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.

Field or Control	Description
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.

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.

Update Package

Step 4 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1 2 3 4 5 6

Previous Next

Select a method to search for BUGs and create a Change package

Database

H92CDTGT

PeopleTools Release

8.58.03

Description

Package Name

EXAMPLE

Standard System Search Criteria

1-6 of 6

View All

	Search Description	Details
☒	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	

Field or Control	Description
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.

Field or Control	Description
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.

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.

Update Package
Step 4 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1
2
3
4
5
6

Previous
Next

Select a method to search for BUGs and create a Change package

Database

H92CDTGT

PeopleTools Release

8.58.03

Description

Package Name

EXAMPLE

Previously Defined Search Criteria

1-4 of 4

View All

	Search Name	Search Description
☒	DEMO	DEMO
☐	PKG1	PKG1
☐	PKG2	PKG2
☐	TRUE	TRUE

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.

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.

Update Package

Step 4 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1

2

3

4

5

6

Previous

Next

Select a method to search for BUGs and create a Change package

Database

H92CDTGT

PeopleTools Release

8.58.03

Description

Package Name

DEMO

Search Options

True Post Requisites

New Features

Translations Only

Tax Updates

Specific Bugs

Specific Objects

Prod/Severity/Image

Other Criteria

[Advanced Options](#)

The search process is iterative. Once you have selected bugs into the search results grid, 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.

Field or Control	Description
True Post 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.

Field or Control	Description
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 Bugs	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 Bugs

Select the Specific Bugs link.

Note: Specific bugs can be combined with bugs using any of the other search criteria options.

This example illustrates the fields and controls on the Search by Bugs page. You can find definitions for the fields and controls later on this page.

Search by Bugs

Use this search page to add specific Bugs to your change package

Search Filters

Enter Multiple Bugs

Select Bugs

BUG Number	Product	Subject	Applied	Custom Impact	Test Exists	Image Number	Details
						0	

OK Cancel

Field or Control	Description
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.

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.

Find these specific Bugs: ×

[Help](#)

29231313,29939099,29663808

Use a comma or space to separate Bug numbers (i.e. 10335,10449).
Invalid entries will be removed automatically.

OK **Cancel**

Once you have selected the updates, click Next.

Selecting Updates by Prod/Severity/Image

Select the Prod/Severity/Image link.

This example illustrates the fields and controls on the Search by Product/Severity/Image page. You can find definitions for the fields and controls later on this page.

Search by Product/Severity/Image

Use this search page to add Bugs with select attributes to your change package

Search Filters

- ☐ Product Family ?
- ☐ Installed Products
- ☐ Severity
- ☐ Image Number

Search For Bugs

OK Cancel

The **Search by Product/Severity/Image 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.

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.

Search by Product/Severity/Image

Use this search page to add Bugs with select attributes to your change package

Search Filters

☐ Product Family ?

☐ Installed Products

☒ Severity

1 - Complete Loss of Service

☐ Image Number

Search For Bugs

☐ Show Already Applied Updates

Select Bugs ?

	BUG Number	Product	Subject	Applied	True Post Req	Custom Impact	Test Exists	Image Number	Details
☒	31480614	EC	PROCESS HCSC_TREEBLD RUNS TO NO SUCCESS DUE TO UNIQUE CONSTRAINT ERROR			No Impact		35	
☒	29944401	EY	PAYCHECK MODELER: DISABLE EDIT WHEN TAX JURISDICTION IS BLANK			No Impact		35	

Field or Control	Description
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.

Field or Control	Description
Custom Impact	Indicates whether or not the bug has an impact on an object stored in the Customization Repository. If the Customization Calculation has not been run this column will display Run Calc. 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 traditional or ADS managed 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.

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.

Search by Objects

Use this search page to add Bugs that update specific Traditional or ADS Managed Objects to your change package

Search Filters

Object Type

Access Group

Object Name

Find

☒ Hide Objects of Applied Bugs

Select an Object

1-1 of 1

View All

Object Value 1	Object Value 2	Object Value 3	Object Value 4
☒ SEARCH_TREE_HR			

Search For Bugs

☐ Show Already Applied Updates

Select Bugs

1-1 of 1

View All

	BUG Number	Product	Subject	Applied	True Post Req	Custom Impact	Test Exists	Image Number	Details
☒	31380753	HR	COMPENSATION SEARCH DEFINITIONS CHANGES - RECORDS AND FIELDS			No Impact		35	

Deselect Applied Bugs

Select All

Clear All

OK

Cancel

Selecting True Post Requisites

Select the True Post Requisites link.

True Post Requisites are those that are defined by PeopleSoft, as being critical to correct or complete a previously posted fix.

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This example illustrates the fields and controls on the Search by True Post Requisites page.

Search by True Post Requisites

[Help](#)

Use this search page to add True Post Requisite Bugs to your change package

Search Filters

☒ True Post-Requisites for (Select) Previously Applied Fixes [?](#)

Search For Bugs

☐ Show Already Applied Updates

Select Bugs [?](#)

1-3 of 3

View All

BUG Number	Product	Subject	Applied	True Post Req	Custom Impact	Test Exists	Image Number	Details
☒ 32267760	EPO	EPRO_FLD.UOW#132237 MISSING PRE-REQ DOWN DEPENDENCY ISSUE			No Impact		39	
☒ 32410451	EPO	EPRO_FLDD.PI37 ERROR WHEN PV_MOB_855_CHEKOUT IS LOADED WITHOUT PV_KK_EXCPTN_SCF			No Impact		39	
☒ 32098380	GL	ENH: CHANGES TO SIMPLE JOURNAL TO SUPPORT JOURNAL SOURCE SECURITY SECOND PHASE			No Impact		39	

Deselect Applied Bugs

Select All

Clear All

OK

Cancel

Selecting Tax Updates

Select the Tax Updates link.

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 Updates Search

[Help](#)

Add Tax Updates to any other Search Criteria

Search Filters

☐ Tax or Regulatory Update

☐ Image Number

Search For Bugs

OK

Cancel

Field or Control	Description
Tax or Regulatory Update	When you select this option you see a drop-down list for Tax or Regulatory updates available.

Field or Control	Description
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.

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.

New Features Search

Add New Features to any other Search Criteria

Search Filters

☒ Installed Products

Select one or more Values

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Product Name	Product
☐ PeopleSoft Enterprise HCM Payroll for North America	PY
☐ PeopleSoft Enterprise HCM Shared Components	SC
☐ PeopleSoft Enterprise HCM Succession Planning	SPN
☐ PeopleSoft Enterprise HCM Stock Administration	ST
☒ PeopleSoft Enterprise HCM Time and Labor	TL

☐ Image Number

Search For Bugs

☐ Show Already Applied Updates

Select Bugs

1-4 of 4 View All

	BUG Number	Product	Subject	Applied	True Post Req	Custom Impact	Test Exists	Image Number	Details
☒	31359004	BA	FLUID BENEFITS ENROLLMENT PREVIEW STATEMENT UPDATES			No Impact		35	
☒	31363746	TL	FLUID REPORTED TIME TOTAL BY UNITS: MAIN FEATURE			No Impact		35	

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.

Field or Control	Description
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.

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.

Search by Criteria

Use this search page to add Bugs with select Tracking Group attributes to your change package

Search Filters

☒ Tracking Group

Name

Legislative/Regulatory

Value

Affordable Care Act

☐ Image Number

Search For Bugs

☐ Show Already Applied Updates

Select Bugs

1-3 of 3

View All

	BUG Number	Product	Subject	Applied	True Post Req	Custom Impact	Test Exists	Image Number	Details
☒	30837987	HR	HCA ACA MERGE WITH PARTICIPANT LIST NO MATCHING BUFFER FOUND (15,26)			No Impact		35	
☒	30884665	HR	HCM ACA XML FILES FOR COMPANY NAME CAN CONTAIN SPECIAL CHARACTERS			No Impact		35	
☒	31070567	HR	ACA: INACCURATE ACA MANIFEST FILE WHEN REPLACING ONE OF MULTIPLE FILES			No Impact		35	

Field or Control	Description
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

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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.

Advanced Options

Help

Dependency Calculation ?

Include Post Requisites of Already Applied Bug Fixes

☐ Yes ☒ No

OK

Cancel

Field or Control	Description
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.

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.

List of Updates 										
		1-10 of 144    View 100								
Select	BUG Number	Product	Subject	Applied	True Post Req	Custom Impact	Test Exists	Image Number	Details	
☒	31212233	GA	DELIVER MISSED DUTCH TRANSLATION FIX LEAVE DONATION PROCESSING PAGE			No Impact		35		
☒	31023188	GA	SQL ERROR WHEN CLICK ON THE VIEW ELIGIBILITY DETAILS LINK ABSENCE REQUEST PAGE			No Impact		35		
☒	30995137	GA	PEOPLECODE ERROR ON REQUEST ABSENCE PAGE			Included		35		
☒	31370833	GA	POTENTIAL SECURITY VULNERABILITY			No Impact		35		
☒	31326723	GA	REQUEST ABSENCE PAGE GETTING ERROR IN CLOUD DB.			Included		35		

Field or Control	Description
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	Indicates whether or not 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.

This example illustrates the fields and controls on the Update Package Step 5 of 6 page. You can find definitions for the fields and controls later on this page.

Update Package

Step 5 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1

2

3

4

5

6

Previous

Next

Review Bugs

Review bugs to be included in the package. Click on Next to create Change Package.

Database

H92CDTGT

PeopleTools Release

8.58.03

Description

Package Name

EXAMPLE

▼ Included Bug Fixes

Q

1-10 of 21

View All

BUG Number	Product	Subject	User Selected	True Post Req	Custom Impact	Test Exists	Image Number	Details
31438986	GP	TRANSLATED VERSION OF BUG 31032824 FLUID NAVIGATION: GLOBAL PAYROLL DASHBOARD -	☒	☒	No Impact		35	
31438802	GP	TRANSLATED VERSION OF BUG 30989439 FLUID NAVIGATION: GLOBAL PAYROLL DASHBOARD -	☒	☒	No Impact		35	
31438404	GP	TRANSLATED VERSION OF BUG 30989474 FLUID NAVIGATION: GLOBAL PAYROLL DASHBOARD -	☒	☒	No Impact		35	
31438209	GP	TRANSLATED VERSION OF BUG 30911271 FLUID NAVIGATION: GLOBAL PAYROLL DASHBOARD -	☒	☒	No Impact		35	
31414239	GA	TRANSLATED VERSION OF BUG 30921494 ABSENCE CHATBOT - NEW MESSAGE CATALOG SET 174	☒	☒	No Impact		35	
31319904	GP	TRANSLATED VERSION OF BUG 30535645 MOBILE PAYSIP MESSAGE FEATURE - RULES CHANGE	☒	☒	No Impact		35	
29758239	GP	BANKING PAGE FILTER BUTTON IS NOT ACTIVATED WHEN FILTERS ARE APPLIED	☒		No Impact		35	
31419204	GP	MSS: GPCORE - PAYROLL PROCESS IS RUNNING TO NO SUCCESS	☒		No Impact		35	
31212233	GA	DELIVER MISSED DUTCH TRANSLATION FIX LEAVE DONATION PROCESSING PAGE	☒		No Impact		35	
30798456	GP	PAYSIP PAGE FILTER BUTTON IS NOT ACTIVATED WHEN FILTERS ARE APPLIED	☒		No Impact		35	

Field or Control	Description
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.

Field or Control	Description
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	Indicates whether or not 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:

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.

Bug Details

[Help](#)

BUG Number 30995137
Subject PEOPLECODE ERROR ON REQUEST ABSENCE PAGE
Delivered in Image 35
Severity 2 Severe Loss of Service
Product Name PeopleSoft Enterprise HCM Absence Management
Resolution Modified code to resolve error in old databases for Request absence page.

Minimum Tools Release(s) 8.53.10

Summary of Metadata for this Package

Metadata Type	Status
Tags Defined by Bug	Not Applicable
Managed Objects Included in Update	Available
ADS Managed Objects Included in Update	Not Applicable
Pre-requisite Bugs	Available
Post-requisite Bugs	Not Applicable
Customizations Impact	Available
Existing Tests	Not Applicable
Components To Test	No Data Available

<i>Field or Control</i>	<i>Description</i>
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.

Field or Control	Description
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.

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.

The screenshot displays the 'Update Package' wizard at Step 6 of 6. The sidebar on the left contains the following navigation items: 'Select Target Database', 'Define Change Package', 'Update Package' (highlighted), 'Upgrade Package', 'Tools Delta Package', 'Translations Delta Package', 'Integrate With CFO Tool', 'Change Package Utilities', 'Test Repository', and 'About PeopleSoft Image'. The main content area is titled 'Update Package' and 'Step 6 of 6'. It includes a progress bar with steps 1 through 6, where step 6 is the active step. Below the progress bar, it says 'Done Identifying Bugs'. A table shows the following information: Database: H02UPMNR, PeopleTools Release: 8.59.02, Description: Package Name: NEW1. A 'Summary' section lists the following steps: 'Processing Completed Successfully', 'Project Definition NEW1 Created', 'Change Assistant Template Definition Created', and 'Review Package Definition'. At the bottom, there is a 'Create Change package option' section with the text: 'Use below link to create and apply CP (source only steps)', 'Continue to create and apply CP(source only steps)', 'OR', and 'Return to Change Assistant to begin packaging.'

A summary is displayed for the Change Package. A link is provided to Review Change Package.

See [Reviewing Change Package](#)

From 8.60, you can either create and apply change package from this step or return to Change Assistant to begin packaging.

You can also define and create Change Package from the Define Job page (select Update Scheduler, Define Job).

For Upgrade Package type, only Create Change Package option is available.

For all other package types, Create and Apply Change Package options are available.

Refer [Scheduling Update Jobs](#)

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.

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.

The screenshot shows the 'Change Package Wizard' dialog box with the title 'Create a New Change Package'. On the left, there is a sidebar with 'Create CP' and 'Search' (selected). The main area contains the following fields and controls:

- PUM Source Database:** A text box containing 'H92PUMCD'.
- Create a New Change Package:** A section header.
- Change Packages are Created using Definitions in the PUM Source:** A descriptive text.
- Download Directory:** A text box containing 'C:\PUM\Downloads\' with a browse button (three dots) to its right.
- Change Package:** A dropdown menu showing 'EXAMPLE'.
- Checkboxes:**
 - ☒ Create Selected Change Package Definition
 - ☐ Proceed to Apply Change Package Wizard after Package Creation

Field or Control	Description
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:

Field or Control	Description
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. If EMHub is not running, the Change Package template will include a step to manually copy the files included in the Change Package to the various Application Server(s), Web Server(s) and File Server(s) associated with the current Target Database.

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.

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.

Field or Control	Description
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.

Field or Control	Description
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 <i>Move to Production</i> 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 <i>PUM Best Practices and Maintenance Strategy</i> document post on the PUM Homepage. Update Manager Home Page

<i>Field or Control</i>	<i>Description</i>
Synchronize Target Metadata (Requires Source)	Select <i>Yes</i> to upload the target database information to the PUM Source when the update is applied. The default is <i>Yes</i>, 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 <i>No</i>. Note: If the PUM source is not defined, this option will not be enabled.

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.

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.

Change Package Wizard

Select Target Database

Task Steps

- ☐ Settings
- ☒ Select Target

Database:

EMF Managed Servers

Server	Host	App Home	PS Home	Cfg Home	Release

Available File Servers

Select	Host Name	Path	Release

Login Information

User ID:

Access ID:

Connect ID:

DBOwner ID:

SQL Query Tool:

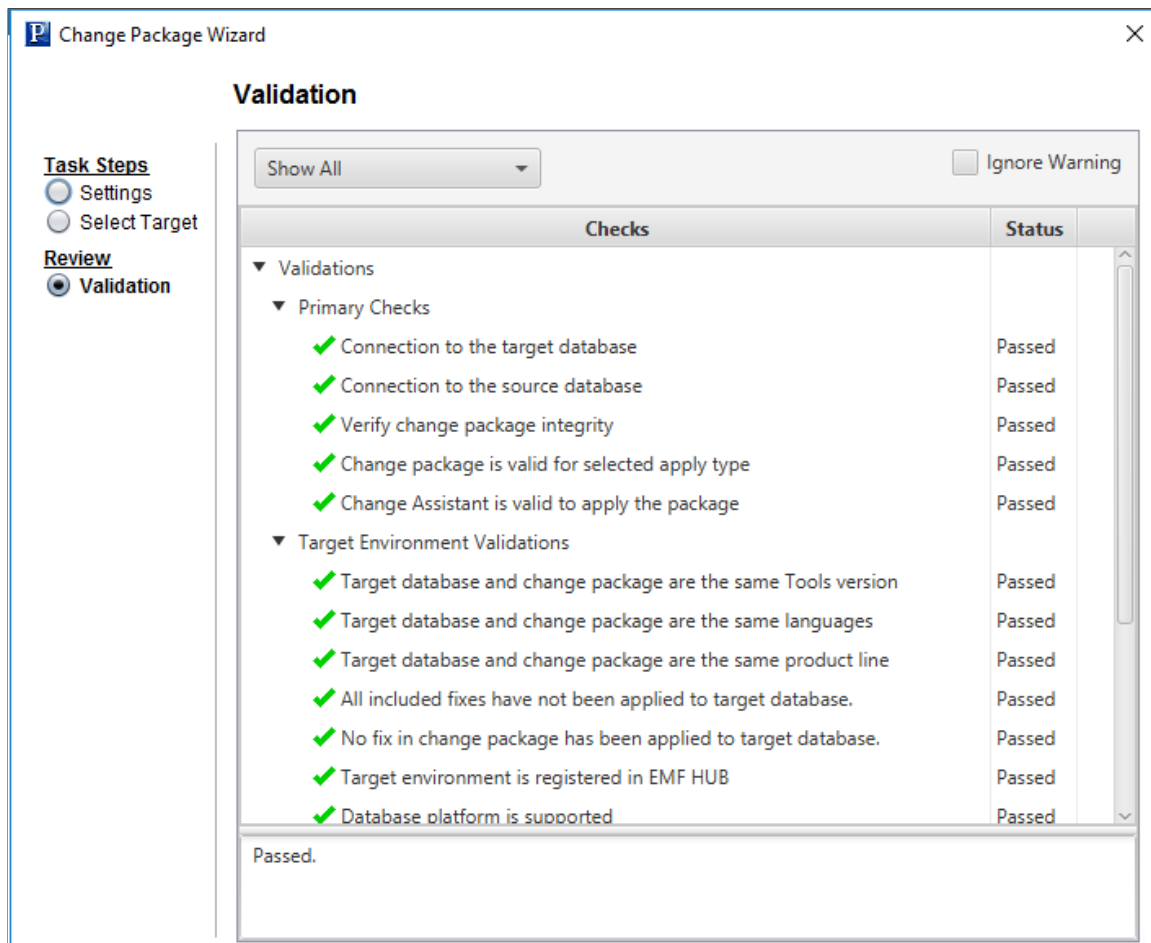
Current Homes

PS Home:

11. Click Next.

12. Change Assistant will perform primary checks, validate the target environment and validate the source environment. The Validation page displays the status for the specific validations.

This example illustrates the fields and controls on the Validation page.



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.

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>.htm
```

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.

Step	Type	Description
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.
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.

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).

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.

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](#)

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 is provided in the PeopleTools DPKs. For information on using the PeopleTools DPKs, see *PeopleSoft PeopleTools Deployment Packages Installation*.

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>`-#ofn.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.

This example illustrates the fields and controls on the Select PeopleTools Patch to Apply.

Change Package Wizard

Select PeopleTools Patch to Apply

Patch Target: T1C85801
 Target Database Tools Release: 8.58.01
 Target PS_HOME Tools Release: 8.58.02
 PeopleTools Patch Location: C:\PT8.58.02_Client_ORAIPTP\

Task Steps

- ☐ Settings
- ☐ Select Target
- ☒ Select Patch

Select Package

Select	Package Name	Description	Date
☒	PATCH858	PTP Package Containing 145 Update(s)	2020-01-07-20....

Other PeopleTools Patch Change Packages Found but Not Selectable

Select	Package Name	Description	Date
--------	--------------	-------------	------

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](#)

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 8.5x 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 *PeopleSoft PeopleTools Deployment Packages Installation*.

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

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.

Update Manager Options

General

PUM Source

EM Hub

Additional

Settings

☒ Show Welcome Page

Maximum Concurrent Processes:

1

PS Home Server TCP Port Range:

6151

 -

6320

PS Home Server Maximum Instances:

5

Time Out for Locking(Seconds,Max=99999):

300

Data Mover Consolidation Maximum Script Limit:

1000

Directories

*PS Home:

C:\PT8.58.02_Client_ORA\

...

*Staging Directory:

C:\PUM\Staging\

...

*Output Directory:

C:\PUM\Output\

...

*Download Directory:

C:\PUM\Downloads\

...

*SQL Query Tool:

C:\oracle12c\product\12.1.0\dbhome_1\BIN\sqlplus.exe

...

Field or Control	Description
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.

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Field or Control	Description
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.

Field or Control	Description
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

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.

Update Manager Options

General

PUM Source

EM Hub

Additional

Email

☐ Send Email Notifications

SMTP Server:

Port:

Send To:

Return Address:

Test

Proxy

Host:

Port:

☐ Anonymous Proxy

☐ Microsoft Proxy Server

Windows Domain:

☒ Other Proxy Servers

Notification Settings Section

Field or Control	Description
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.

Field or Control	Description
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.

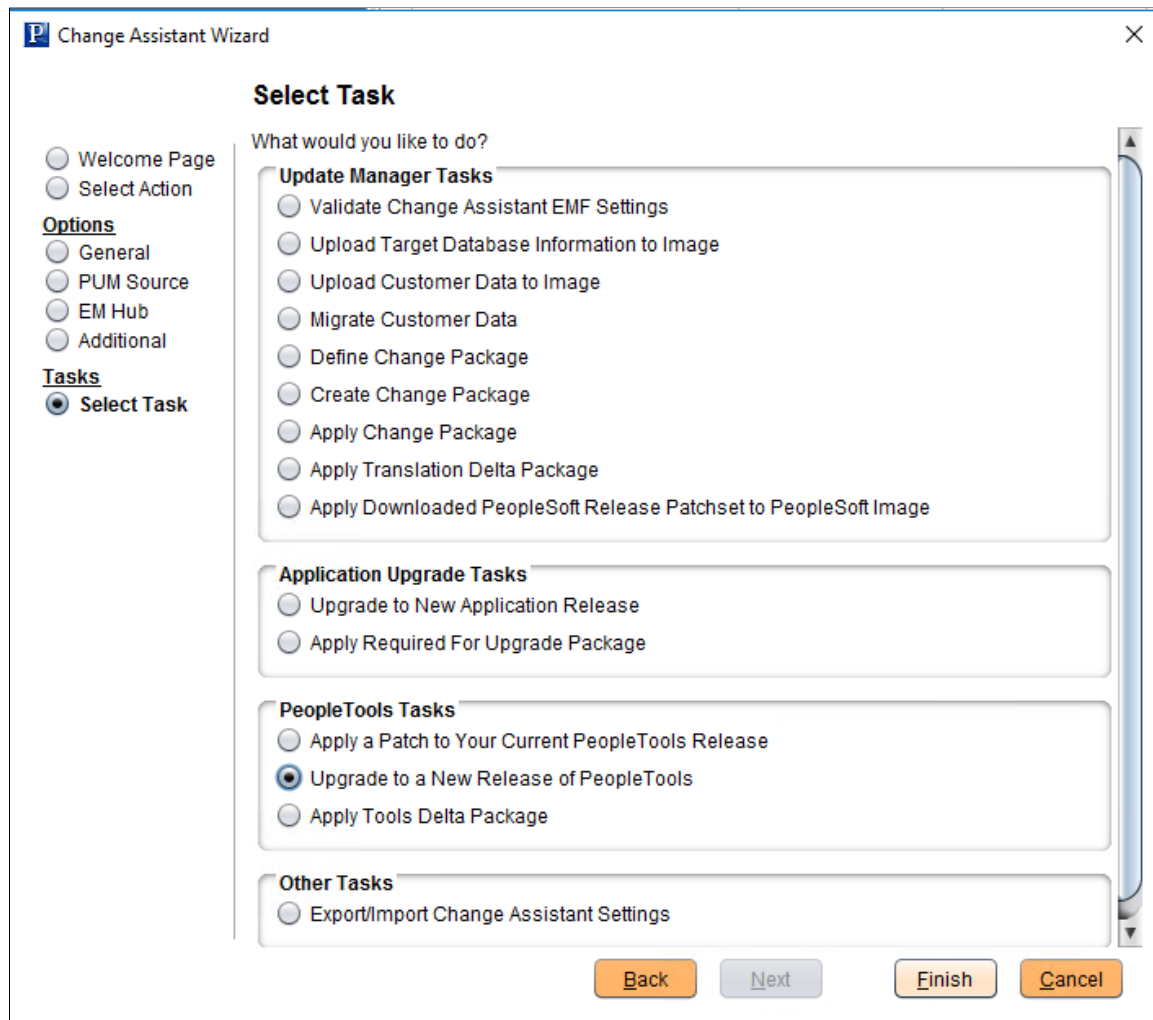
Proxy Section

Field or Control	Description
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.

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. Validation
5. Apply Summary

Change Package Settings

This example illustrates the fields and controls on the Change Package Settings page for a PeopleTools Upgrade. You can find definitions for the fields and controls later on this page.

Change Package Wizard

Change Package Settings

Task Steps

- ☒ Settings

PUM Source Database
Not Set

Download Directory: C:\PT8.58.02_Client_ORA\PTU

Apply Type

- ☒ Initial Pass
- ☐ All Steps
- ☐ Source Steps Only
- ☒ Target Steps Only
- ☐ Subsequent Pass
- ☐ Move To Production

Synchronize Target Metadata(Requires Source) ☐ Yes ☒ No

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.

This example illustrates the fields and controls on the Select PeopleTools Upgrade page.

Change Package Wizard

Select PeopleTools Upgrade

Task Steps

- ☐ Settings
- ☐ Select Target
- ☒ Select Upgrade

Upgrade Target: H92CD600

Target Database Tools Release: 8.57.05

Target PS_HOME Tools Release: 8.57.11

Target New PS_HOME Tools Release: 8.58.02

PeopleTools Upgrade Package Location: C:\PT8.58.02_Client_ORA\PTU\

Select Package

Select	Package Name	Description	Date
☒	PTU858	PTU 858 TEMPLATE	2019-12-03-1...

PeopleTools Patches in Target New PS_HOME

PeopleTools Patch Location: C:\PT8.58.02_Client_ORA\PTP\

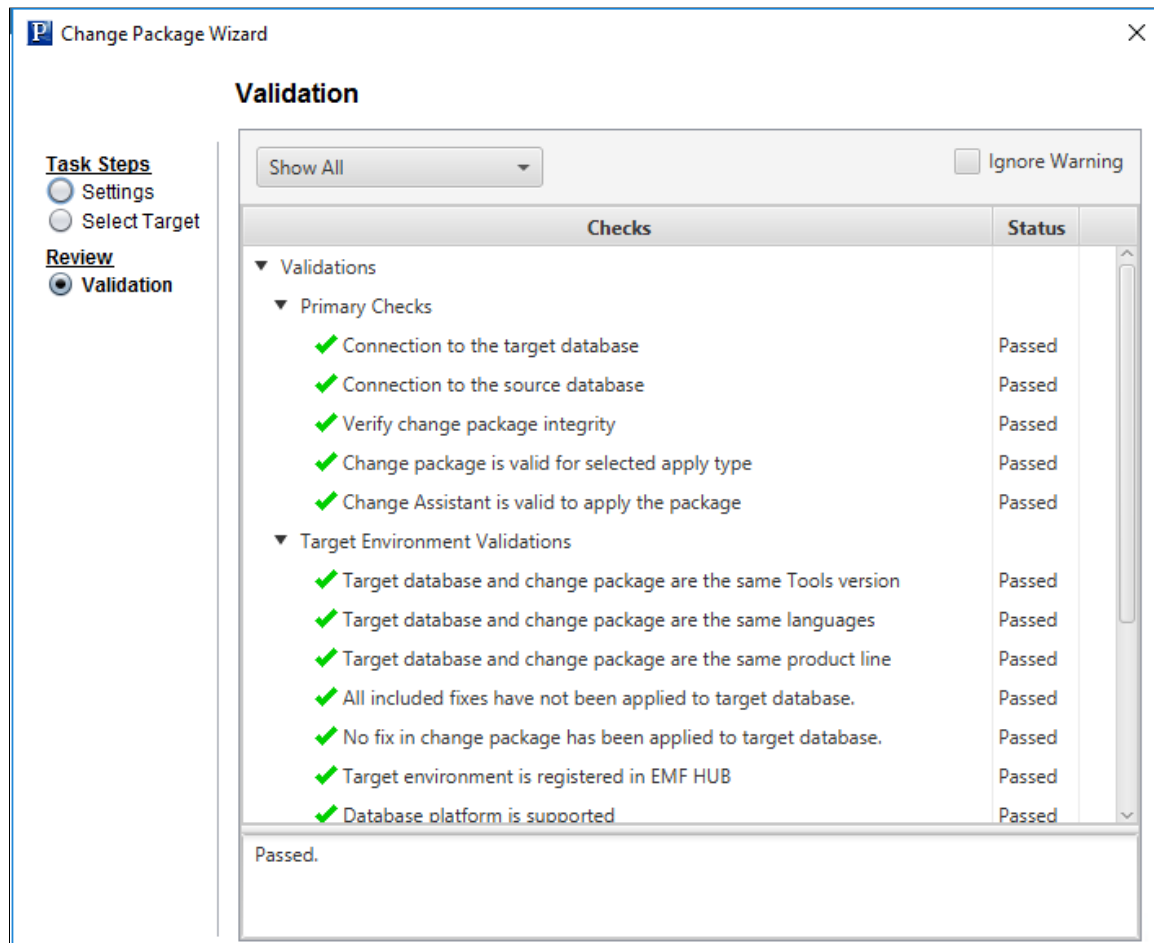
PeopleTools Patches

Select	Package Name	Description	Date
☒	PATCH858	PTP Package Containing 145 Update(s)	2020-01-07-2...

Validation

Change Assistant will check the connectivity to the target database, validate the PTU, and validate the target environment.

This example illustrates the fields and controls on the Validation page.



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. Select the SSL details. The options are None (Allowed List), Server Certificates Only (Allowed List), and Client and Server Certificate.
For details, see [Selecting Update Manager Action](#)
 - g. Select the keystore file and then enter the keystore password.
You can select keystore file when connecting to EM Hub using two-way SSL.
 - h. Select the truststore file and then enter the truststore password.
You can select truststore file when connecting to EM Hub through HTTP connection or when using two-way SSL for secure connections.
 - i. Click Ping.
A successful ping will return Packets: Sent = 3, Received = 3, Lost = 0.
 - j. 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 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 select Tools, Create Change Package. 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, 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 validate the environment. The Validation 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.

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.

This example illustrates the fields and controls on the Define Translations Delta Package Wizard step 2 of 6 page. You can find definitions for the fields and controls later on this page.

Translations Delta Package

Step 2 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

123456

PreviousNext

Enter Change Package Name

The change package name must be unique for the user-selected target database.

Database

H92TGT56

PeopleTools Release

8.56.09

Description

Package Name

Action

Create

Edit

Package Name

TRANS_PKG

Package Description

Example translations delta package

Field or Control	Description
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.

This example illustrates the fields and controls on the Define Translation Delta Package Wizard Step 3 of 6 page.

Translations Delta Package

Step 3 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

123456

PreviousNext

Select Search Method

DatabaseH92TGT56

PeopleTools Release8.56.09

Description

Package NameTRANS_PKG

Language Options

Select Language(s) to Update

Select

1-2 of 2

View All

☒

Spanish

☒

French

Define Translations Delta Package Step 5 of 6

Step 5 will display the bugs to be included in the translation delta package.

This example illustrates the fields and controls on the Define Translation Delta Package Step 5 of 6 page.

Translations Delta Package

Step 5 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

123456

PreviousNext

Review Bugs

Review bugs to be included in the package. Click on Next to create Change Package.

DatabaseH92TGT56

PeopleTools Release8.56.09

Description

Package NameTRANS_PKG

Included Bug Fixes

1-2 of 2

View All

BUG Number	Product	Subject	User Selected	True Post Req	Custom Impact	Test Exists	Image Number	Details
600001077	XINS	HCM92: FRENCH TRANSLATIONS UPDATE 5 - IMAGE 9.2.029					30	
600001094	XINS	HCM92: SPANISH TRANSLATIONS UPDATE 3 - IMAGE 9.2.029					30	

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.

This example illustrates the fields and controls on the Define Translation Delta Package Wizard Step 6 of 6 page.

Translations Delta Package

Step 6 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1

2

3

4

5

6

Previous

Next

Done Identifying Bugs

Database	H92TGT56	PeopleTools Release	8.56.09
Description			
Package Name	TRANS_PKGTDP		

Summary

Processing Completed Successfully

- > Project Definition TRANS_PKGESP Created
- Project Definition TRANS_PKGFRA Created
- Project Definition TRANS_PKGTDP Created
- > Change Assistant Template Definition Created
- > [Review Package Definition](#)

Return to Change Assistant to begin packaging.

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*.

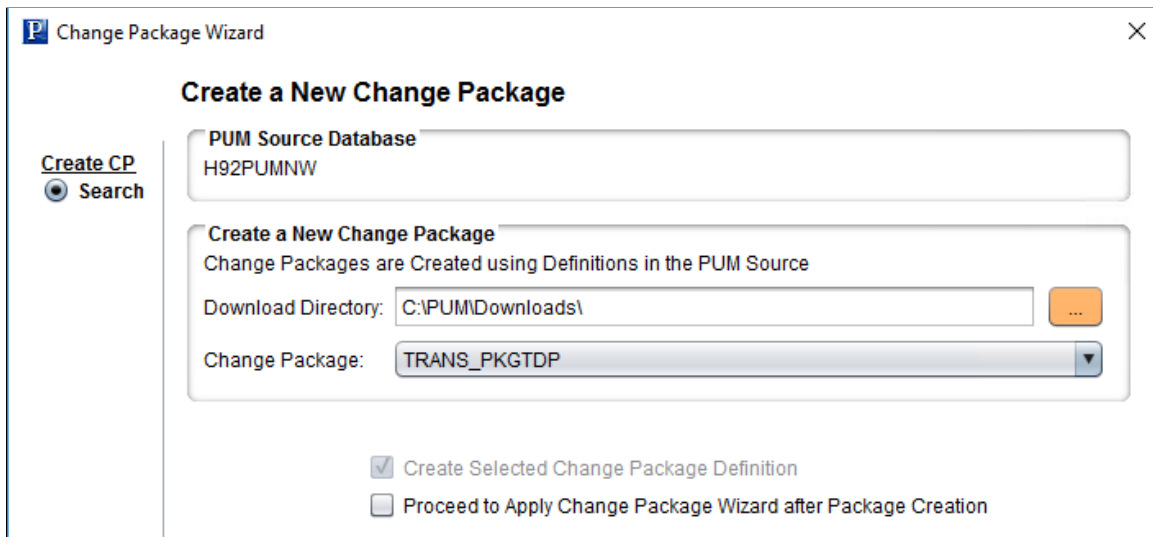
Creating Translations Delta Package

After defining the translations delta package, return to Change Assistant to create the package.

To create the Change Package in Change Assistant:

1. Select Tools > Create Change Package.
2. Select the package name from the drop-down list box.
3. Click Finish.

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.



Change Package Wizard

Create a New Change Package

Create CP
☒ Search

PUM Source Database
H92PUMNW

Create a New Change Package
Change Packages are Created using Definitions in the PUM Source

Download Directory: C:\PUM\Downloads\ ...

Change Package: TRANS_PKGTD

☒ Create Selected Change Package Definition
☐ Proceed to Apply Change Package Wizard after Package Creation

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.

This example illustrates the fields and controls on the Change Package Settings page.

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.

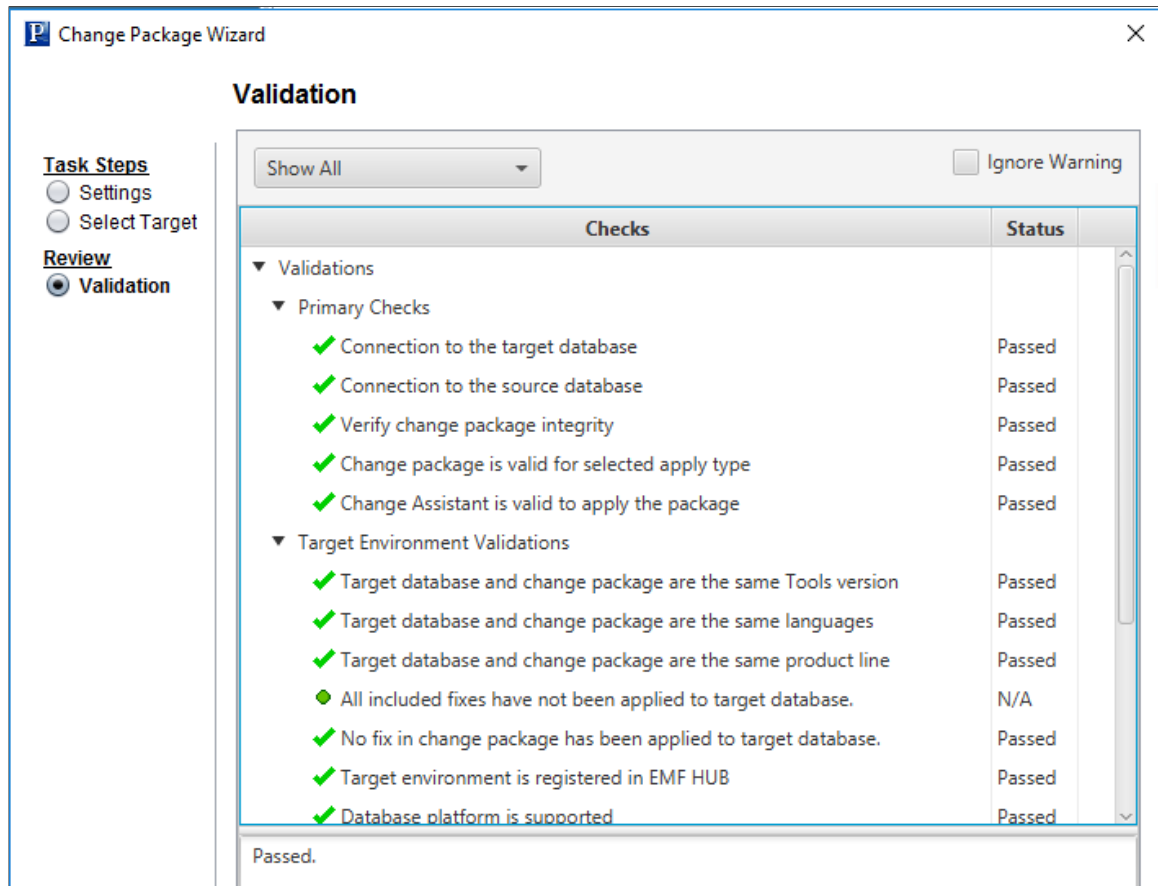
Note: For information on Apply Type see [Understanding the Apply Update Process](#)

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 validate the environment. The Validation page will then be displayed.

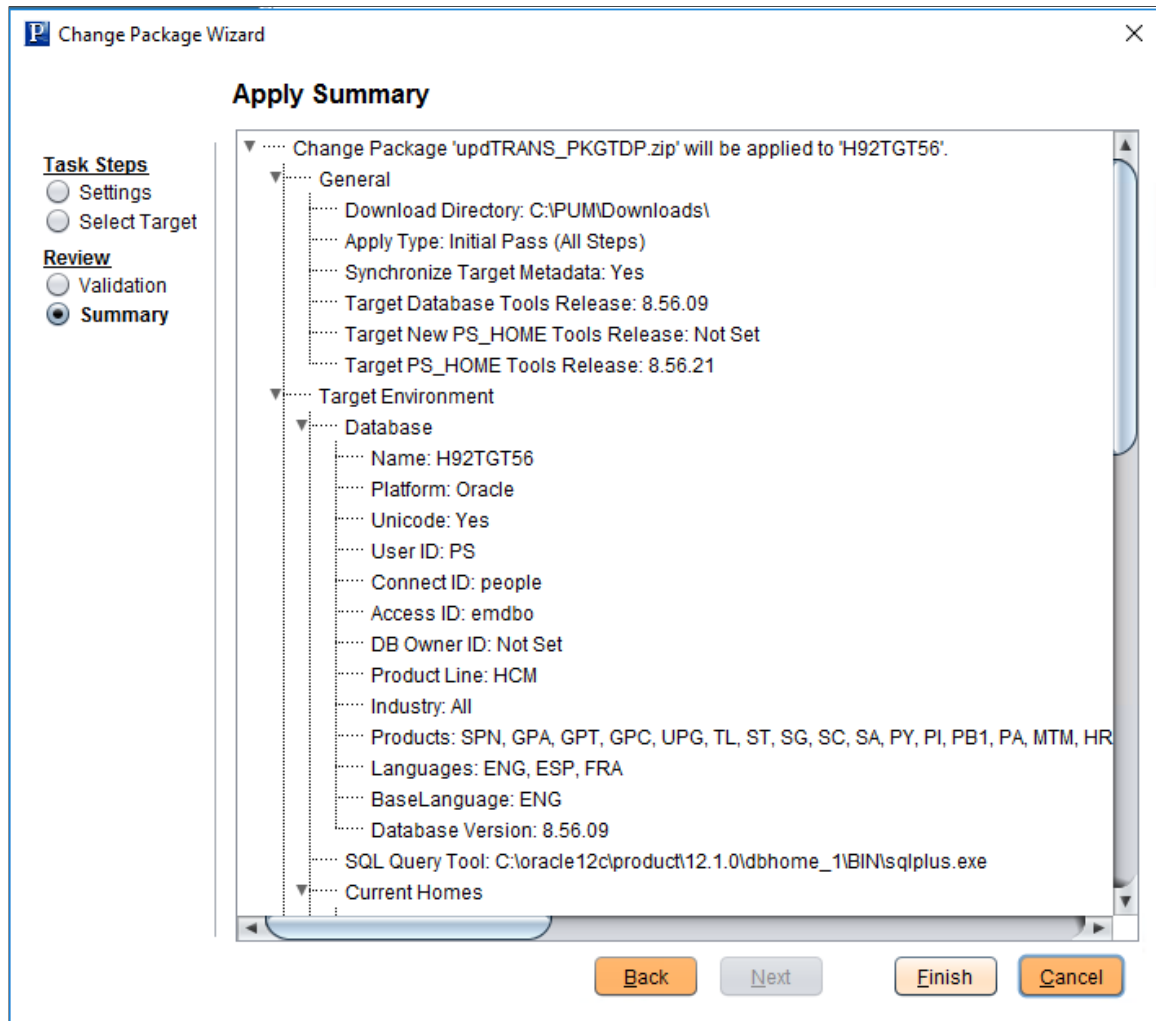
This example illustrates the fields and controls on the Validation page.



10. Click Next.

11. The Apply Summary is displayed, click Finish.

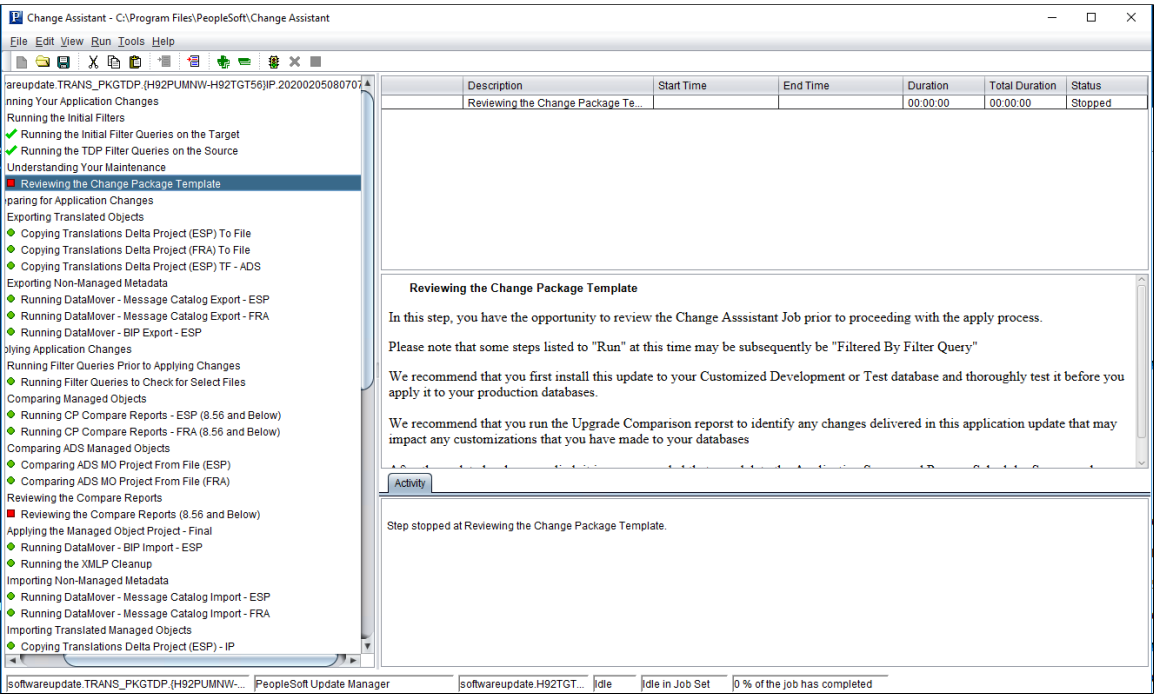
This example illustrates the fields and controls on the Apply Summary page.



12. Change Assistant will begin building the Change Assistant job.

13. The Update job will be created and open in Change Assistant.

This example illustrates a Translation Delta Project Job.



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:

<i>Utility</i>	<i>Navigation</i>
Updates - View All	PeopleTools > Utilities > Administration > View All Updates
Updates by Release Label	PeopleTools > Utilities > Administration > View Updates by Release Label
Updates by Update ID	PeopleTools > Utilities > Administration > View 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

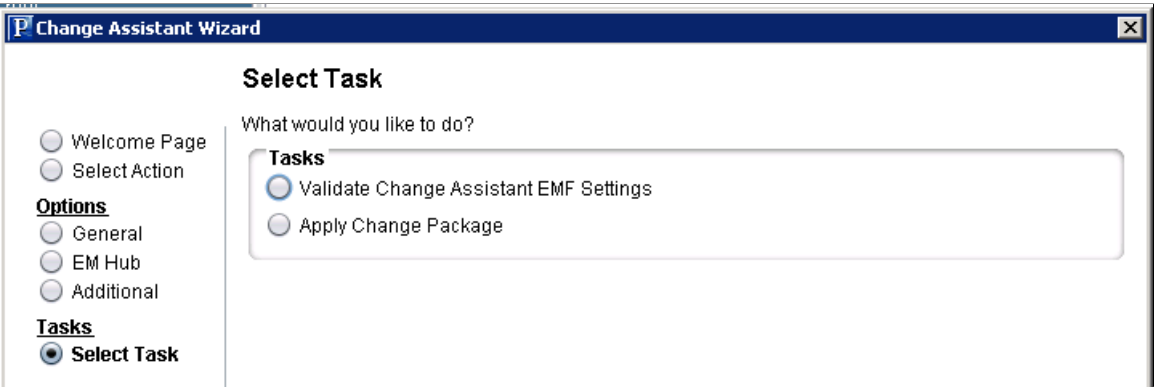
To start Change Assistant: and apply updates:

1. Select Start, Programs, PeopleSoft Change Assistant 8.5x.xx, wherex.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.

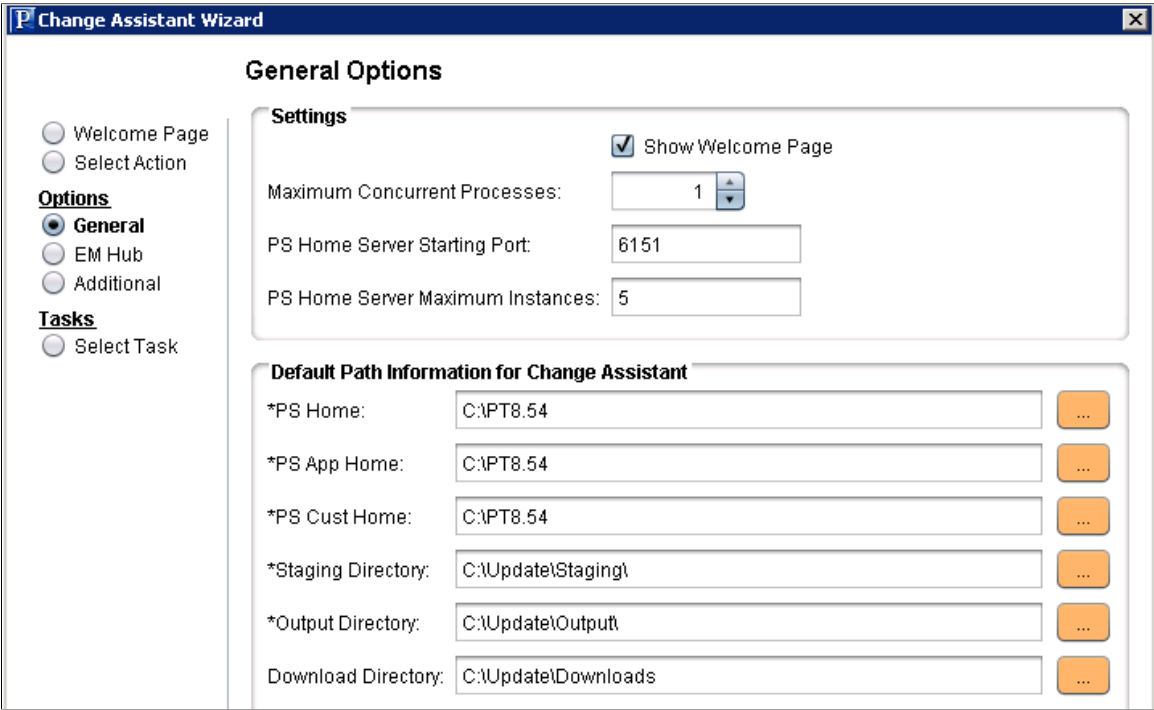
This example illustrates the fields and controls on the Select Task page for Apply Updates. You can find definitions for the fields and controls later on this page.



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

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.



Field or Control	Description
Maximum Concurrent Processes	Specifies the maximum number of processes that can be executed concurrently on the local machine. The default is 1.

Field or Control	Description
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

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.

Field or Control	Description
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 than 1024KB in a software update.
Ping Interval	Ping interval is in milliseconds for Change Assistant to contact the hub for new messages.
Ping	Click to verify a valid server URL. If you see <i>Service is off</i> to the right of this button, then you must correct the server URL and ping again until you see <i>Service is on</i> .

Field or Control	Description
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

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.

Change Assistant Wizard

Additional Options

☐ Welcome Page
☐ Select Action
Options
☐ General
☐ EM Hub
☒ **Additional**
Tasks
☐ Select Task

Notification Settings

☒ Send Email Notifications
 SMTP Server:
 Port:
 Send To:
 Return Address:

Proxy

Host:
 Port:
☐ Anonymous Proxy
☒ Microsoft Proxy Server Windows Domain:
☒ Other Proxy Servers

Notification Settings Section

Field or Control	Description
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

Field or Control	Description
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 facilitate the diagnosis of problems by Oracle Global Customer Support.

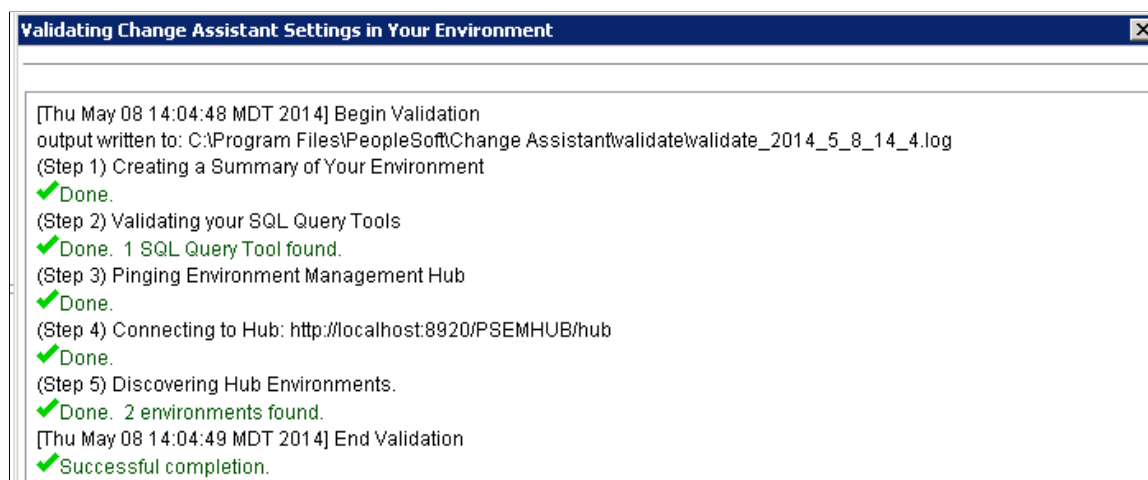
To validate your environment:

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.

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.

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 Change Packages

Apply Updates to Target Environment

What is the target of your update?

If you are applying to a Demo environment, or are applying a Change Package that already contains all updates and customizations, choose the 'Apply Automatically Without Compare' option.

If you are applying to an environment where additional customizations exist, choose the 'Apply With Compare' option.

Pick your target Environment:

☒ Apply Automatically Without Compare

☐ Apply with Database Compare/Copy

Field or Control	Description
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

Field or Control	Description
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.

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.

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.

Field or Control	Description
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.

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.

Field or Control	Description
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 <code>%FILEREFPATH%</code> 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.

Field or Control	Description
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

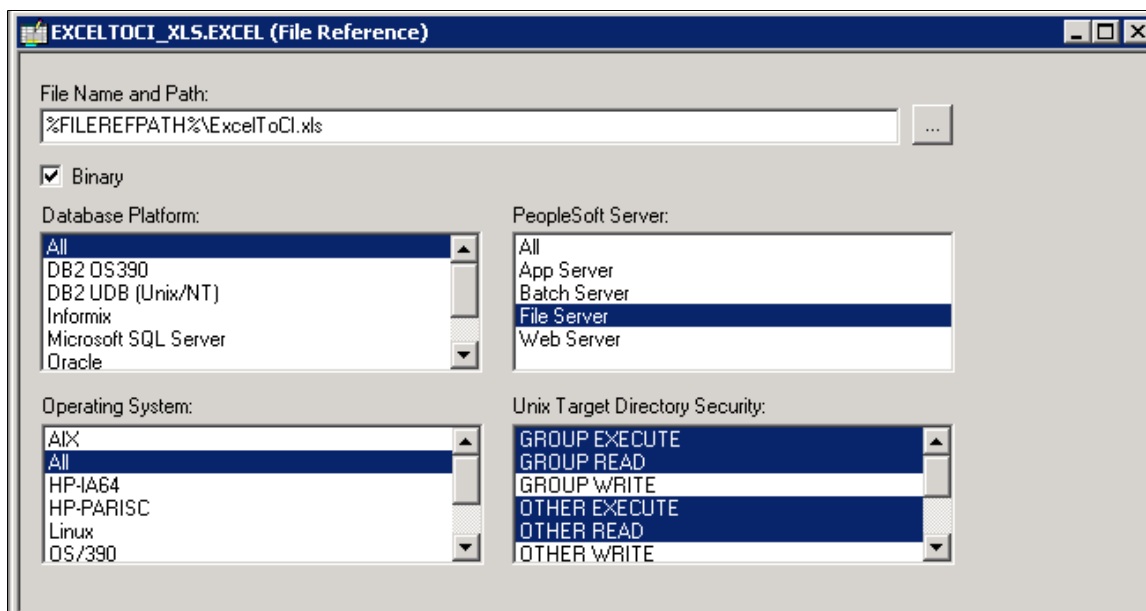
You can use a variable path as a file reference. To do this, in addition to the steps for creating an absolute path:

- 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.

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:

<i>Desired Result</i>	<i>Execute Check Box</i>	<i>Upgrade Check Box</i>	<i>Action Option</i>
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:

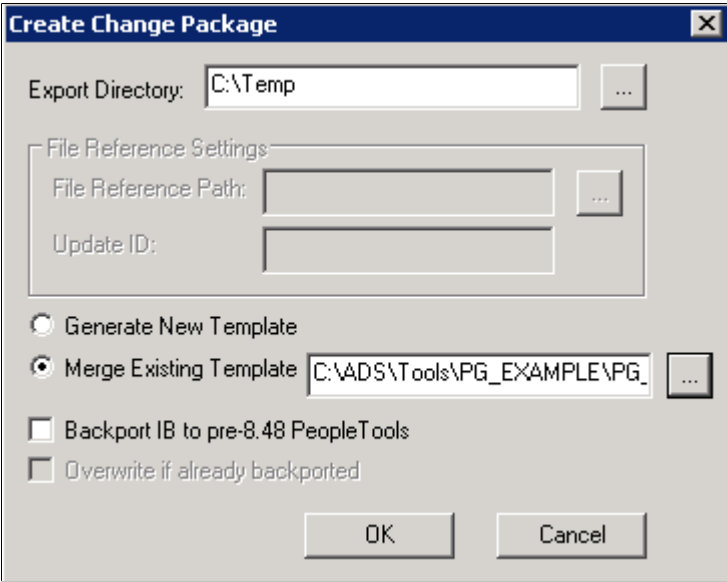
- Create a change package.
- Modify the Change Assistant template.
- Finalize the change package.

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.

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.



Field or Control	Description
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 <i>does not</i> incorporate any manual changes made to an existing template.

Field or Control	Description
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 >]
[-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. It 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.

<i>Parameter</i>	<i>Description</i>
-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
```


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 \(ID: 1552580.1\)](#) and [Upgrading PeopleSoft? Start Here.](#) [ID 1587686.2]

- 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.

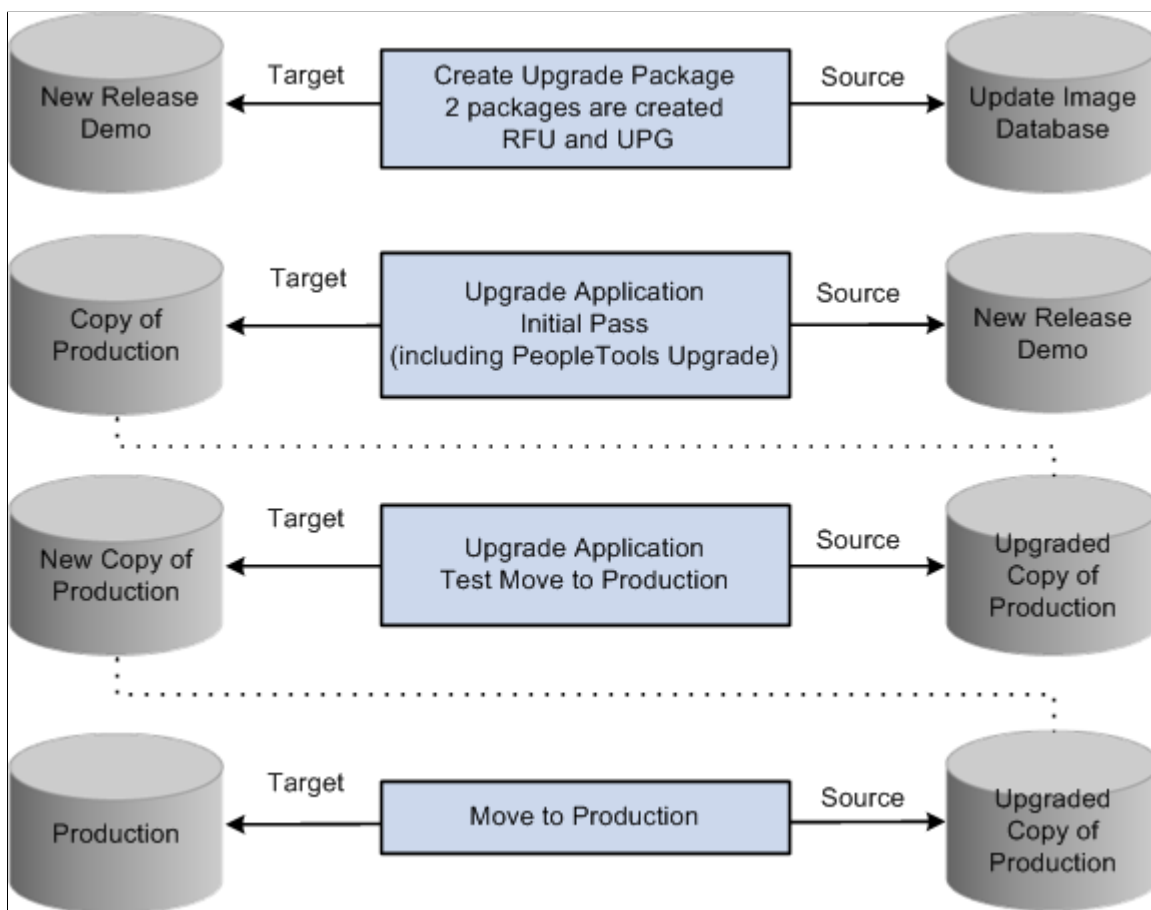
Databases Used for Application Upgrade

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

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."

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 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.

This example illustrates the fields and controls on the Upgrade Package Step 2 of 6 page. You can find definitions for the fields and controls later on this page.

Upgrade Package

Step 2 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1 2 3 4 5 6

Previous Next

Enter Change Package Name

The change package name must be unique for the user-selected target database.

Database	H92CD610	PeopleTools Release	8.57.07
Description			
Package Name	HCM91TO92		

Action

☒ Create
 ☐ Edit

Package Name

HCM91TO92

Package Description

HCM app upgrade from 9.1 to 9.2

Field or Control	Description
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.

This example illustrates the fields and controls on the Upgrade Package Step 3 of 6 page. You can find definitions for the fields and controls later on this page.

Upgrade Package

Step 3 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1

2

3

4

5

6

Previous

Next

Select Search Method

Database

H92CD610

PeopleTools Release

8.57.07

Description

Package Name

HCM91TO92

App Upgrade Options

☒ Application Upgrades to 9.2

From

9.10

▼

To

9.20 Image 24 PT857

▼

☒ Include Required For Upgrade Fixes in Package

☐ Required For Upgrade Fixes

App Upgrade Options

Field or Control	Description
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.

This example illustrates the fields and controls on the Upgrade Package Step 5 of 6 page. You can find definitions for the fields and controls later on this page.

Upgrade Package

Step 5 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1 2 3 4 5 6

Previous Next

Review Bugs

Review bugs to be included in the package. Click on Next to create Change Package.

Database

H92CD610

Description

PeopleTools Release 8.57.07

Package Name

HCM91TO92

Upgrade Path

From

To

9.10

9.20 Image 24 PT857

Required Upgrade Package Contents

1-1 of 1

View All

BUG Number	Product	Subject	User Selected	True Post Req	Custom Impact	Test Exists	Image Number	Details
30192588	SC	INCLUDE PRIORITY FIELD IN UPG_SC91 AE PROGRAM FOR TBE PUSH NOTIFICATION CONFIGUR					32	

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.

This example illustrates the fields and controls on the Upgrade Package Step 6 of 6 page. You can find definitions for the fields and controls later on this page.

Upgrade Package

Step 6 of 6

Identify bugs for Change Assistant to create an environment specific Change Package from the source database.

1
2
3
4
5
6

Previous
Next

Done Identifying Bugs

Database H92CD610
PeopleTools Release 8.57.07

Description

Package Name HCM91TO92

Summary

Processing Completed Successfully

- > Project Definition HCM91TO92UPG Created
- Project Definition HCM91TO92RFU Created
- > Change Assistant Template Definition Created
- > [Review Package Definition](#)

Return to Change Assistant to begin packaging.

Creating Upgrade Package

To create the upgrade package in Change Assistant:

1. Navigate to the Create Change Package if you are not already on that page.

Select Tools, Create 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.

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

<i>Pass</i>	<i>Source</i>	<i>Target</i>
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.

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.

Update Manager Options

General

PUM Source

EM Hub

Additional

Settings

☒ Show Welcome Page

Maximum Concurrent Processes:

1

PS Home Server Starting Port:

6151

PS Home Server Maximum Instances:

5

Directories

*PS Home:

C:\PT8.55\

...

*Staging Directory:

C:\PUM\Staging\

...

*Output Directory:

C:\PUM\Output\

...

*Download Directory:

C:\PUM\Download\

...

*SQL Query Tool:

C:\Oracle\product\12.1.0\dbhome_1\BIN\sqlplus.exe

...

Field or Control	Description
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.

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Field or Control	Description
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

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.

Change Assistant Wizard

Select Action

Options

General

Additional

Additional Options

Notification Settings

☐ Send Email Notifications

SMTP Server:

Port:

Send To:

Return Address:

Test

Field or Control	Description
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.

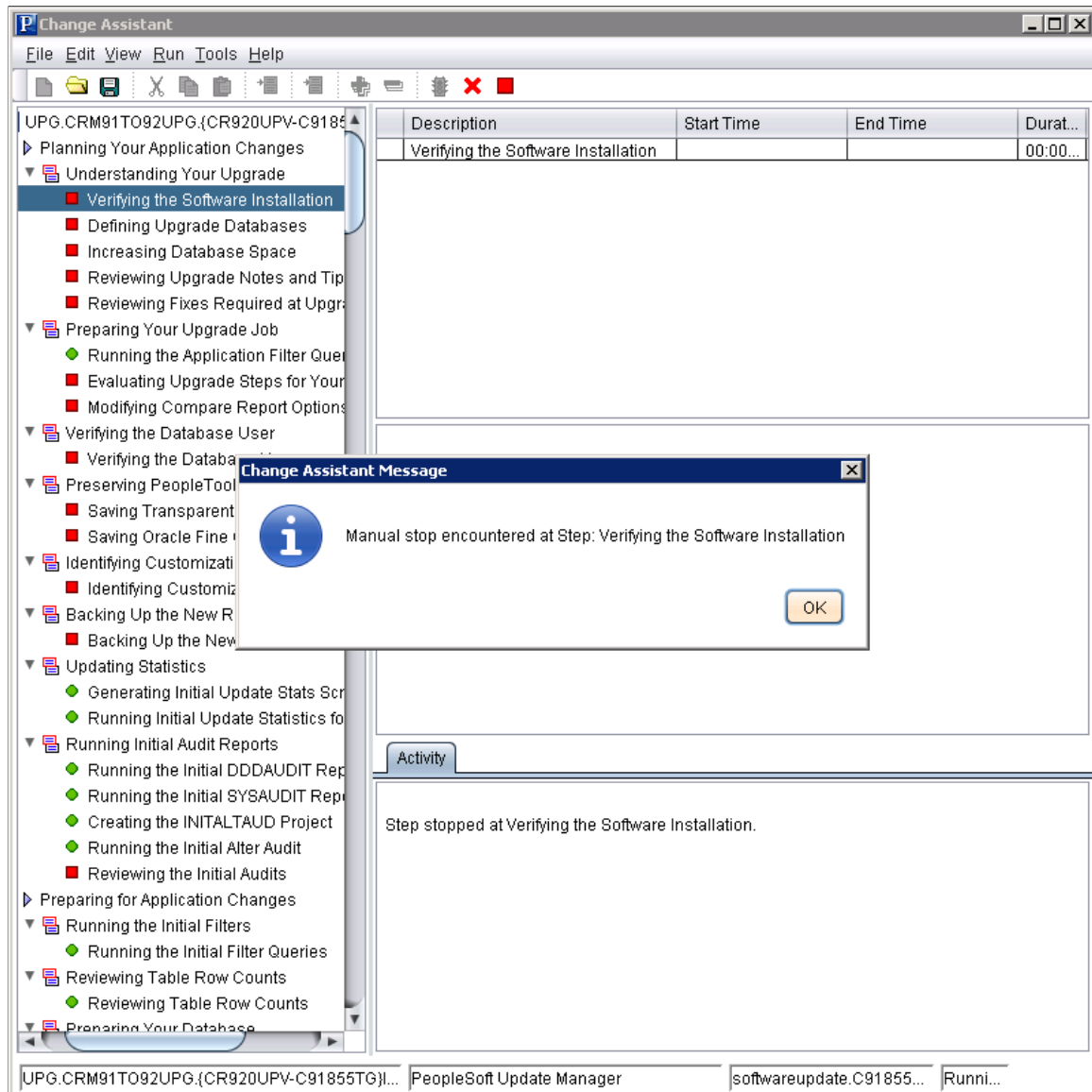
To use the Upgrade Application

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.

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.

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.

Change Package Wizard

Change Package Settings

Task Steps

Settings

PUM Source Database

Not Set

Download Directory:

C:\PUM\Download\

...

Apply Type

Initial Pass

All Steps

Source Steps Only

Target Steps Only

Subsequent Pass

Move To Production

Synchronize Target Metadata(Requires Source)

Yes

No

Field or Control	Description
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](#).

This example illustrates the fields and controls on the Select Upgrade Target Database page.

Change Package Wizard

Select Upgrade Target Database

Task Steps

- ☐ Settings
- ☒ Select Upgrade Target

Database: C91855TG Create

Login Information

User ID: VP1

Access ID: emdbo

Connect ID: people

DBOwner ID:

SQL Query Tool: C:\Oracle\product\12.1.0\dbhome_1\BIN\sqlplus.exe

Current Homes

PS Home: C:\PT8.55-902-R1\

PS App Home: C:\PT8.55-902-R1\

PS Cust Home: C:\PT8.55-902-R1\

SQR Settings

SQR Executables (SQRBIN) <PS_Home>\bin\sqr<plat>\binw

SQR Flags (PSSQRFLAGS) -ZIFC:\PT8.55\SQL\PSSQR.INI

PSSQR Path <me>\SQL;<App_Home>\SQL;<PS_Home>\SQL

Back Next Finish Cancel

Select Upgrade Source Database

For the initial pass, the upgrade source database is the Release 9.2 Demo database certified for this upgrade.

This example illustrates the fields and controls on the Select Upgrade Source Database.

Change Package Wizard

Select Upgrade Source Database

Database: Create

Task Steps

- ☐ Settings
- ☐ Select Upgrade Target
- ☒ Select Upgrade Source

Login Information

User ID:

Access ID:

Connect ID:

DBOwner ID:

SQL Query Tool:

Current Homes

PS Home:

PS App Home:

PS Cust Home:

SQR Settings

SQR Executables (SQRBIN)

SQR Flags (PSSQRFLAGS)

PSSQR Path

Back Next Finish Cancel

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.

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.

Change Package Wizard

Select Application Upgrade

Task Steps

- ☐ Settings
- ☐ Select Upgrade Target
- ☐ Select Upgrade Source
- ☒ **Select Upgrade**

	Name	DB	Current PS_HOME	New PS_HOME
Upgrade Source	CR920UPV	8.55.00	8.55-902-R1	n/a
Upgrade Target	C91855TG	8.55.00	8.55-902-R1	n/a

Packages to Apply

☒ Application Upgrade

Select Package

Select	Package Name	Description	Date
☒	CRM91TO92U...	Selective Packaging Project	2015-10-25-13....

☐ Required for Upgrade Package

Select Package

Select	Package Name	Description	Date
--------	--------------	-------------	------

☐ PeopleTools Upgrade

PeopleTools Upgrade Package Location: C:\PUM\Download\

Select Package

Select	Package Name	Description	Date
--------	--------------	-------------	------

Back Next Finish Cancel

Select the Packages to Apply:

- Application Upgrade
- Required for Upgrade Package
- PeopleTools Upgrade
- PeopleTools Patch

Validation Page

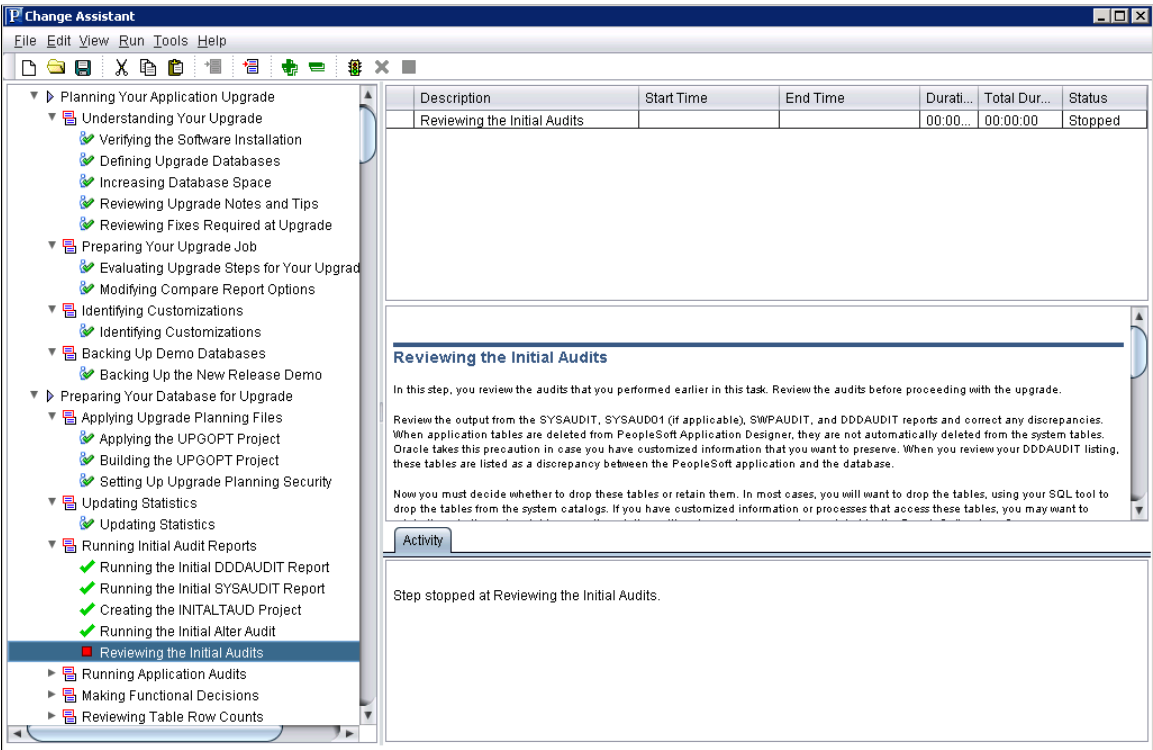
The Validation page will perform checks and validations on both the source and target environments.

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:

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.

Field or Control	Description
	Indicates each step that must be performed manually. The status of manual steps can be set only to Stop or Complete.

Field or Control	Description
	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.

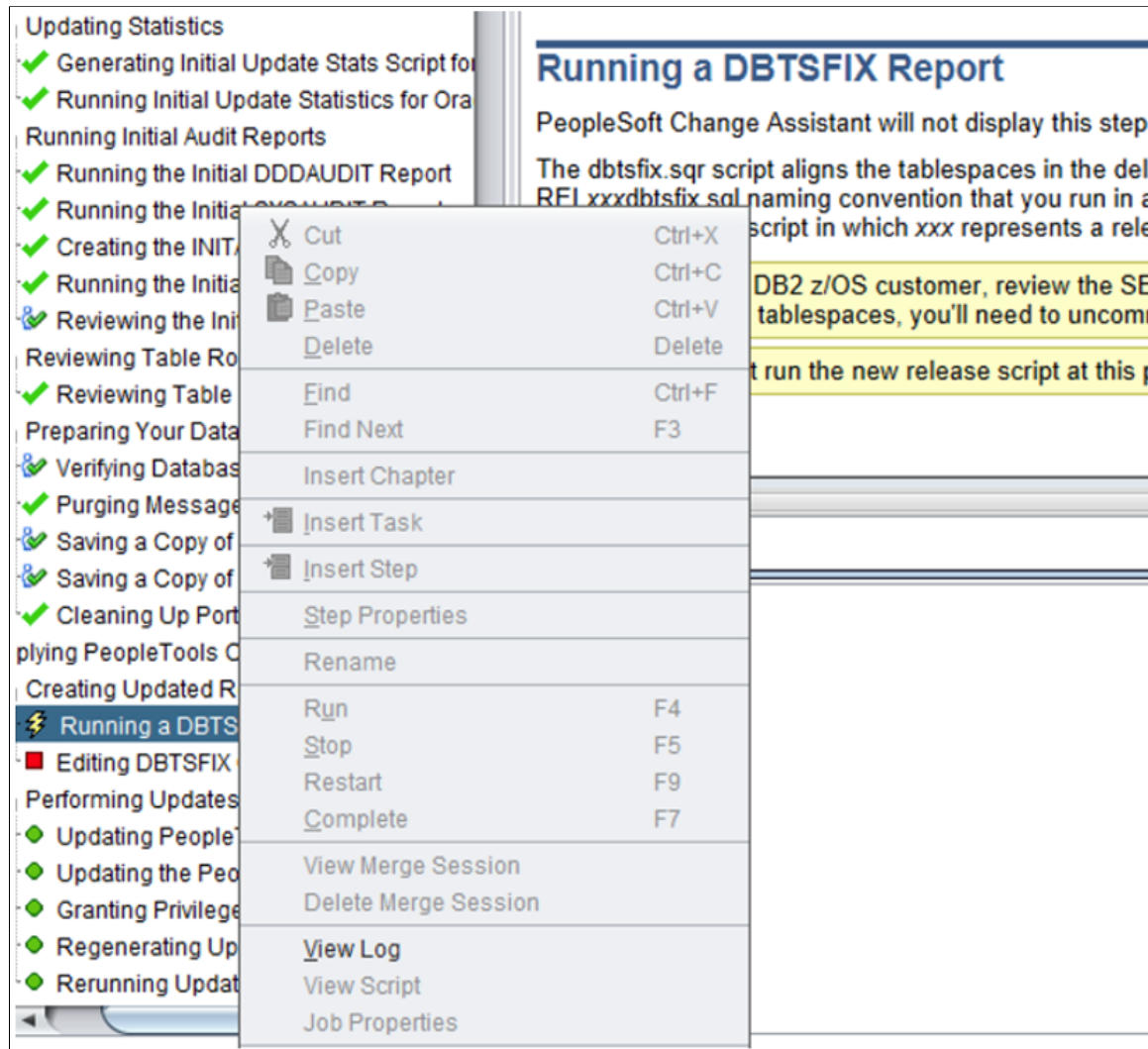
Note: On the left side of the file list, Change Assistant displays both error and success symbols. These indicate which step logs contain errors to help you troubleshoot.

Reviewing Sub-Steps

From PeopleTools 8.61, the View Log context menu is enabled while running the steps Running a DBTSFIX Report, Updating PeopleTools System Tables, and Loading Base Data.

Earlier, the View Log context menu used to be enabled for these steps only if the steps were Completed, Failed or in Warning status.

This example shows the View Log context menu enabled on the steps.



When these steps are run, a popup window with sub-steps is launched.

If you choose to close the sub-step popup window, it will not terminate the sub-step. You can re-open the sub-step popup window by selecting the View Log context menu.

If a sub-step is force stopped using the Force Stop (X) button, then the main step status is marked as Failed.

This information helps you restart the main step from the point of failure or run the step again.

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 through Process Scheduler, the following items need to be 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 force stop the step, by clicking on the step and selecting Run, Force Stop. This is equivalent to stopping or cancelling scheduled processes on the Process Scheduler. When you 'force stop' 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 and 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.

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 PS_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 WHERE
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:

<i>NON PARSABLE SQL</i>	<i>PARSABLE SQL</i>
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:

<i>Syntax</i>	<i>Sample Override Lines</i>
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: <i>SQLid</i>: Specify the name of an existing SQL definition. <i>paramlist</i>: 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 paramlist 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

COLUMN	DESCRIPTION
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
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

COLUMN	DESCRIPTION
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)
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

COLUMN	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
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
PTIA_PARAMCLAUSE	Bind variable used in the SQL
PTIA_INFO1	Extra Information mostly related to FUNCLIB calls

COLUMN	DESCRIPTION
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

COLUMN	DESCRIPTION
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

COLUMN	DESCRIPTION
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
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

COLUMN	DESCRIPTION
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
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

COLUMN	DESCRIPTION
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
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

COLUMN	DESCRIPTION
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

<i>COLUMN</i>	<i>DESCRIPTION</i>
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
<i>HC89</i>	<i>85</i>	<i>170</i>	<i>UPG_PY90</i>	<i>HCPYM01</i>	<i>MAIN</i>	<i>3</i>
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

To run the report from PIA:

1. Select **PeopleTools > Lifecycle Tools > Upgrades > Run Data Conversion Report**
2. Enter the Upgrade Path and Group Number.
3. Click Run.

This example illustrates the fields and controls on the Run Data Conversion Report.

The screenshot shows a web-based interface for running a data conversion report. It includes a title bar, a section for run control ID and navigation links, a section for upgrade path and group number, and a bottom section with save and search buttons.

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 run the MAIN and the DDL data conversion groups.

When data conversion is run 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 the **Add 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**.

This example illustrates the fields and controls on the Define Upgrade Path page.

Define Upgrade Paths

Define Upgrade Path

<

<

1-1 of 1

>

>

| View All

Upgrade Path	Active Flag	Short Description	Description
CRM92	Active	9.2	From 9.2

Save

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:

HC91

CR91

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.

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										
Q 1-25 of 142 View 100										
Upgrade Path	Program Name	Group Number	Group Level	Conv Type	Section	Sequence	Active Flag	Short Description	Long Descr	
HC91	UPG_HC91 x Q	1	2	Main	HCHCO20 Q	10	Active	REG_TRX_REGION	Long Descr	+ -
HC91	UPG_HC91 Q	1	2	Main	HCHCA01 Q	20	Active	OWS/Claivia upgrade	Long Descr	+ -
HC91	UPG_HC91 Q	1	2	Main	HCHCA40 Q	30	Active	Company Directory Actions	Long Descr	+ -
HC91	UPG_HC91 Q	1	2	Main	FGHCO30 Q	40	Active	Smart HR Template	Long Descr	+ -
HC91	UPG_HC91 Q	1	2	Main	HCHCO30 Q	50	Active	HR_TBH_SECDTL	Long Descr	+ -
HC91	UPG_HR91 Q	1	2	Main	HCHRA01 Q	60	Active	HRCD SETUP TABLES	Long Descr	+ -
HC91	UPG_HC91 Q	1	2	Main	HCFGA01 Q	70	Active	PI Check	Long Descr	+ -
HC91	UPG_HC91 Q	1	2	Main	HCFGA03 Q	75	Active	GVT_JOB.PAY_UNION_FEE	Long Descr	+ -
HC91	UPG_HR91 Q	1	2	Main	HCHRA03 Q	80	Active	HR_MO_COMPONENT	Long Descr	+ -

Field or Control	Description
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 <i>Active</i> , the section will be run. If the value is <i>Inactive</i> , it will not be run. If you need to remove a section, change the value in this field to <i>Inactive</i> .

Field or Control	Description
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 **Section** and enter value for **Sequence**.
11. Select a value for **Active Flag**.
12. The **Short Description** field is populated from the Section description. The **Long Descr** field 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**.

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.

<i>Process</i>	<i>Script Files</i>	<i>Updated Syntax</i>
DataMoverBootstrap DataMoverUser LoadBaseData	<process name>.dms	SET LOG statements
Db2 for 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

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: <pre><sqltool> <accessID>/ <password>@<dbname>@<scriptname></pre> Prepend script with: <code>WHENEVER SQLERROR EXIT</code> Continue on error: <pre><sqltool> <accessID>/ <password>@<dbname>@<scriptname></pre> Prepend script with: <code>WHENEVER SQLERROR CONTINUE</code>
Db2 for z/OS	Exit on error: <pre><sqltool> /c /w /i DB2 -tvf <script name> -z <log name> -s</pre> Continue on error: <pre><sqltool> /c /w /i DB2 -tvf <script name> -z <log name></pre>
Microsoft SQL Server	Exit on error: <pre><sqltool> -U <accessID> -P <password> -s <server name> -D <database name> -i <script name> -o <log name> -e -n -l -b</pre> Continue on error: <pre><sqltool> -U <accessID> -P <password> -s <server name> -D <database name> -i <script name> -o <log name> -e -n -l</pre>

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.

<i>Step Type</i>	<i>Definition</i>
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 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” (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” (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” (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” (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.

Step Type	Definition
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.
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	e(Applies to Db2 for z/OS 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 sqf to produce release scripts for your environment.

Step Type	Definition
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
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: <i>C:\temp</i> • variables for example: <i>%STAGINGDIRECTORY%</i> • combination of variables and fixed paths for example: <i>%STAGINGDIRECTORY%\IMAGE\</i>
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: <i>c:\bat\backup.bat</i> 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.

Step Type	Definition
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.
ProcessScheduler	Runs the specified upgrade process through Process Scheduler. To further define the step, you use these <i>required</i> parameters: <pre>#USE_PRCs_SERVER= #PROCESS_TYPE= #PROCESS_NAME= #RUNCONTROLID= #NUM_INSTANCES=</pre> 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: <pre>#USE_PRCs_SERVER=SERVER1 #PROCESS_TYPE=Application Engine #PROCESS_NAME=MYAE #RUNCONTROLID=TEST #NUM_INSTANCES=1</pre> Example: To run three instances of an SQR report (XRFWIN) on SERVER2, specify parameters as: <pre>#USE_PRCs_SERVER=SERVER2 #PROCESS_TYPE=SQR Report #PROCESS_NAME=XRFWIN #RUNCONTROLID=MYID #NUM_INSTANCES=3</pre> 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

Step Type	Definition
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.
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 <i>Set DB Owner Credentials</i> 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.

Step Type	Definition
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 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.

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.

AE With Run Control Options

Process

ADS - Compare From File

Application Engine Program: PTADSAEPRCS

Parameters

Project Name/Run Control ID: HR_ENHPTM

Area Name: AREA

Object Types: ALL

Options

Options

Merge ☒ Yes ☐ No

Overwrite Existing Project ☒ Yes ☐ No

Ignore Shape Difference ☐ Yes ☒ No

Validate Before Apply ☐ Yes ☒ No

Validate After Apply ☐ Yes ☒ No

Logging Suffix Options

☐ Use Default ☒ Use Custom Value PTMCompFF

Field or Control	Description
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.

Field or Control	Description
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	This functionality is disabled. If there is a shape change in Application owned datasets between the source and target environments the copy/compare/validate process will fail. If the process fails, select the View Log option for the step, which will list the App owned dataset that needs to be synchronized.
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.

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.

AE With Run Control Options

Process

GP - Import Rule

Application Engine Program: GP_PKG_ADSIR

Parameters

Run Control ID:

Package ID:

Version:

Logging Suffix Options

☒ Use Default ☐ Use Custom Value

Field or Control	Description
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.

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.

AE With Run Control Options

Process

Search Framework - Schedule Index

Application Engine Program: PTSF_SCH_IDX

Parameters

Run Control ID:

Search Definition:

Execution Option: ☒ Wait for Completion ☐ Continue without Waiting

Schedule Language: ☒ Use Previous Schedule ☐ All Languages ☐ Base Language

Logging Suffix Options

☒ Use Default ☐ Use Custom Value

Field or Control	Description
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.

Field or Control	Description
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.

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.

Field or Control	Description
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

Field or Control	Description
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: <pre>#PROJECT=PRJ656265, PRJ656265_IB_PRE848</pre> For the SQRReport step type, enter two parameters namely the project name and the filter criteria <pre>#P1= PROJECTNAME #P2= FILTER</pre>
#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: <pre>#Directory=#OutputDirectory</pre>
#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: <pre>#RunLocation=#ALL_NEW_PATHS_TGT #FileLocation=#ALL_NEW_PATHS_TGT</pre>

Parameter	Description
#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.
#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.
#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, Oracle 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).

Parameter	Description
#TABLEOWNER=	Database owner ID (same as sqld 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 <i>PROCESS_TYPE=Application Engine</i>, not <i>PROCESS_TYPE=APPLICATION ENGINE</i>.
#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.

Parameter	Description
#TST	Used with the PTFTTest step to identify the test
#TC	Used with the PTFTTest step to identify the test case.
#PFX	Used with the PTFTTest 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.
#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.

Variable	Description
#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

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\websevr\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.

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.

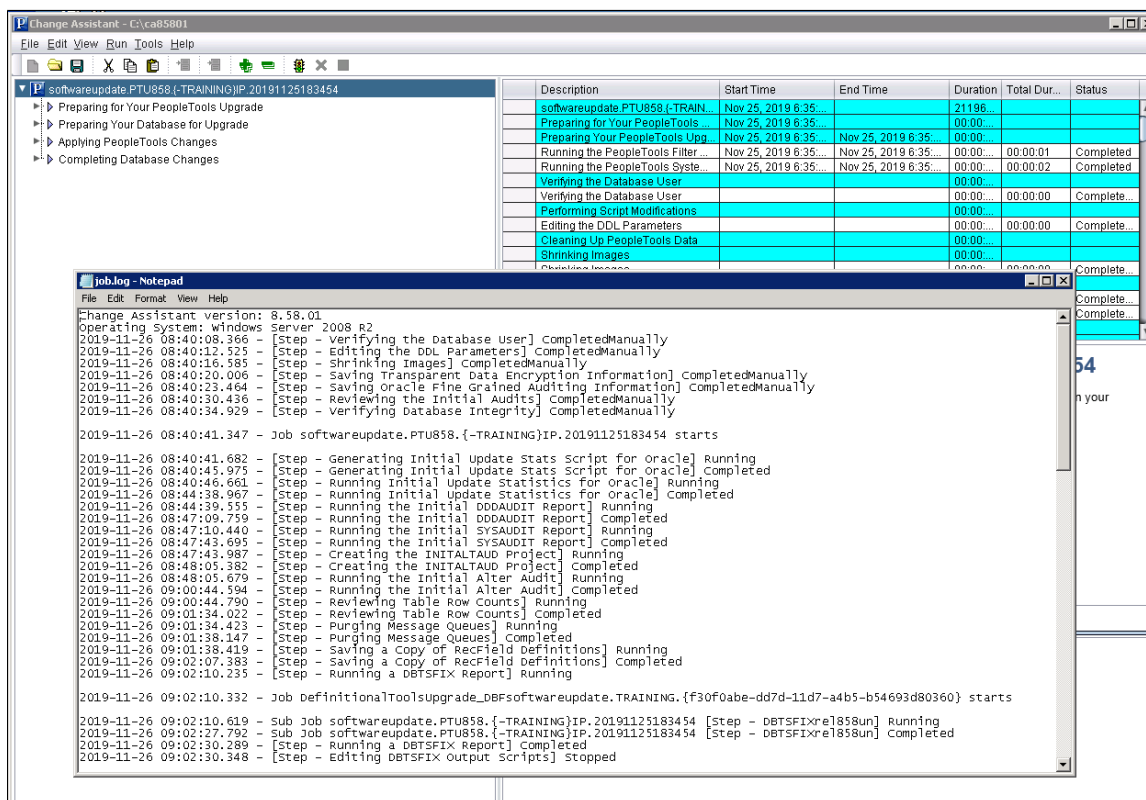
- Apply Change Package
- Apply PeopleSoft Release Patch
- Apply PeopleTools Patch
- Upgrade Tools
- Upgrade Application

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.

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.
*_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.

Log File	Description	Example
*_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 ccreate 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 progress and status for creating the Change Package. This is an example of a ccreate 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⇒
initiation 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 Environment 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-Managed 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.

Processes	Log File	Error	Warning Status
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
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

Processes	Log File	Error	Warning Status
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.

