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Enterprise PeopleTools 8.48 PeopleBook: PeopleSoft Software Updates

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Enterprise PeopleTools 8.48 PeopleBook: PeopleSoft Software Updates
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About This PeopleBook

PeopleSoft Enterprise PeopleBooks provide you with the information that you need to implement and use PeopleSoft Enterprise applications from Oracle.

This preface discusses:

- PeopleSoft Enterprise application prerequisites.
- Application fundamentals.
- Documentation updates and printed documentation.
- Additional resources.
- Typographical conventions and visual cues.
- Comments and suggestions.
- Common elements in PeopleBooks.

Note. PeopleBooks document only elements, such as fields and check boxes, that require additional explanation. If an element is not documented with the process or task in which it is used, then either it requires no additional explanation or it is documented with common elements for the section, chapter, PeopleBook, or product line. Elements that are common to all PeopleSoft Enterprise applications are defined in this preface.

PeopleSoft Enterprise Application Prerequisites

To benefit fully from the information that is covered in these books, you should have a basic understanding of how to use PeopleSoft Enterprise applications.

You might also want to complete at least one introductory training course, if applicable.

You should be familiar with navigating the system and adding, updating, and deleting information by using PeopleSoft Enterprise menus, pages, or windows. You should also be comfortable using the World Wide Web and the Microsoft Windows or Windows NT graphical user interface.

These books do not review navigation and other basics. They present the information that you need to use the system and implement your PeopleSoft Enterprise applications most effectively.

Application Fundamentals

Each application PeopleBook provides implementation and processing information for your PeopleSoft Enterprise applications.

For some applications, additional, essential information describing the setup and design of your system appears in a companion volume of documentation called the application fundamentals PeopleBook. Most product lines have a version of the application fundamentals PeopleBook. The preface of each PeopleBook identifies the application fundamentals PeopleBooks that are associated with that PeopleBook.

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The application fundamentals PeopleBook consists of important topics that apply to many or all PeopleSoft Enterprise applications. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of the appropriate application fundamentals PeopleBooks. They provide the starting points for fundamental implementation tasks.

Documentation Updates and Printed Documentation

This section discusses how to:

- Obtain documentation updates.
- Download and order printed documentation.

Obtaining Documentation Updates

You can find updates and additional documentation for this release, as well as previous releases, on Oracle's PeopleSoft Customer Connection website. Through the Documentation section of Oracle's PeopleSoft Customer Connection, you can download files to add to your PeopleBooks Library. You'll find a variety of useful and timely materials, including updates to the full line of PeopleSoft Enterprise documentation that is delivered on your PeopleBooks CD-ROM.

Important! Before you upgrade, you must check Oracle's PeopleSoft Customer Connection for updates to the upgrade instructions. Oracle continually posts updates as the upgrade process is refined.

See Also

Oracle's PeopleSoft Customer Connection, http://www.oracle.com/support/support_peoplesoft.html

Downloading and Ordering Printed Documentation

In addition to the complete line of documentation that is delivered on your PeopleBook CD-ROM, Oracle makes PeopleSoft Enterprise documentation available to you via Oracle's website. You can:

- Download PDF files.
- Order printed, bound volumes.

Downloading PDF Files

You can download PDF versions of PeopleSoft Enterprise documentation online via the Oracle Technology Network. Oracle makes these PDF files available online for each major release shortly after the software is shipped.

See Oracle Technology Network, http://www.oracle.com/technology/documentation/psftent.html.

Ordering Printed, Bound Volumes

You can order printed, bound volumes of selected documentation via the Oracle Store.

See Oracle Store, http://oraclestore.oracle.com/OA_HTML/ibeCCtpSctDspRte.jsp?section=14021

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Additional Resources

The following resources are located on Oracle's PeopleSoft Customer Connection website:

Resource	Navigation
Application maintenance information	Updates + Fixes
Business process diagrams	Support, Documentation, Business Process Maps
Interactive Services Repository	Support, Documentation, Interactive Services Repository
Hardware and software requirements	Implement, Optimize + Upgrade; Implementation Guide; Implementation Documentation and Software; Hardware and Software Requirements
Installation guides	Implement, Optimize + Upgrade; Implementation Guide; Implementation Documentation and Software; Installation Guides and Notes
Integration information	Implement, Optimize + Upgrade; Implementation Guide; Implementation Documentation and Software; Pre-Built Integrations for PeopleSoft Enterprise and JD Edwards EnterpriseOne Applications
Minimum technical requirements (MTRs)	Implement, Optimize + Upgrade; Implementation Guide; Supported Platforms
Documentation updates	Support, Documentation, Documentation Updates
PeopleBooks support policy	Support, Support Policy
Prerelease notes	Support, Documentation, Documentation Updates, Category, Release Notes
Product release roadmap	Support, Roadmaps + Schedules
Release notes	Support, Documentation, Documentation Updates, Category, Release Notes
Release value proposition	Support, Documentation, Documentation Updates, Category, Release Value Proposition
Statement of direction	Support, Documentation, Documentation Updates, Category, Statement of Direction
Troubleshooting information	Support, Troubleshooting
Upgrade documentation	Support, Documentation, Upgrade Documentation and Scripts

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Typographical Conventions and Visual Cues

This section discusses:

- Typographical conventions.
- Visual cues.
- Country, region, and industry identifiers.
- Currency codes.

Typographical Conventions

This table contains the typographical conventions that are used in PeopleBooks:

Typographical Convention or Visual Cue	Description
Bold	Indicates PeopleCode function names, business function names, event names, system function names, method names, language constructs, and PeopleCode reserved words that must be included literally in the function call.
Italics	Indicates field values, emphasis, and PeopleSoft Enterprise or other book-length publication titles. In PeopleCode syntax, italic items are placeholders for arguments that your program must supply. We also use italics when we refer to words as words or letters as letters, as in the following: Enter the letter *O*.
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.
`Monospace font`	Indicates a PeopleCode program or other code example.
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meanings.
. . . (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 (|).

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Typographical Convention or Visual Cue	Description
[ ] (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.

Visual Cues

PeopleBooks contain the following visual cues.

Notes

Notes indicate information that you should pay particular attention to as you work with the PeopleSoft Enterprise system.

Note. Example of a note.

If the note is preceded by *Important!,* the note is crucial and includes information that concerns what you must do for the system to function properly.

Important! Example of an important note.

Warnings

Warnings indicate crucial configuration considerations. Pay close attention to warning messages.

Warning! Example of a warning.

Cross-References

PeopleBooks provide cross-references either under the heading “See Also” or on a separate line preceded by the word *See.* Cross-references lead to other documentation that is pertinent to the immediately preceding documentation.

Country, Region, and Industry Identifiers

Information that applies only to a specific country, 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 country-specific heading: “(FRA) Hiring an Employee”

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

Country Identifiers

Countries are identified with the International Organization for Standardization (ISO) country code.

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Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in PeopleBooks:

- 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 PeopleBooks:

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

Currency Codes

Monetary amounts are identified by the ISO currency code.

Comments and Suggestions

Your comments are important to us. We encourage you to tell us what you like, or what you would like to see changed about PeopleBooks and other Oracle reference and training materials. Please send your suggestions to your product line documentation manager at Oracle Corporation, . Or email us at appsdoc@us.oracle.com.

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions.

Common Elements Used in PeopleBooks

As of Date	The last date for which a report or process includes data.
Business Unit	An ID that represents a high-level organization of business information. You can use a business unit to define regional or departmental units within a larger organization.
Description	Enter up to 30 characters of text.
Effective Date	The date on which a table row becomes effective; the date that an action begins. For example, to close out a ledger on June 30, the effective date for the ledger closing would be July 1. This date also determines when you can view and change the information. Pages or panels and batch processes that use the information use the current row.
Once, Always, and **Don't Run**	Select Once to run the request the next time the batch process runs. After the batch process runs, the process frequency is automatically set to Don't Run.

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Select Always to run the request every time the batch process runs.

Select Don’t Run to ignore the request when the batch process runs.

Process Monitor Click to access the Process List page, where you can view the status of submitted process requests.

Report Manager Click to access the Report List page, where you can view report content, check the status of a report, and see content detail messages (which show you a description of the report and the distribution list).

Request ID An ID that represents a set of selection criteria for a report or process.

Run Click to access the Process Scheduler request page, where you can specify the location where a process or job runs and the process output format.

SetID An ID that represents a set of control table information, or TableSets. TableSets enable you to share control table information and processing options among business units. The goal is to minimize redundant data and system maintenance tasks. When you assign a setID to a record group in a business unit, you indicate that all of the tables in the record group are shared between that business unit and any other business unit that also assigns that setID to that record group. For example, you can define a group of common job codes that are shared between several business units. Each business unit that shares the job codes is assigned the same setID for that record group.

Short Description Enter up to 15 characters of text.

User ID An ID that represents the person who generates a transaction.

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Software Updates Preface

This preface describes the Software Updates PeopleBook.

Software Updates

PeopleSoft software updates refers to:

- Updating a PeopleTools release with a maintenance build.
- Updating a PeopleSoft application with a maintenance build.

Change Assistant is a tool that expedites the software update process. This book explains the process of finding, analyzing, downloading and applying software patches and updates. Change Assistant utilizes the Environment Management components, which are also described in this book.

Environment Management Framework

Environment Management Framework (EMF) is a product 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 consists of the following core elements:

- An Environment Management agent.

  An Environment Management agent is a Java executable. One instance of the agent can run at a time per physical machine. The Environment Management agent initiates communication to the hub and is assigned a unique peer ID. This ID persists and is reused for later connections by the agent.

- The Environment Management hub.

  The Environment Management hub is a web application that's installed with the PeopleSoft Internet Architecture and portal. It's 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 viewer.

  The Environment Management viewer is a command-line tool that helps customers view data that is retrieved from the Environment Management hub. This data is saved in an XML file that contains data that is specific to individual customers—such as information about environments, software updates, hosts, file servers, application servers, PeopleSoft Process Schedulers, and web servers. Users can view this static data in HTML.

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Software Upgrades

The software upgrade process described in Part 2 of this book refers to the process of moving from one PeopleTools release to another PeopleTools release. This process uses Change Assistant, but does not use Environment Management components.

Note. If you are upgrading to PeopleTools 8.44 or below, you must use PeopleSoft Upgrade Assistant.

If you are upgrading from one release of a PeopleSoft application to another application release, consult your specific application's install and upgrade documentation.

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Part 1

Software Updates

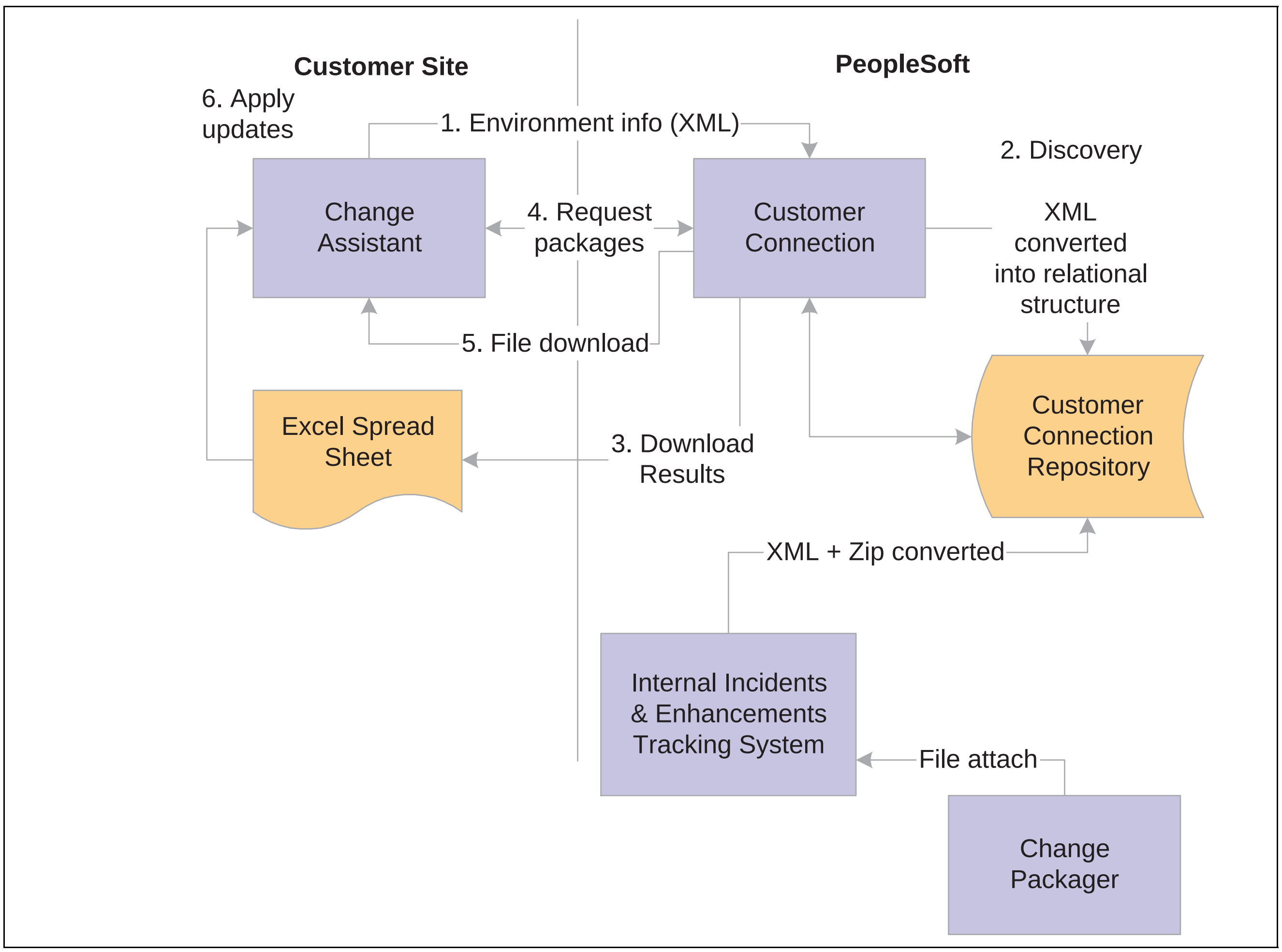
CHAPTER 1

Getting Started with Software Updates

This chapter provides an overview of the software update process.

Software Update Process

The following diagram shows the software update process.



Software update process

1. After installing and configuring Change Assistant and the Environment Management components, you upload the environment data, including the patch history, to PeopleSoft Customer Connection.

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2. Using the application environment data provided by Change Assistant, PeopleSoft Customer Connection can identify all the unapplied updates in a given environment. This is the discovery phase.
3. As a Change Assistant user, you can access PeopleSoft Customer Connection to obtain a list of update IDs. You can download those update IDs to an Excel spreadsheet and review them offline.
4. Once you have determined which updates you want to apply, then use Change Assistant to request all the change packages associated with the selected update IDs to be downloaded.
5. You can download an individual change package or multiple change packages.
6. After you have downloaded the change packages, you can then apply them in a batch or individually. If requisites are required, they will be included in the list as well.

Setting Up For Software Updates

Before you can begin the update process, you must set up your update environment by:

- Configuring and running the Environment Management components.
- Installing and configuring Change Assistant.

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CHAPTER 2

Configuring and Running Environment Management Components

This chapter provides an overview of the Environment Management framework and discusses how to:

- Configure an Environment Management agent.
- Run an Environment Management agent.
- Configure the Environment Management hub.
- Run the Environment Management hub.
- Run the viewer.
- Handle common error conditions.
- Configure and start an agent on z/OS.

Understanding the Environment Management Framework

The Environment Management framework gathers and publishes PeopleSoft installation, configuration, and update information. It enables you to identify and view data about PeopleSoft environments. You can use Environment Management 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.

Environment Management also provides a vehicle to carry out commands remotely on different machines on the network from Change Assistant, which uses Environment Management to apply updates to PeopleSoft installations and configurations.

Environment Management contains the following core components:

- Environment Management agents.
- Environment Management hub.
- Environment Management viewer.

Environment Management Agents

An Environment Management agent is a Java executable. One instance of the agent can run at a time per physical machine. 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.

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

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

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

Note. You install the Environment Management agent by running the PeopleTools CD installation. The Environment Management agent is installed in a PSEMAgent directory in your *PS_HOME* directory if at least one set of PeopleTools software is installed on a machine. If additional components are installed in the same *PS_HOME* location, the installer warns you that existing software may be overwritten.

You must install JRE version 1.4 or later on Microsoft Windows and UNIX to run the agent. JRE 1.4.x is installed by the PeopleSoft installations.

See PeopleTools installation documentation for your database platform.

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:

- 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.

- Registration 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.

  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. If the hub does not hear from a peer for 3 ping cycles ("I am alive" messages) then it changes the state of the peer from 'Running' to 'Not Running'. This status information can be accessed from a browser using the following URL:

  http://*hub_host*:*hub_port*/PSEMHUB/hub.

- 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.

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The Environment Management hub is installed as part of the standard PeopleSoft Internet Architecture installation. It supports both single-server and multi-server installations, and it runs on IBM WebSphere or BEA WebLogic servers. 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 in WebLogic and WebSphere. The following Environment Management hub directories are created on the J2EE container for the hub:

- With BEA WebLogic:

  PS_HOME\webserv*domain*\applications\peoplesoft\PSEMHUB

- With IBM WebSphere:

  PS_HOME\webserv*cell_node_server**domain*.ear\PSEMHUB

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

Environment Management Viewer

The Environment Management viewer is a command-line tool that helps customers view data that is retrieved from the Environment Management hub. This data is saved in an XML file that contains data that is specific to individual customers—such as, information about environments, software updates, hosts, file servers, application servers, PeopleSoft Process Schedulers, 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.

Environment Management Terminology

The following terms relate to Environment Management:

Manageable component

A component that can be individually managed from the Environment Management hub. A manageable component for PeopleSoft is typically a file server, an application server, a web server, individual hosts, or a PeopleSoft Process Scheduler server.

Peer

A manageable component that is involved in a transaction with one or more peers in the Environment Management by using the hub as the intermediary. A peer may also be responsible for delegation of management responsibility to a collection of manageable components. Examples of peers are agents, Change Assistant, and the Environment Management viewer.

Heartbeat

"I am alive messages" sent by every peer to the hub. The default interval is configurable. On every heartbeat, the peer pings the server to see if it has any pending messages. If it does, the messages are taken and carried out.

Environment

All of the manageable components in the enterprise that share the same globally unique identifier (GUID) in the database. There can be more than one instances of a type of managed component in an environment. For example, development environments can contain several application servers, Process Schedulers, and web servers.

GUID

Uniquely identifies a particular PeopleSoft system. PeopleSoft assigns a unique value, referred to as a GUID, to each PeopleSoft application installation. This value can't be customized. When an Environment Management agent notifies the hub that it has found a manageable component

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belonging to an environment, if the GUID of the environment is not recognized, the hub creates a new environment representation.

Note. When copying databases. it is extremely important to delete the GUID in the new (copied) database. If not deleted, the hub will assume that the two environments are the same, leading to confusion. To resolve this, set the value of the GUID field in the PSOPTIONS table to <space> in the new database. The next time an application server connects to the database, the system generates a new, unique GUID. You can insert the blank value in the PSOPTIONS table using the SQL tool at your site.

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. 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.

Configuring an Environment Management Agent

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

PS_HOME\PSEMAgent\envmetadata\config

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

Configuration Parameter	Description	Default Value
hubURL	The URL that contains the host name and the port number of the machine on which the Environment Management hub is running (inside a J2EE container).	http://*hostname*:*port*/PSEMHUB/hub.
agentport	A port that the agent uses for internal life cycle management.	5283.

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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 that contain installed PeopleSoft components. 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 that contain installed PeopleSoft components.	$HOME **Note.** Do not leave a trailing '/' or '\' character at the end of the path.
chunksize	Only applicable to large files, which may be chunked when sent. The chunksize represents the maximum size in bytes of each chunk.	1048576 (1 MB) (used for large file transfers).

Configuring Agent Logging

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

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

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

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

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. Pay special attention to the value of the *hubURL* parameter, which should specify the machine name and port of the Environment Management hub machine, and the *windowsdrivestocrawl* and *unixdrivestocrawl* parameters.

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Starting and Stopping 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 *PSEMAgent,* the Microsoft Windows service that's delivered as part of PeopleTools.

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

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

To make components manageable at startup, include the agent script in the startup applications or start the agent using the service on Microsoft Windows. Use login scripts on UNIX to make the components manageable at startup. 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. Only one Environment Management agent can be started per machine.

Note. 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.

The results of searching the hard disk are saved in the envmetadata\data\search-results.xml file.

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 pick them up. 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.

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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.

Revalidate

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

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

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

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

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

Command-Line Arguments for the Agent

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

Argument	Description	Sample Output
version	Returns the version of the agent.	Version:8.45 Build Number: 109
shutdown	Shuts down a previous instance of the agent if it is running.	If the agent does not exist: Shutting down Agent....Unable to detect a running agent...Instance does not exist If the agent exists: Shutting down Agent....Shutdown normally
url	Prints the URL of the hub with which the agent is configured to communicate.	http:// 216.131.222.227:80 /PSEMHUB/hub
validate	Validates the current set of managed components that have been discovered from the last crawling by the agent.	Not applicable (NA)

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

Automatically Starting an Agent in Windows

You can set an Environment Management agent to start automatically when your Environment Management machine boots, by installing and configuring the *PSEMAgent* service that's delivered as part of PeopleTools. Before you can start the service, you must install it.

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.

Starting the PSEMAgent Service

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

- To start the PSEMAgent service from a command prompt, open a command window and enter

  net start PSEMAgent
- To start the PSEMAgent service from the Windows Services control panel:
  1. Open the Windows control panel, then double-click Administrative Tools, then Services.

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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, open a command window and enter

  net stop PSEMAgent

- 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.

Configuring the Environment Management Hub

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

Note. The current implementation of Environment Management framework does not support secure HTTP connections. The agent and hub communicate using standard HTTP only. On WebSphere or for a single server configuration on WebLogic, PSEMHUB is a web application within PIA. If PIA is configured to be accessed using HTTPS, a separate server instance must be used for the hub. This extra server will be accessed using regular HTTP.

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 as follows:

- WebLogic: *PS_HOME*\webserv*domain*\applications\peoplesoft\PSEMHUB\envmetadata\config\configuration.properties

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- WebSphere: *PS_HOME*\webserv*cell_node_server**domain*.ear\PSEMHUB\envmetadata\config \configuration.properties

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

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

Configuring Hub Logging

The Environment Management hub logs are located as follows:

- WebLogic: *PS_HOME*\webserv*domain*\applications\peoplesoft\PSEMHUB\envmetadata\logs
- WebSphere: *PS_HOME*\webserv*cell_node_server**domain*.ear\PSEMHUB\logs

Edit the following files to configure logging for the hub:

- WebLogic: *PS_HOME*\webserv*domain*\applications\peoplesoft\PSEMHUB\envmetadata\config \Logconfig.properties
- WebSphere: *PS_HOME*\webserv*cell_node_server**domain*.ear\PSEMHUB\envmetadata\config \Logconfig.properties

The following two Logconfig.properties parameters, which determine the maximum size of each log file, and the amount of log files rolled over, can be changed:

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

Running the Environment Management Hub

This section discusses how to:

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

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

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Running the Hub on a Single Server

This section discusses how to:

- Start the WebLogic hub on a single server.
- Stop the WebLogic hub on a single server.
- Start the WebSphere hub on a single server.
- Stop the WebSphere hub on a single server.

Start the WebLogic Hub on a Single Server

For a single server installation, the Environment Management hub is part of the PIA server.

- To start the PIA server as a foreground process on a Windows machine, run the following command:

  PS_HOME\webserv*domain*\startPIA.cmd
- To start the PIA server as a Windows service, run the following command:

  PS_HOME\webserv*domain*\installNTservicePIA.cmd
- To start the PIA server on a UNIX machine, run the following command:

  PS_HOME/webserv/*domain*/startPIA.sh

Note. The PeopleSoft Internet Architecture server listens on port 80, by default. This is important for configuring the agents to communicate with the Environment Management hub.

Stop the WebLogic Hub on a Single Server

In a single server environment, run *PS_HOME*\webserv*domain*\stopPIA.cmd on windows, and *PS_HOME*/webserv/*domain*/stopPIA.sh on UNIX.

Start the WebSphere Hub on a Single Server

If your entire system is running on one server (serverX), then PIA and PSEMHUB requests are serviced by this server. You can start the server using *WebSphere_Appserver_directory*\bin\startServer.bat serverX on Windows and *WebSphere_Appserver_directory*/bin/startServer.sh serverX on UNIX.

Stop the WebSphere Hub on a Single Server

In a single server environment, run *WebSphere_Appserver_directory*\bin\stopServer.bat serverX on Windows and *WebSphere_Appserver_directory*/bin/stopServer.sh serverX on UNIX.

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 are sent across from Change Assistant 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.

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Start the WebLogic Hub on Multiple Servers

In a multiple server configuration, the PSEMHUB server listens on port *8001*, 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, use Start>Programs>BEA WebLogic Platform 8.1>Other Development Tools>WebLogic Builder>File >Open to 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. Don't forget to save your new configuration.

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

```
PS_HOME\webserv\domain\StartWebLogicAdmin.cmd (start the admin server)
PS_HOME\webserv\domain\StartManagedWebLogic.cmd RPS
PS_HOME\webserv\domain\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: *PS_HOME*\webserv*domain*\applications\HttpProxyServlet\WEB-INF\web.xml. In the PSEMHUBHttpProxyServlet section, change the default port from 8001 to 80.

The following is an example of the 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>8001</param-value>
  </init-param>
 </servlet>
```

Start the WebSphere Hub on Multiple Servers

If you are using multiple servers, then you need to dedicate one of them to handle PSEMHUB requests. It is important to note that ALL PSEMHUB requests be routed to the same server instance. The following steps show the configuration changes that are required for this purpose:

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1. Edit your reverse proxy's plug-in configuration file (plugin-cfg.xml) then make sure that only one server is dedicated to PSEMHUB.
2. Remove this line from all other servers: <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier= "jsessionid" Name="/PSEMHUB/*" />. The server you chose for PSEMHUB should only service PSEMHUB requests so that it can run independently and can be shut down without affecting the rest of the system.
3. Restart the reverse proxy using : *IBM_proxy_base_directory*\bin\apachectl restart.
4. Restart all the servers. For Windows, the directory is: *WebSphere_Appserver_directory*\bin\startServer.bat serverX. For UNIX, the directory is: *WebSphere_Appserver_directory*/bin/startServer.sh serverX.
5. Use the following URL to access PSEMHUB http://*reverse_proxy_host*:*reverse_proxy_port*/PSEMHUB /hub . The reverse proxy's listen port is defined in *IBM_reverse_proxy_base_directory*\conf\httpd.conf.

If you encounter the following error in the stdout log of the server running PSEMHUB:

```
[10/21/03 20:32:44:826 PDT]  136aa03 OSEListenerDi E PLGN0021E: Servlet Request⇒
 Processor Exception: Virtual Host/WebGroup Not Found : The host pt-⇒
lnx03.peoplesoft.com on port 6080 has not been defined
```

Use the following steps to correct the error:

1. Open your Websphere administration console.
2. Select Environment, Virtual Hosts,default_host,Host Aliases.
3. Add *.* (the host now can accept redirected queries from your reverse proxy. Normally this configuration is applied during PIA install).

Stop the WebLogic Hub on Multiple Servers

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

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

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

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```
  <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>
```

Stop the WebSphere Hub on Multiple Servers

In a multiple server environment, target the server which is dedicated to PSEMHUB then execute *WebSphere_Appserver_directory*\bin\stopServer.bat serverX on Windows and *WebSphere_Appserver_directory*/bin/stopServer.sh serverX on UNIX. This will only stop the server servicing PSEMHUB requests. The other servers will still be up processing PIA requests

Running the Viewer

Viewing data from the Environment Management hub is a two-step process:

1. Run a Java program to connect to the hub and retrieve the information in XML format.
2. Open a delivered HTML file to view the information in the generated XML file.

Running the Java Program

To run the Java program, run one of the following from *PS_HOME*\PSEMViewer:

- GetEnvInfo.bat (Microsoft Windows)
- ./GetEnvInfo.sh (on UNIX)

Due to security concerns, the Java program connects only to the local host. Here is a sample of the Java output:

```
**********************************************************
*   PeopleSoft Environment Management Viewer             *
**********************************************************
Enter the Web Server port:
6071  <== Enter the server port. Make sure the hub is reachable.
Sending pulse from 'com.peoplesoft.emf.peer:id=2'
<== Here Peer ID is 2. It varies from machine to machine

C:\pt844\PSEMViewer\envmetadata\data\viewer.xml exists.  Renaming it to
 C:\pt844\PSEMViewer\envmetadata\data\viewer.xml_2003_9_22_11_20_50308.xml
<== if the file exists, it'll be renamed to a temp file. PeopleSoft Environment Management Viewe
 C:\pt844\PSEMViewer\envmetadata\data\viewer.xml
<== output file is written to viewer.xml under ps_home\PSEMViewer\envmetadata\data
********************************************************** PeopleSoft Environment⇒
 Management Viewer Terminated Successfully.
**********************************************************
```

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Viewing the HTML

To view the hub information delivered in an HTML file, open the file in (*PS_HOME*\PSEMViewer \envmetadata\data\viewer.html) with a PeopleSoft-supported browser.

Handling Common Error Conditions

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 talk to 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.

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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.mydomain.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

Ensure that you specify the right port number when launching the viewer.

If you set up PIA for a single server, you must enter 80 as the port number when prompted by the viewer, and if you set up PIA for multiple servers, you must enter 8001 as the port number.

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.

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Configuring and Starting an Agent on z/OS

To run an agent on z/OS, you must have installed JRE 1.4.x.

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 1.4.x 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 1.4.x location.

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

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

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 OS and view them in any editor.

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CHAPTER 3

Configuring Change Assistant

This chapter provides an overview and discusses how to configure general, email, and web options for Change Assistant.

Note. You must install Change Assistant separately from PeopleSoft PeopleTools.

See Also

Enterprise Manager PeopleTools Installation Guide for PeopleTools 8.48.

Understanding Change Assistant

Change Assistant is a standalone application that enables you to assemble and organize the steps necessary to apply patches and fixes for maintenance updates.

In order to perform reliable and accurate updates, Change Assistant gathers all the necessary information including the change log from the Environment Management hub and uploads it to PeopleSoft Customer Connection. With the environment data available, PeopleSoft Customer Connection can determine what updates apply to your environment.

When you access PeopleSoft Customer Connection, you can obtain a list of all unapplied updates for a given application environment including all prerequisites. You can then download a set of change packages associated with the update IDs and install the patches and fixes with minimal effort.

Setting Up Change Assistant

After you have installed Change Assistant, you must set the variable path and scan your workstation.

Setting the Variable Path

After installing Change Assistant, you need to set the path.

1. Select Start, Settings, Control Panel.
2. Double-click the System icon.

   The System Properties screen appears.
3. Select the Advanced tab.
4. Click Environment Variables.

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5. Select the *Path* variable in the System Variables section, then click the Edit button.

   The Edit System Variables screen appears.

6. Insert the following, in the Variable Value field, to the beginning of the path:

   ```
   C:\PS_HOME\bin\client\winx86;
   ```

   where PS_HOME is the name of the PeopleTools folder.

7. Click OK to save your settings.

Scanning the Workstation

The first time you use Change Assistant, it automatically scans your workstation for applications that it will use in order to automate the steps. For example, it automatically finds the SQL Query tool and uses it to run SQL commands or scripts.

If you add a new application or update an existing application, Change Assistant must perform a scan of the system in order to discover the changes. To perform this scan, select Tools, Scan Configuration.

Specifying Change Assistant Options

This section describes options to set in Change Assistant.

Select Tools, Options, Change Assistant.

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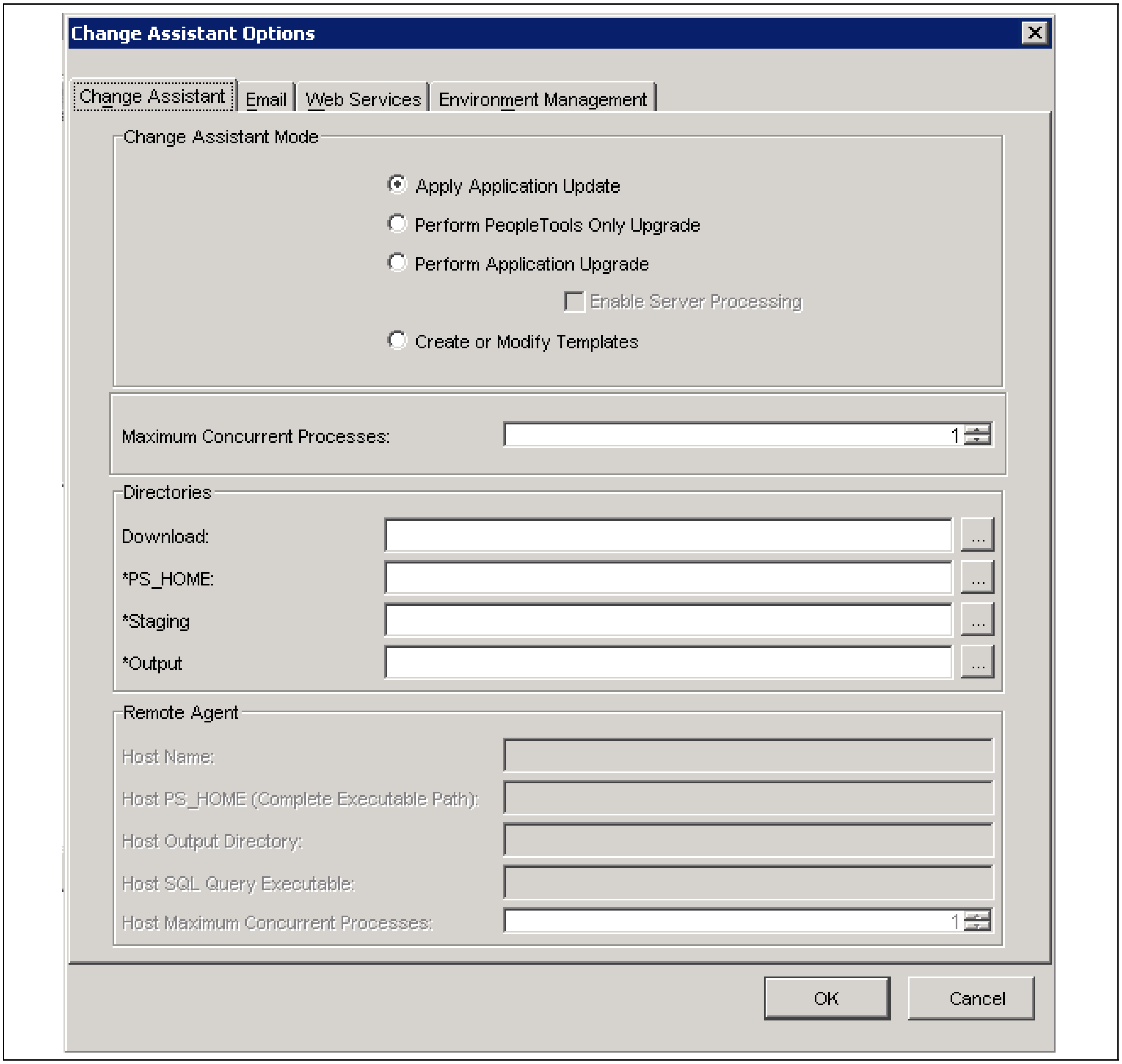

Change Assistant Options page

Change Assistant Mode

- Apply Application Update
- Perform PeopleTools Only Upgrade
- Perform Application Upgrade
- Create or Modify Templates

Enable Server Processing Enables Change Assistant to run Application Engine, Data Mover User, Data Mover Bootstrap and SQL scripts to run on remote agents. The agents are configured in EMF (environment Management Framework) during an application upgrade.

Maximum Concurrent Processes Specifies the maximum number of processes that can be executed concurrently on the local machine. The default is 1.

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Directories

Download Directory	Enter the full path of the location to which you want to download your change packages.
***PS_HOME**	Enter the full path in which you installed PeopleTools.
***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.

Remote Agent

Change Assistant can run Application Engine, Data Mover scripts and SQL script on a PeopleSoft Environment Management remote agent. This improves processing time for data conversion and Build and Alter scripts during the move to production upgrades.

Host Name	Name of the remote agent machine.
Host_PSHOME (Complete Executable Path)	The complete path to psdmtx and psae. For example, on Windows, c:\PT848\bin\client\winx86\, on UNIX, /ds1/pt848/bin/.
Host SQL Query Executable	The complete path and filename of the SQL query executable. For example, on Windows, c:\oracle10\bin\sqlplus.exe, on UNIX, /ds1/oracle/bin/sqlplus.
Host Maximum Concurrent Processes	The maximum number of process that can be executed concurrently on the remote agent.

Setting Email Options

Select Tools, Options, Email.

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.

Setting Up Web Services Options

Select Tools, Options, Web Services.

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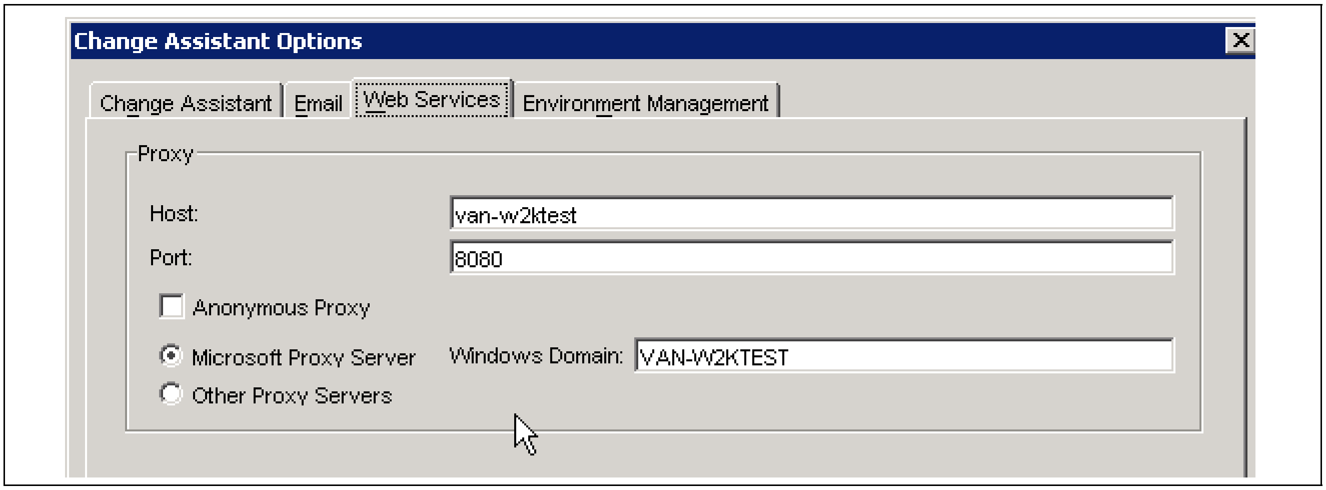

Change Assistant Options, Web Services

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 NT authentication.

Windows Domain The domain to which you belong.

Other Proxy Servers Indicates you are using non-Microsoft proxy servers.

Setting Environment Management Options

Select Tools, Options, Environment Management.

Server Hostname The hostname of the server in which the Environment Management components reside.

Server Port Indicates the port in which to connect to the Environment Management hub.

Click to verify a valid server URL. If you see "Service is off" to the right of this button, then you must correct the server URL and ping again until you see "Service is on."

Chunk Size Used for deploying files during a software update. Default is 1024 * 1024 bytes. Typically this does not need to be changed unless there are a significant number of files greater that 1024KB in a software update.

Ping Interval Ping interval is in milliseconds for Change Assistant to contact the hub for new messages.

Drives to Crawl Setting of drives to crawl to identify the configuration of the Change Assistant machine. Windows directories need to use the forward slash (/) character. Include your local drive in this setting so that Change Assistant can locate the SQL Query tool used for automating steps. Also include the path of the SQL Query tool.

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Exporting Jobs to XML, HTML, or Microsoft Excel Format

Change Assistant allows users to export jobs to XML, HTML, or Microsoft Excel file formats. Do this by selecting File, Export Job in Change Assistant. Then, enter the desired exported filename and the select the desired file type format.

Validating Change Assistant Settings

After you have set up and configured Change Assistant and the Environment Management components, you should validate your Change Assistant and environment 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.
- Testing Customer Connection and ensuring that Change Assistant can communicate with it.

You can also print a summary of your environment, which can facilitates the diagnosis of problems by PeopleSoft Global Support.

To validate your environment, select Tools, Options, Validate. Click Start Validation.

The validation processing of the example runs in this order:

When the validation process has completed, a completion message appears.

If any of the steps were unable to complete successfully, open the log file to determine the cause.

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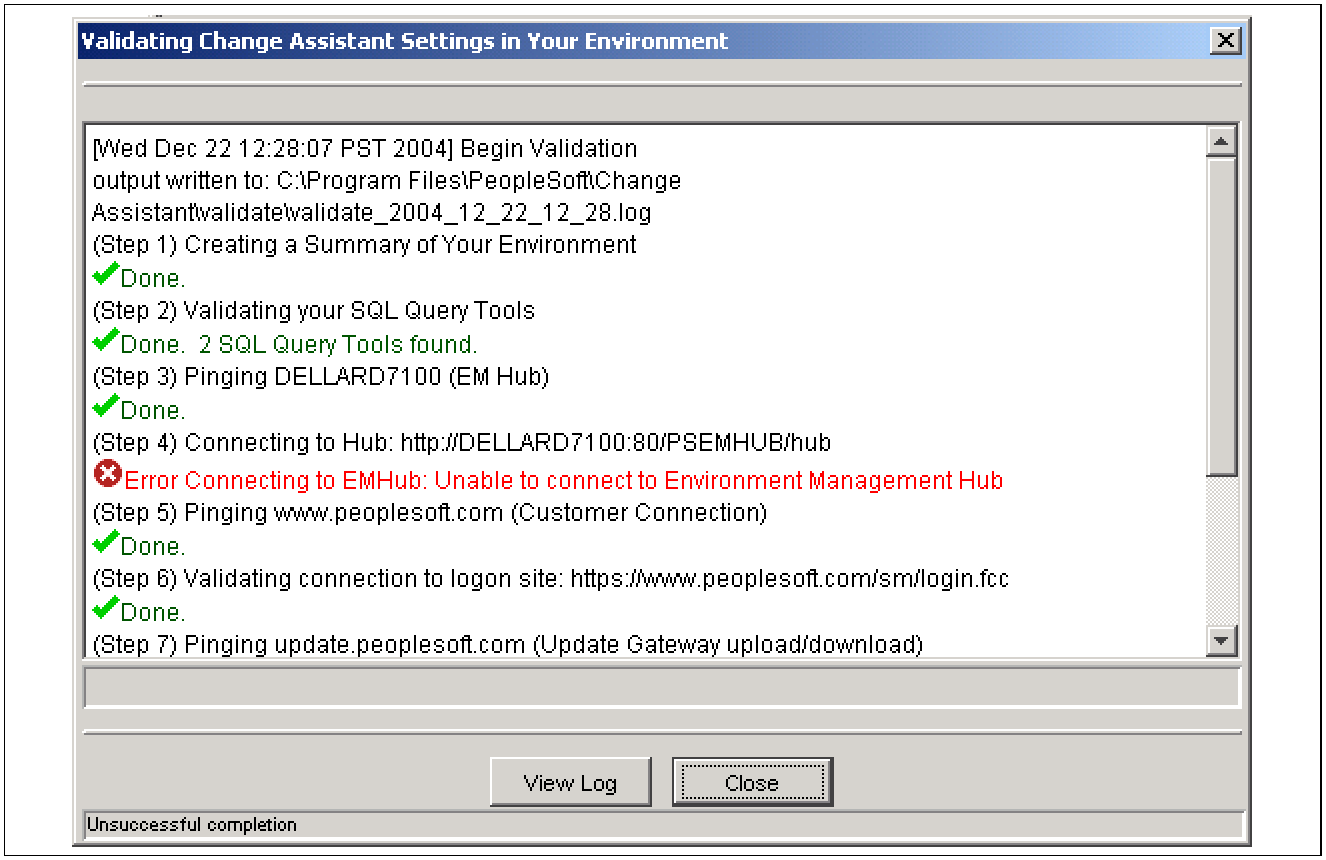

Validating Change Assistant Settings

Note. If you use proxy servers, the system will ping those and prompt for proxy server user ID and password. In this case, the validation step numbers would be different from the example.

Viewing The Log File

Click View Log in the lower part of the screen.

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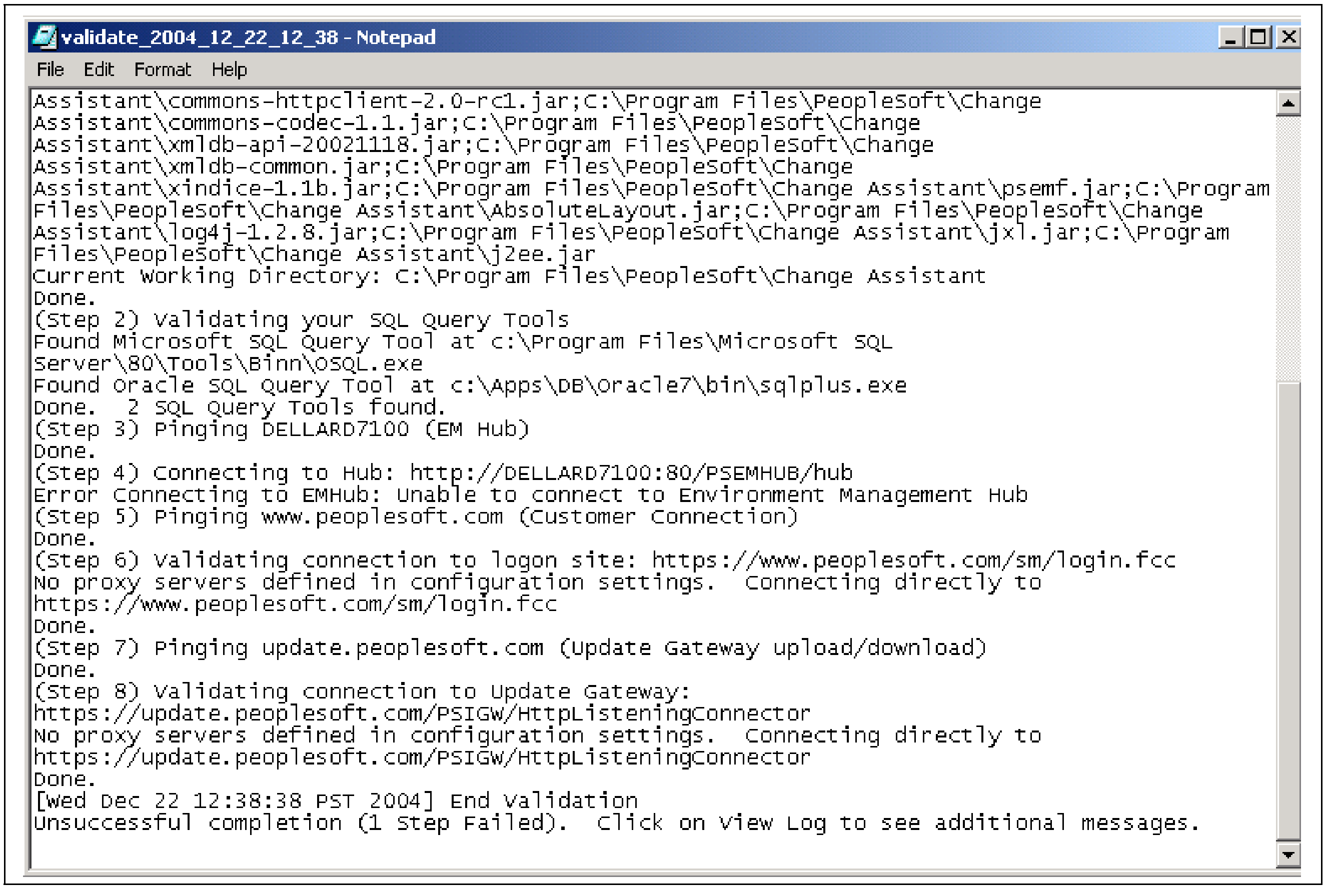

validate_2004_12_22_12_38 - Notepad

File Edit Format Help

```
Assistant\commons-httpclient-2.0-rc1.jar;C:\Program Files\PeopleSoft\Change
Assistant\commons-codec-1.1.jar;C:\Program Files\PeopleSoft\Change
Assistant\xmldb-api-20021118.jar;C:\Program Files\PeopleSoft\Change
Assistant\xmldb-common.jar;C:\Program Files\PeopleSoft\Change
Assistant\xindice-1.1b.jar;C:\Program Files\PeopleSoft\Change Assistant\psemf.jar;C:\Program
Files\PeopleSoft\Change Assistant\AbsoluteLayout.jar;C:\Program Files\PeopleSoft\Change
Assistant\log4j-1.2.8.jar;C:\Program Files\PeopleSoft\Change Assistant\jxl.jar;C:\Program
Files\PeopleSoft\Change Assistant\j2ee.jar
Current Working Directory: C:\Program Files\PeopleSoft\Change Assistant
Done.
(Step 2) Validating your SQL Query Tools
Found Microsoft SQL Query Tool at c:\Program Files\Microsoft SQL
Server\80\Tools\Binn\OSQL.exe
Found Oracle SQL Query Tool at c:\Apps\DB\Oracle7\bin\sqlplus.exe
Done.  2 SQL Query Tools found.
(Step 3) Pinging DELLARD7100 (EM Hub)
Done.
(Step 4) Connecting to Hub: http://DELLARD7100:80/PSEMHUB/hub
Error Connecting to EMHub: Unable to connect to Environment Management Hub
(Step 5) Pinging www.peoplesoft.com (Customer Connection)
Done.
(Step 6) Validating connection to logon site: https://www.peoplesoft.com/sm/login.fcc
No proxy servers defined in configuration settings.  Connecting directly to
https://www.peoplesoft.com/sm/login.fcc
Done.
(Step 7) Pinging update.peoplesoft.com (Update Gateway upload/download)
Done.
(Step 8) Validating connection to Update Gateway:
https://update.peoplesoft.com/PSIGW/HttpListeningConnector
No proxy servers defined in configuration settings.  Connecting directly to
https://update.peoplesoft.com/PSIGW/HttpListeningConnector
Done.
[Wed Dec 22 12:38:38 PST 2004] End Validation
Unsuccessful completion (1 Step Failed).  Click on View Log to see additional messages.
```

Validation log

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CHAPTER 4

Uploading Environment Data and Discovering Updates

This chapter discusses how to:

- Upload environment data
- Discover the updates

Note. This phase of the PeopleSoft software update process requires you to access PeopleSoft Customer Connection.

Common Elements Used in This Chapter

Cut	Cuts a chapter, task or step in the template or job.
Copy	Copies a chapter, task or step in the template or job.
Paste	Pastes a chapter, task or step in the template or job.
Insert a Task	Inserts a task. If you select (highlight) a task, both the Insert Task icon and the Insert Step icon are enabled.
Insert a Step	Inserts a step. This icon is located on the right side of the Insert a Task icon.
Expand All	View the entire template tree or job tree, including the chapters, tasks, and steps.
Collapse All	View only the chapters.
Run	Runs a job. Change Assistant will run the steps from top to bottom until it encounters a manual stop or encounters an error.
Cancel	Stops processing beyond the current step.
Kill	Terminates or stops a Change Assistant process.
Run	Indicates that Change Assistant runs this step or process automatically without manual intervention.

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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.

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 is complete.

Uploading Environment Data

Change Assistant provides PeopleSoft Customer Connection with the most up-to-date application environment data of the customer. Using the Environment Management hub, Change Assistant sends the license codes, update history (change log), and environment configurations to PeopleSoft Customer Connection.

To perform the upload environment operation:

1. Select Tools, Upload Environment.
2. Select the check box at the lower left of the screen to agree to the terms of the Privacy Policy consent notice.

   If you do not select the check box, you cannot continue the upload process.
3. You are prompted to launch the PeopleSoft Customer Connection update search after the upload is completed, or you can choose to access it later. Select one of these options, then click Next.
4. Enter your PeopleSoft Customer Connection user ID and password.

   Note. Each PeopleSoft Customer Connection user ID is associated with a customer name and ID. PeopleSoft stores the uploaded application environment data with the customer ID of the user performing the upload. If a PeopleSoft Customer Connection user is authorized to represent more than one customer, this user must verify that the customer ID to which he or she is currently associated, is the correct customer for which the upload is performed.
5. Select the View XML link to view all the environment data to be uploaded to PeopleSoft Customer Connection. Each environment is displayed in a tab identified by its short name, or a unique environment ID if no short name has been defined.
6. When the Confirm Customer screen appears, review the Authorized User, Company Name, and Customer ID fields before you click Upload.
7. If you have selected to launch PeopleSoft Customer Connection upon the completion of the upload process, you will be directed to the PeopleSoft Customer Connection search page in a default browser window.

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Discovering the Updates

This section provides overviews of PeopleSoft Customer Connection Update Wizard and discusses how to identify the updates.

The Update Wizard

While you are using Change Assistant, you can access PeopleSoft Customer Connection Update Wizard at any time by selecting the Go to Customer Connection option on the Tools menu.

Using the update wizard, you can discover the change packages that you need to download to Change Assistant based on the update IDs. Change packages are zip files that contain the update project and all the associated files for the update.

See Chapter 7, "Using Change Packages," page 47.

Identifying Software Updates and Change Packages That You Need

To identify the software updates or change packages that you need:

1. If you are not logged onto PeopleSoft Customer Connection, log on by selecting Tools, Go to Customer Connection.
2. Select a scope from the following options:

Find all updates that have not yet been installed	Searches for all updates that meet the environment and time frame criteria, including bundles, tax updates and updates required for upgrade and install. By default, this search returns the requisites of every update that meets the search criteria.
Find specific updates by Update ID	Searches for specific updates by update ID. Update IDs appear only if they match the user's environment information. By default, this search returns the requisites of each update ID that is found.
Verify prerequisites and post-requisites for specific updates	Searches for all unapplied requisites for specific updates. Use this search to verify that for any unapplied update ID, you have the current list of requisites .

Note. PeopleSoft Customer Connection provides search results based on whether an update is a translated update or not. If it's a translated update, then the Update Wizard determines whether the update should include English data.

Note. To save time typing in many update IDs, a new feature is available to browse and select update IDs from the Excel spreadsheet that was downloaded from the Update Gateway.

3. Click Next.
4. Select an environment, then click Next.

   You can select only one environment at a time.

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If you want to enter the environment information manually, click the *Manually enter environment information* link to access a screen where you can enter environment information and languages. Keep in mind that if you choose to manually enter environment information, you won't be able to filter updates for the environment based on patch history.

Note. The environment information that appears is what has been uploaded through Change Assistant; likewise, if nothing has been uploaded, there will be no environments available on this page from which to select. The information displayed here is the description of the environment, the type of environment, and the time of the upload. Other information stored (but not displayed) include the license code, the list of all update IDs applied, the database type, and the installed languages of this environment.

---

5. Select the applications to which you want to apply the updates, then click Next.

   If you are not using the applications or have not installed the applications, clear them.

Note. If you selected to search for updates not yet applied in step 1 of the Update Wizard, then the select applications page will appear.

---

6. Select from the following options:

Update Type

If you selected to search for updates not yet applied in step 1 of the Update Wizard, a page requesting information on the type of updates to search for appears.

Select the type of update to search.

- *All Updates* Returns all updates meeting the search criteria, regardless of the type of update. Updates that are included in bundles will not appear in the search results (if the bundle is displayed in the search results). Also, updates that are required for upgrade, will not appear in this type of search.
- *Bundled Updates only* Returns bundles that meet the search criteria. If requisites are included in the search results, it is possible that a requisite is not a bundle. Even though the requisite is not a bundle, it will appear in the search results.
- *Tax or regulatory updates only* Returns any tax or regulatory updates that meet the search criteria.
- *Required for completing a fresh install*Returns any updates required for install that meet the search criteria.
- *Documentation updates only* Returns any documentation updates that meet the search criteria.
- *Required for completing an upgrade* Returns any updates required for upgrade that meet the search criteria. Updates *required* for upgrade only appear with this search option.

Date Posted

Select *Anytime* to search for all posting dates. If you select *Within this time period*, then select a From and To date using the date selector.

Include prerequisites and postrequisites not already applied to selected environment

Select to include all the requisites that have not been applied to the selected environment for the date and time criteria.

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Pre/Post-requisites	Displays the update IDs for the associated prerequisites and post-requisites. The requisites column displays the list of requests for the update. This column only displays the first level of requisites for the update. Each requisite in this list also appears in the update ID column, thus being included in the search results. This list shows those requisites which have not already been applied. It always displays the appropriate requisite for multilingual users and the appropriate requisite if a supersede occurred. This list does not appear if you have selected not to include requisites. **Note.** There can be situations where a requisite in this list is not displayed in the update ID column. For example, if the requisite is contained in a bundle that is already included in the search results (appearing in the update ID column).

If You Manually Enter Environment Information

If you selected to manually enter environment information, the Update Wizard does not know the license code of your environment. In this case, every application for the specified product line appears. Therefore, you will have to determine which applications are appropriate for your environment.

You will not be prompted to select applications in step 1 of the Update Wizard. Instead, a page appears that allows you to search for a specific update ID. When you are searching for specific updates, the check box in the lower part of the page labeled "Include prerequisites and post-requisites not already applied to selected environment", is selected by default. Select this check box (clear it) if you do not want to see requisites included in the search results. Leave the check box activated if you want the tree of requisites that have not yet been applied to display in the search results.

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CHAPTER 5

Downloading Updates

This chapter discusses how to download updates in change packages.

Downloading Change Packages

Once you've downloaded the Excel file with all the update IDs, review each update ID before you download the associated change packages. You may decide not to download certain updates upon further review.

To perform the download process:

1. Select the Tools, Download Change Packages.

   The system prompts you to select the download directory.

   Note. If the Environment Management hub is unavailable, an error appears and the download is canceled. If the PeopleSoft Customer Connection URL options data is missing, an error stating that this option data is required appears and the download is canceled. Verify that these values are specified and the Environment Management hub is up and running.

   ---

2. Accept the default download directory that you set up in Change Assistant options, or select a different directory for your download.
3. Click Next to display a screen where you enter the update IDs.

   You may enter multiple update IDs by separating them with spaces, commas, or returns.

   Note. To avoid mistakes, PeopleSoft recommends that you copy and paste the desired update ID values from the spreadsheet created during the update discovery process.

   ---

4. Click Next to display a screen where you enter your user name and password to access PeopleSoft Customer Connection.
5. When the Confirm Selections screen appears, review the list of update IDs that you want to download before clicking Next.
6. When you are prompted to launch the Apply Change Package upon the completion of the download process, you may elect to accept or decline.
7. Click Close when the download is complete.

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CHAPTER 6

Applying Updates

This chapter provides an overview of the apply update process and template and discusses how to:

- Use the update template.
- Export templates.
- Apply updates.

The Apply Update Process

The apply update process enables you to apply one or more change packages to the target environment.

Using the Change Log for Updates

In order for PeopleSoft Customer Connection to identify the prerequisites and post-requisites for the update, Change Assistant must upload a reliable and valid change log to PeopleSoft Customer Connection. The change log keeps track of all the change packages that you have previously applied.

Using the Environment Management hub, Change Assistant evaluates the change log status of the available environments to determine the reliability of the change log data. For environments that don't have reliable change log data, you need to apply the change packages individually and manually in order to identify the prerequisites.

If you want to view the change log to determine if it is reliable, you need to access the PeopleSoft application in your browser.

Reliability of the Change Log

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).

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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.

If you want to view the change log to determine if it is reliable, access the PeopleSoft application in the browser.

Embedded Update Template

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.

PeopleSoft delivers update templates for each update in PeopleSoft change packages. When you apply updates by using 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 from PeopleSoft Customer Connection. 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.

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. 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 from PeopleSoft Customer Connection, enter the original name of the template.
5. Click Save.

See Appendix A, "Using a Change Assistant Template," Editing Templates, page 71.

Applying Updates To A Target Environment

The apply process enables you to apply one or more change packages to the target environment.

To apply change packages to the target environment select Tools, Apply Change Packages.

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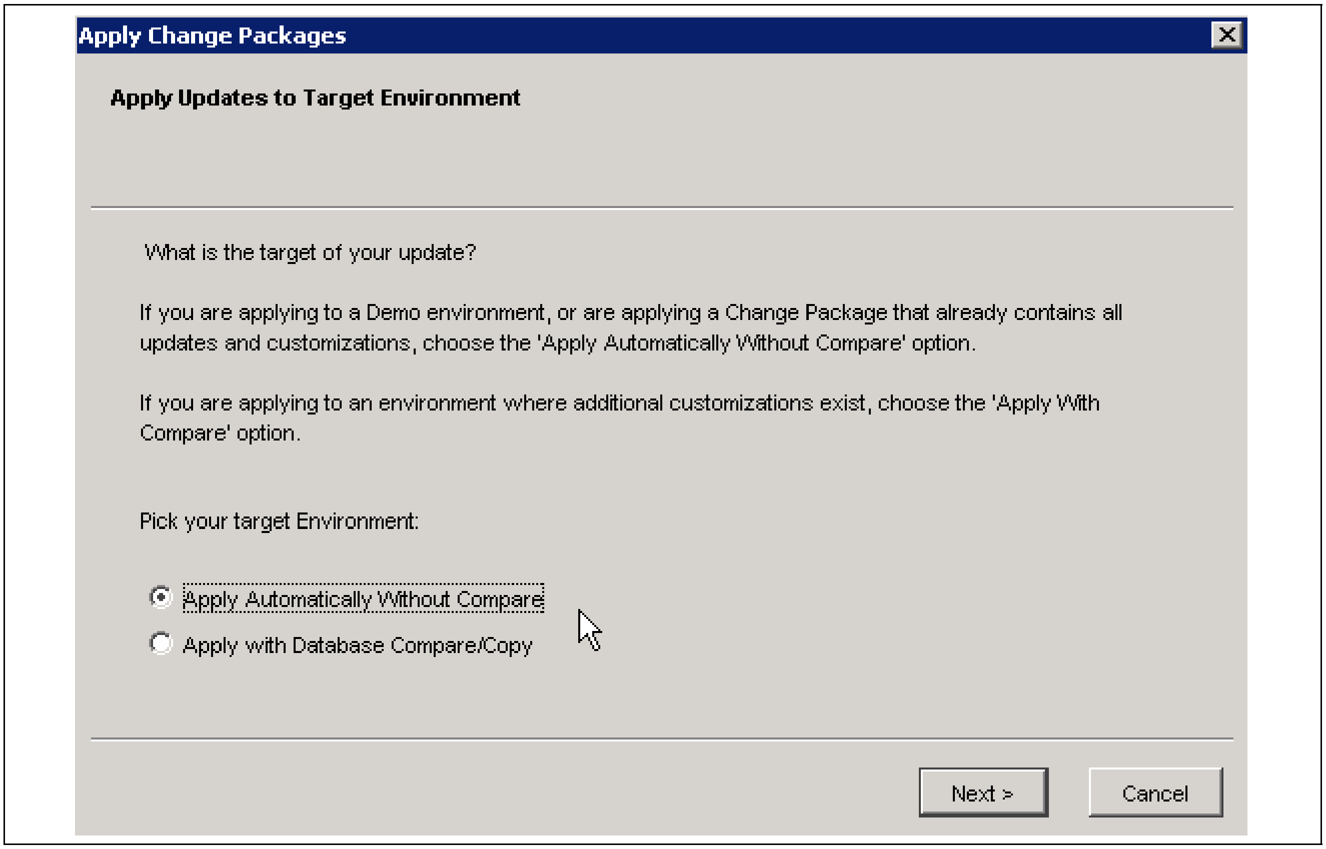
Note. Before you initiate the apply update process, you can validate your environment connections to ensure all components are active. To do this, click Validate in the lower part of the screen.

See Chapter 3, "Configuring Change Assistant," Validating Change Assistant Settings, page 28.

To begin the apply update process, click Apply Update Now.

The following screen appears:



Apply Updates to Target Environment

Apply Automatically Without Compare

Applies the change package to the target environment and copies the project.

Select this option if you are:

- Applying a PeopleSoft-delivered change package, which you downloaded from Customer Connection, to a PeopleSoft demo environment.
- Applying a modified change package to your own environments; for example: dev, test, prod, and so on.

Apply With Database Compare/Copy

Select this if you are beginning the process of migrating a PeopleSoft-delivered change package to your environments.

Apply Without Compare

This section describes the apply process after you have selected Automatically Apply without Compare button.

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1. Select a product line release of the target environment and click Next to display the Select target environment(s) screen.
2. Select the target environment.
3. Click Next to display the Environment Preparation screen where you can read the preparation instructions for your environment.
4. After you've read the instructions, select the check box, then click Next to display a screen where you can enter the database user name and password, and access ID and password for the selected environment.
5. Select the file servers that are used in conjunction with the environment you selected.
6. Click Next to display a screen where you can modify the default apply directory that you set up in Change Assistant options.
7. Click Next to display a screen where you can select change packages to install.

   You can use Select All to select all the available change packages listed on the screen.
8. 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.

   ---
9. 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).
10. 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).
11. 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.
12. Click Next.

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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.

---

13. After you have selected your option, click Next.

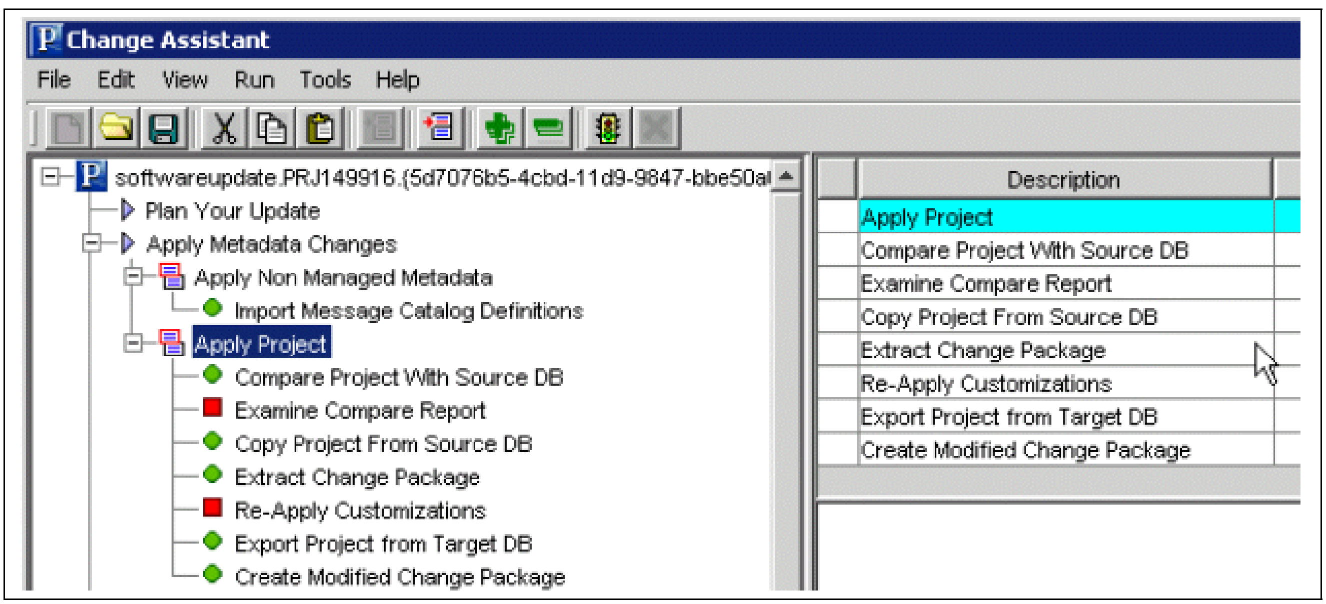
    If one or more of the change packages you are applying includes the Build and Alter template steps, you will be prompted to select one of the following methods to apply the database changes.

    - 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.

14. 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.
15. 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.
16. Click Next to begin the apply process.

Apply With Compare or Copy

This section gives an overview of the apply process when you select the Apply Database Compare/Copy button.



Modified Change Package

- Copy project from the demo database to the development or copy of production database.

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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.
- 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 individual deploy file steps within the job, it will query the hub for the location to deploy the file. The query is based on the PeopleSoft 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 file to the agent running on the host machine.

When the file is 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 the file, a warning message appears stating the inability to deploy the file. Other types of problems that may occur, such as lack of disk storage space, will result in step failure.

Resume Running Jobs Dialog

If there is 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).

- Selecting Cancel will:
  - 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.

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- Selecting No keeps the current apply job set and its associated jobs as they are, so that you can resume this apply job set later.

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CHAPTER 7

Using Change Packages

This chapter provides an overview of change packages and discusses how to:

- Create a change project.
- Create a change package.

Note. To take advantage of PeopleTools updates, see PeopleSoft Customer Connection. Change Packager is only available for PeopleSoft application updates, not PeopleTools updates.

Understanding Change Packages

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. All projects 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.

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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 may contain both numeric and alphanumeric characters. 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.

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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 at this time 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: selecting File, New from the menu.

File Name and Path	Enter the path and file name for the file you want to reference. Use the browse button to search the proper path. This is the source location and file from which Change Packager selects the definition for packaging. This field supports all environment variables. If you want to create a file reference with a variable path, prepend %FILEREFPATH% to the filename.
Change Assistant Template Text	Enter the text you want to display in the Change Assistant template for this change package. This field has a 20 character limit.
Binary	Check if the file is a binary file. This information is necessary to properly transfer the file to the target platform.
Database Platform	Select the database platform for the target database.
Operating System	Select the operating system for the target database.
PeopleSoft Server	Select the applicable server for your system.
Unix Target Directory Security	Specify the file permissions the file should have once it is copied if operating on a UNIX system.

For each of the drop-down list boxes in this dialog box, you may select multiple entries by using the SHIFT/CTRL keystroke combinations.

The file reference properties contain only the General tab where you can enter any comments about the file reference as well as select the Owner ID. This tab also tells you when the definition was last updated and by whom.

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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.

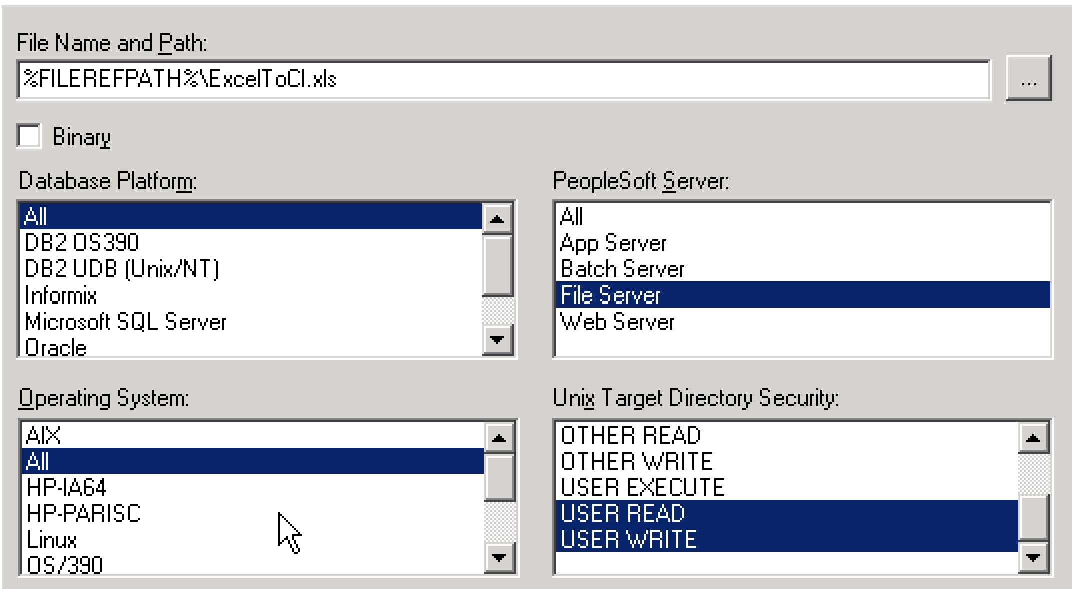
Variable File Reference Path

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.



Example of Variable Path File Reference

When you create a change package with a variable file reference, the Create Change Package dialog appears.

Note. If the project does not contain a file reference, the File Reference Settings group box is grayed out.

File Reference Path	Enter the path for the file reference.
Update ID	Enter the update ID.

The file reference field in this dialog expands the %FILEREFPATH% variable in the file reference definition. The file reference definition will not be updated in this process. This will enable users who wish to repackage change packages without modifying the file reference definitions. The value in the File Reference Path field is stored in the registry and displays the last value.

Using variables in the file reference definition eases the repackaging of a change package.

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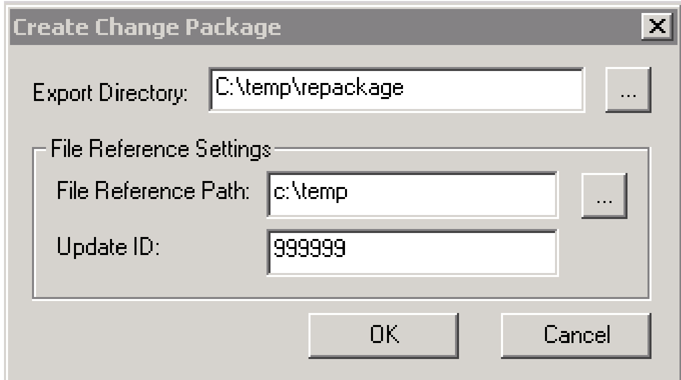

Example of Repackaging

When the change package is recreated, the update ID automatically expands the file reference paths.

When you enter an update ID, the file reference path expands to:

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.

Modifying the Upgrade Definition Type

After creating the file reference definitions and inserting them into the change project, the next step is to modify the upgrade definition type to instruct whether Change Assistant should deploy or execute the file reference. Deploying the file copies it to the location specified in the File Type Code defined in the target environment. Executing the referenced file means it will be run on the Change Assistant machine.

Note. File references and application engine programs are the only definition types that can be executed.

To modify the upgrade definition type:

1. Open the change project.
2. Select the Upgrade tab in the project workspace.
3. Double-click the File References folder.

   This action opens the upgrade definition type listing all file reference definitions for that project.
4. Choose the appropriate upgrade attributes for each of the file references listed.

   Refer to this table to ensure the desired results:

Desired Result	Execute Check Box	Upgrade Check Box	Action Option
Deploy and Execute	Selected	Selected	Copy
Deploy only	Cleared	Selected	Copy

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Desired Result	Execute Check Box	Upgrade Check Box	Action Option
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 a Change Package

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.

To create a change package:

1. Select Tools, Create Change Package from the menu.
2. Enter the Export Directory in the Create Change Package dialog box.

   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.

   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.
3. 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:

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- 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.

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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.

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CHAPTER 8

Data Sent to PeopleSoft Customer Connection

This chapter describes the environment summary data collected by the Environment Management hub and sent to PeopleSoft Customer Connection through Change Assistant. The data is sent in an XML file.

Data Included in Summary File

The following specific environment information is included in the XML file:

Specific Environment Data	DATETIME (Date and Time)
	GUID (Globally Unique ID)
	LONGNAME
	MAINTLOG_VALID
	SHORTNAME
	SYSTEMTYPE
	TIMEZONE
Application Data	LICENSE_CODE
	LICENSE_GROUP
	RELEASELABEL (Release Label)
	TOOLSREL (Tools Release)
	UNICODE_ENABLED
	LANGUAGES SIZE
	LANGUAGE_CD NAME (Language Code Name)
Server Data	HOSTS SIZE (number of hosts in the current environment)
	HOST NAME
	OS (Operating System)
	RELEASELABEL (Release Label)
	SIZE (number of servers)
	SERVER NAME
	TOOLSREL (Tools Release)

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Finding Applied Updates

The following change log information shows all the applied updates in the environment:

- MAINTENANCE_LOG SIZE
- UPDATE FIXOPRID (update fix operator ID)
- MAINTLOGTYPE (change log type)
- UPDATE_ID

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PART 2

Software Upgrades

CHAPTER 9

Getting Started with Software Upgrades

This chapter provides an overview of the upgrade process.

You use Change Assistant to perform any PeopleTools-only upgrades for PeopleTools version 8.46 and 8.48.

Note. Change Assistant replaces PeopleSoft Upgrade Assistant to automate all upgrades beginning with PeopleTools release 8.46. Any upgrades performed to a release prior to release 8.46, and using the conventional *upgrade in place* method of performing an upgrade should continue to use PeopleSoft Upgrade Assistant to perform the upgrade.

The Upgrade Process Using Change Assistant

You use Change Assistant to upgrade your databases from one PeopleTools release to another, one application release to another, or both.

To perform the upgrade process:

- Download the Change Assistant template and documentation from Customer Connection for the specific upgrade process that you will be performing.
- Import the template into Change Assistant.
- Use the Database Configuration Wizard to define which databases are to be used during the upgrade.
- Create an upgrade job to define all the steps required to perform the upgrade that is catered to your specific environment
- Set the documentation directory.
- Change Assistant guides 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 how the upgrade is progressing.

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CHAPTER 10

Configuring Change Assistant for Upgrades

This chapter discusses how to:

- Download the upgrade template and documentation
- Import and open an upgrade template
- Set the documentation directory
- Use a template in an upgrade

Downloading The Upgrade Template and Documentation

You can download the templates and documentation for your application from the upgrade documentation database on Customer Connection.

Download the upgrade template and the HTML upgrade documentation to the same machine on which Change Assistant is installed. After the upgrade template file and documentation have been downloaded, detached, and unzipped, you can import the template to Change Assistant.

Note. Change Assistant uses HTML documentation. If you want to print the documentation, there is a .pdf file available that has the same information.

Importing and Opening a Template

To import and open the upgrade template:

1. Start Change Assistant.
2. Select File, Import Template.

   The Import Template dialog box appears.
3. Select the directory where you stored the upgrade template that you downloaded from Customer Connection.
4. Select the template for your product and path.
5. Select File, Open Template.

   The Open Template dialog box appears, which lists all of the templates stored in Change Assistant.
6. Select the template for your product and path.

   Change Assistant loads the template for your upgrade product.

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Setting the Documentation Directory

To set the documentation directory:

1. Select Edit, Set Documentation Directory.

   The Documentation Directory dialog box appears.

2. Enter or browse to the folder where you placed your HTML documentation.
3. Click OK

   When you select a chapter, task, or step in the template or job tree, Change Assistant displays the corresponding upgrade documentation in the documentation pane.

Note. Setting the documentation directory for a template requires that the template be saved.

Using Templates in Upgrades

See Appendix A, "Using a Change Assistant Template," page 69.

Viewing Documentation

You can view upgrade documentation that is associated with the step you are viewing or performing by setting the documentation directory in Change Assistant.

Setting Up The Upgrade Environment

Configuration of the database is the key to running a successful upgrade job. Before you begin performing an upgrade, you must define all of the databases used to perform the upgrade. Change Assistant uses your configuration information to set the upgrade path.

To set up the upgrade environment:

1. Select File, New Environment.

   The Create New dialog box appears.

2. Enter a name for your upgrade set of databases.
3. Click OK.

   The Database Configuration dialog box appears.

4. Configure each database that you plan to use in the upgrade process.
5. When all the databases have been configured, click OK.

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Working with Upgrade Jobs

You can create new upgrade jobs or use jobs previously created and saved.

Creating a New Upgrade Job

To create a new upgrade job:

1. Select File, New Upgrade Job.

   The Use Template dialog box appears.
2. Select the template you want to use for the upgrade job.
3. Click OK.

   The Environments dialog box appears
4. Select the environment you want to use for the upgrade job.
5. Click OK.

   The Type Of Upgrade dialog box appears.
6. Select Initial, Test or Final as the Type of Upgrade.

Note. You can create multiple upgrade jobs for each upgrade template.

Opening an Existing Upgrade Job

To open a previously saved job, select File, Open Upgrade Job and click OK.

Configuring the Database

Change Assistant uses your configuration information to filter the upgrade path. Step failures are often due to incorrect information in the Database Configuration dialog box.

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 grayed or become available for entry. Valid database types are *DB2, Informix, Microsoft SQL Server, Oracle,* and *Sybase*.

SQL Executable

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

- DB2: db2cmd.exe
- Informix: dbaccess.exe
- Microsoft SQL Server: osql.exe
- Oracle: sqlplus.exe
- Sybase: isql.exe

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

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PS Home Directory	Enter or browse to your PS_HOME directory. PS_HOME contains files, in subdirectories, that are run in the upgrade process.
Database Name	Enter a name of up to 8 characters for the database.
User IDand **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.
SQL Server Host Name	(Used for Microsoft SQL Server only). Enter the name of the host machine that runs the SQL Server database. It is used to run SQL commands and scripts in the command line.
Database Server Name	Enter a name of up to 256 characters for the database server name.
Access ID	The access ID has full access to all objects in the database. Your access ID is not a user ID. Examples of user IDs are VP1 and PS. Examples of access IDs are sa or sysadm. The IDs and passwords can be case-sensitive. Source and target user IDs and passwords can be up to 30 characters in length .
Owner ID	(Used for DB2 z/OS only). Enter the owner ID used for the tables.

Importing and Exporting Environments

To save time when creating other jobs, you can export the environment configuration to a file after you've saved it. To import or export an environment for later use, select File, Import Environment (or Export Environment).

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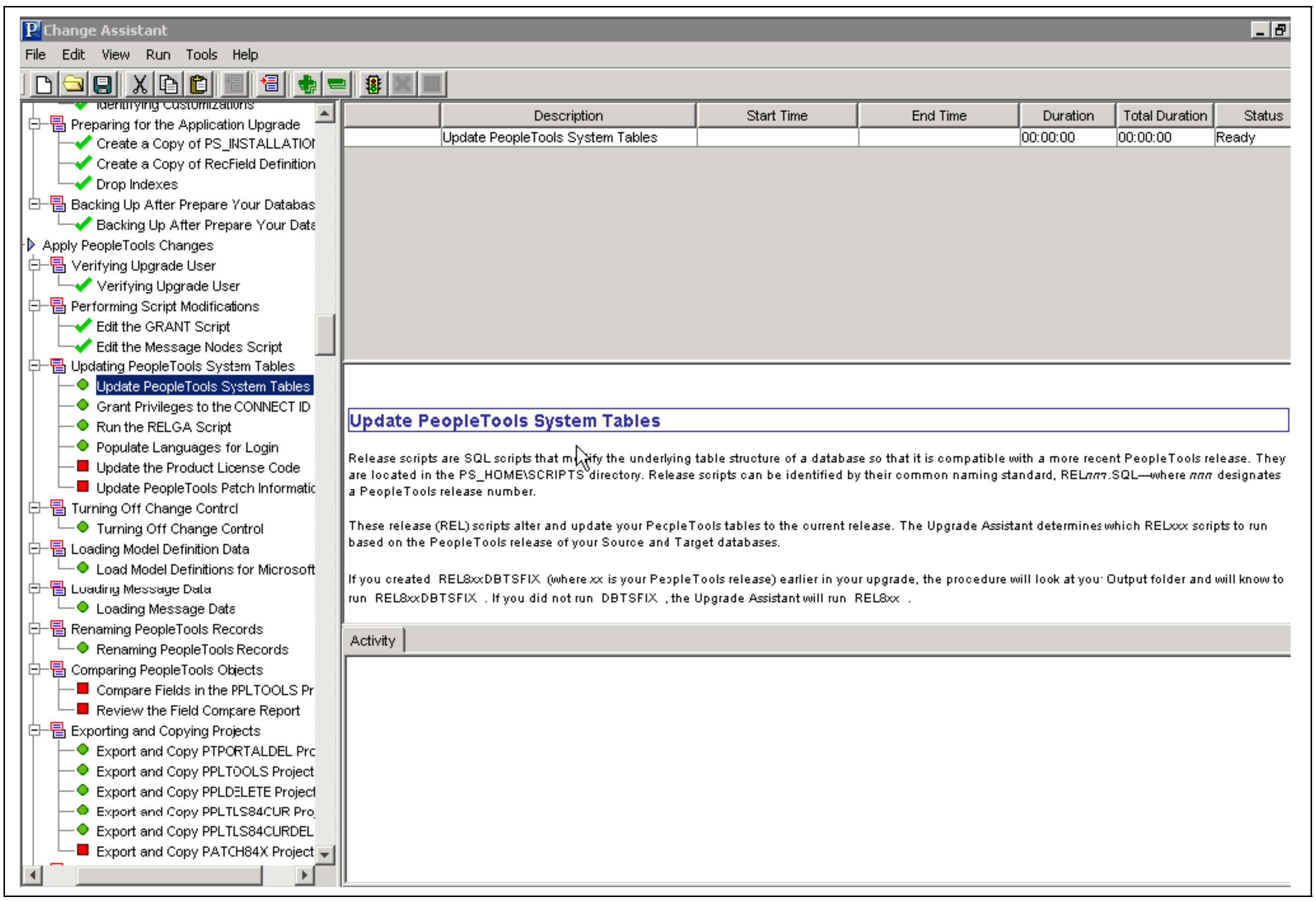
CHAPTER 11

Running Upgrade Jobs with Change Assistant

This chapter discusses how to run upgrade jobs in Change Assistant.

Running the Upgrade Job

When you create a new upgrade job, you will see a job view similar to the following example:



Upgrade View

In the job area on the left-hand side of the screen, you'll see one of the following icons next to the steps.

	Indicates each step that must be performed manually. The status of manual steps can be set only to Stop or Complete.

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Indicates that Change Assistant can automatically run this step. You can set the status to Stop, Run (or Restart in the case of SQL Scripts, Data Mover scripts and DSRunJob) 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.

When you are ready to run your upgrade job, select Run from the Change Assistant toolbar. Select the job status view to run the automated upgrade steps.

You can also monitor the progress of the upgrade in the status grid on this view. After a automated step is completed running in Change Assistant, you can view logs, scripts and update job properties for individual steps.

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. The View Log dialog box appears
3. Click OK

   The Log should then appear. If a step does run and an error is encountered, Change Assistant will automatically display the View Log.

On the left had side of the file list, Change Assistant will display both error and success symbols. These indicate which logs contain errors and will help you troubleshoot the problem as to why the step failed to run.

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.

   The View Script dialog box appears.
3. Select the script you wish to view and click OK.

   The script appears.

Modifying Job Properties

You may want to maintain a record of how long your upgrade takes. In that case, you can change the date and time for steps in the job properties.

Change Assistant allows you to set the status for these sub-steps: DBTSFIX, UpgradePeopleTools and LoadBaseData

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To modify job properties:

1. Highlight or select the step.
2. Select Edit, Job Properties.

   The Job Properties dialog box appears.
3. Enter changes to a specific job property. Click OK.

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APPENDIX A

Using a Change Assistant Template

The Change Assistant template comprises four sections: template tree, step details, documentation, and activity. A template is a blueprint of a job and can be found in a change package that you download from PeopleSoft Customer Connection.

Understanding the Update Template

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.

Common Elements in This Section

Open Template Opens a template from the Change Assistant storage (internal database).

Save Template Saves your template into the Change Assistant storage (internal database).

Save Template As Saves your template as a new template name that you specify.

Close Closes the current template.

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.

Export Template Exports a copy of the template out of Change Assistant so others can use it.

Delete Job Removes a job associated with the current template.

Exit Exits Change Assistant.

Change Assistant (Options menu) Enables you to specify general options, advanced options, the download and apply directory for the updates, the staging directory, and the output directory.

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Web Services	(Options menu) Enables you to configure the URLs to access PeopleSoft Customer Connection and related servers.
Environment Management Hub	(Options menu) Enables you to view and edit the URL to the Environment Management hub.
Upload Environment	(Tools menu) Uploads environment data from Environment Management hub to PeopleSoft so that PeopleSoft Customer Connection can use the information to determine what patches and fixes are applicable for your updates.
Go to Customer Connection	(Tools menu) Accesses the PeopleSoft Customer Connection update search page.
Download Change Package	(Tools menu) Downloads the change packages into Change Assistant based on the update IDs that you specify. You can obtain a list of update IDs by downloading a Microsoft Excel file from PeopleSoft Customer Connection.
Apply Change Packages	(Tools menu) Launches the process to apply change packages that you downloaded from PeopleSoft Customer Connection.

Using the Change Assistant Templates

PeopleSoft delivers update templates for each update in PeopleSoft change packages. When you apply updates by using 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 from PeopleSoft Customer Connection. 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.

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 from PeopleSoft Customer Connection, enter the original name of the template.
5. Click Save.

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Editing Templates

You may want to add steps, modify existing steps, or delete existing steps from the templates. To edit a template, you must be in the Template mode (Options, Change Assistant Options, General tab, Advanced Options button, Template).

Note. Under normal circumstances, you don't need to modify the template delivered by PeopleSoft. However, if you choose to edit a template, take special care.

Creating New Chapters in Templates

You can add a chapter to an existing update template. A chapter is a section heading for a group of tasks.

To insert a chapter:

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

   If you want to add a chapter above the existing first chapter in the template, highlight the top node (template name) at the top of the template tree. Otherwise, put your cursor on the chapter below which you want to insert the new chapter.
2. Select Edit, Insert Chapter on the Change Assistant toolbar.
3. Enter a unique name for your new chapter.

   Note. Each chapter in the update template must have a unique name.
4. Click OK.

Creating New Tasks in Templates

You can add a task to a new or existing update template. A task is a section heading for a group of steps.

To insert a task:

1. Highlight the chapter or task below which you want to insert the new task.
2. Select Edit, Insert Task on the Change Assistant toolbar.
3. Enter a unique name for your new task.

   Note. Each task within a chapter must have a unique name.
4. Click OK.

Adding Steps to Templates

PeopleSoft delivers update templates with all of the steps included to perform the update. While performing the update, you may need to add steps (for example, you may add steps for dropping and adding indexes or running a backup of the target database).

To add a step:

1. Highlight the task or step below which you want to insert the new step.
2. Select Edit, Insert Step on the Change Assistant toolbar.

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3. Enter a unique name for your new step.

Note. Each step within a task must have a unique name.

4. Click OK.

   Change Assistant displays the Step Properties dialog box.
5. Enter the step properties for the new step.
6. Continue creating steps until the template is complete.
7. Save the template.

Editing Steps in Templates

PeopleSoft delivers update templates with default settings to perform updates. You can modify the default settings by changing the step properties. Setting these properties determines 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 select Edit, Step Properties.

Note. Depending on whether you are in Job mode or Template mode, some of the fields may be disabled. Also, the step status grid only appears when you are in Job mode.

1. Verify that the step description corresponds to the step you selected.
2. Modify the step properties.
3. Click OK on the Step Properties dialog box to display the Change Assistant dialog box.
4. Save the template.

The step properties that you defined for the current step are displayed in the Task Details section of the dialog box.

Deleting Chapters, Tasks, or Steps from Templates

To delete a chapter, task, or step:

1. Access Change Assistant and select Template view from the Advanced Options screen.
2. Select File, Open Template to select your template.
3. Highlight the chapter, task, or step that you want to delete.

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.

4. 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.
5. Change Assistant deletes the chapter, task, or step and updates the template.
6. Save the template.

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Modifying Step Properties

Step properties are set by default in PeopleSoft-delivered templates. However, you may want to modify or edit step properties in your own templates or for steps that you add to PeopleSoft-delivered templates.

Note. Under normal circumstances, it is recommended that you 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.

Step Description This field displays your current step.

Script/Procedure 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. Step types are listed in the following table:

Type	Definition
Application Engine	Runs the Application Engine process indicated by the Script/Procedure value under Step Properties.
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.
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.
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).
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).
Create project	This type enables you to select the type of records to insert into a project.

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Type	Definition
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).
Data Mover-Tools	Runs Data Mover processes to create the mini-tools database as specified in the Accelerated Upgrade process for application upgrades.
DBTSFIX	(Only used for DB2 z/OS, DB2 UDB, Oracle and Informix). Change Assistant determines the source and target releases of the databases defined under Step Properties as Source and Target. Once this is completed, Change Assistant determines which release scripts need to be generated by the DBTSFIX sqr to produce release scripts for the user's environment.
Deploy file	Deploys files in change packages to different servers.
Execute process	Enables you to include custom processes, such as batch files, that you can run in Change Assistant. You need to start this process with cmd /c for the process to run; for example: Cmd /c c:\backup.bat
DSAutoGeneration	Generates a Data Stage Job for all the Jobs specified in the Record List File. Based on the option set in theconfig file the generated Job may be imported and compiled.
DSCompile	Compiles the specified Data Stage job.
DSCustomReport	Generates the job difference report, which contains information about the table discrepancies as defined in the job to actual database. It also generates a list of tables for which Jobs are not present in the Datastage.
DSGetLogs	Gets the log for the specified job or sequence. For a sequence it gets the logs of the sequence all and logs for all the jobs invoked by the sequence.
DSInitialImport	Imports Data Stage DSX or XML file.
DSPatchCorrection	Updates Jobs delivered in subsequent patches after the GA.
DSPatchImport	Imports multiple DSX files based on the patch information entered in the database.
DSRunJob	Runs the specified Data Stage job.

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Type	Definition
Execute process	Enables you to include custom processes, such as batch files, that you can run in Change Assistant. You need to start this process with cmd /c for the process to run; for example: Cmd /c c:\backup.bat.
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.
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.
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 Configuration Manager for the Profile selected in the Job Database Configuration.
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 target release to the new source release. Configuration.

Note. If you select *Create Project* from the Type drop-down list box, you must set a #Type parameter and a #Project parameter. For a list of parameters, see the next topic. When you select *Build Project* from the Type drop-down list box, a Build options button appears. You select options based on the instructions in the update documentation for your product and path.

Parameters Enter additional parameters that you may need to run the step. For SQL commands, you enter the actual SQL command in this field.

The additional parameters are:

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Parameter	Description
#Project=	Used primarily for functions that require a project name; for example, Build Project.
#Directory=	Used when you need to run a script that is not located in the <PS_HOME>\scripts directory, for example, STOREPT. In this case, you could enter: `#Directory=#PTPS_HOME\src\cbl\base\`
#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`
#PS_HOME=	Used to specify the <PS_HOME> variable that is defined on the Directory tab of the Change Assistant options (for Updates) or the Environment Configuration Wizard (for Upgrades) (Options, Change Assistant, Directories tab).
#SOURCE_HOME=	Used to specify the <PS_HOME> variable that is defined on the Environment Configuration Wizard (for Upgrades). Change Assistant will use the Source <PS_HOME> instead of the targets per the value specified under Step Properties.
#OutputDirectory=	Used to specify the Output Directory variable that is defined in the Options, Change Assistant, Directories screen.
#NT=	Used for DB2 Command Center, for Non-Terminated SQL Scripts.
#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.
#RF=	Data Stage report file.
#RD=	Data Stage report directory.

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Parameter	Description
#RL=	Data Stage report log.
#CF=	Data Stage configuration file.
#DSC=	Data Stage category (used for DSPatchCorrection).
#DSPJ=	Data Stage project name.
#DSJ =	Data Stage job name.
#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).
#UNICODE=	Generates DMS script for UNICODE database (default is NON-UNICODE) (Used for Data Mover – Tools).
#TABLESPACE=	Default tablespace (PTMINITS) (Used for Data Mover – Tools, DB2 UDB, Oracle and Informix only).
#DBSPACE=	Physical dbname.tablespace (PTMINIDB.TABLESPACE)) (Used for Data Mover – Tools, DB2 z/OS only).
#STOGROUP_TS=	Storage group for tablespace (Used for Data Mover – Tools, DB2 z/OS only).
#STOGROUP_IDX=	Storage group for index (Used for Data Mover – Tools, DB2 z/OS only).
#TABLEOWNER=	Database owner ID (same as sqlid and tableowner) (Used for Data Mover – Tools, DB2 z/OS only).
#INDEXSPC=	Default tablespace (PTMINITS) (Used for Data Mover – Tools, Informix only).

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Run Location	Select Local or the server to run.
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.** This feature is used primarily for data conversion processes. You must select at least one product.
Platforms	Click the Platforms icon on the Step Properties dialog box. Change Assistant enables you to select the platforms to which you want to run this update step against. You must select at least one platform.
Languages	Select the language(s) in which you want this update step to run. You must select at least one language.
Type of Upgrade	Initial Upgrade, Move to Production, Both.

Viewing the Template Tree

The template tree section displays the chapter, tasks, and steps for your selected update product and uses the following structure:

- Chapters are section dividers that display the tasks within the chapter.
- Tasks are section levels that contain one or more steps.
- Steps are the actual update steps that you select to set up and run your update job.

Note. When you run your update job, you assign properties at the step level, not the task level.

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Appendix B

Error Handling

Change Assistant scans log files that are generated when various processes run; for example, while running SQL, Data Mover, SQR, CopyDatabase and so on.

Errors Found in Log Files

The following table describes what logs are produced and what Change Assistant determines to be an error:

Processes	Log File	Error	Warning Status
Application Engine	<process name>_out.log	Restart Failed. Invalid, Error. Abended. Abort. Not Defined.	Warning.
Build Project CompareAndReport CopyDatabase CopyFromFile CopyToFile CreateProject	<process name>.log	Error. Invalid PeopleCode. Copy process cancelled. Project <xxx> does not exist.	Warning.
DataMoverBootstrap DataMoverTools DataMoverUser LoadBaseData	<process name>_out.log **Note.** Any logs generated by the Data Mover SET LOG statement will also be available.	Unsuccessful. PSDMTX Error.	Warning.
DBTSFIX SQRReport	<process name>_0.out <process name>_out.log	TNS Error. Program Aborting. Not Defined Error.	NA

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Processes	Log File	Error	Warning Status
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
SQLCommand SQLScript UpdatePeopleTools	<process name>.log	DB2 z/OS and DB2 UDB: • SQLSTATE=value (value cannot be 02000). • SQLxxxxxN. • DB2xxxxxE. Oracle: ORA. Informix: • Error. • Transaction rolled back. Sybase: Msg Microsoft SQL Server: • Msg[Microsoft]. • Cannot open database, access denied. • Specified SQL Server not found. Transaction rolled back. • ConnectionOpen (Connect()). • Login failed.	Warning.

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APPENDIX C

Updating Scripts

Before Change Assistant runs SQL and DataMover 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.

How Change Assistant Updates Scripts

The following table shows the processes, what scripts are updated, and the updated syntax.

Process	Script Files	Updated Syntax
DataMoverBootstrap DataMoverUser LoadBaseData	<process name>.dms	SET LOG statements
DB2 z/OS SQL Commands SQL Scripts UpdatePeopleTools	<process name>.sql	CONNECT TO … SET CURRENT SQLID =
Oracle SQL Commands SQL Scripts UpdatePeopleTools	<process name>.sql	WHENEVER SQLERROR EXIT SET ECHO ON SET TIME ON SPOOL… SPOOL OFF EXIT
Informix SQL Commands SQL Scripts UpdatePeopleTools	<process name>.sql	CONNECT TO …
DB2 UDB SQL Commands SQL Scripts UpdatePeopleTools	<process name>.sql	CONNECT TO …

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Glossary of PeopleSoft Enterprise Terms

absence entitlement — This element defines rules for granting paid time off for valid absences, such as sick time, vacation, and maternity leave. An absence entitlement element defines the entitlement amount, frequency, and entitlement period.

absence take — This element defines the conditions that must be met before a payee is entitled to take paid time off.

academic career — In PeopleSoft Enterprise Campus Solutions, all course work that a student undertakes at an academic institution and that is grouped in a single student record. For example, a university that has an undergraduate school, a graduate school, and various professional schools might define several academic careers—an undergraduate career, a graduate career, and separate careers for each professional school (law school, medical school, dental school, and so on).

academic institution — In PeopleSoft Enterprise Campus Solutions, an entity (such as a university or college) that is independent of other similar entities and that has its own set of rules and business processes.

academic organization — In PeopleSoft Enterprise Campus Solutions, an entity that is part of the administrative structure within an academic institution. At the lowest level, an academic organization might be an academic department. At the highest level, an academic organization can represent a division.

academic plan — In PeopleSoft Enterprise Campus Solutions, an area of study—such as a major, minor, or specialization—that exists within an academic program or academic career.

academic program — In PeopleSoft Enterprise Campus Solutions, the entity to which a student applies and is admitted and from which the student graduates.

accounting class — In PeopleSoft Enterprise Performance Management, the accounting class defines how a resource is treated for generally accepted accounting practices. The Inventory class indicates whether a resource becomes part of a balance sheet account, such as inventory or fixed assets, while the Non-inventory class indicates that the resource is treated as an expense of the period during which it occurs.

accounting date — The accounting date indicates when a transaction is recognized, as opposed to the date the transaction actually occurred. The accounting date and transaction date can be the same. The accounting date determines the period in the general ledger to which the transaction is to be posted. You can only select an accounting date that falls within an open period in the ledger to which you are posting. The accounting date for an item is normally the invoice date.

accounting split — The accounting split method indicates how expenses are allocated or divided among one or more sets of accounting ChartFields.

accumulator — You use an accumulator to store cumulative values of defined items as they are processed. You can accumulate a single value over time or multiple values over time. For example, an accumulator could consist of all voluntary deductions, or all company deductions, enabling you to accumulate amounts. It allows total flexibility for time periods and values accumulated.

action reason — The reason an employee's job or employment information is updated. The action reason is entered in two parts: a personnel action, such as a promotion, termination, or change from one pay group to another—and a reason for that action. Action reasons are used by PeopleSoft Enterprise Human Resources, PeopleSoft Enterprise Benefits

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Administration, PeopleSoft Enterprise Stock Administration, and the COBRA Administration feature of the Base Benefits business process.

action template In PeopleSoft Enterprise Receivables, outlines a set of escalating actions that the system or user performs based on the period of time that a customer or item has been in an action plan for a specific condition.

activity In PeopleSoft Enterprise Learning Management, an instance of a catalog item (sometimes called a class) that is available for enrollment. The activity defines such things as the costs that are associated with the offering, enrollment limits and deadlines, and waitlisting capacities.

In PeopleSoft Enterprise Performance Management, the work of an organization and the aggregation of actions that are used for activity-based costing.

In PeopleSoft Enterprise Project Costing, the unit of work that provides a further breakdown of projects—usually into specific tasks.

In PeopleSoft Workflow, a specific transaction that you might need to perform in a business process. Because it consists of the steps that are used to perform a transaction, it is also known as a step map.

address usage In PeopleSoft Enterprise Campus Solutions, a grouping of address types defining the order in which the address types are used. For example, you might define an address usage code to process addresses in the following order: billing address, dormitory address, home address, and then work address.

adjustment calendar In PeopleSoft Enterprise Campus Solutions, the adjustment calendar controls how a particular charge is adjusted on a student's account when the student drops classes or withdraws from a term. The charge adjustment is based on how much time has elapsed from a predetermined date, and it is determined as a percentage of the original charge amount.

administrative function In PeopleSoft Enterprise Campus Solutions, a particular functional area that processes checklists, communication, and comments. The administrative function identifies which variable data is added to a person's checklist or communication record when a specific checklist code, communication category, or comment is assigned to the student. This key data enables you to trace that checklist, communication, or comment back to a specific processing event in a functional area.

admit type In PeopleSoft Enterprise Campus Solutions, a designation used to distinguish first-year applications from transfer applications.

agreement In PeopleSoft Enterprise eSettlements, provides a way to group and specify processing options, such as payment terms, pay from a bank, and notifications by a buyer and supplier location combination.

allocation rule In PeopleSoft Enterprise Incentive Management, an expression within compensation plans that enables the system to assign transactions to nodes and participants. During transaction allocation, the allocation engine traverses the compensation structure from the current node to the root node, checking each node for plans that contain allocation rules.

alternate account A feature in PeopleSoft Enterprise General Ledger that enables you to create a statutory chart of accounts and enter statutory account transactions at the detail transaction level, as required for recording and reporting by some national governments.

analysis database In PeopleSoft Enterprise Campus Solutions, database tables that store large amounts of student information that may not appear in standard report formats. The analysis database tables contain keys for all objects in a report that an application program can use to reference other student-record objects that are not contained in the printed report. For instance, the analysis database contains data on courses that are considered

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for satisfying a requirement but that are rejected. It also contains information on courses captured by global limits. An analysis database is used in PeopleSoft Enterprise Academic Advisement.

Application Messaging PeopleSoft Application Messaging enables applications within the PeopleSoft Enterprise product family to communicate synchronously or asynchronously with other PeopleSoft Enterprise and third-party applications. An application message defines the records and fields to be published or subscribed to.

AR specialist Abbreviation for *receivables specialist.* In PeopleSoft Enterprise Receivables, an individual in who tracks and resolves deductions and disputed items.

arbitration plan In PeopleSoft Enterprise Pricer, defines how price rules are to be applied to the base price when the transaction is priced.

assessment rule In PeopleSoft Enterprise Receivables, a user-defined rule that the system uses to evaluate the condition of a customer's account or of individual items to determine whether to generate a follow-up action.

asset class An asset group used for reporting purposes. It can be used in conjunction with the asset category to refine asset classification.

attribute/value pair In PeopleSoft Enterprise Directory Interface, relates the data that makes up an entry in the directory information tree.

audience In PeopleSoft Enterprise Campus Solutions, a segment of the database that relates to an initiative, or a membership organization that is based on constituent attributes rather than a dues-paying structure. Examples of audiences include the Class of '65 and Undergraduate Arts & Sciences.

authentication server A server that is set up to verify users of the system.

base time period In PeopleSoft Enterprise Business Planning, the lowest level time period in a calendar.

benchmark job In PeopleSoft Enterprise Workforce Analytics Solution, a benchmark job is a job code for which there is corresponding salary survey data from published, third-party sources.

billing career In PeopleSoft Enterprise Campus Solutions, the one career under which other careers are grouped for billing purposes if a student is active simultaneously in multiple careers.

bio bit or bio brief In PeopleSoft Enterprise Campus Solutions, a report that summarizes information stored in the system about a particular constituent. You can generate standard or specialized reports.

book In PeopleSoft Enterprise Asset Management, used for storing financial and tax information, such as costs, depreciation attributes, and retirement information on assets.

branch A tree node that rolls up to nodes above it in the hierarchy, as defined in PeopleSoft Tree Manager.

budgetary account only An account used by the system only and not by users; this type of account does not accept transactions. You can only budget with this account. Formerly called "system-maintained account."

budget check In commitment control, the processing of source transactions against control budget ledgers, to see if they pass, fail, or pass with a warning.

budget control In commitment control, budget control ensures that commitments and expenditures don't exceed budgets. It enables you to track transactions against corresponding budgets and terminate a document's cycle if the defined budget conditions are not met.

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	For example, you can prevent a purchase order from being dispatched to a vendor if there are insufficient funds in the related budget to support it.
budget period	The interval of time (such as 12 months or 4 quarters) into which a period is divided for budgetary and reporting purposes. The ChartField allows maximum flexibility to define operational accounting time periods without restriction to only one calendar.
business activity	The name of a subset of a detailed business process. This might be a specific transaction, task, or action that you perform in a business process.
business event	In PeopleSoft Enterprise Receivables, defines the processing characteristics for the Receivable Update process for a draft activity. In PeopleSoft Enterprise Sales Incentive Management, an original business transaction or activity that may justify the creation of a PeopleSoft Enterprise Incentive Management event (a sale, for example).
business process	A standard set of 17 business processes are defined and maintained by the PeopleSoft Enterprise product families and are supported by the Business Process Engineering group. An example of a business process is Order Fulfillment, which is a business process that manages sales orders and contracts, inventory, billing, and so forth. See also *detailed business process.*
business task	The name of the specific function depicted in one of the business processes.
business unit	A corporation or a subset of a corporation that is independent with regard to one or more operational or accounting functions.
buyer	In PeopleSoft Enterprise eSettlements, an organization (or business unit, as opposed to an individual) that transacts with suppliers (vendors) within the system. A buyer creates payments for purchases that are made in the system.
campus	In PeopleSoft Enterprise Campus Solutions, an entity that is usually associated with a distinct physical administrative unit, that belongs to a single academic institution, that uses a unique course catalog, and that produces a common transcript for students within the same academic career.
catalog item	In PeopleSoft Enterprise Learning Management, a specific topic that a learner can study and have tracked. For example, “Introduction to Microsoft Word.” A catalog item contains general information about the topic and includes a course code, description, categorization, keywords, and delivery methods. A catalog item can have one or more learning activities.
catalog map	In PeopleSoft Enterprise Catalog Management, translates values from the catalog source data to the format of the company’s catalog.
catalog partner	In PeopleSoft Enterprise Catalog Management, shares responsibility with the enterprise catalog manager for maintaining catalog content.
categorization	Associates partner offerings with catalog offerings and groups them into enterprise catalog categories.
category	In PeopleSoft Enterprise Campus Solutions, a broad grouping to which specific comments or communications (contexts) are assigned. Category codes are also linked to 3C access groups so that you can assign data-entry or view-only privileges across functions.
channel	In PeopleSoft MultiChannel Framework, email, chat, voice (computer telephone integration [CTI]), or a generic event.
ChartField	A field that stores a chart of accounts, resources, and so on, depending on the PeopleSoft Enterprise application. ChartField values represent individual account numbers, department codes, and so forth.

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ChartField balancing You can require specific ChartFields to match up (balance) on the debit and the credit side of a transaction.

ChartField combination edit The process of editing journal lines for valid ChartField combinations based on user-defined rules.

ChartKey One or more fields that uniquely identify each row in a table. Some tables contain only one field as the key, while others require a combination.

checkbook In PeopleSoft Enterprise Promotions Management, enables you to view financial data (such as planned, incurred, and actual amounts) that is related to funds and trade promotions.

checklist code In PeopleSoft Enterprise Campus Solutions, a code that represents a list of planned or completed action items that can be assigned to a staff member, volunteer, or unit. Checklists enable you to view all action assignments on one page.

class In PeopleSoft Enterprise Campus Solutions, a specific offering of a course component within an academic term.

See also *course.*

Class ChartField A ChartField value that identifies a unique appropriation budget key when you combine it with a fund, department ID, and program code, as well as a budget period. Formerly called *sub-classification.*

clearance In PeopleSoft Enterprise Campus Solutions, the period of time during which a constituent in PeopleSoft Enterprise Contributor Relations is approved for involvement in an initiative or an action. Clearances are used to prevent development officers from making multiple requests to a constituent during the same time period.

clone In PeopleCode, to make a unique copy. In contrast, to *copy* may mean making a new reference to an object, so if the underlying object is changed, both the copy and the original change.

cohort In PeopleSoft Enterprise Campus Solutions, the highest level of the three-level classification structure that you define for enrollment management. You can define a cohort level, link it to other levels, and set enrollment target numbers for it.

See also *population* and *division*.

collection To make a set of documents available for searching in Verity, you must first create at least one collection. A collection is set of directories and files that allow search application users to use the Verity search engine to quickly find and display source documents that match search criteria. A collection is a set of statistics and pointers to the source documents, stored in a proprietary format on a file server. Because a collection can only store information for a single location, PeopleTools maintains a set of collections (one per language code) for each search index object.

collection rule In PeopleSoft Enterprise Receivables, a user-defined rule that defines actions to take for a customer based on both the amount and the number of days past due for outstanding balances.

comm key See *communication key.*

communication key In PeopleSoft Enterprise Campus Solutions, a single code for entering a combination of communication category, communication context, communication method, communication direction, and standard letter code. Communication keys (also called *comm keys* or *speed keys*) can be created for background processes as well as for specific users.

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compensation object In PeopleSoft Enterprise Incentive Management, a node within a compensation structure. Compensation objects are the building blocks that make up a compensation structure's hierarchical representation.

compensation structure In PeopleSoft Enterprise Incentive Management, a hierarchical relationship of compensation objects that represents the compensation-related relationship between the objects.

component interface A component interface is a set of application programming interfaces (APIs) that you can use to access and modify PeopleSoft Enterprise database information using a program instead of the PeopleSoft client.

condition In PeopleSoft Enterprise Receivables, occurs when there is a change of status for a customer's account, such as reaching a credit limit or exceeding a user-defined balance due.

configuration parameter catalog Used to configure an external system with PeopleSoft Enterprise. For example, a configuration parameter catalog might set up configuration and communication parameters for an external server.

configuration plan In PeopleSoft Enterprise Incentive Management, configuration plans hold allocation information for common variables (not incentive rules) and are attached to a node without a participant. Configuration plans are not processed by transactions.

constituents In PeopleSoft Enterprise Campus Solutions, friends, alumni, organizations, foundations, or other entities affiliated with the institution, and about which the institution maintains information. The constituent types delivered with PeopleSoft Enterprise Contributor Relations Solutions are based on those defined by the Council for the Advancement and Support of Education (CASE).

content reference Content references are pointers to content registered in the portal registry. These are typically either URLs or iScripts. Content references fall into three categories: target content, templates, and template pagelets.

context In PeopleCode, determines which buffer fields can be contextually referenced and which is the current row of data on each scroll level when a PeopleCode program is running.

In PeopleSoft Enterprise Campus Solutions, a specific instance of a comment or communication. One or more contexts are assigned to a category, which you link to 3C access groups so that you can assign data-entry or view-only privileges across functions.

In PeopleSoft Enterprise Incentive Management, a mechanism that is used to determine the scope of a processing run. PeopleSoft Enterprise Incentive Management uses three types of context: plan, period, and run-level.

control table Stores information that controls the processing of an application. This type of processing might be consistent throughout an organization, or it might be used only by portions of the organization for more limited sharing of data.

cost-plus contract line A rate-based contract line associated with a fee component of Award, Fixed, Incentive, or Other. Rate-based contract lines associated with a fee type of None are not considered cost-plus contract lines.

cost profile A combination of a receipt cost method, a cost flow, and a deplete cost method. A profile is associated with a cost book and determines how items in that book are valued, as well as how the material movement of the item is valued for the book.

cost row A cost transaction and amount for a set of ChartFields.

course In PeopleSoft Enterprise Campus Solutions, a course that is offered by a school and that is typically described in a course catalog. A course has a standard syllabus and

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credit level; however, these may be modified at the class level. Courses can contain multiple components such as lecture, discussion, and lab.

See also *class*.

course share set In PeopleSoft Enterprise Campus Solutions, a tag that defines a set of requirement groups that can share courses. Course share sets are used in PeopleSoft Enterprise Academic Advisement.

current learning In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's in-progress learning activities and programs.

data acquisition In PeopleSoft Enterprise Incentive Management, the process during which raw business transactions are acquired from external source systems and fed into the operational data store (ODS).

data cube In PeopleSoft Analytic Calculation Engine, a data cube is a container for one kind of data (such as Sales data) and works with in tandem with one or more dimensions. Dimensions and data cubes in PeopleSoft Analytic Calculation Engine are unrelated to dimensions and online analytical processing (OLAP) cubes in PeopleSoft Cube Manager.

data elements Data elements, at their simplest level, define a subset of data and the rules by which to group them.

For Workforce Analytics, data elements are rules that tell the system what measures to retrieve about your workforce groups.

dataset A data grouping that enables role-based filtering and distribution of data. You can limit the range and quantity of data that is displayed for a user by associating dataset rules with user roles. The result of dataset rules is a set of data that is appropriate for the user's roles.

delivery method In PeopleSoft Enterprise Learning Management, identifies the primary type of delivery method in which a particular learning activity is offered. Also provides default values for the learning activity, such as cost and language. This is primarily used to help learners search the catalog for the type of delivery from which they learn best. Because PeopleSoft Enterprise Learning Management is a blended learning system, it does not enforce the delivery method.

In PeopleSoft Enterprise Supply Chain Management, identifies the method by which goods are shipped to their destinations (such as truck, air, and rail). The delivery method is specified when creating shipment schedules.

delivery method type In PeopleSoft Enterprise Learning Management, identifies how learning activities can be delivered—for example, through online learning, classroom instruction, seminars, books, and so forth—in an organization. The type determines whether the delivery method includes scheduled components.

detailed business process A subset of the business process. For example, the detailed business process named Determine Cash Position is a subset of the business process called Cash Management.

dimension In PeopleSoft Analytic Calculation Engine, a dimension contains a list of one kind of data that can span various contexts, and it is a basic component of an analytic model. Within the analytic model, a dimension is attached to one or more data cubes. In PeopleSoft Cube Manager, a dimension is the most basic component of an OLAP cube and specifies the PeopleSoft metadata to be used to create the dimension's rollup structure. Dimensions and data cubes in PeopleSoft Analytic Calculation Engine are unrelated to dimensions and OLAP cubes in PeopleSoft Cube Manager.

directory information tree In PeopleSoft Enterprise Directory Interface, the representation of a directory's hierarchical structure.

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division
In PeopleSoft Enterprise Campus Solutions, the lowest level of the three-level classification structure that you define in PeopleSoft Enterprise Recruiting and Admissions for enrollment management. You can define a division level, link it to other levels, and set enrollment target numbers for it.

See also *population* and *cohort.*

document sequencing
A flexible method that sequentially numbers the financial transactions (for example, bills, purchase orders, invoices, and payments) in the system for statutory reporting and for tracking commercial transaction activity.

dynamic detail tree
A tree that takes its detail values—dynamic details—directly from a table in the database, rather than from a range of values that are entered by the user.

edit table
A table in the database that has its own record definition, such as the Department table. As fields are entered into a PeopleSoft Enterprise application, they can be validated against an edit table to ensure data integrity throughout the system.

effective date
A method of dating information in PeopleSoft Enterprise applications. You can predate information to add historical data to your system, or postdate information in order to enter it before it actually goes into effect. By using effective dates, you don't delete values; you enter a new value with a current effective date.

EIM ledger
Abbreviation for *Enterprise Incentive Management ledger.* In PeopleSoft Enterprise Incentive Management, an object to handle incremental result gathering within the scope of a participant. The ledger captures a result set with all of the appropriate traces to the data origin and to the processing steps of which it is a result.

elimination set
In PeopleSoft Enterprise General Ledger, a related group of intercompany accounts that is processed during consolidations.

entry event
In PeopleSoft Enterprise General Ledger, Receivables, Payables, Purchasing, and Billing, a business process that generates multiple debits and credits resulting from single transactions to produce standard, supplemental accounting entries.

equitization
In PeopleSoft Enterprise General Ledger, a business process that enables parent companies to calculate the net income of subsidiaries on a monthly basis and adjust that amount to increase the investment amount and equity income amount before performing consolidations.

equity item limit
In PeopleSoft Enterprise Campus Solutions, the amounts of funds set by the institution to be awarded with discretionary or gift funds. The limit could be reduced by amounts equal to such things as expected family contribution (EFC) or parent contribution. Students are packaged by Equity Item Type Groups and Related Equity Item Types. This limit can be used to assure that similar student populations are packaged equally.

event
A predefined point either in the Component Processor flow or in the program flow. As each point is encountered, the event activates each component, triggering any PeopleCode program that is associated with that component and that event. Examples of events are FieldChange, SavePreChange, and RowDelete.

In PeopleSoft Enterprise Human Resources, also refers to an incident that affects benefits eligibility.

event propagation process
In PeopleSoft Enterprise Sales Incentive Management, a process that determines, through logic, the propagation of an original PeopleSoft Enterprise Incentive Management event and creates a derivative (duplicate) of the original event to be processed by other objects. PeopleSoft Enterprise Enterprise Sales Incentive Management uses this mechanism to implement splits, roll-ups, and so on. Event propagation determines who receives the credit.

exception
In PeopleSoft Enterprise Receivables, an item that either is a deduction or is in dispute.

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exclusive pricing

In PeopleSoft Enterprise Order Management, a type of arbitration plan that is associated with a price rule. Exclusive pricing is used to price sales order transactions.

fact

In PeopleSoft Enterprise applications, facts are numeric data values from fields from a source database as well as an analytic application. A fact can be anything you want to measure your business by, for example, revenue, actual, budget data, or sales numbers. A fact is stored on a fact table.

financial aid term

In PeopleSoft Enterprise Campus Solutions, a combination of a period of time that the school determines as an instructional accounting period and an academic career. It is created and defined during the setup process. Only terms eligible for financial aid are set up for each financial aid career.

forecast item

A logical entity with a unique set of descriptive demand and forecast data that is used as the basis to forecast demand. You create forecast items for a wide range of uses, but they ultimately represent things that you buy, sell, or use in your organization and for which you require a predictable usage.

fund

In PeopleSoft Enterprise Promotions Management, a budget that can be used to fund promotional activity. There are four funding methods: top down, fixed accrual, rolling accrual, and zero-based accrual.

gap

In PeopleSoft Enterprise Campus Solutions, an artificial figure that sets aside an amount of unmet financial aid need that is not funded with Title IV funds. A gap can be used to prevent fully funding any student to conserve funds, or it can be used to preserve unmet financial aid need so that institutional funds can be awarded.

generic process type

In PeopleSoft Process Scheduler, process types are identified by a generic process type. For example, the generic process type SQR includes all SQR process types, such as SQR process and SQR report.

gift table

In PeopleSoft Enterprise Campus Solutions, a table or so-called *donor pyramid* describing the number and size of gifts that you expect will be needed to successfully complete the campaign in PeopleSoft Enterprise Contributor Relations. The gift table enables you to estimate the number of donors and prospects that you need at each gift level to reach the campaign goal.

GL business unit

Abbreviation for *general ledger business unit.* A unit in an organization that is an independent entity for accounting purposes. It maintains its own set of accounting books.

See also *business unit.*

GL entry template

Abbreviation for *general ledger entry template.* In PeopleSoft Enterprise Campus Solutions, a template that defines how a particular item is sent to the general ledger. An item-type maps to the general ledger, and the GL entry template can involve multiple general ledger accounts. The entry to the general ledger is further controlled by high-level flags that control the summarization and the type of accounting—that is, accrual or cash.

GL Interface process

Abbreviation for *General Ledger Interface process.* In PeopleSoft Enterprise Campus Solutions, a process that is used to send transactions from PeopleSoft Enterprise Student Financials to the general ledger. Item types are mapped to specific general ledger accounts, enabling transactions to move to the general ledger when the GL Interface process is run.

group

In PeopleSoft Enterprise Billing and Receivables, a posting entity that comprises one or more transactions (items, deposits, payments, transfers, matches, or write-offs).

In PeopleSoft Enterprise Human Resources Management and Supply Chain Management, any set of records that are associated under a single name or variable to

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run calculations in PeopleSoft business processes. In PeopleSoft Enterprise Time and Labor, for example, employees are placed in groups for time reporting purposes.

incentive object
In PeopleSoft Enterprise Incentive Management, the incentive-related objects that define and support the PeopleSoft Enterprise Incentive Management calculation process and results, such as plan templates, plans, results data, and user interaction objects.

incentive rule
In PeopleSoft Enterprise Sales Incentive Management, the commands that act on transactions and turn them into compensation. A rule is one part in the process of turning a transaction into compensation.

incur
In PeopleSoft Enterprise Promotions Management, to become liable for a promotional payment. In other words, you owe that amount to a customer for promotional activities.

initiative
In PeopleSoft Enterprise Campus Solutions, the basis from which all advancement plans are executed. It is an organized effort targeting a specific constituency, and it can occur over a specified period of time with specific purposes and goals. An initiative can be a campaign, an event, an organized volunteer effort, a membership drive, or any other type of effort defined by the institution. Initiatives can be multipart, and they can be related to other initiatives. This enables you to track individual parts of an initiative, as well as entire initiatives.

inquiry access
In PeopleSoft Enterprise Campus Solutions, a type of security access that permits the user only to view data.

See also *update access.*

institution
In PeopleSoft Enterprise Campus Solutions, an entity (such as a university or college) that is independent of other similar entities and that has its own set of rules and business processes.

integration
A relationship between two compatible integration points that enables communication to take place between systems. Integrations enable PeopleSoft Enterprise applications to work seamlessly with other PeopleSoft Enterprise applications or with third-party systems or software.

integration point
An interface that a system uses to communicate with another PeopleSoft Enterprise application or an external application.

integration set
A logical grouping of integrations that applications use for the same business purpose. For example, the integration set ADVANCED_SHIPPING_ORDER contains all of the integrations that notify a customer that an order has shipped.

item
In PeopleSoft Enterprise Inventory, a tangible commodity that is stored in a business unit (shipped from a warehouse).

In PeopleSoft Enterprise Demand Planning, Inventory Policy Planning, and Supply Planning, a noninventory item that is designated as being used for planning purposes only. It can represent a family or group of inventory items. It can have a planning bill of material (BOM) or planning routing, and it can exist as a component on a planning BOM. A planning item cannot be specified on a production or engineering BOM or routing, and it cannot be used as a component in a production. The quantity on hand will never be maintained.

In PeopleSoft Enterprise Receivables, an individual receivable. An item can be an invoice, a credit memo, a debit memo, a write-off, or an adjustment.

item shuffle
In PeopleSoft Enterprise Campus Solutions, a process that enables you to change a payment allocation without having to reverse the payment.

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joint communication — In PeopleSoft Enterprise Campus Solutions, one letter that is addressed jointly to two people. For example, a letter might be addressed to both Mr. Sudhir Awat and Ms. Samantha Mortelli. A relationship must be established between the two individuals in the database, and at least one of the individuals must have an ID in the database.

keyword — In PeopleSoft Enterprise Campus Solutions, a term that you link to particular elements within PeopleSoft Enterprise Student Financials, Financial Aid, and Contributor Relations. You can use keywords as search criteria that enable you to locate specific records in a search dialog box.

KPI — An abbreviation for *key performance indicator.* A high-level measurement of how well an organization is doing in achieving critical success factors. This defines the data value or calculation upon which an assessment is determined.

LDIF file — Abbreviation for *Lightweight Directory Access Protocol (LDAP) Data Interchange Format file.* Contains discrepancies between PeopleSoft Enterprise data and directory data.

learner group — In PeopleSoft Enterprise Learning Management, a group of learners who are linked to the same learning environment. Members of the learner group can share the same attributes, such as the same department or job code. Learner groups are used to control access to and enrollment in learning activities and programs. They are also used to perform group enrollments and mass enrollments in the back office.

learning components — In PeopleSoft Enterprise Learning Management, the foundational building blocks of learning activities. PeopleSoft Enterprise Learning Management supports six basic types of learning components: web-based, session, webcast, test, survey, and assignment. One or more of these learning component types compose a single learning activity.

learning environment — In PeopleSoft Enterprise Learning Management, identifies a set of categories and catalog items that can be made available to learner groups. Also defines the default values that are assigned to the learning activities and programs that are created within a particular learning environment. Learning environments provide a way to partition the catalog so that learners see only those items that are relevant to them.

learning history — In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's completed learning activities and programs.

ledger mapping — You use ledger mapping to relate expense data from general ledger accounts to resource objects. Multiple ledger line items can be mapped to one or more resource IDs. You can also use ledger mapping to map dollar amounts (referred to as *rates*) to business units. You can map the amounts in two different ways: an actual amount that represents actual costs of the accounting period, or a budgeted amount that can be used to calculate the capacity rates as well as budgeted model results. In PeopleSoft Enterprise Warehouse, you can map general ledger accounts to the EW Ledger table.

library section — In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan (or template) and that is available for other plans to share. Changes to a library section are reflected in all plans that use it.

linked section — In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan template but appears in a plan. Changes to linked sections propagate to plans using that section.

linked variable — In PeopleSoft Enterprise Incentive Management, a variable that is defined and maintained in a plan template and that also appears in a plan. Changes to linked variables propagate to plans using that variable.

LMS — Abbreviation for *learning management system.* In PeopleSoft Enterprise Campus Solutions, LMS is a PeopleSoft Enterprise Student Records feature that provides a

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common set of interoperability standards that enable the sharing of instructional content and data between learning and administrative environments.

load
In PeopleSoft Enterprise Inventory, identifies a group of goods that are shipped together. Load management is a feature of PeopleSoft Enterprise Inventory that is used to track the weight, the volume, and the destination of a shipment.

local functionality
In PeopleSoft Enterprise HRMS, the set of information that is available for a specific country. You can access this information when you click the appropriate country flag in the global window, or when you access it by a local country menu.

location
Locations enable you to indicate the different types of addresses—for a company, for example, one address to receive bills, another for shipping, a third for postal deliveries, and a separate street address. Each address has a different location number. The primary location—indicated by a *1*—is the address you use most often and may be different from the main address.

logistical task
In PeopleSoft Enterprise Services Procurement, an administrative task that is related to hiring a service provider. Logistical tasks are linked to the service type on the work order so that different types of services can have different logistical tasks. Logistical tasks include both preapproval tasks (such as assigning a new badge or ordering a new laptop) and postapproval tasks (such as scheduling orientation or setting up the service provider email). The logistical tasks can be mandatory or optional. Mandatory preapproval tasks must be completed before the work order is approved. Mandatory postapproval tasks, on the other hand, must be completed before a work order is released to a service provider.

market template
In PeopleSoft Enterprise Incentive Management, additional functionality that is specific to a given market or industry and is built on top of a product category.

mass change
In PeopleSoft Enterprise Campus Solutions, mass change is a SQL generator that can be used to create specialized functionality. Using mass change, you can set up a series of Insert, Update, or Delete SQL statements to perform business functions that are specific to the institution.

See also *3C engine.*

match group
In PeopleSoft Enterprise Receivables, a group of receivables items and matching offset items. The system creates match groups by using user-defined matching criteria for selected field values.

MCF server
Abbreviation for *PeopleSoft MultiChannel Framework server.* Comprises the universal queue server and the MCF log server. Both processes are started when *MCF Servers* is selected in an application server domain configuration.

merchandising activity
In PeopleSoft Enterprise Promotions Management, a specific discount type that is associated with a trade promotion (such as off-invoice, billback or rebate, or lump-sum payment) that defines the performance that is required to receive the discount. In the industry, you may know this as an offer, a discount, a merchandising event, an event, or a tactic.

meta-SQL
Meta-SQL constructs expand into platform-specific SQL substrings. They are used in functions that pass SQL strings, such as in SQL objects, the SQLExec function, and PeopleSoft Application Engine programs.

metastring
Metastrings are special expressions included in SQL string literals. The metastrings, prefixed with a percent (%) symbol, are included directly in the string literals. They expand at run time into an appropriate substring for the current database platform.

multibook
In PeopleSoft Enterprise General Ledger, multiple ledgers having multiple-base currencies that are defined for a business unit, with the option to post a single

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transaction to all base currencies (all ledgers) or to only one of those base currencies (ledgers).

multicurrency The ability to process transactions in a currency other than the business unit's base currency.

national allowance In PeopleSoft Enterprise Promotions Management, a promotion at the corporate level that is funded by nondiscretionary dollars. In the industry, you may know this as a national promotion, a corporate promotion, or a corporate discount.

need In PeopleSoft Enterprise Campus Solutions, the difference between the cost of attendance (COA) and the expected family contribution (EFC). It is the gap between the cost of attending the school and the student's resources. The financial aid package is based on the amount of financial need. The process of determining a student's need is called *need analysis.*

node-oriented tree A tree that is based on a detail structure, but the detail values are not used.

pagelet Each block of content on the home page is called a pagelet. These pagelets display summary information within a small rectangular area on the page. The pagelet provide users with a snapshot of their most relevant PeopleSoft Enterprise and non-PeopleSoft Enterprise content.

participant In PeopleSoft Enterprise Incentive Management, participants are recipients of the incentive compensation calculation process.

participant object Each participant object may be related to one or more compensation objects.

See also *compensation object.*

partner A company that supplies products or services that are resold or purchased by the enterprise.

pay cycle In PeopleSoft Enterprise Payables, a set of rules that define the criteria by which it should select scheduled payments for payment creation.

payment shuffle In PeopleSoft Enterprise Campus Solutions, a process allowing payments that have been previously posted to a student's account to be automatically reapplied when a higher priority payment is posted or the payment allocation definition is changed.

pending item In PeopleSoft Enterprise Receivables, an individual receivable (such as an invoice, a credit memo, or a write-off) that has been entered in or created by the system, but hasn't been posted.

PeopleCode PeopleCode is a proprietary language, executed by the PeopleSoft Enterprise component processor. PeopleCode generates results based on existing data or user actions. By using various tools provided with PeopleTools, external services are available to all PeopleSoft Enterprise applications wherever PeopleCode can be executed.

PeopleCode event See *event.*

PeopleSoft Pure Internet Architecture The fundamental architecture on which PeopleSoft 8 applications are constructed, consisting of a relational database management system (RDBMS), an application server, a web server, and a browser.

performance measurement In PeopleSoft Enterprise Incentive Management, a variable used to store data (similar to an aggregator, but without a predefined formula) within the scope of an incentive plan. Performance measures are associated with a plan calendar, territory, and participant. Performance measurements are used for quota calculation and reporting.

period context In PeopleSoft Enterprise Incentive Management, because a participant typically uses the same compensation plan for multiple periods, the period context associates

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a plan context with a specific calendar period and fiscal year. The period context references the associated plan context, thus forming a chain. Each plan context has a corresponding set of period contexts.

person of interest
A person about whom the organization maintains information but who is not part of the workforce.

personal portfolio
In PeopleSoft Enterprise Campus Solutions, the user-accessible menu item that contains an individual's name, address, telephone number, and other personal information.

plan
In PeopleSoft Enterprise Sales Incentive Management, a collection of allocation rules, variables, steps, sections, and incentive rules that instruct the PeopleSoft Enterprise Incentive Management engine in how to process transactions.

plan context
In PeopleSoft Enterprise Incentive Management, correlates a participant with the compensation plan and node to which the participant is assigned, enabling the PeopleSoft Enterprise Incentive Management system to find anything that is associated with the node and that is required to perform compensation processing. Each participant, node, and plan combination represents a unique plan context—if three participants are on a compensation structure, each has a different plan context. Configuration plans are identified by plan contexts and are associated with the participants that refer to them.

plan template
In PeopleSoft Enterprise Incentive Management, the base from which a plan is created. A plan template contains common sections and variables that are inherited by all plans that are created from the template. A template may contain steps and sections that are not visible in the plan definition.

planned learning
In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's planned learning activities and programs.

planning instance
In PeopleSoft Enterprise Supply Planning, a set of data (business units, items, supplies, and demands) constituting the inputs and outputs of a supply plan.

population
In PeopleSoft Enterprise Campus Solutions, the middle level of the three-level classification structure that you define in PeopleSoft Enterprise Recruiting and Admissions for enrollment management. You can define a population level, link it to other levels, and set enrollment target numbers for it.

See also *division* and *cohort.*

portal registry
In PeopleSoft Enterprise applications, the portal registry is a tree-like structure in which content references are organized, classified, and registered. It is a central repository that defines both the structure and content of a portal through a hierarchical, tree-like structure of folders useful for organizing and securing content references.

price list
In PeopleSoft Enterprise Pricer, enables you to select products and conditions for which the price list applies to a transaction. During a transaction, the system either determines the product price based on the predefined search hierarchy for the transaction or uses the product's lowest price on any associated, active price lists. This price is used as the basis for any further discounts and surcharges.

price rule
In PeopleSoft Enterprise Pricer, defines the conditions that must be met for adjustments to be applied to the base price. Multiple rules can apply when conditions of each rule are met.

price rule condition
In PeopleSoft Enterprise Pricer, selects the price-by fields, the values for the price-by fields, and the operator that determines how the price-by fields are related to the transaction.

price rule key
In PeopleSoft Enterprise Pricer, defines the fields that are available to define price rule conditions (which are used to match a transaction) on the price rule.

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primacy number In PeopleSoft Enterprise Campus Solutions, a number that the system uses to prioritize financial aid applications when students are enrolled in multiple academic careers and academic programs at the same time. The Consolidate Academic Statistics process uses the primacy number indicated for both the career and program at the institutional level to determine a student's primary career and program. The system also uses the number to determine the primary student attribute value that is used when you extract data to report on cohorts. The lowest number takes precedence.

primary name type In PeopleSoft Enterprise Campus Solutions, the name type that is used to link the name stored at the highest level within the system to the lower-level set of names that an individual provides.

process category In PeopleSoft Process Scheduler, processes that are grouped for server load balancing and prioritization.

process group In PeopleSoft Enterprise Financials, a group of application processes (performed in a defined order) that users can initiate in real time, directly from a transaction entry page.

process definition Process definitions define each run request.

process instance A unique number that identifies each process request. This value is automatically incremented and assigned to each requested process when the process is submitted to run.

process job You can link process definitions into a job request and process each request serially or in parallel. You can also initiate subsequent processes based on the return code from each prior request.

process request A single run request, such as a Structured Query Report (SQR), a COBOL or Application Engine program, or a Crystal report that you run through PeopleSoft Process Scheduler.

process run control A PeopleTools variable used to retain PeopleSoft Process Scheduler values needed at runtime for all requests that reference a run control ID. Do not confuse these with application run controls, which may be defined with the same run control ID, but only contain information specific to a given application process request.

product A PeopleSoft Enterprise or third-party product. PeopleSoft organizes its software products into product families and product lines. Interactive Services Repository contains information about every release of every product that PeopleSoft sells, as well as products from certified third-party companies. These products appear with the product name and release number.

product category In PeopleSoft Enterprise Incentive Management, indicates an application in the PeopleSoft Enterprise Incentive Management suite of products. Each transaction in the PeopleSoft Enterprise Incentive Management system is associated with a product category.

product family A group of products that are related by common functionality. The family names that can be searched using Interactive Service Repository are Oracle's PeopleSoft Enterprise, PeopleSoft EnterpriseOne, PeopleSoft World, and third-party, certified partners.

product line The name of a PeopleSoft Enterprise product line or the company name of a third-party certified partner. Integration Services Repository enables you to search for integration points by product line.

programs In PeopleSoft Enterprise Learning Management, a high-level grouping that guides the learner along a specific learning path through sections of catalog items. PeopleSoft Enterprise Learning Systems provides two types of programs—curricula and certifications.

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progress log

In PeopleSoft Enterprise Services Procurement, tracks deliverable-based projects. This is similar to the time sheet in function and process. The service provider contact uses the progress log to record and submit progress on deliverables. The progress can be logged by the activity that is performed, by the percentage of work that is completed, or by the completion of milestone activities that are defined for the project.

project transaction

In PeopleSoft Enterprise Project Costing, an individual transaction line that represents a cost, time, budget, or other transaction row.

promotion

In PeopleSoft Enterprise Promotions Management, a trade promotion, which is typically funded from trade dollars and used by consumer products manufacturers to increase sales volume.

prospects

In PeopleSoft Enterprise Campus Solutions, students who are interested in applying to the institution.

In PeopleSoft Enterprise Contributor Relations, individuals and organizations that are most likely to make substantial financial commitments or other types of commitments to the institution.

publishing

In PeopleSoft Enterprise Incentive Management, a stage in processing that makes incentive-related results available to participants.

rating components

In PeopleSoft Enterprise Campus Solutions, variables used with the Equation Editor to retrieve specified populations.

record group

A set of logically and functionally related control tables and views. Record groups help enable TableSet sharing, which eliminates redundant data entry. Record groups ensure that TableSet sharing is applied consistently across all related tables and views.

record input VAT flag

Abbreviation for *record input value-added tax flag.* Within PeopleSoft Enterprise Purchasing, Payables, and General Ledger, this flag indicates that you are recording input VAT on the transaction. This flag, in conjunction with the record output VAT flag, is used to determine the accounting entries created for a transaction and to determine how a transaction is reported on the VAT return. For all cases within Purchasing and Payables where VAT information is tracked on a transaction, this flag is set to Yes. This flag is not used in PeopleSoft Enterprise Order Management, Billing, or Receivables, where it is assumed that you are always recording only output VAT, or in PeopleSoft Enterprise Expenses, where it is assumed that you are always recording only input VAT.

record output VAT flag

Abbreviation for *record output value-added tax flag.*

See *record input VAT flag.*

recname

The name of a record that is used to determine the associated field to match a value or set of values.

recognition

In PeopleSoft Enterprise Campus Solutions, the recognition type indicates whether the PeopleSoft Enterprise Contributor Relations donor is the primary donor of a commitment or shares the credit for a donation. Primary donors receive hard credit that must total 100 percent. Donors that share the credit are given soft credit. Institutions can also define other share recognition-type values such as memo credit or vehicle credit.

reference data

In PeopleSoft Enterprise Sales Incentive Management, system objects that represent the sales organization, such as territories, participants, products, customers, and channels.

reference object

In PeopleSoft Enterprise Incentive Management, this dimension-type object further defines the business. Reference objects can have their own hierarchy (for example, product tree, customer tree, industry tree, and geography tree).

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reference transaction In commitment control, a reference transaction is a source transaction that is referenced by a higher-level (and usually later) source transaction, in order to automatically reverse all or part of the referenced transaction's budget-checked amount. This avoids duplicate postings during the sequential entry of the transaction at different commitment levels. For example, the amount of an encumbrance transaction (such as a purchase order) will, when checked and recorded against a budget, cause the system to concurrently reference and relieve all or part of the amount of a corresponding pre-encumbrance transaction, such as a purchase requisition.

regional sourcing In PeopleSoft Enterprise Purchasing, provides the infrastructure to maintain, display, and select an appropriate vendor and vendor pricing structure that is based on a regional sourcing model where the multiple ship to locations are grouped. Sourcing may occur at a level higher than the ship to location.

relationship object In PeopleSoft Enterprise Incentive Management, these objects further define a compensation structure to resolve transactions by establishing associations between compensation objects and business objects.

remote data source data Data that is extracted from a separate database and migrated into the local database.

REN server Abbreviation for *real-time event notification server* in PeopleSoft MultiChannel Framework.

requester In PeopleSoft Enterprise eSettlements, an individual who requests goods or services and whose ID appears on the various procurement pages that reference purchase orders.

reversal indicator In PeopleSoft Enterprise Campus Solutions, an indicator that denotes when a particular payment has been reversed, usually because of insufficient funds.

role Describes how people fit into PeopleSoft Workflow. A role is a class of users who perform the same type of work, such as clerks or managers. Your business rules typically specify what user role needs to do an activity.

role user A PeopleSoft Workflow user. A person's role user ID serves much the same purpose as a user ID does in other parts of the system. PeopleSoft Workflow uses role user IDs to determine how to route worklist items to users (through an email address, for example) and to track the roles that users play in the workflow. Role users do not need PeopleSoft user IDs.

roll up In a tree, to roll up is to total sums based on the information hierarchy.

run control A run control is a type of online page that is used to begin a process, such as the batch processing of a payroll run. Run control pages generally start a program that manipulates data.

run control ID A unique ID to associate each user with his or her own run control table entries.

run-level context In PeopleSoft Enterprise Incentive Management, associates a particular run (and batch ID) with a period context and plan context. Every plan context that participates in a run has a separate run-level context. Because a run cannot span periods, only one run-level context is associated with each plan context.

SCP SCBM XML message Abbreviation for *Supply Chain Planning Supply Chain Business Modeler Extensible Markup Language message.* Supply Chain Business Modeler uses XML as the format for all data that it imports and exports.

search query You use this set of objects to pass a query string and operators to the search engine. The search index returns a set of matching results with keys to the source documents.

search/match In PeopleSoft Enterprise Campus Solutions and PeopleSoft Enterprise Human Resources Management Solutions, a feature that enables you to search for and identify duplicate records in the database.

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seasonal address	In PeopleSoft Enterprise Campus Solutions, an address that recurs for the same length of time at the same time of year each year until adjusted or deleted.
section	In PeopleSoft Enterprise Incentive Management, a collection of incentive rules that operate on transactions of a specific type. Sections enable plans to be segmented to process logical events in different sections.
security event	In commitment control, security events trigger security authorization checking, such as budget entries, transfers, and adjustments; exception overrides and notifications; and inquiries.
serial genealogy	In PeopleSoft Enterprise Manufacturing, the ability to track the composition of a specific, serial-controlled item.
serial in production	In PeopleSoft Enterprise Manufacturing, enables the tracing of serial information for manufactured items. This is maintained in the Item Master record.
service impact	In PeopleSoft Enterprise Campus Solutions, the resulting action triggered by a service indicator. For example, a service indicator that reflects nonpayment of account balances by a student might result in a service impact that prohibits registration for classes.
service indicator	In PeopleSoft Enterprise Campus Solutions, indicates services that may be either withheld or provided to an individual. Negative service indicators indicate holds that prevent the individual from receiving specified services, such as check-cashing privileges or registration for classes. Positive service indicators designate special services that are provided to the individual, such as front-of-line service or special services for disabled students.
session	In PeopleSoft Enterprise Campus Solutions, time elements that subdivide a term into multiple time periods during which classes are offered. In PeopleSoft Enterprise Contributor Relations, a session is the means of validating gift, pledge, membership, or adjustment data entry . It controls access to the data entered by a specific user ID. Sessions are balanced, queued, and then posted to the institution's financial system. Sessions must be posted to enter a matching gift or pledge payment, to make an adjustment, or to process giving clubs or acknowledgements. In PeopleSoft Enterprise Learning Management, a single meeting day of an activity (that is, the period of time between start and finish times within a day). The session stores the specific date, location, meeting time, and instructor. Sessions are used for scheduled training.
session template	In PeopleSoft Enterprise Learning Management, enables you to set up common activity characteristics that may be reused while scheduling a PeopleSoft Enterprise Learning Management activity—characteristics such as days of the week, start and end times, facility and room assignments, instructors, and equipment. A session pattern template can be attached to an activity that is being scheduled. Attaching a template to an activity causes all of the default template information to populate the activity session pattern.
setup relationship	In PeopleSoft Enterprise Incentive Management, a relationship object type that associates a configuration plan with any structure node.
share driver expression	In PeopleSoft Enterprise Business Planning, a named planning method similar to a driver expression, but which you can set up globally for shared use within a single planning application or to be shared between multiple planning applications through PeopleSoft Enterprise Warehouse.
single signon	With single signon, users can, after being authenticated by a PeopleSoft Enterprise application server, access a second PeopleSoft Enterprise application server without entering a user ID or password.

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source key process	In PeopleSoft Enterprise Campus Solutions, a process that relates a particular transaction to the source of the charge or financial aid. On selected pages, you can drill down into particular charges.
source transaction	In commitment control, any transaction generated in a PeopleSoft Enterprise or third-party application that is integrated with commitment control and which can be checked against commitment control budgets. For example, a pre-encumbrance, encumbrance, expenditure, recognized revenue, or collected revenue transaction.
speed key	See *communication key.*
SpeedChart	A user-defined shorthand key that designates several ChartKeys to be used for voucher entry. Percentages can optionally be related to each ChartKey in a SpeedChart definition.
SpeedType	A code representing a combination of ChartField values. SpeedTypes simplify the entry of ChartFields commonly used together.
staging	A method of consolidating selected partner offerings with the offerings from the enterprise's other partners.
standard letter code	In PeopleSoft Enterprise Campus Solutions, a standard letter code used to identify each letter template available for use in mail merge functions. Every letter generated in the system must have a standard letter code identification.
statutory account	Account required by a regulatory authority for recording and reporting financial results. In PeopleSoft Enterprise, this is equivalent to the Alternate Account (ALTACCT) ChartField.
step	In PeopleSoft Enterprise Sales Incentive Management, a collection of sections in a plan. Each step corresponds to a step in the job run.
storage level	In PeopleSoft Enterprise Inventory, identifies the level of a material storage location. Material storage locations are made up of a business unit, a storage area, and a storage level. You can set up to four storage levels.
subcustomer qualifier	A value that groups customers into a division for which you can generate detailed history, aging, events, and profiles.
Summary ChartField	You use summary ChartFields to create summary ledgers that roll up detail amounts based on specific detail values or on selected tree nodes. When detail values are summarized using tree nodes, summary ChartFields must be used in the summary ledger data record to accommodate the maximum length of a node name (20 characters).
summary ledger	An accounting feature used primarily in allocations, inquiries, and PS/nVision reporting to store combined account balances from detail ledgers. Summary ledgers increase speed and efficiency of reporting by eliminating the need to summarize detail ledger balances each time a report is requested. Instead, detail balances are summarized in a background process according to user-specified criteria and stored on summary ledgers. The summary ledgers are then accessed directly for reporting.
summary time period	In PeopleSoft Enterprise Business Planning, any time period (other than a base time period) that is an aggregate of other time periods, including other summary time periods and base time periods, such as quarter and year total.
summary tree	A tree used to roll up accounts for each type of report in summary ledgers. Summary trees enable you to define trees on trees. In a summary tree, the detail values are really nodes on a detail tree or another summary tree (known as the *basis* tree). A summary tree structure specifies the details on which the summary trees are to be built.
syndicate	To distribute a production version of the enterprise catalog to partners.

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system function In PeopleSoft Enterprise Receivables, an activity that defines how the system generates accounting entries for the general ledger.

system source The system source identifies the source of a transaction row in the database. For example, a transaction that originates in PeopleSoft Enterprise Expenses contains a system source code of BEX (Expenses Batch).

When PeopleSoft Enterprise Project Costing prices the source transaction row for billing, the system creates a new row with a system source code of PRP (Project Costing pricing), which represents the system source of the new row. System source codes can identify sources that are internal or external to the PeopleSoft Enterprise system. For example, processes that import data from Microsoft Project into PeopleSoft Enterprise applications create transaction rows with a source code of MSP (Microsoft Project).

TableSet A means of sharing similar sets of values in control tables, where the actual data values are different but the structure of the tables is the same.

TableSet sharing Shared data that is stored in many tables that are based on the same TableSets. Tables that use TableSet sharing contain the SETID field as an additional key or unique identifier.

target currency The value of the entry currency or currencies converted to a single currency for budget viewing and inquiry purposes.

tax authority In PeopleSoft Enterprise Campus Solutions, a user-defined element that combines a description and percentage of a tax with an account type, an item type, and a service impact.

template A template is HTML code associated with a web page. It defines the layout of the page and also where to get HTML for each part of the page. In PeopleSoft Enterprise, you use templates to build a page by combining HTML from a number of sources. For a PeopleSoft Enterprise portal, all templates must be registered in the portal registry, and each content reference must be assigned a template.

territory In PeopleSoft Enterprise Sales Incentive Management, hierarchical relationships of business objects, including regions, products, customers, industries, and participants.

third party A company or vendor that has extensive PeopleSoft Enterprise product knowledge and whose products and integrations have been certified and are compatible with PeopleSoft Enterprise applications.

3C engine Abbreviation for *Communications, Checklists, and Comments engine.* In PeopleSoft Enterprise Campus Solutions, the 3C engine enables you to automate business processes that involve additions, deletions, and updates to communications, checklists, and comments. You define events and triggers to engage the engine, which runs the mass change and processes the 3C records (for individuals or organizations) immediately and automatically from within business processes.

3C group Abbreviation for *Communications, Checklists, and Comments group.* In PeopleSoft Enterprise Campus Solutions, a method of assigning or restricting access privileges. A 3C group enables you to group specific communication categories, checklist codes, and comment categories. You can then assign the group inquiry-only access or update access, as appropriate.

TimeSpan A relative period, such as year-to-date or current period, that can be used in various PeopleSoft Enterprise General Ledger functions and reports when a rolling time frame, rather than a specific date, is required. TimeSpans can also be used with flexible formulas in PeopleSoft Enterprise Projects.

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trace usage
In PeopleSoft Enterprise Manufacturing, enables the control of which components will be traced during the manufacturing process. Serial- and lot-controlled components can be traced. This is maintained in the Item Master record.

transaction allocation
In PeopleSoft Enterprise Incentive Management, the process of identifying the owner of a transaction. When a raw transaction from a batch is allocated to a plan context, the transaction is duplicated in the PeopleSoft Enterprise Incentive Management transaction tables.

transaction state
In PeopleSoft Enterprise Incentive Management, a value assigned by an incentive rule to a transaction. Transaction states enable sections to process only transactions that are at a specific stage in system processing. After being successfully processed, transactions may be promoted to the next transaction state and "picked up" by a different section for further processing.

Translate table
A system edit table that stores codes and translate values for the miscellaneous fields in the database that do not warrant individual edit tables of their own.

tree
The graphical hierarchy in PeopleSoft Enterprise systems that displays the relationship between all accounting units (for example, corporate divisions, projects, reporting groups, account numbers) and determines roll-up hierarchies.

tuition lock
In PeopleSoft Enterprise Campus Solutions, a feature in the Tuition Calculation process that enables you to specify a point in a term after which students are charged a minimum (or *locked*) fee amount. Students are charged the locked fee amount even if they later drop classes and take less than the normal load level for that tuition charge.

unclaimed transaction
In PeopleSoft Enterprise Incentive Management, a transaction that is not claimed by a node or participant after the allocation process has completed, usually due to missing or incomplete data. Unclaimed transactions may be manually assigned to the appropriate node or participant by a compensation administrator.

universal navigation header
Every PeopleSoft Enterprise portal includes the universal navigation header, intended to appear at the top of every page as long as the user is signed on to the portal. In addition to providing access to the standard navigation buttons (like Home, Favorites, and signoff) the universal navigation header can also display a welcome message for each user.

update access
In PeopleSoft Enterprise Campus Solutions, a type of security access that permits the user to edit and update data.

See also *inquiry access.*

user interaction object
In PeopleSoft Enterprise Sales Incentive Management, used to define the reporting components and reports that a participant can access in his or her context. All PeopleSoft Enterprise Sales Incentive Management user interface objects and reports are registered as user interaction objects. User interaction objects can be linked to a compensation structure node through a compensation relationship object (individually or as groups).

variable
In PeopleSoft Enterprise Sales Incentive Management, the intermediate results of calculations. Variables hold the calculation results and are then inputs to other calculations. Variables can be plan variables that persist beyond the run of an engine or local variables that exist only during the processing of a section.

VAT exception
Abbreviation for *value-added tax exception.* A temporary or permanent exemption from paying VAT that is granted to an organization. This terms refers to both VAT exoneration and VAT suspension.

VAT exempt
Abbreviation for *value-added tax exempt.* Describes goods and services that are not subject to VAT. Organizations that supply exempt goods or services are unable to recover the related input VAT. This is also referred to as exempt without recovery.

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VAT exoneration — Abbreviation for *value-added tax exoneration.* An organization that has been granted a permanent exemption from paying VAT due to the nature of that organization.

VAT suspension — Abbreviation for *value-added tax suspension.* An organization that has been granted a temporary exemption from paying VAT.

warehouse — A PeopleSoft Enterprise data warehouse that consists of predefined ETL maps, data warehouse tools, and DataMart definitions.

work order — In PeopleSoft Enterprise Services Procurement, enables an enterprise to create resource-based and deliverable-based transactions that specify the basic terms and conditions for hiring a specific service provider. When a service provider is hired, the service provider logs time or progress against the work order.

worker — A person who is part of the workforce; an employee or a contingent worker.

workset — A group of people and organizations that are linked together as a set. You can use worksets to simultaneously retrieve the data for a group of people and organizations and work with the information on a single page.

worksheet — A way of presenting data through a PeopleSoft Enterprise Business Analysis Modeler interface that enables users to do in-depth analysis using pivoting tables, charts, notes, and history information.

worklist — The automated to-do list that PeopleSoft Workflow creates. From the worklist, you can directly access the pages you need to perform the next action, and then return to the worklist for another item.

XML link — The XML Linking language enables you to insert elements into XML documents to create a links between resources.

XML schema — An XML definition that standardizes the representation of application messages, component interfaces, or business interlinks.

XPI — Abbreviation for *eXtended Process Integrator.* PeopleSoft XPI is the integration infrastructure that enables both real-time and batch communication with JD Edwards EnterpriseOne applications.

yield by operation — In PeopleSoft Enterprise Manufacturing, the ability to plan the loss of a manufactured item on an operation-by-operation basis.

zero-rated VAT — Abbreviation for *zero-rated value-added tax.* A VAT transaction with a VAT code that has a tax percent of zero. Used to track taxable VAT activity where no actual VAT amount is charged. Organizations that supply zero-rated goods and services can still recover the related input VAT. This is also referred to as exempt with recovery.

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