HP Project and Portfolio Management Center

Software Version: 9.10

HP Solution Integrations Guide

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PPM Center is an integrated part of the HP BTO Operations version 9 portfolio. Using this version number aligns PPM Center with other products that are releasing in the same time frame. PPM Center 9.10 builds on PPM Center 8.0x and is an extension of that product version family. Product releases within the HP BTO Operations version 9 portfolio will feature shared technology, common platforms, integrations, solutions, upgrade tools, and professional services offerings.

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Contents

1	Getting Started with HP Solution Integrations	11
	Introduction to HP Solution Integrations	11
	Introduction to ITIL and HP Solution Integrations	12
	Overview of ITIL Change Management	14
	Change Management Roles	15
	Overview of ITIL Release Management	16
	Release Management Roles	17
	Optional PPM Center Integrations	17
	Integration of PPM Center Requests with Service Manager Changes, Using ALM.	18
	Using Integration of PPM Center with Quality Center To Enhance Integration of PPM Center with S	Service
	Manager	19
	Integration of PPM Center with Universal CMDB for Impact Analysis of Requests, Using ALM	19
	Integration of PPM Center with Quality Center, Using ALM	20
	Integration of PPM Center with Release Control, Using ALM	21
	Integration of PPM Center Project Tasks with Service Manager RFCs	22
	Integration of PPM Center with Universal CMDB for Service Portfolio	22
2	Installing and Setting Up ALM Software	23
	Overview of Installation and Configuration	23
	System Requirements	23
	Installing HP Application Lifecycle Management	24
	General Preparations for Installation	24
	Perform Backup and Restart the PPM Server in Restricted Mode	24
	Run the Installation Script	25
	Configuring ALM-Related Entities in PPM Center	25
	Creating Contact User Data	25
	Configuring the CRT - Priority - Enabled Validation	27
	Assigning Users to ALM Security Groups	28
	Assigning Security Groups to ALM Workflows	28

	Restarting the PPM Server in Normal Mode	. 29
	For More Information	. 29
3	Using ALM Entities	31
Ŭ	Overview of ALM Entities	31
	For More Information	32
	AI M - Request for Change (REC) Request Type	32
	AI M - Request For Change Workflow	<i>J</i> 1
	AI M - REC - Urgent Change Management Sub WE Subworkflow	47
	AI M - Change Review and Approval Sub WF Subworkflow	48
	ALM - Impact & Resource Assessment Sub WF Subworkflow	.50
	ALM - Infrastructure Changes Sub WF Subworkflow	. 51
	ALM - Plan Tests Sub WF Subworkflow	. 52
	ALM - Deploy and Test Changes Sub WF Subworkflow	. 54
	ALM - Non Release Sub WF Subworkflow	. 56
	ALM - Release Sub WF Subworkflow	. 58
	ALM - Defect Template with Quality Center Integration Request Type and Workflow	. 58
	ALM - Change Migration Workflow	. 59
	Change Management Portlets to Display KPIs	. 60
	ALM - My RFCs Portlet	. 60
	ALM - Open RFCs Portlet	. 61
	ALM - RFCs By Category Portlet.	. 62
	ALM - RFCs By Reason for Change Portlet	. 63
	ALM - RFCs By Status Portlet	. 64
	Change Management Reports	. 65
	ALM - Change Summary Report	. 65
	ALM - Forward Schedule of Changes for RFC Report	. 66
	ALM - Release Management Request Type	. 68
	ALM - Release Request Workflow	. 74
	ALM - Release Distribution Workflow and Subworkflow	. 78
	Release Management Portlets to Display KPIs	. 79
	ALM - Deployed Releases Portlet	. 79
	ALM - My Releases Portlet	. 80
	ALM - Open Releases Portlet	. 81
	ALM - Releases Portlet	. 82
	ALM - Releases By Category Portlet	. 83
	ALM - Releases By Type Portlet	. 84
	ALM - RFCs per Release Portlet.	. 85

	Release Management Reports	86
	ALM - Forward Schedule of Releases Report	
	ALM - Release Content Report	
	ALM - Release Summary Report	
	Special Commands	
4	Integrating PPM Center Requests with HP Service Manager Changes, Using ALM	
	Introduction to Integrating PPM Center Requests with Service Manager Changes, Using ALM	
	Converting Service Manager Changes to PPM Center RFCs	
	Converting PPM Center RFCs to Service Manager Change Updates	
	Overview of Configuring the Service Manager Integration	
	Configuring Service Manager for Integration with PPM Center	
	Configuring the Change Management Module	
	Configuring the Change Management Service Manager Web Service	
	(Optional) Configuring Browsing of Service Manager Changes from a URL	
	Configuring for Bidirectional Integration	
	Generating Web Service Stubs	103
	Configuring the Service Manager Adapter Configuration File.	104
	Location, Naming, and Structure of Service Manager Adapter Configuration Files	105
	Location and Naming of the Service Manager Adapter Configuration File	
	Structure of the Service Manager Adapter Configuration File	
	Configuring the Service Manager Adapter Attributes.	
	Configuring the Service Manager Adapter Connector Properties	
	Configuring the Service Manager Adapter Converter Property (Script)	
	smChange Object	
	ppmRFC Object	
	Configuring the Service Manager Adapter Sender Properties	117
	Configuring the PPM Center Adapter Configuration File	
	Location, Naming, and Structure of PPM Center Adapter Configuration Files	
	Location and Naming of the PPM Center Adapter Configuration File	120
	Structure of the PPM Center Adapter Configuration File	121
	Configuring the PPM Center Adapter Attributes	122
	Configuring the PPM Center Adapter Connector Properties	
	Configuring the PPM Center Adapter Converter Property (Script)	
	ppmRFC Object	
	smChange Object	
	Configuring the PPM Center Adapter Sender Properties	
	Configuring the server.conf Parameter in PPM Center.	131

	Enabling the ALM Startup Service
	Error and Non-Error Logging
	System-Level Logging
	Summary Logs Table
	Log Details Table
	Configurable Logging for Conversion Scripts
5	Integrating PPM Center with HP Universal CMDB, Using ALM
	Introduction to Integrating PPM Center with Universal CMDB, Using ALM
	Using Impact Analysis in a Change Request Lifecycle
	Configuring Universal CMDB for the Integration
	Configuring PPM Center for the Integration
	Configuring server.conf Parameters in PPM Center
	Encrypting the Password Specified as a server.conf Parameter
	Configuring a Request Type
	Using the Integration
	Selecting CIs in Universal CMDB and Adding the CIs to a Request
	Generating Impact Analysis Reports147
6	Integrating PPM Center with HP Quality Center, Using ALM
	Introduction to Integrating PPM Center with Quality Center, Using ALM
	Benefits and Functionality of the Integration
	Added Functionality of Integration with Quality Center Version 11.00
	ALM Entities Used by the Integration
	ALM - Defect Template with Quality Center Integration Request Type
	Request Header Types
	Quality Center Defect Information Field Group 160
	ALM - Defect Template with Quality Center Integration Workflow
	Types of Workflow Steps
	ALM Request Types Used for Integration with Quality Center Requirements
	Quality Center Info Field Group 164
	Selecting the Appropriate Integration Procedure
	Configuring Integration with Quality Center Version 10.00
	Overview of Installation and Configuration Process
	Changes to Quality Center Value Lists and Workflows Made by the Integration Tool
	Installing the PPM Center-Quality Center Integration Tool
	Uninstalling the Integration Tool
	Enabling Web Services

Configuring a Quality Center Project for the Integration	171
Enabling a Quality Center Project for the Integration	171
Creating the Mapping Between PPM Center and Quality Center Fields	178
Mapping the Notes Field in PPM Center to an Existing Project	190
Deploying the Mapping File to PPM Center and Quality Center	191
Configuring PPM Center for the Integration	193
Connecting PPM Server with Quality Center Servers.	193
Configuring server.conf Parameters in PPM Center	193
Managing Existing Mappings	195
Deleting a Mapping	196
Disabling and Re-Enabling a Mapping	197
Viewing and Changing a Mapping	198
Enabling and Disabling Request Hierarchy Synchronization	200
Enabling and Disabling Email Notification on Requirement Creation	201
Enabling and Disabling Email Notification on Requirement Update	202
Default Field Mappings for PPM Center and Quality Center Version 10.00	203
Default Field Mappings for Quality Center Version 10.00 Defects	203
Default Field Mappings for Quality Center Version 10.00 Requirements	206
Fields the Integration Enables in Quality Center Version 10.00 Entities	207
Fields the Integration Enables in Quality Center Version 10.00 Defects	208
Fields the Integration Enables in Quality Center Version 10.00 Requirements	208
Configuring Integration with Quality Center Version 11.00	
Overview of Installation and Configuration Process.	
Verify the PPM Server and Quality Center Servers Are Running	
Enable PPM Center-Related Fields in Quality Center	
Fields Associated with the Integration in Quality Center Version 11.00 Defects	
Fields Associated with the Integration in Quality Center Version 11.00 Requirements	
Modifying Value Lists in Quality Center	
Configuring the Integration	
Configuring Field Mappings	
Configuring Email Notification Options	
Configuring Integration Options	
Viewing Event Logs (Quality Center Version 11.00 Only)	
Using the Integration of PPM Center with Quality Center	
Steps in PPM Center Workflows that Involve Integration with Quality Center	
Configuring Request Types and Workflows for the Integration	
Configuring Request Types	
Configuring Workflows	

	Request Hierarchy Synchronization	
	Example of Request Hierarchy Synchronization.	
7	Integrating PPM Center with HP Release Control, Using ALM	
	Introduction to Integrating PPM Center with Release Control, Using ALM	
	Configuring Release Control for the Integration.	
	Configuring the PPM Center Web Services Adapter	
	Configuring the JavaScript Files	
	Configuring PPM Center for the Integration.	
	Establishing Server Connections for Supported Versions.	
	Configuring the server.conf Parameter in PPM Center	
	Using the Integration of PPM Center with Release Control	
8	Integrating PPM Center Tasks with HP Service Manager RFCs	
	Introduction to Integrating PPM Center Tasks with Service Manager RFCs	
	Configuring the Integration of PPM Center Tasks and Service Manager RFCs	
	Enabling RFC Creation for a PPM Center Project Type	
	Enabling RFC Creation for a PPM Center Project	
	Creating a Service Manager RFC from a PPM Center Task	
	Synchronizing an RFC with its Associated PPM Center Task	
	Updating the Status of a PPM Center Task when the Associated RFC is Closed or Rejected	
	Error Logging	
9	Integrating PPM Center with HP Universal CMDB for Service Portfolio	
	Introduction to Integrating PPM Center with Universal CMDB for Service Portfolio	
	Configuring Universal CMDB for the Integration	
	(Optional) Configuring Universal CMDB to Support HTTPS for the Integration	
	Configuring Universal CMDB if the Server Already Supports HTTPS	
	Configuring Universal CMDB if the Server Does Not Support HTTPS Yet	
	Configuring PPM Center for the Integration.	
	Configuring server.conf Parameters in PPM Center	
	Creating a Request Type with the Service Field	
Inc	lex	277

1 Getting Started with HP Solution Integrations

Introduction to HP Solution Integrations

PPM Center integrations support Change Management and Release Management within your organization. Many of these integrations use HP Application Lifecycle Management (ALM) software, which adds to PPM Center a set of entities that support standard Information Technology Infrastructure Library (ITIL) processes. These entities can be configured to meet your business needs.

ALM software facilitates integrating PPM Center with the following applications:

- HP Service Manager, for management of Service Manager changes and associated PPM Center requests
- HP Universal Configuration Management Database (Universal CMDB), for impact analysis of PPM Center requests
- HP Quality Center
- HP Release Control

In addition, without using ALM software, PPM Center can be integrated with:

- HP Service Manager, for integration of PPM Center tasks with Service Manager RFCs
- HP Universal CMDB, for service portfolio functionality

These integrations help your IT organization standardize and enforce processes that manage application changes throughout the entire software development lifecycle, including development, testing, and deployment. The *System Requirements and Compatibility Matrix* describes which versions of these products are supported for integration with PPM Center.

Introduction to ITIL and HP Solution Integrations

The Information Technology Infrastructure Library (ITIL) offers the world's most widely accepted approach to IT Service Management (ITSM), furthering the goal of aligning IT with business goals and priorities. ITIL provides frameworks for both the organization of ITSM as well as a cohesive set of industry best practices.

ITIL is a process framework, and HP Project and Portfolio Management Center (PPM Center) is unique in its ability to customize, automate, and digitize processes, simplifying repeatability, enforcement, and measurement.

ITIL defines the Service Support discipline. Building on this advanced-process model, HP Application Lifecycle Management (ALM) software provides predefined request types (forms), workflows, and special commands to automate processes and information gathering, portlets and reports to track key performance indicators (KPIs), and ALM-specific security groups.

ALM supports the following ITIL processes:

- Change Management. Overview of ITIL Change Management on page 14 provides an overview of the ITIL Change Management process and how ALM supports the process. Chapter 3, Using ALM Entities, on page 31 describes the entities provided by ALM for ITIL Change Management.
- **Release Management.** *Overview of ITIL Release Management* on page 16 provides an overview of the ITIL Release Management process and how ALM supports the process. Chapter 3, *Using ALM Entities*, on page 31 describes the entities provided by ALM for ITIL Release Management.

ALM can be used as a starting point, and then extended to support the process requirements that meet the specific needs of your organization. Using these tools, ALM helps enforce repeatable ITIL processes to reduce their operating cost and risk.

Chapter 2, *Installing and Setting Up ALM Software*, on page 23 provides instructions for installing ALM and configuring PPM Center to ensure that the integrations function properly.

Chapter 3, *Using ALM Entities*, on page 31 provides information about the ALM entities, except for a few that are used only for integration of PPM Center with Quality Center.

ALM facilitates integration of PPM Center with the Service Manager service desk application. Using this integration, changes in Service Manager can be automatically converted to ALM requests for change (RFCs) and imported into PPM Center. In addition, fields in PPM Center can be configured to send updates back to the originating changes in Service Manager. For more information, see *Integration of PPM Center Requests with Service Manager Changes, Using ALM* on page 18 and Chapter 4, *Integrating PPM Center Requests with HP Service Manager Changes, Using ALM*, on page 91.

For additional Change Management and Release Management functionality, ALM provides the ability to integrate PPM Center with Universal CMDB, with Quality Center, and with Release Control. Using these integrations and appropriate approvals throughout the process, the ALM - Request for Change workflow does the following:

- Uses Universal CMDB to perform preliminary impact analysis on a proposed change.
- Automatically creates Quality Center requirements or defects based on associated PPM Center requests and keeps their fields synchronized, providing data visibility in both applications and ensuring that QA personnel create and execute appropriate test plans.
- When adding a package to a release, provides links in an ALM portlet to Release Control for that release. Release Control displays impact and collision analysis for the release that is poised for deployment to a production (live) system.

For more information about integration of PPM Center with Universal CMDB, see Integration of PPM Center with Universal CMDB for Impact Analysis of Requests, Using ALM on page 19 and Chapter 5, Integrating PPM Center with HP Universal CMDB, Using ALM, on page 137.

For more information about integration of PPM Center with Quality Center, see *Integration of PPM Center with Quality Center*, *Using ALM* on page 20 and Chapter 6, *Integrating PPM Center with HP Quality Center*, *Using ALM*, on page 149.

For more information about integration of PPM Center with Release Control, see *Integration of PPM Center with Release Control, Using ALM* on page 21 and Chapter 7, *Integrating PPM Center with HP Release Control, Using ALM*, on page 245.

In addition, without using ALM software, PPM Center tasks can be integrated with Service Manager RFCs, as described in Chapter 8, *Integrating PPM Center Tasks with HP Service Manager RFCs*, on page 251.

Also without using ALM software, PPM Center can be integrated with Universal CMDB to provide service portfolio functionality, as described in Chapter 9, *Integrating PPM Center with HP Universal CMDB for Service Portfolio*, on page 269.

Overview of ITIL Change Management

ITIL defines a *change* as the addition, modification, or removal of an approved, supported, or baselined hardware component, network, software, application, environment, system, or desktop build, or associated documentation. The primary goal of the ITIL Change Management process is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes, in order to minimize the impact of change-related incidents upon service quality. Although changes often arise as a result of unexpected problems, most changes result from planned requests for change (RFCs) from the business or IT organization.

ALM software allows users to submit RFCs along a predefined Request for Change process toward resolution. ALM portlets can be added to a user's PPM Dashboard to monitor key performance indicators (KPIs) related to the submitted RFCs. Additionally, reports can be run to obtain summaries and scheduling details. Chapter 3, *Using ALM Entities*, on page 31 discusses the PPM Center entities that ALM provides for use in the ITIL Change Management process, including the following:

- Change Management request type, named ALM Request for Change (RFC)
- Associated Change Management workflow, named ALM Request For Change
- Associated Change Management portlets
- Associated Change Management reports

These ALM entities simplify each of the supported integrations with PPM Center, as introduced in *Optional PPM Center Integrations* on page 17.

Change Management Roles

The following roles play an active part in the ITIL Change Management process:

- System Owner
- Change Manager
- CAB group (Change Advisory Board) or CAB/EC group (Change Advisory Board Emergency Committee)
 - Change Manager
 - Customer(s)
 - o Applications Development Manager
 - o QA Manager
 - Operations Manager (or maintainers where appropriate)
- Change Builder
- Independent Tester
- Applications Development Manager

In addition to being valuable divisions of responsibility, these roles are used to designate user security for the default ALM - Request For Change workflow (see *ALM - Request For Change Workflow* on page 41).

Overview of ITIL Release Management

ITIL defines a *release* as a collection of new and/or changed components that are tested and introduced into the live (production) environment together. The ITIL Release Management process helps to design and implement efficient procedures for the distribution and installation of changes. This process includes coordinating build and testing activities to help ensure that only the authorized and tested versions of changes are implemented in production. Ultimately, releasing a change requires the following actions:

- Developing the change
- Designing the change
- Testing the change for functionality, quality, and performance
- Pushing the change into production

ALM software makes it easier for users to collect information for a release using a release form, which is submitted along a predefined release management process (see *ALM* - *Release Request Workflow* on page 74). After the initial release process steps have been completed, the release is created and the RFCs that are being processed along the ALM - Request For Change workflow (see *ALM* - *Request For Change Workflow* on page 41) can be added to the release in preparation for its deployment to the test and live environments. The release management process then moves through testing and deployment steps toward completion. ALM portlets can be added to a user's PPM Dashboard to monitor the status of releases. Additionally, reports can be run to obtain release summaries and scheduling details.

Chapter 3, *Using ALM Entities*, on page 31 discusses the PPM Center entities that ALM provides for use in the ITIL Release Management process, including the following:

- Release Management request type, named ALM Release Management
- Associated Release Management workflow, named ALM Release Request
- Associated Release Management portlets
- Associated Release Management reports

Release Management Roles

The following roles play an active part in the ITIL Release Management process:

- Release Manager
- Test Manager
- Applications Development Manager
- Operations Manager
- Change Manager
- CAB group (Change Advisory Board)

In addition to being valuable divisions of responsibility, these roles are used to designate user security for the default ALM - Release Request workflow (see *ALM - Release Request Workflow* on page 74).

Optional PPM Center Integrations

As described in the following sections, PPM Center version 9.10 can be integrated with various HP products to enhance the functionality of PPM Center and those products.

Product documentation for PPM Center and the products with which it integrates is available at the following Web site:

h20230.www2.hp.com/selfsolve/manuals

Integration of PPM Center Requests with Service Manager Changes, Using ALM

Integrating PPM Center with the Service Manager service desk application using ALM software provides the following benefits:

- Changes that originate in Service Manager can be automatically imported into PPM Center as requests that PPM Center manages.
- Changes in Service Manager can be automatically updated, based on revisions to requests in PPM Center.
- PPM Center acts as a single, comprehensive repository of application change requests collected throughout IT, including change records (tickets) from Service Manager.

The ALM software provides configurable adapter files that serve as the software interface between PPM Center and Service Manager. An adapter file includes filters and field mappings to convert changes from one data model to the other.

This guide assumes that Service Manager has been installed and is available for integration.

For detailed information about configuring and using integration of PPM Center with Service Manager, including details about configuring parameters in the server.conf file, see Chapter 4, *Integrating PPM Center Requests with HP Service Manager Changes, Using ALM*, on page 91.



Any request type you use for Service Manager must include the fields in the **Service Desk System Info** section of the ALM - Request for Change (RFC) request type, as shown in *Table 3-2* on page 35, and those fields must be completed. For detailed request type field specifications, see the ALM - Request for Change (RFC) request type in the PPM Workbench.

Using Integration of PPM Center with Quality Center To Enhance Integration of PPM Center with Service Manager

Functionality of integration of PPM Center with Service Manager is enhanced if PPM Center and Quality Center are also integrated—in both Service Manager and PPM Center, you can see the Quality Center statuses for an RFC.



For general information about the benefits of integrating PPM Center and Quality Center whether or not PPM Center and Service Manager are integrated, see *Integration of PPM Center with Quality Center, Using ALM* on page 20.

See ALM - Request for Change (RFC) Request Type on page 32 for descriptions of the ALM - Request for Change (RFC) request type fields that are related to integration of PPM Center with Quality Center.

Integration of PPM Center with Universal CMDB for Impact Analysis of Requests, Using ALM

Integrating PPM Center with Universal CMDB using ALM software provides the following benefits:

- The Change Advisory Board can use the integration to run an impact analysis in Universal CMDB and forecast the effects that each change request will have on the organization's IT environment.
- The resulting report provides the Change Advisory Board with an indication of how the organization's system will cope with each change if the change is later developed and deployed, and thus assists the Change Advisory Board in deciding whether to approve certain changes for development.
- Your system infrastructure, such as servers or applications, might get modified while the software change is being developed and evaluated for quality. As a result, the original impact analysis for the change might not be valid. After the change has been evaluated and approved for deployment, you can perform another impact analysis.

This guide assumes that Universal CMDB has been installed and is available for integration.

For detailed information about configuring and using integration of PPM Center with Universal CMDB for impact analysis of requests, including details about configuring parameters in the server.conf file, see Chapter 5, *Integrating PPM Center with HP Universal CMDB, Using ALM*, on page 137.

Integration of PPM Center with Quality Center, Using ALM

Integrating PPM Center with Quality Center using ALM software allows you to incorporate the quality assurance (QA) process into the change request development process, providing the following benefits:

- Integration and enforcement of QA testing into the change process. The process can be initiated when the development process begins, and QA planning activities can proceed in parallel with development. The QA teams can then spend more time testing changes after development has been completed.
- Management and tracking of test requirements, plans, and results in Quality Center version 10.00, with visibility in PPM Center,.
- Data sharing between PPM Center and Quality Center.
- Automatic activation of Quality Center processes by PPM Center. Creating a request in PPM Center can create a requirement or defect in Quality Center.
- Automatic creation of a request in PPM Center when a defect is created in Quality Center version 11.00.
- Automatic ongoing synchronization of defects and requirements in Quality Center with requests in PPM Center, as well as *hierarchical* synchronization of requirements in Quality Center with requests in PPM Center.

This guide assumes that Quality Center has been installed and is available for integration.

For detailed information about configuring and using integration of PPM Center with Quality Center, see Chapter 6, *Integrating PPM Center with HP Quality Center, Using ALM*, on page 149. Configuration procedures are different for integration with Quality Center version 10.00 and version 11.00, and the chapter describes integration with each of those versions.

Integration of PPM Center with Release Control, Using ALM

Integrating PPM Center with Release Control using ALM software allows you to assist IT managers and the Change Advisory Board in providing the following benefits:

- Assessing the business impact of changes that have been developed and tested, and deciding whether to approve the changes for deployment
- Providing information about the components in the organization's IT environment that will be impacted by the developed changes
- Proactively sending notifications of the business risk involved in each change
- Identifying potential conflicts among concurrently scheduled changes
- Improving visibility over the change deployment process

During the impact analysis phase of the Request for Change lifecycle, if PPM Center is integrated with both Release Control and Universal CMDB, the Launch HP Release Control button appears on the request. When launched, Release Control provides additional impact analysis that helps users assess and approve changes.

For each change request, the ALM - Releases portlet provides a link to log in to Release Control, where various tabs contain information about the change requests.

This guide assumes that Release Control has been installed and is available for integration.

For detailed information about configuring and using integration of PPM Center with Release Control, including details about configuring parameters in the server.conf file, see Chapter 7, *Integrating PPM Center with HP Release Control, Using ALM*, on page 245.

Integration of PPM Center Project Tasks with Service Manager RFCs



This integration does not use the ALM entities and does not require installing the ALM software.

You can integrate PPM Center project tasks with Service Manager requests for change (RFCs) to allow PPM Center project managers to specify which tasks in a project, if any, automatically create corresponding RFCs in Service Manager. As the RFCs are completed in Service Manager, the statuses of the associated PPM Center tasks are automatically set to Complete (or Cancelled).

For more information about the integration of PPM Center tasks with Service Manager RFCs, see Chapter 8, *Integrating PPM Center Tasks with HP Service Manager RFCs*, on page 251.

Integration of PPM Center with Universal CMDB for Service Portfolio



This integration does not use the ALM entities and does not require installing the ALM software.

You can integrate PPM Center with Universal CMDB for service portfolio functionality—the tracking of labor costs categorized by service. In a PPM Center request, users can select (and may be required to select) a service from a list of services related to IT initiatives. The services can be as specified in ITIL definitions. With this integration, the service list is retrieved from Universal CMDB when needed.

For more information about retrieving service lists in this way, see Chapter 9, *Integrating PPM Center with HP Universal CMDB for Service Portfolio*, on page 269.



Service lists can also be managed in PPM Center for use in requests and project tasks. For more information, see the *HP Demand Management User's Guide* regarding requests and the *HP Project Management User's Guide* regarding tasks.

2 Installing and Setting Up ALM Software

Overview of Installation and Configuration

Installing and setting up ALM software includes the following procedures, as described in this chapter:

- Installing the ALM software
- Configuring particular ALM-related entities in PPM Center
- Restarting the PPM Server

Configuration activities that are unique to the integrations with HP Service Manager, HP Quality Center, HP Release Control, and HP Universal CMDB are described in their respective chapters.

System Requirements

To use ALM, you must install ALM version 9.10 in either of the following cases:

- You used ALM version 2.00 entities with PPM Center version 8.00, and PPM Center was then upgraded to version 9.10.
- PPM Center is at version 9.10 and ALM has not been previously installed.

To use the request types and workflows provided by ALM, verify that you have user licenses for PPM Center Demand Management. For information about permissions, configuration, and security, see the *HP Demand Management Configuration Guide* and the *Security Model Guide and Reference*.

Installing HP Application Lifecycle Management

Install HP Application Lifecycle Management (ALM) as described in the following sections.

General Preparations for Installation

To prepare for installation:

- 1. Obtain the ALM software.
- 2. Log on to the PPM Server.
- 3. Confirm that the system requirements have been met. See *System Requirements* on page 23.
- Save the ALM installation file (ppm-910-ALM.jar) to the <PPM_Home> directory. <PPM_Home> represents the path where the PPM Center instance is installed. For example: xyzserver/E/PPMServer.



You do not need to unpack the installation file. The installation process automatically unpacks it.

Perform Backup and Restart the PPM Server in Restricted Mode

The steps in this section are recommended but not required.



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

Before installation, do the following:

- 1. Back up the database and file system for the PPM Server.
- 2. Stop the PPM Server and restart it in restricted mode, as follows:
 - a. Stop the PPM Server.

- b. Run the following script:
 - sh ./setServerMode.sh RESTRICTED
- c. Start the PPM Server.

Run the Installation Script

To run the installation script to install the ALM software:

- 1. Navigate to the <*PPM_Home*>/bin directory.
- 2. Run the following script:

sh ./kDeploy.sh -i ALM

3. As kDeploy. sh runs, respond to its prompts.

When the installation completes successfully, the following message is displayed:

Deployment ALM has been successfully installed.

The following sections in this chapter describe initial configuration of ALM.

Configuring ALM-Related Entities in PPM Center

After installing ALM software, perform the procedures described in the following sections.

Creating Contact User Data

To use the ALM - Request for Change (RFC) request type, you must create a global user data field of type **Contact User Data**, whether or not you will be establishing any of the integrations of PPM Center with other applications. When you select a contact in the RFC, the value in the contact's **USER_DATA1** field populates the **Contact Location** field in the RFC. *Table 2-1* describes the important parameters for this field. *Figure 2-1* shows the User Data Context window.

In the PPM Workbench, select **Configuration > User Data** and select **Contact User Data** to access the User Data Context window. For more information about creating user data, see the *HP Demand Management Configuration Guide*.

Field Name	Value
Prompt	Location:
Token	LOCATION
User Data Column	USER_DATA1
Displayed	Υ
Component Type	Text Field
Validation	(any text field of reasonable length)

Table 2-1. Contact user data field parameters

Figure 2-1. Contact user data field

🕼 User Data Context : Contact User Data 📃 🗌 🔀									
Jser Data Type: Contact User Data									
Context Field:	Context Field: Context Value:								
Enabled: 💿 Yes	🚫 No		Sco	pe: Global					
Meta Layer View:									
Fields Layout									
Prompt Token	User Data Col.	Displayed	Component Type	Validation	Requi	Display Only			
Location: LOCATI	USER_DATA1	Y	Text Field	Text Field - 40	N	N			
<						>			
	New Edit Remove								
				0	K Sav	e Cancel			
Ready									

Configuring the CRT - Priority - Enabled Validation

To use the ALM - Request for Change (RFC) request type, you must add the values listed in *Table 2-2* to the **CRT - Priority - Enabled** validation, whether or not you will be establishing any of the integrations of PPM Center with other applications. These priority values are used as default values and in rules. The rules determine priority from values specified in the **Impact** and **Severity** fields in the RFC. *Figure 2-2* shows the Validation window.

In the PPM Workbench, select **Configuration > Validations** and select **CRT - Priority - Enabled** to access the Validation window. For more information about modifying validations, see the *Commands, Tokens, and Validations Guide and Reference*.

Code	Meaning		
MEDIUM	Medium		
IMMEDIATE	Immediate		
PLANNING	Planning		

Table 2-2. Values to add to CRT - Priority - Enabled validation

Figure 2-2. CRT - Priority - Enabled validation

🕼 Validation : C	RT - Priority - Enabled								
Name: CRT - Priority - Enabled Reference Code: _CRT_PRI					ED				
Description:	Description: CRT - Priority - Enabled								
Enabled:	Enabled: 🗸 Use in Workflow? 🗸								
Component Type:	Drop Down List				×				
Valida	ted By: List								
Validation Values	1								
Seq	Code	Meaning	Description	Enabled	Default				
	1 LOW	Low	Low	Y	N				
	2 NORMAL	Normal	Normal	Y	N				
	3 HIGH	High	High	Y	N				
	4 CRITICAL	Critical	Critical	Y	N				
	5 MEDIUM	Medium	Medium	Y	N				
	6 IMMEDIATE	Immediate	Immediate	Y	N				
	7 PLANNING	Planning	Planning	Y	N				
	New Edit Delete Copy From								
Used By	Used By Ownership OK Save Cancel								
Ready									

Assigning Users to ALM Security Groups

ALM provides the following security groups:

- ALM Application Developer
- ALM Applications Development Manager
- ALM CAB group (Change Advisory Board)
- ALM Change Builder
- ALM Change Manager
- ALM Customer
- ALM IT Executive Board
- ALM Independent Tester
- ALM Operations Manager
- ALM QA Manager
- ALM Release Manager
- ALM SOX System Owner

Users must belong to an appropriate security group to be able to see particular portlets. Add users to these security groups, whether or not you will be establishing any of the integrations of PPM Center with other applications. In the PPM Workbench, select **Sys Admin > Users**, open a user, and click the **Security Groups** tab. For more information about security groups, see the *Security Model Guide and Reference*.

Assigning Security Groups to ALM Workflows

ALM provides several workflows. The major ones are described in detail in this document. Assign security groups to each workflow step in the manner that best meets your business needs, whether or not you will be establishing any of the integrations of PPM Center with other applications. In the PPM Workbench, select **Configuration > Workflows**, open a workflow, and edit it. For more information about configuring security groups in workflows, see the *HP Demand Management Configuration Guide*.

Restarting the PPM Server in Normal Mode



For more information about the steps in this procedure, see the *Installation and Administration Guide*.

After you have completed all installation and configuration procedures, if you previously restarted the PPM Server in restricted mode, stop and restart the PPM Server in normal mode as follows:

- 1. Stop the PPM Server.
- 2. Run the following script:
 - sh ./setServerMode.sh NORMAL
- 3. Start the PPM Server.

For More Information

ALM provides request types, workflows, portlets, and reports that can be configured to fit your business needs. For detailed information, see Chapter 3, *Using ALM Entities,* on page 31.

You can use the ALM entities whether or not you establish any of the supported integrations of PPM Center with other applications. You can configure those integrations at any time after you have installed and configured ALM as described in this chapter. For more information, see *Optional PPM Center Integrations* on page 17 and the integration-related chapters to which that section refers.

3 Using ALM Entities

Overview of ALM Entities

This chapter describes the request types, workflows, portlets, reports, and special commands (the "entities") provided in ALM to facilitate implementation of ITIL processes. Some of these entities are used by the integrations with other HP products.

The ALM entities provided for change management are described first, then the entities for release management are described, and then the special commands.

Several ALM entities that are used only for integrations of PPM Center with HP Quality Center are described in Chapter 6, *Integrating PPM Center with HP Quality Center, Using ALM*, on page 149.

For More Information

The request types, workflows, portlets, reports, and special commands provided with ALM can be configured to fit your business needs. *Table 3-1* lists the types of entities and the associated PPM Center guides to which you should refer for configuration information.

Entity	Configuration Guide
Request type	HP Demand Management Configuration Guide
Workflow	HP Demand Management Configuration Guide
Portlet	Creating Portlets and Modules
Report	Reports Guide and Reference
Special command	Commands, Tokens, and Validations Guide and Reference

Table 3-1. PPM Center entities and associated configuration guides

ALM - Request for Change (RFC) Request Type

In its implementation of the ITIL Change Management process, ALM uses the ALM - Request for Change (RFC) request type and sends an RFC request along the ALM - Request For Change workflow (see *ALM - Request For Change Workflow* on page 41).

Figure 3-1 and *Figure 3-2* show the top and bottom of the Create New ALM - Request for Change (RFC) page that appears when you create a request and select the ALM - Request for Change (RFC) request type. *Table 3-2* on page 35 describes the fields in the ALM - Request for Change (RFC) request, including some fields that do not appear until the request is created or until other conditions are met.

Figure 3-1. Top of ALM - Request for Change (RFC) request

orouto mon men mot	(accertor change (ra c)					
Expand All Collapse All					Submit	Cancel
🔳 Header						
RFC Summary						
		Created By:	Admin User			
RFC Status:	Logged	Contact Name:		Contact Phone:		
REC Priority:		Contact Email:		Contact Locatio	.n.	
REC Summany				0011101 200010		
ki e summary.						
Expected Start Date:	Ľ	Expected Finish Date:	¥			
Assigned Developer:		Release ID:	III			
Details						
RFC Details						
IPEC Sources		tilraopour		timpact		
		orgeney.		111pact.		
*Reason For Change:	¥	Category:	×	RFC Type:		*
		Service:	~			
🔳 Change Item:						
*Effect of no change:				~		
				~		
RFC Description:				~		
				*		
SOX Information						
*System:	10 SO	X - In Scone System:		SOX Risk:	Low	~
				00/11/01	2011	
Implementation Deta	ils					
Actual Start Date:		2	Actual Finish Date	e:		2
Actual Duration:			Actual Effort:			
Assigned Change Builder		I	Actual Cost:			
Reagned Change builder:	L		Actuar Cost:			
Functional Specifications:	(no document attache	ed) Add	Design Specifica	ations:	(no document attache	:d) Add
Impact & Resource As	ssessment	D				
	and the			~- ~ ~ ~ ~	· ````\~_	

Create New ALM - Request for Change (RFC)

Impact & Resource Assessme	· · · · - ¬	~ ~ ~ · ·	· L Z Z L Z	
- Impact & Resource Assessmen	n.			
Impact Severity		~	Impact Analysis Report	(no document attached) Add
Impact Assessment Summary:			Impact Assessment Report:	(no document attached) Add
Expected Duration:			Expected Effort:	
Expected Cost:			Backout Plan:	(no document attached) Add
CAB Recommendations:				
Users Impacted:				
Impacted Configuration Items				
Select Configuration Items				
Impacted Configuration Items	View Name	View Type	View Tree Name	View TOL Name
QA Details	c Analysis	Launch HP. Kelease Control		
Assigned Tester:			Test Plan:	(no document attached) Add
Detailed Test Results (SOX):	(no document attac	ched)	Add	
Quality Center Info				
Quality Center Instance:		II	Quality Center Domain:	
Quality Center Project:		II	Quality Center Assigned To User:	II
Quality Center Requirement No.:			Quality Center Status:	
Quality Center Message:	(No Link)			
	(NO EINK)			
Service Desk System Info				
System Name:	Ti	cket ld:	Ticket Creation	Date:
Review Summer		cket Priority:	noket Last opt	Jare:
Review Summary				
Review Date:	2	Review Summary:		
Notes				
Notes to be added on save:				
References				
				Submit Cancel

Figure 3-2. Bottom of ALM - Request for Change (RFC) request

Field Name (*Required)	Description			
RFC Summary section				
RFC ID	(Read-only. Added after the RFC is created.) Number of the RFC, linked to the RFC.			
Created By	(Read-only) User who created the RFC.			
Created On	(Read-only. Added after the RFC is created.) Date the RFC was created.			
RFC Status	(Read-only) Status of the RFC.			
Contact Name	Name of the person proposing the change.			
Contact Phone	(Read-only) Telephone number of the person proposing the change.			
RFC Priority	(Read-only) Priority of the change request. Determined by a combination of the Urgency and Impact fields.			
Contact Email	(Read-only) Email address of the RFC contact person.			
Contact Location	(Read-only) Location of the person proposing the change.			
RFC Summary	Summary description of the RFC request.			
Expected Start Date	Expected start date for work on the RFC.			
Expected Finish Date	Expected end date for work on the RFC.			
Assigned Developer	Developer assigned to work on the RFC.			
Release ID	Number of the release if the change was released.			
RFC Details section				
*RFC Source	Source of the RFC request (for example, from a problem or incident).			
*Urgency	Urgency of the change request (for example, from problem urgency).			
*Impact	Business impact of doing or not doing the change (for example, from problem impact).			

Table 3-2. ALM - Request for Change (RFC) request fields (page 1 of 5)

Field Name (*Required)	Description		
*Reason For Change	Reason for the change.		
Category (Required only after the request is created)	Category of the change, based on the scope of the change.		
RFC Type	Type of change being requested.		
Service	IT service that needs the change.		
Change Item	 (Looks like a separate section in the interface) Expand to display a table of change items. If the RFC has been created, click the Modify Table button to add a change item. The table consolidates existing change items (CIs), each having an automatically assigned sequence number (Seq), a CI Type (Software, Hardware, or Network), a CI Name, and a CI Description. Note: These CIs are not the same as the configuration items (CIs) that are retrieved when integration with HP Universal CMDB is established. 		
*Effect of no change	Effect of not implementing the change.		
RFC Description	Description of the change request.		
Authorized By	(Added after the RFC is created and assigned to a developer) Person who authorized the change.		
Authorization Date	(Added after the RFC is created and assigned to a developer) Date the developer was assigned.		
SOX Information section			

Table 3-2, AIM -	Request for C	hanae (RFC) r	equest fields	(page 2 of 5)
	Request for C		cquesi neius i	(page z or J)

*System	System that is impacted by the change.				
SOX - In Scope System	(Read-only) SOX requirement: SOX oversight is required for any application that directly or indirectly affects financial reporting.				
	This field is automatically populated with a value of Yes or No before the RFC is created, based on the option chosen for the System field.				
Field Name (*Required)	Description				
------------------------------	--	--	--	--	--
	SOX requirement: Risk is determined as part of SOX oversight.				
	Note: A change to a non-SOX system could be high-risk based on possible infrastructure/network impact.				
Custom Ourser	(Read-only. Added after the RFC is created.) Owner of the system.				
System Owner	This field is automatically populated, based on the option chosen for the System field.				
Implementation Details	section				
Actual Start Date	Actual start date for creation of the change.				
Actual Finish Date	Actual finish date for creation of the change.				
Actual Duration	Actual duration for creation of the change.				
Actual Effort	Actual effort expended during creation of the change.				
Assigned Change Builder	Details of the change builder/implementer.				
Actual Cost	Actual cost of the change.				
Functional Specifications	Allows you to add and view the functional specification document directly on the RFC.				
Design Specifications	Allows you to add and view the design specification document directly on the RFC.				
Impact & Resource Asse	essment section				
Impact Severity	Specify after evaluating the Impact Analysis Report. This field becomes required by the ALM - Impact & Resource Assessment Sub WF subworkflow after CIs are selected in the Impacted Configuration Items section.				
Impact Analysis Report	Allows you to add and view an Impact Analysis Report generated by Universal CMDB directly on the request.				

Table 3-2. ALM - Request for Change (RFC) request fields (page 3 of 5)

Field Name (*Required)	Description			
Impact Assessment Summary	Risk assessment of the impact of the change on related components in the configuration management database (CMDB).			
Impact Assessment Report	Allows you to add and view a manually generated impact assessment report based on the Impact Analysis Report directly on the RFC.			
Expected Duration	Expected duration for creation of the change.			
Expected Effort	Expected effort for creation of the change.			
Expected Cost	Expected cost of the change.			
Backout Plan	Allows you to add and view the backout plan document directly on the RFC.			
CAB Recommendations	CAB recommendations, where appropriate.			
Users Impacted	Users expected to be impacted by the change.			
Impacted Configuration	Items section ^a			
Select Configuration Items button	Button to launch the Configuration Items (CIs) selector applet provided by Universal CMDB.			
Impacted Configuration Items list	List of CIs added to the request, both manually and by using the CI selector applet from Universal CMDB.			
QA Details section				
Assigned Tester	Person assigned to test the change.			
Test Plan	Allows you to add and view the test plan directly on the RFC.			
Detailed Test Results (SOX)	Allows you to add and view the detailed test results directly on the RFC.			
Quality Center Info section	on ^b			
Quality Center Instance	URL of the Quality Center instance with the project used for the integration.			
Quality Center Domain	Domain of the project in Quality Center.			

Table 3-2. ALM - Rec	uest for Change	(RFC) request field	s (page 4 of 5)
		\ /	N ./ /

Field Name (*Required)	Description
Quality Center Project	Quality Center project that is integrated with this request type.
Quality Center Assigned To User	Obsolete field that is not used by ALM. Do not use.
Quality Center Requirement No.	(Read-only) Requirement number in Quality Center.
Quality Center Status	(Read-only) Status of the requirement in Quality Center.
Quality Center Message	(Read-only) Quality Center status message indicating success or error in the most recent operation.
Quality Center Attachments	(Read-only) URL of the list of attachments to the Quality Center requirement.

Table 3-2. ALM - Rec	uest for Change	(RFC) reques	st fields (p	age 5 of 5	1
		\ /	N	J /	

Service Desk System Info section c

System Name	(Read-only) Name of the service desk application— Service Manager.
Ticket Id	(Read-only) Ticket ID in Service Manager.
Ticket Creation Date	(Read-only) Ticket creation date in Service Manager.
Ticket Info	(Read-only) Ticket info from Service Manager.
Ticket Priority	(Read-only) Ticket priority in Service Manager.
Ticket Last Update	(Read-only) Date the ticket was last updated in Service Manager.

Review Summary section

Review Date	Review date for the change.
Review Summary	Summary of the review for the change.

a. The Impacted Configuration Items section is visible only if the Universal CMDB Impact Analysis field group is enabled in the request type. Data is presented for the Impacted Configuration Items list in this section only if PPM Center is integrated with Universal CMDB.

- b. Fields in the Quality Center Info section remain visible by default but are not used if PPM Center is not integrated with Quality Center.
- c. Fields in the Service Desk System Info section remain visible by default but are not used if PPM Center is not integrated with Service Manager. However, when this request type (or any other request type) is used for Service Manager, these fields are required.

The administrator can remove the **Impacted Configuration Items** section or the **Quality Center Info** section from the request type by removing the Universal CMDB Impact Analysis field group or the Quality Center Info field group, respectively, from the ALM - Request for Change (RFC) Header request header type.

See the *HP Demand Management Configuration Guide* for details about request header types and field groups.

To submit an ALM - Request for Change (RFC) request:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Create > Request**.

The Create New Request page appears.

3. On the Create New Request page, in the **Request Type** field, select **ALM - Request for Change (RFC)** and click **Create.**

The Create New ALM - Request for Change (RFC) page appears, displaying the appropriate RFC fields.

Required fields have a red asterisk. All other fields are optional, but are often helpful when others are reviewing an open request. For information concerning a specific field, click the **Help** icon next to the field (if available).

4. Complete the fields in all sections as appropriate.

The **Notes** section contains fields where notes and information concerning the RFC can be entered and stored. Typically, when you create an RFC, you do not need to add a note to it. However, add a note if you want to convey additional information to the reviewers and processors of the RFC.

In the **References** section of the RFC, you can add useful references such as a Web-accessible file or a document or file attached from a local machine. Additionally, other entities such as packages, releases, or other related requests may be automatically referenced based on the workflow steps that have been executed. For more information about adding references, see the *HP Demand Management User's Guide*. 5. On the Create New Request page, click Submit.

The RFC is submitted. The Request Creation Confirmed page appears.



PPM Center can be configured to allow you to save the request before you submit it. To have this feature enabled, see your application administrator.

After submitting the request, on the Request Creation Confirmed page you can click the link for the particular request number in the **Request #** field to view the detail page of the newly generated RFC.

When the RFC is submitted, it is assigned an initial status, such as New. The RFC is then routed along the ALM - Request For Change workflow (see *ALM - Request For Change Workflow*).

ALM - Request For Change Workflow

The ALM - Request For Change workflow is the sequence of approvals, decisions, or actions by which the RFC is processed. The RFC starts at the beginning of the workflow. When the RFC reaches the end of the workflow, its lifecycle is complete.

Upon creation, an ALM - Request For Change (RFC) request is automatically set to use the ALM - Request For Change workflow.

Figure 3-3 shows the workflow. *Table 3-3* lists the important steps in the workflow and the user roles associated with those steps.





Step	User Security	Description
1. Filter Request ALM - Change Manager		Perform initial review and classification of the change request, and determine if this RFC is acceptable based on company policy.
4. SOX - In Scope System?	Fully automated step	SOX requires identification of key systems related to accurate financial reporting, directly or indirectly. This field is automatically determined based on the system selected.
3. SOX - Impact Assessment	ALM - SOX - System Owner	SOX requires additional impact assessment for any change that could affect financial reporting. The impact of not doing the change must be considered as well.
6. Allocate Priority	ALM - Change Manager	Validate RFC priority and determine if this is an Urgent Change request.
5. Urgent/ Emergency Changes	(None)	Call a subworkflow designed to handle urgent or emergency changes, described in <i>ALM - RFC - Urgent Change Management</i> <i>Sub WF Subworkflow</i> on page 47.
9. Change Review and Approval Sub WF	ALM - Change Manager	Call a subworkflow to manage the review and approval process for the RFC, described in <i>ALM</i> - <i>Change Review and</i> <i>Approval Sub WF Subworkflow</i> on page 48. (This subworkflow can, in turn, call the ALM - Impact & Resource Assessment Sub WF subworkflow.)
7. Authorize & Schedule Change	ALM - Change Manager	Authorize the change request and schedule change for implementation.
11. Application Change ?	ALM - Change Manager	Determine if this is an application change.

Table 3-3. ALM - Request For Change workflow steps (page 1 of 3)

Step	User Security	Description				
13. Infrastructure Changes Sub WF (None)		Call a subworkflow to handle non-application changes, described in <i>ALM - Infrastructure Changes Sub WF</i> <i>Subworkflow</i> on page 51.				
12. Detailed Design	ALM - Application Developer	Create functional and design specification documents.				
14. BuildALM -ApplicationApplicationChangeDeveloper		Build application code for the change.				
15. Create Package	ALM - Application Developer	Create a package with the code changes. This step automatically creates a package and adds the package as a reference to the RFC request. <i>Figure 3-4</i> on page 46 illustrates a typical RFC package.				
17. Plan Tests Sub WF	(None)	Call a subworkflow to manage the test planning process for the RFC, described in <i>ALM - Plan Tests Sub WF Subworkflow</i> on page 52.				
20. Build	ALM - Change Builder	Build the change, in preparation for implementation. For an application change, add code components to the referenced package in the PPM Workbench (see the Create Package step).				
21. Release Decision	ALM- Change Builder	Select the option to implement this application change as part of a release or independently.				
22. Deploy and Test Changes Sub WF	(None)	Call a subworkflow for deploying and testing changes, described in <i>ALM - Deploy and Test Changes Sub WF Subworkflow</i> on page 54.				
23. Non Release Sub WF	(None)	Call a subworkflow for change deployment not involving a release, described in <i>ALM - Non Release Sub WF Subworkflow</i> on page 56.				

Step	User Security	Description
24. Release Sub WF	(None)	Call a subworkflow for change deployment involving a release, described in <i>ALM - Release Sub WF Subworkflow</i> on page 58.
25. Change Working?	ALM - Change Manager	Review whether the change was successfully implemented with no adverse impact.
26. Implement Backout Plans	ALM - Operations Manager	If the change is not working, implement backout plans to back out the change from the LIVE environment.
27. Requestor Sign-Off	ALM - Change Manager	Get sign-off from the requestor of the change to acknowledge that the change was implemented.
28. Post Implementation Review	ALM - Change Manager	Review the change after implementation to determine whether the change process was followed correctly.
29. Close (Immediate Success) - 100%	(None)	Update status to Closed.

Table 3-3. ALM - Request For Change workflow steps (page 3 of 3)

Step 15 in the ALM - Request for Change workflow creates a package to deploy and test changes, and the step adds the package as a reference to the RFC request. This package requires specifying a workflow, and the default is the ALM - Change Migration workflow, as shown in the example in *Figure 3-4*. Step 22 in the ALM - Request for Change workflow calls the ALM - Deploy and Test Changes Sub WF subworkflow to deploy and test the package.

Figure	3-4.	Packaae	created	for	ALM -	Rec	iuest	For	Chanae	workflow
J		J							J	

🕼 Packag	e: 30003								
Package	Information-								
Pac	ckage No.: 30	003		Package Group:			Created By:	Admin User	
D	escription: Ch	nange the co	ontractor pass	words in the Ll	VE system.		Created On:	May 29, 2009	10
	Workflow: AL	.M - Change	Migration				Package Status:	In Progress	
Assig	gned User: Ad	imin User	*	Priority:	Low	*	Parent:		
Assign	ned Group:		I	Package Type:	Customization	*	Priority Seq:	50	
Percent	Complete: 0								
Package Li	nes Status	🗉 Notes 🗎 🗉	References	User Data					
Seq	Object Nam	ne	Object Type	Mig	1 ration Decision		Receive Approva	2 al for Migration to TEST	
1 p	opm.txt	File C	lient->Client	Eligible					
				<	ш				>
Refrest	n Select			ew> Line	Exec Log (Latest)	~		Pending Save	
Submit								OK Save	Cancel
Ready									

ALM - RFC - Urgent Change Management Sub WF Subworkflow

ALM provides an "Urgent Change" process. If a change is categorized as **Urgent**, the RFC is routed along the Urgent Change process. The ALM - RFC - Urgent Change Management Sub WF subworkflow is designed to efficiently handle impact assessment, prioritization, and creation of the change. *Figure 3-5* shows the subworkflow.





ALM - Change Review and Approval Sub WF Subworkflow

The ALM - Change Review and Approval Sub WF subworkflow provides a modular review and approval process for the RFC. *Figure 3-6* shows the subworkflow. *Table 3-4* lists the important steps in the subworkflow and the user roles associated with those steps.



Figure 3-6. ALM - Change Review and Approval Sub WF subworkflow

Step	User Security	Description
1. Categorize Change	ALM - Change Manager	Categorize the change to determine the next step in the workflow.
2. Create Project Proposal	ALM - CAB group (Change Advisory Board)	If the change is classified as "Major," create a project proposal that includes impact.
3. IT Executive Board	ALM - IT Executive Board	If the change is classified as "Major," an IT Executive Board is responsible for approving the change.
4. Impact & Resource Assessment Sub WF	(None)	If the change is classified as "Significant," call a subworkflow to determine the impact on dependent infrastructure components and estimate the time and cost of resources, as described in <i>ALM</i> - <i>Impact & Resource</i> <i>Assessment Sub WF Subworkflow</i> on page 50.
5. CAB approval	ALM - CAB group (Change Advisory Board)	Iterative review by CAB members, resulting in an authorization go/no go decision (includes change priority, schedule, impact, and cost).
6. Standard Sub WF	(None)	Call a subworkflow to track standard changes.

Table 3-4. ALM - Change Review and Approval Sub WF subworkflow steps

ALM - Impact & Resource Assessment Sub WF Subworkflow

The ALM - Impact & Resource Assessment Sub WF subworkflow provides a modular process for assessing change impact and planning resource usage. *Figure 3-7* shows the ALM - Impact & Resource Assessment Sub WF subworkflow. *Table 3-5* lists the important steps in the subworkflow and the user roles associated with those steps.

Figure 3-7. ALM - Impact & Resource Assessment Sub WF subworkflow



Step	User Security	Description
1. Resource Assessment	ALM - Change Manager	User estimates time and cost of resources.
2. Select CIs	ALM - Change Manager	User manually selects an initial set of configuration items (CIs) for the change.
3. Impact Assessment	ALM - Change	User approves having Universal CMDB generate the Impact Analysis report, which adds CIs to the CI list based on predefined rules in Universal CMDB.
	Manager	User then evaluates the Impact Analysis report and creates an impact assessment report with recommendations.
4. Review Impact Analysis	ALM - Change Manager	User reviews the request, the list of selected CIs, and the Impact Analysis and impact assessment reports. The user can approve the change based on the impact reports, or return to the Select CIs step to select a different initial set of CIs.

Table 3-5. ALM - Impact & Resource Assessment Sub WF subworkflow steps

ALM - Infrastructure Changes Sub WF Subworkflow

If an authorized request for change is not an application change, the ALM - Request for Change workflow calls the ALM - Infrastructure Changes Sub WF subworkflow to manage the approval and deployment of changes to TEST and LIVE environments. *Figure 3-8* shows this subworkflow.





ALM - Plan Tests Sub WF Subworkflow

The ALM - Plan Tests Sub WF subworkflow provides a modular process for planning tests that can communicate automatically with Quality Center. If no integration exists, a manual process is also provided. *Figure 3-9* shows the subworkflow. *Table 3-6* lists the important steps in the subworkflow and the user roles associated with those steps.





Step Name	User Security	Description
1. Quality Process Mode	ALM - QA Manager	Determine the method of test planning, either automatic through Quality Center, or manual.
4. Quality Process Entry	ALM - QA Manager	The quality process entry needs to be approved for integration of PPM Center with Quality Center.
5. Generate Requirement in Quality Center	ALM - QA Manager	Automated step that generates a requirement in Quality Center.
7. Quality Center Requirements Setup	ALM - QA Manager	QA to complete requirement setup in Quality Center.
8. Quality Center Test Plan Setup	ALM - QA Manager	QA to complete test plan setup in Quality Center.
9. Quality Center Test Lab Setup	ALM - Independent Tester	QA to complete test lab setup in Quality Center.
2. QC Requirements	ALM - QA Manager	Create test requirements in Quality Center.
3. Create Tests	ALM - QA Manager	Create test plans in Quality Center.

Table 3-6. ALM - Plan	Tests Sub	WF subworkflow	steps
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ALM - Deploy and Test Changes Sub WF Subworkflow

The ALM - Deploy and Test Changes Sub WF subworkflow provides a modular process for deploying and testing changes. The process can communicate automatically with Quality Center. If no integration exists, a manual process is also provided. *Figure 3-10* shows the subworkflow. *Table 3-7* lists the important steps in the subworkflow and the user roles associated with those steps.



Figure 3-10. ALM - Deploy and Test Changes Sub WF subworkflow

12. Running Sanity Tests in Quality Center

Step Name	User Security	Description
1. Approve changes to TEST	ALM - Change Manager	Approve deployment of changes to the TEST environment.
2. Deploy Changes to TEST	ALM - Change Manager	Deploy changes to the TEST environment.
3. Quality Process Mode	ALM - QA Manager	Determine the method of testing, either automatic through Quality Center or manual.
5. Quality Center Test Execution	ALM - Independent Tester	Quality Center tests the changes in a TEST environment.
7. Evaluate Quality	ALM - QA Manager	After test execution (manual or using Quality Center), evaluate quality.
8. Impact & Resource Assessment Sub WF	(None)	Call a subworkflow to determine the impact of the changes that will be deployed, as described in <i>ALM - Impact & Resource</i> <i>Assessment Sub WF Subworkflow</i> on page 50.
9. Approve changes to LIVE	ALM - Change Manager	Approve deployment of changes to the LIVE environment.
10. Deploy Changes to LIVE	ALM - Change Manager	Deploy changes to the LIVE environment.
11. Quality Process Mode	ALM - QA Manager	Initiate sanity tests in Quality Center.
12. Running Sanity Tests in Quality Center	ALM - QA Manager	Run sanity tests in Quality Center.

Table 3-7. ALM - Deploy and Test Changes Sub WF subworkflow steps

ALM - Non Release Sub WF Subworkflow

The ALM - Non Release Sub WF subworkflow provides a modular process for change deployment that can communicate automatically with Quality Center. If no integration exists, a manual process is also provided. *Figure 3-11* shows the subworkflow. *Table 3-8* lists the important steps in the subworkflow and the user roles associated with those steps.



Figure 3-11. ALM - Non Release Sub WF subworkflow

14. Running Sanity Tests in Quality Center

Step Name	User Security	Description
1. Approve Deployment to TEST	ALM - Change Manager	Coordinate the change implementation to the test environment.
4. Quality Process Mode	ALM - QA Manager	Determine the quality process mode, either automatic through Quality Center or manual.
5. Run Tests	ALM - Independent Tester	If manual mode is chosen in the Quality Process Mode step, the changes need to be manually tested based on test plans.
6. Quality Center Test Execution	ALM - Independent Tester	If Quality Center mode is chosen in the Quality Process Mode step, once QA signals through Quality Center that Test execution is complete, this step moves the workflow ahead.
8. Evaluate Quality	ALM - QA Manager	Approve/reject the quality of the change deployed to the test environment.
9. Impact & Resource Assessment Sub WF	(None)	Call a subworkflow to determine the impact on dependent infrastructure components and estimate the time and cost of resources, as described in <i>ALM - Impact & Resource Assessment Sub WF Subworkflow</i> on page 50.
15. Rework Change	ALM - Applications Development Manager	If the quality of the change deployed to the test environment is rejected, the change must be fixed.
10. Approve Deployment to LIVE	ALM - Change Manager	Coordinate the change implementation to the production environment.
14. Running Sanity Tests in Quality Center	ALM - Independent Tester	Run sanity tests in Quality Center.

Tab	le	3-8.	ALM -	Non	Re	lease	Sub	WF	subwor	kflow	steps
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ALM - Release Sub WF Subworkflow

The ALM - Release Sub WF subworkflow is called in order to add a change into an existing release. The subworkflow can be called multiple times, once for each change to be added to the release. Once a release is specified as Completed, no new changes can be added to that release. *Figure 3-12* shows the subworkflow. (For information about creating a new release, see *ALM - Release Management Request Type* on page 68.)

Figure 3-12. ALM - Release Sub WF subworkflow



ALM - Defect Template with Quality Center Integration Request Type and Workflow

The ALM - Defect Template with Quality Center Integration request type and the associated ALM - Defect Template with Quality Center Integration workflow are the only ALM entities that can be used only when a particular integration (with Quality Center, in this case) is established. These ALM entities are described in Chapter 6, *Integrating PPM Center with HP Quality Center, Using ALM*, on page 149.

ALM - Change Migration Workflow

The ALM - Change Migration workflow is used to migrate changes from the DEV environment to the TEST environment and from the TEST environment to the LIVE environment. *Figure 3-13* shows the workflow. The ALM - Change Migration workflow is the default workflow used in step 15 of the ALM - Request For Change workflow to create a package. See *ALM - Request For Change Workflow* on page 41.



Figure 3-13. ALM - Change Migration workflow

Change Management Portlets to Display KPIs

ALM provides several portlets that can be added to your PPM Dashboard to provide real-time views into several key performance indicators (KPIs).

For information about adding portlets to your PPM Dashboard, see the *Getting Started* guide.

ALM - My RFCs Portlet

The ALM - My RFCs portlet is provided to users with the role of Change Manager. The portlet lists RFCs that have been created by or assigned to the logged-on user.

Table 3-9 describes the filter fields for the portlet.

Table 3-9. ALM - My RFCs portlet filter fields

Field Name	Description
Request Type	Request type to filter on
Category	Category of the RFC

Figure 3-14 shows an example ALM - My RFCs portlet.

Figure 3-14.	ALM - My	RFCs por	tlet
--------------	----------	----------	------

	N. DEC-					
ALM -	My RECs					
Preferenc	es: Request Type ALM - Request for Change (RFC)					
Request #∆	RFC Summary	Priority	Reported By		Category	Status
30642	Replace failing Cisco router	Medium	2008-03-29 14:23:11.0		Significant	In CAB Approval
30643	Create new order management pipeline report to support sales forecasting	Medium	2008-03-29 14:33:00.0		Significant	In CAB Approval
30645	Add list of values of new country codes	Low	2008-03-29 15:05:43.0		Minor	Build
30648	test	High	2008-03-29 15:57:43.0		Significant	Build
30649	Reset the consultant username and passwords.	High	2008-03-29 16:40:25.0		Major	Allocate Priority
30650	Reset the consultant username and passwords.	High	2008-03-29 16:43:46.0		Major	Allocate Priority
30651	Reset the consultant username and passwords.	High	2008-03-29 16:50:03.0		Major	Impact Assessment
30652	Reset the consultant username and passwords.	High	2008-03-29 17:01:51.0		Major	Authorized
30653	Reset the consultant username and passwords.	High	2008-03-29 17:22:56.0		Major	Authorized
30654	Reset the consultant username and passwords.	High	2008-03-29 17:32:30.0		Major	Build
				Showing 1 to 10 of 14	Prev Ne:	Rt <u>Maximize</u>

ALM - Open RFCs Portlet

The ALM - Open RFCs portlet is provided to users with the role of Change Manager. The portlet lists RFCs that are currently being worked on.

Table 3-10 describes the filter fields for the portlet.

Table 3-10. ALM - Open RFCs portlet filter fields

Field Name	Description
Request Type	Request type to filter on
Assigned To	User to whom the RFC is assigned
Category	Category of the RFC

Figure 3-15 shows an example ALM - Open RFCs portlet.

Figure 3-15. ALM - Open RFCs portlet

Preferenc	es: Request Type ALM - Request for Change (RFC)				
Request #∆	RFC Summary	Priority	Reported By	Category	Status
30642	Replace failing Cisco router	Medium	2008-03-29 14:23:11.0	Significant	In CAB Approval
30643	Create new order management pipeline report to support sales forecasting	Medium	2008-03-29 14:33:00.0	Significant	In CAB Approval
30645	Add list of values of new country codes	Low	2008-03-29 15:05:43.0	Minor	Build
30648	test	High	2008-03-29 15:57:43.0	Significant	Build
30649	Reset the consultant username and passwords.	High	2008-03-29 16:40:25.0	Major	Allocate Priority
30650	Reset the consultant username and passwords.	High	2008-03-29 16:43:46.0	Major	Allocate Priority
30651	Reset the consultant username and passwords.	High	2008-03-29 16:50:03.0	Major	Impact Assessme
30652	Reset the consultant username and passwords.	High	2008-03-29 17:01:51.0	Major	Authorized
30653	Reset the consultant username and passwords.	High	2008-03-29 17:22:56.0	Major	Authorized
30654	Reset the consultant username and passwords.	High	2008-03-29 17:32:30.0	Major	Build

ALM - RFCs By Category Portlet

The ALM - RFCs By Category portlet is provided to users with the role of Change Manager. The portlet displays a pie chart showing the percentage of RFCs in each category.

The only filter field for the portlet, **Request Type**, is the request type to filter on.

Figure 3-16 shows the ALM - RFCs By Category portlet.

Clicking the pie chart drills down to a list portlet.



Figure 3-16. ALM - RFCs By Category portlet

ALM - RFCs By Reason for Change Portlet

The ALM - RFCs By Reason for Change portlet is provided to users with the role of Change Manager. This portlet displays a pie chart showing the percentage of RFCs by each type of change being considered (for example, new feature, enhancement, or defect fix).

Table 3-11 describes the filter fields for the portlet.

Table 3-11. ALM - RFCs By Reason for Change portlet filter fields

Field Name	Description
Request Type	Request type to filter on
Status	Status of the RFC

Figure 3-17 shows an example ALM - RFCs By Reason for Change portlet.

Clicking the pie chart drills down to a list portlet.

Figure 3-17. ALM - RFCs By Reason for Change portlet



ALM - RFCs By Status Portlet

The ALM - RFCs By Status portlet displays a pie chart showing the percentage of RFCs of each status.

The only filter field for the portlet, **Request Type**, is the request type to filter on.

Figure 3-18 shows an example ALM - RFCs By Status portlet.

Clicking the pie chart drills down to the ALM - RFCs By Status - List portlet.

ALM - RFCs By Status Preferences: Request Type ALM - Request for Change (RFC) Total: 17 Status Name 12% Allocate Priority 18% Authorized 18% 35% Build 18% Closed - Successful 12% 6% Impact Assessment 35% 12% In CAB Approval 12% 6% 18%

Figure 3-18. ALM - RFCs By Status portlet

Change Management Reports

ALM provides several reports that can be run to provide summary data and scheduling information about RFCs in the system, as well as to process participant data for SOX auditing. To run an ALM report:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Open > Reports > Create Report.**
- 3. On the Submit New Report page, in the **Report Category** field, select **Demand Management.**
- 4. Click the link for the desired report, and complete all required and any optional filter fields.
- 5. Click Submit.

For more information about reports, see the Reports Guide and Reference.

ALM - Change Summary Report

The ALM - Change Summary Report provides a list of RFCs that have been implemented, grouped by change category.

Table 3-12 describes the filter fields for the report.

Table 3-12. ALM - Change Summary Report filter fields

Field Name	Description
Request Type	Request type to filter on
Change Status	Status of the change request
Change Priority	Priority of the change request
Time Period From	Earliest date the RFCs were created
Time Period To	Latest date the RFCs were created

Figure 3-19 shows sample output for the ALM - Change Summary Report.

Figure 3-19. ALM - Change Summary Report output

LIVI C	nange Summary	HP: Run by ALM Demo. On Jun 27, 2008 06:53:25 AM PDT Change Summary Report				
eport	Change Summary					
port Par itus: In Re ority: Imm ne Period F ne Period T	rameters for Report #31037 view, In CAB Approval, Allocate Priority, Authorized, Build ediate, High, Medium, Low rom: Apr 15, 2008 o: Jun 15, 2008					
tegory = Si	gnificant					
RFC#	RFC Summary	Priority	Requestor	Status		
33495	Update Order Entry Form with Ship From location	High	Sandra Miles	In Review		
33496	AP EOM Report/Form add invoice match number	Low	Steve Johnston	In CAB App		
33500	Fix BU LOV field	Immediate	Steve Johnston	Build		
33501	Change Pricing Rules	High	Steve Johnston	In CAB App		
33502	Add Sales Person bonus field.	Medium	Steve Johnston	Build		
33504	Modify Skills & Expertise profiles	Medium	Ben Brown	Allocate Pri		
33505	Link Champaign to Opportunity	High	Ben Brown	Build		
33506	Add Product Defect Tracking to Service Requests	High	Ben Brown	In CAB App		
33508	Add sub-geographic field to Contacts	Low	Ben Brown	Build		
33511	Modify EAI Adapter to pass information to customer port	al. Medium	Ben Brown	Build		
33684	P&L reports - RFC record	Medium	Sandra Miles	In Review		
tegory = M	inor					
RFC#	RFC Summary	Priority	Requestor	Status		
33558	Update of U9 SQL Scripts	Medium	Sandra Miles	In Review		
33604	Relace Network Card on Corporate Portal Server	Medium	Sandra Miles	Allocate Prior		
33605	Install Security Update to west division office router	Medium	Sandra Miles	Authorized		
33631	Install additional hard drive on E-mail Server	Low	Sandra Miles	Allocate Prior		
tegory = M	ajor					
RFC#	RFC Summary	Priority	Requestor	Status		
33635	Add Asset Mgmt to Service Module	High	Sandra Miles	In Review		

ALM - Forward Schedule of Changes for RFC Report

The ALM - Forward Schedule of Changes for RFC report is a key report used in the change management process. The output of this report is a list of all the RFCs that are scheduled to be implemented. Table 3-13 describes the filter fields for the report.

Field Name	Description
Report Title	Title of the report. Type any alphanumeric string (up to 200 characters in length)
Start FSC Period	Earliest start date of the scheduled RFCs
End FSC Period	Latest start date of the scheduled RFCs
Request Type	Request type to filter on

Table 3-13. ALM - Forward Schedule of Changes for RFC report filter fields

Figure 3-20 shows sample output for the ALM - Forward Schedule of Changes for RFC report.

Figure 3-20. ALM - Forward Schedule of Changes for RFC report output

SC)		Forward Sched	Forward Schedule of Changes for RFC requests					
port Pa rt FSC Pe	rameters for Report #31050 riod - 2008-04-15 00:00:00; End FS	C Period - 2008-1	06-30 00:00:00;					
ward Sche	dule of Changes							
RFC#	RFC Summary		Release ID	Expected Start Date	Expected Er Date			
33949	Fix the problem - "Bill Payment" service is slow		Oracle 11i R1.1	Jun-18-2008	Jun-18-200			
33497	Inventory Fix for CINSDORA		Oracle 11i R1.1	May-05-2008	May-05-20			
33498	New EMEA Financial Report		GCRM 3.2	May-04-2008	May-04-20			
33499	Add new RSM field to AR Form		GCRM 3.2	May-04-2008	May-04-20			
33500	Fix BU LOV field		GCRM 3.2	May-05-2008	May-06-20			
33502	Add Sales Person bonus field.		GCRM 3.2	May-05-2008	May-05-20			
33503	Change Assignment Rules		GCRM 3.2	May-05-2008	May-05-20			
33505	Link Champaign to Opportunity		SAP 4.7 Patch	Jun-07-2008	May-16-20			
33507	Change LOV on Sales Stages		SAP 4.7 Patch	May-10-2008	May-12-20			
33508	Add sub-geographic field to Contact	ts	SAP 4.7 Patch	Jun-15-2008	May-19-20			
33509	Build householding into Opportuniites		SAP 4.7 Patch	May-05-2008	May-06-20			
33511	Modify EAI Adapter to pass information to customer portal.		SAP 4.7 Patch	May-20-2008	May-31-20			
33660	Add new tracking field to Siebel		SAP 4.7 Patch	May-07-2008	May-10-20			
33489	Change BU financial roll-up		Oracle 11i R1.1	May-03-2008	May-03-20			
33493	Update the Inventory form - it is not stores	t showing new	Oracle 11i R1.1	Jun-01-2008	May-09-20			
33893	Update Balance transfers page to in parameters	clude history	SAP 4.7 Patch	Jun-18-2008	Jun-18-200			
33484	Add Alternate Cost field		Oracle 11i R1.1	May-03-2008	May-03-20			

ALM - Release Management Request Type

The ITIL Release Management process as modeled by ALM sends a release request of the ALM - Release Management request type along the ALM - Release Request workflow (see *ALM - Release Request Workflow* on page 74) to be examined and resolved.

Figure 3-21 shows the Create New ALM - Release Management page that appears when you create a request and select the ALM - Release Management request type. *Table 3-14* describes the fields in the ALM - Release Management request, including some fields that do not appear until the request is created or until other conditions are met.

Figure 3	3-21.	ALM -	Release	Management	request
				.	

Create New ALM - Release	Management		
Expand All Collapse All			Submit Cancel
🗏 Header			
Summary			
Request Status:	Logged		
'Release Category:	v	"Release Type:	×
'Release Summary:			
Releves the			
Release I.C			
Work Item Fields			
Scheduled Start Date:	9	Actual Start Date:	2
Scheduled Finish Date:	0	Actual Finish Date:	CM
Scheduled Duration:		Actual Duration:	
Scheduled Effort:		Actual Effort:	
Workload?	© Yes ⊙ No	Workload Category:	×
Role:			
E Dotails			
Release Planning			
*Release Definition Summary:		Release Definition:	(no document attached) Add
Release Policy Summary:		Release Policy:	(no document attached) Add
Release Plans Summary:		Release Plans:	(no document attached) Add
QA Information			
Release Test Plan Summary:		Release Test Plan:	(no document attached) Add
Release Acceptance Criteria Summar	η:	Release Acceptance Crite	aria: (no document attached) Add
Test Results:	(no document attached)	Add	
Known Defects Summary:		Known Defects:	III
Quality Center Info			
Quality Center Instance:	I	Quality Center Domain:	
Quality Center Projects		Quality Center Assigned To I	laar:
Quality Center Requirement No :		Quality Center Status:	
Quality Center Message:		during Conter Status.	
Quality Center Attachments:	(No Link)		
Release Preparation			
Communication Plan Summary:		Communication Plan:	(ne document attached) Add
Training Plan Summary:		Training Plans	(no document attached)
Release Backout Plans Summary:		Release Backout Plan	E: (no document attached) Add
License Agreements:	(no document attached)	Add Support Agreements	(ho document attached)
Service Level Agreements:	(no document attached)	Add Leasing Agreements	(no document attached) Add
I Notes			
Notes to be added on save:			
(H. Defenser			
a Keterences			
			Submit Cancel

Field Name (*Required)	Description
Summary section	
Request Status	(Read-only) Status of the release request. Preset to Logged before the request is created.
Request No.	(Read-only. Added after the request is created.) Number of the request.
*Release Category	Release category, based on the scope of the release (number of changes in a release).
*Release Type	Type of release.
*Release Summary	Summary description of the release.
*Release ID (Required only after the request is created)	ID for the release.

Table 3-14. ALM - Release Management request fields (page 1 of 4)

Work Item Fields section ^a

Release Planning section

*Release Definition Summary	Summary of the definition of this release.
Release Definition	Allows you to add and view the release definition document directly on the release request.
*Release Policy Summary	
(Required only after the request is created)	Summary of the policy that governs this release.
Release Policy	Allows you to add and view the release policy document directly on the release request.
Release Plans Summary	Summary of rollout plans for this release.
Release Plans	Allows you to add and view the rollout plans for this release (for example: a timetable of events, a resource plan, and who will do what and when) directly on the release request.

Field Name (*Required)	Description
QA Information section	
Release Test Plan Summary	Summary of the test plan for this release.
Release Test Plan	Allows you to add and view the release test plan (the plan that describes tests to be performed on this release in the TEST environment) directly on the release request.
Release Acceptance Criteria Summary	Summary of the release acceptance criteria for this release.
Release Acceptance Criteria	Allows you to add and view the release acceptance criteria document (which details criteria that qualify the acceptance of this release before deployment to the LIVE environment) directly on the release request.
Test Results	Allows you to add and view the test results directly on the release request.
Known Defects Summary	Summary of known defects that will be carried forward into the LIVE environment.
Known Defects	Used to specify RFCs relating to known defects that will be carried forward into the LIVE environment.
Quality Center Info section ^b	
Quality Center Instance	URL of the Quality Center instance with the project used for the integration.
Quality Center Domain	Domain of the project in Quality Center.
Quality Center Project	Quality Center project that is integrated with this request type.
Quality Center Assigned To User	Obsolete field that is not used by ALM. Do not use.
Quality Center Requirement No.	(Read-only) Requirement number in Quality Center.

Table 3-	14. ALM -	Release N	Aanagement	request f	fields (p	page 2	of 4)
					\I			

Field Name (*Required)	Description						
Quality Center Status	(Read-only) Status of the requirement in Quality Center.						
Quality Center Message	(Read-only) Quality Center status message indicating success or error in the most recent operation.						
Quality Center Attachments	(Read-only) URL of the list of attachments to the Quality Center requirement.						
Release Preparation section							
Communication Plan Summary	Summary of the communication plan for this release.						
Communication Plan	Allows you to add and view the communication plan (the plan that describes the various notifications that need to be sent out prior to release deployment into the LIVE environment) directly on the release request.						
Training Plan Summary	Summary of the training plan for this release.						
Training Plan	Allows you to add and view the training plan (the plan that describes the training that needs to be provided prior to release deployment into the LIVE environment) directly on the release request.						
Release Backout Plans Summary	Summary of the backout plans for this release.						
Release Backout Plans	Allows you to add and view the backout plan (the release plan that describes procedures to back out the release to its original state) directly on the release request.						
License Agreements	Allows you to add and view any license agreement documents for software licensed in this release directly on the release request.						
Support Agreements	Allows you to add and view any support agreement documents for support policies of software licensed in this release directly on the release request.						

Table	3-1	4. <i>A</i>	٩LM	- R	lelease	Manac	ement	request	field	s (p	age (3 о	f 4)
										· · ·				
Field Name (*Required)	Description													
---	---													
Service Level Agreements	Allows you to add and view any SLAs for ordering new equipment or software directly on the release request.													
Leasing Agreements	Allows you to add and view any leasing agreement documents for software leased in this release directly on the release request.													
a. Fields in the Work Item Fields see requests as work items to be trac the <i>HP Resource Management U</i>	ction are useful if you want to include Release Management ked using HP Resource Management. For more information, see <i>lser's Guide.</i>													
 Fields in the Quality Center Info s not integrated with Quality Center 	ection remain visible by default but are not used if PPM Center is													

Table 3-14. ALM -	Release	Management	request	fields	(page 4	l of 4)	1



The administrator can remove the **Quality Center Info** section from the request type by removing the Quality Center Info field group from the ALM - Release Request Header request header type. See the *HP Demand Management Configuration Guide* for details about request header types and field groups.

To submit an ALM - Release Management request:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Create > Request**.

The Create New Request page appears.

3. On the Create New Request page, in the **Request Type** field, select **ALM - Release Management** and click **Create**.

The Create New ALM - Release Management page appears, displaying the appropriate release request fields.

Required fields have a red asterisk. All other fields are optional, but are often helpful when others are reviewing an open request. For information concerning a specific field, click the **Help** icon next to the field (if available).

4. Complete the fields in all sections as appropriate.

The **Notes** section contains fields where notes and information concerning the release can be entered and stored. Typically, when you create a release request, you do not need to add a note to it. However, add a note if you want to convey additional information to the reviewers and processors of the release request.

In the **References** section, you can add useful references such as a Web-accessible file or a document or file attached from a local machine. For more information about adding references, see the *HP Demand Management User's Guide*.

5. On the Create New Request page, click Submit.

The release request is submitted. The Request Creation Confirmed page appears.

PPM Center can be configured to allow you to save the request before you submit it. To have this feature enabled, see your application administrator.

After submitting the request, on the Request Creation Confirmed page you can click the link for the particular request number in the **Request #** field to view the detail page of the newly generated release request.

When the release request is submitted, it is assigned an initial status, such as New. The request is then routed along the ALM - Release Request workflow (see *ALM* - *Release Request Workflow*).

ALM - Release Request Workflow

The ALM - Release Request workflow is the sequence of approvals, decisions, or actions that the release request follows. The release request starts at the beginning of the ALM - Release Request workflow. When the release request reaches the end of the workflow, its lifecycle is complete. After the release request has been through initial planning, the release is created, and the packages for the RFCs can be aggregated into the release. The deployment steps in the release request workflow coordinate with the actual release to automate the deployment of all packages in the release into the TEST and LIVE environments.

Upon creation, an ALM - Release Management request is automatically set to use the ALM - Release Request workflow.

Figure 3-22 shows the ALM - Release Request workflow. *Table 3-15* lists the important steps in the workflow and the user roles associated with those steps.



Figure 3-22. ALM - Release Request workflow

Step Name	User Security	Description
1. Release Policy	ALM - Release Manager	Define the release policy for this release (including release number and rules for accepting changes into the release).
2. Release Planning	ALM - Release Manager	Review and approval of the release policy and other planning documents (such as release acceptance criteria).
3. Integrate with Quality Center?	ALM - QA Manager	Determine whether the user wants to use Quality Center integration, if enabled. See <i>Integration of PPM</i> <i>Center with Quality Center, Using ALM</i> on page 20.
4. Quality Process Entry	ALM - QA Manager	Secure approval for release entry into Quality Center-integrated process.
5. Create Release Requirement in Quality Center	ALM - QA Manager	Create a test requirement in Quality Center for the release if integration has been enabled.
7. Accept Changes into Release	ALM - Release Manager	Add RFC-related changes to the release. This can be done from the RFC workflow directly (for changes that qualify for this release).
8. Build and Deploy Release to TEST	ALM - Release Manager	Deploy the entire release into QA or staging environment and prepare for integration testing. This step automatically migrates the release and related packages to the TEST environment.
10. Fit-for-Purpose Testing	ALM - Release Manager	Fit-for-purpose testing of this release.
11. Evaluate Quality	ALM - Release Manager	Testing of this release, including testing of backout plan.

Tab	le 3·	-15.	ALM ·	- Re	lease	Requ	vest v	workfl	ow ste	eps ((page	1 of	[:] 2)	
-----	-------	------	-------	------	-------	------	--------	--------	--------	-------	-------	------	-----------------	--

Step Name	User Security	Description
12. Release Acceptance	ALM - Release Manager	Based on test results and known defects, determine if this release is acceptable for LIVE deployment.
13. Rollout Planning	ALM - Release Manager	Plan the rollout into LIVE environment. The key document is the release plan (who does what and when).
14. Communication Preparation and Training	ALM - Release Manager	Prepare for LIVE rollout, and determine logistics, training, and communication.
		Distribute and install this release to the LIVE environment.
15. Deploy Release to LIVE	Al M - Release	This step automatically migrates the release and related packages to the LIVE environment.
	Manager	SOX Segregation of Duties prohibits developers and testers from being involved in deployment of code into production. It is important that users with either of these roles not be involved in this step.
16. Working?	ALM - Release Manager	Determine if the release is working based on sanity check and testing.
17. Update All RFCs Status	ALM - Release Manager	Update the status of RFCs related to this release.
18. Close (Immediate success) - 100%	(None)	Update status to Closed.
19. Implement Backout Plans	ALM - Release Manager	If the release is not working, implement the backout plan.
20. Update All RFCs Status	ALM - Release Manager	Update the status of RFCs related to this release.

Table 3-15. ALM - Release Request workflow steps (page 2 of 2)

ALM - Release Distribution Workflow and Subworkflow

The ALM - Release Distribution workflow, along with the ALM - Release Distribution Sub WF subworkflow that it calls to migrate the release to TEST and then to LIVE environments, are used to control distribution among environments of a release that consolidates multiple changes.

Figure 3-23 shows the ALM - Release Distribution workflow.



Figure 3-23. ALM - Release Distribution workflow

Release Management Portlets to Display KPIs

ALM provides several portlets that can be added to your PPM Dashboard to provide real-time views into several key performance indicators (KPIs).

For information about adding portlets to your PPM Dashboard, see the *Getting Started* guide.

ALM - Deployed Releases Portlet

The ALM - Deployed Releases portlet is provided to users with the role of Release Manager. The portlet displays a list of recently deployed releases.

Table 3-16 describes the filter fields for the portlet.

Field Name	Description
Child RFC Request Type	Request types, at least one of which must be in the releases that are to be listed
Status	Status of the release
Category	Category of the release (Emergency, Major, or Minor)
Туре	Type of release (Full, Delta, or Package Release)
Request Type	Request types to filter on

Table 3-16. ALM - Deployed Releases portlet filter fields



In order for the portlet to display data, RFCs need to be added as child or related references to the release request.

Figure 3-24 shows an example ALM - Deployed Releases portlet.

Figure 3-24. ALM - Deployed Releases portlet

ALM - Deplo	oyed Releases		
Preferences: R	Request Type: ALM - Release Management;		
Release Request #	Release Summary	Release Date ⊽	Number of RFCs Included
30821	Emergency release for database recovery.	May-26-08 11:15 AM	1
31031	CRM Quarterly release.	May-21-08 11:09 AM	1
30952	Software Fixes to Web environment.	May-16-08 11:19 AM	2
30822	Upgrade the IP telephony system.	Jun-10-08 11:13 AM	1
		Showing 1 to 4 of 4 Prev	Next Maximize

ALM - My Releases Portlet

The ALM - My Releases portlet is provided to users with the role of Release Manager and other roles involved in the release management process. The portlet lists release requests that have been created by or assigned to the logged-on user.

Table 3-17 describes the filter fields for the portlet.

Table 3-17. ALM - My Releases portlet filter fields

Field Name	Description
Request Type	Request type to filter on
Category	Category of the release (Emergency, Major, or Minor)

Figure 3-25 shows an example ALM - My Releases portlet.

Figure 3-25. ALM - My Releases portlet

🖬 ALM - My Re	leases					
Preferences: Reque	est Type ALM - Rel	ease Request				
Release Request # ∆	Release ID	Release Summary	Туре	Category	Expected Release Date	Status
30728	ITIL_1	Quarterly Release for the SAP FI Module.	Full	Emergency	2008-06-30 00:00:00	Pending Test Results
30765	CRM 2.5	Minor Changes	Full	Minor	2008-04-06 11:51:00	Deployed to TEST
30818		Please update the Release to have the new version updated from GCRM2.2 to GCRM 2.3	Package Release	Minor		Planning
30819	ITIL_1.0	Emergency Fix	Package Release	Emergency	2008-04-04 12:12:00	Accepting RFCs
30820	GCRM2.3	Global Rollout of GCRM2.3	Full	Major		Planning
					Showing 1 to 5 of 6	rev Next Maximize

ALM - Open Releases Portlet

The ALM - Open Releases portlet is provided to users with the role of Release Manager. The portlet lists releases that do not have the status of **Closed**.

Table 3-18 describes the filter fields for the portlet.

Table 3-18. ALM - Open Releases portlet filter fields

Field Name	Description
Request Type	Request type to filter on
Assigned to	User assigned to the release
Category	Category of the release (Emergency, Major, or Minor)

Figure 3-26 shows an example ALM - Open Releases portlet.

Figure 3-26. ALM - Open Releases port

Preferences: Reque	est Type ALM - Rele	ease Request				
Release Request #∆	Release ID	Release Summary	Туре	Category	Expected Release Date	Status
30728	ITIL_1	Quarterly Release for the SAP FI Module.	Full	Emergency	2008-06-30 00:00:00	Pending Test Results
30765	CRM 2.5	Minor Changes	Full	Minor	2008-04-06 11:51:00	Deployed to TEST
30818		Please update the Release to have the new version updated from GCRM2.2 to GCRM 2.3	Package Release	Minor		Planning
30819	ITIL_1.0	Emergency Fix	Package Release	Emergency	2008-04-04 12:12:00	Accepting RFCs
30820	GCRM2.3	Global Rollout of GCRM2.3	Full	Major		Planning
					Showing 1 to 5 of 6	rev Next Maximiz

ALM - Releases Portlet

The ALM - Releases portlet displays a list of release requests. If PPM Center is integrated with HP Release Control, the portlet provides a Click to View link in the **View Impact** column for each request to log in to Release Control, where various tabs provide information about the request.

Table 3-19 describes the filter fields for the portlet.

Table 3-19. ALM - Releases	portlet	filter	fields
----------------------------	---------	--------	--------

Field Name	Description
Request Type	Request type to filter on
Status	Status of the releases

Figure 3-27 shows an example ALM - Releases portlet.

Figure 3-27. ALM - Releases portlet

ALM - Releases			
Request # ∆	Summary	Status	View Impact
30031	testing release information	Planning	Click to View
30061	Test release	Closed - Successful	Click to View
30090	Test	Closed - Successful	Click to View
30125	RM Test	Release Approved	Click to View
30126	33	Test	Click to View
			Showing 1 to 5 of 6 Prev Next Maximize

For more information about tabs in Release Control, see *Using the Integration* of *PPM Center with Release Control* on page 249.

ALM - Releases By Category Portlet

The ALM - Releases By Category portlet is provided to users with the role of Release Manager. The portlet displays a pie chart showing the percentage of releases in each category.

The only filter field for the portlet, **Request Type**, is the request type to filter on.

Figure 3-28 shows an example ALM - Releases By Category portlet.



Figure 3-28. ALM - Releases By Category portlet

Clicking the pie chart drills down to the ALM - Releases By List portlet.

ALM - Releases By Type Portlet

The ALM - Releases By Type portlet is provided to users with the role of Release Manager. The portlet displays a pie chart showing the percentage of releases of each type.

The only filter field for the portlet, **Request Type**, is the request type to filter on.

Figure 3-29 shows an example ALM - Releases By Type portlet.



Figure 3-29. ALM - Releases By Type portlet

Clicking the pie chart drills down to the ALM - Releases By List portlet.

ALM - RFCs per Release Portlet

The ALM - RFCs per Release portlet is provided to users with the role of Release Manager. The portlet displays a list of RFCs that constitute a release.

Table 3-20 describes the filter fields for the portlet.

Table 3-20. ALM - RFCs per Release portlet filter fields

Field Name	Description
Release Request	Number of the release request
Request Type	Request types to filter on
Status	Status of the release
Priority	Priority of the release

Figure 3-30 shows an example ALM - RFCs per Release portlet.

Figure 3-30. ALM - RFCs per Release portlet

ALM - RFCs	per Release		
Preferences: R	equest Type: ALM - Request for Change (
Request # ∆	Description	Priority	Impact
30401	Implement single sign-on to the portal system.	High	Medium
30819	Investigate wireless options.	Low	Medium
30953	Unable to log on to the SAP HR system.	High	High
30995	Changes to GUI field area	High	Medium
31004	Web Store Column is out of alignment with the rest of the page	High	Medium
		Showing 1 to 5 of 5	Prev Next <u>Maximize</u>

Release Management Reports

ALM provides several reports that can be run to provide summary data and scheduling information about releases in the system.

To generate a report, from the PPM Center menu bar:

- 1. Select Open > Reports > Create Report.
- 2. On the Submit New Report page, in the **Report Category** field, select **Demand Management.**
- 3. Click the link for the desired report, and complete all required and any optional filter fields,
- 4. Click Submit.

For more information about reports, see the Reports Guide and Reference.

ALM - Forward Schedule of Releases Report

The ALM - Forward Schedule of Releases report is a key report used in the release management process. The output of this report is a list of all releases that are scheduled to be implemented into the LIVE environment.

Table 3-21 describes the filter fields for the report.

Field Name	Description
Report Title	Title of the report. Type any alphanumeric string (up to 200 characters in length).
Start FSC Period	Searches for releases created after the specified FSC date.
End FSC Period	Searches for releases created before the specified FSC date.
Request Type	Request type to filter on.

Table 3-21. ALM - Forward Schedule of Releases report filter fields

Figure 3-31 shows sample output for the ALM - Forward Schedule of Releases report.



rward So	rward Schedule of Releases		Forward Schedule of Releases				
e port Parameters for Report #30696 art FSC Period - 2008-04-01 11:22:09; End FSC Period - 2008-06-30 12:22:18;							
usud Schodulo	of Releases						
Release			Release		Expected Relea		
Release Request # 30872	Release Summary Patch the Oracle Manufacturing App.	Release ID Oracle 11.5.10 Patch	Release Category Emergency	Release Type Delta	Expected Relea Date Jun-15-08 08:00 AM		
Release Request # 30872 30875	Release Summary Patch the Oracle Manufacturing App. GCRM Patch	Release ID Oracle 11.5.10 Patch GCRM 2.5	Release Category Emergency Emergency	Release Type Delta Package Release	Expected Relea Date Jun-15-08 08:00 AM Apr-15-08 08:00 AM		

ALM - Release Content Report

The ALM - Release Content Report provides a list of RFCs that have been incorporated into a release.

Table 3-22 describes the filter fields for the report.

Table 3-22. ALM - Release Content Report filter fields

Field Name (*Required)	Description
Report Title	Title of the report. Type any alphanumeric string (up to 200 characters in length).
Request Type	Request type to filter on.
*Release ID	Specify the release whose contents you want to list.

Figure 3-32 shows sample output for the ALM - Release Content Report.

Figure 3-32. ALM - Release Content Report output

elease Content Report		Release Content Report				
e port Par lease ID - S	ameters for Report #30668 SAP 4.7 Patch;					
lease Detail Release II	s D Release Summary	Release Category	Release Type	Expected Release Date	Status	
SAP 4.7 Patch	Patch the SAP Application to get the new funcationality.	e Major	Package Release	Apr-30-2008	Plannin	
Cs in Releas	PEC Summan		Driovitu	Statur	Paguastar	
30900	Change the fields for the HRMS W-2 scre	en.	Immediate	Build	Admin User	
30901	Change the fields for the Monthly receive	ables screen.	High	Build	Admin User	
30902	SAP TMS (Transport Management Syste script transports.	m) errors out with SAP	High	In Review	Admin User	
30903	Change the number range on the SAP tes	t system.	Immediate	In Review	Admin User	
30904	Reset the date on the SAP application se	rver to PST.	Medium	In Review	Admin User	
30905	Change the date format to DD-Mon-YYYY servers.	' for the SAP Europe	Low	Allocate Priority	Admin User	

ALM - Release Summary Report

The ALM - Release Summary Report provides a list of releases that have been implemented.

Table 3-23 describes the filter fields for the report.

Table 3-23. ALM	 Release Summary 	/ Report filter fields
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Field Name	Description
Request Type	Request type to filter on.
Release Status	Searches for releases with the specified statuses.
Release Type	Searches for releases of a specific type.
Time Period From	Searches for releases created after the specified date.
Time Period To	Searches for releases created before the specified date.

Figure 3-33 shows sample output for the ALM - Release Summary Report report.

eport			Release Summary Report				
port Param lease Status: F lease Type: ne Period From ne Period To: A	e ters for Rep Pending Test Resu : Mar 15, 2008 Nug 31, 2008	o rt #30664 Its					
tegory = Major Release	Release	Release	Release	Expected	Actual Release		
Request #	Number	Summary	Туре	Release Date	Date	Status	
30070	GCRM 3.1	GCRM Update	Full	Jul-15-08 08:15 PM	Jul-29-08 08:17 PM	Pending Test Results	
30876	HRMS	Updates to HR System	Full	Jun-30-08 08:00 AM	Jul-01-08 08:00 AM	Pending Test Results	
tegory = Emer	jency						
Release Request #	Release Number	Release Summary	Release Type	Expected Release Date	Actual Release Date	Status	
30872	Oracle 11.5.10 Patch	Patch the Oracle Manufacturing App.	Delta	Jun-15-08 08:00 AM	Jul-30-08 08:00 AM	Pending Test Result	
		GCRM Patch	Package Release	Apr-15-08 08:00 AM	May-02-08 08:13 PM	Pending Test Result:	
30875	GCRM 2.5					Dending	

Figure 3-33. ALM - Release Summary Report output

Special Commands

Table 3-24 describes the special commands provided by ALM to support integration of PPM Center with Quality Center.

Table 3-24. Special commands for integration of PPM Center with Quality Center

Special Command	Description
ksc_create_defect_in_QC	Creates an execution step that will create a defect in Quality Center
ksc_create_requirement_in_QC	Creates an execution step that will create a requirement in Quality Center

4 Integrating PPM Center Requests with HP Service Manager Changes, Using ALM

Introduction to Integrating PPM Center Requests with Service Manager Changes, Using ALM

For an overview of the integration of PPM Center with Service Manager, see *Integration of PPM Center Requests with Service Manager Changes, Using ALM* on page 18.

The integration is enabled by a configurable Service Manager adapter file in PPM Center along with the request types and workflows provided by ALM, so that PPM Center acts as a single repository for application-related requests for change (RFCs). The adapter converts changes (tickets) in Service Manager to requests for change (RFCs), and then imports those RFCs into PPM Center for processing.

Conversely, using a configurable PPM Center adapter file that also resides in PPM Center, the integration can optionally *update* Service Manager changes based on subsequent changes made in PPM Center to the RFCs.

If the Service Manager adapter file and the associated PPM Center adapter file are both configured, such that data can be sent in both directions between Service Manager and PPM Center, the integration is said to be "bidirectional."

A separate adapter file is required for each mapping between a Service Manager change and a PPM Center request type.

ALM provides two default adapter files—a Service Manager adapter file and an associated default PPM Center adapter file.

The integration runs as a service in the PPM Server. As described later, the configuration of an adapter file controls various aspects of its import process.

This chapter describes how to configure the adapters in PPM Center and the Service Manager application for integration. This chapter is intended for Service Manager administrators or for PPM Center system administrators who are also familiar with Service Manager.

For information about the supported versions of Service Manager, see the *System Requirements and Compatibility Matrix*.

To integrate PPM Center requests with changes in Service Manager version 9.20, you must modify the ChangeManagement WSDL in Service Manager as described in this chapter. These WSDL modifications may interfere with the operation of Service Manager integrations with other products. Before integrating PPM Center with Service Manager version 9.20, review the WSDL modifications described in the following steps to determine whether they could affect Service Manager integrations with other products, and proceed accordingly:

- step d on page 97
- step 2 on page 98
- step d on page 100

The integration of PPM Center *tasks* with changes in Service Manager version 9.20, as described in Chapter 8, *Integrating PPM Center Tasks with HP Service Manager RFCs,* on page 251, does *not* require changing the Service Manager WSDL.



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No software needs to be installed on the Service Manager server for integration with PPM Center. However, see the System Requirements and Compatibility Matrix.

For information about the ALM - Request for Change (RFC) request type in PPM Center that is used to establish integration of PPM Center with Service Manager, see *ALM* - *Request for Change (RFC) Request Type* on page 32.

For more information about Service Manager, see its product documentation at the Web site described in *Optional PPM Center Integrations* on page 17.

Converting Service Manager Changes to PPM Center RFCs

Figure 4-1 depicts the flow for converting a change in Service Manager to an ALM request for change (RFC), and importing the RFC into PPM Center.

Figure 4-1. Using the Service Manager adapter to import changes from Service Manager into PPM Center



The Service Manager adapter consists of the following three components:

- Connector. Collects changes from the Service Manager system.
- **Converter.** Uses field mapping to convert the changes from the Service Manager data model in which the changes were created to RFCs for the PPM Center data model.

The converter also contains two optional filters to control which changes are imported into PPM Center. The preFilter filters out categories of changes you specify in the Service Manager data model before those changes are converted. After the Service Manager changes are converted to RFCs, the postFilter filters out categories of requests you specify before those requests are presented to the sender.

• **Sender.** Using the RFC data from the converter, creates the RFCs in PPM Center.

Converting PPM Center RFCs to Service Manager Change Updates

Similar to the Service Manager adapter, the PPM Center adapter consists of connector, converter, and sender components. In this case, these components allow Service Manager to import updates from PPM Center.

Figure 4-2 depicts the flow for converting an ALM RFC (request for change) in PPM Center to an update to a change in Service Manager, and importing the update into Service Manager.

Figure 4-2. Using the PPM Center adapter to import change updates from PPM Center into Service Manager



Overview of Configuring the Service Manager Integration

Before configuring the integration, you must identify the Service Manager data attributes that will be integrated with PPM Center, including which of the attributes of Service Manager changes to send to PPM Center, and, for bidirectional integration, which of the attributes to receive back from PPM Center.

Before you can begin importing changes from Service Manager into PPM Center, you must configure Service Manager and configure the Service Manager adapter in PPM Center to enable integration. The procedures are summarized as follows:

- Configure Service Manager in the particular ways required for integration of PPM Center with Service Manager.
- Generate Service Manager Web service stubs for Service Manager. PPM Center needs the Service Manager Web service stubs to connect to Service Manager.
- Configure the Service Manager adapter configuration file on the PPM Server, to support converting a change in Service Manager to an ALM request for change (RFC) and then importing the RFC into PPM Center. ALM provides an Service Manager default adapter configuration file.
- If you want the integration to be bidirectional, that is, to also send updates that are made in PPM Center RFCs back to Service Manager as change updates, configure the PPM Center adapter configuration file on the PPM Server. ALM provides a default PPM Center adapter configuration file associated with Service Manager.
- Configure the required server.conf parameter in PPM Center.
- Restart the PPM Server in normal mode and verify that the ALM Startup service has started.
- Configure logging of errors and events.

Configuring Service Manager for Integration with PPM Center

Before starting these configuration procedures, make sure that the Service Manager server, Service Manager client, and Service Manager Webtier are installed and running.

Integration of Service Manager with PPM Center requires specific configuration of Service Manager, as described in the following sections.



PPM Center can be integrated with multiple instances of Service Manager, if those instances are at the same version. (See the *System Requirements and Compatibility Matrix*.) However, the procedures in the following sections must be performed identically on the multiple Service Manager instances.

Before starting this procedure, make sure you review the warning in the section Introduction to Integrating PPM Center Requests with Service Manager Changes, Using ALM on page 91.

Configuring the Change Management Module

To configure the Change Management module in Service Manager, do the following:

- 1. To enable Service Manager to provide PPM Center with the changes sorted by their last update times, as required by this integration:
 - a. Navigate to **System Definition > Tables > cm3r > Keys** and on that screen, click **New.**
 - b. Add a new key constraint to the database table. The constraint should be of the type "Not Null" and should contain the **sysmodtime** field. If the Service Manager system uses another field to contain the last modified date/time of the record, use that field instead.
 - c. Add a new key constraint to the database table. The constraint should be of the type "Not Null" and should contain the **orig.date.entered** field, for use in the initial load mode (for more information, see the **initial-load-state** adapter attribute in *Table 4-1* on page 108).

- d. To make sure that the required fields are exposed through the Change Management Web Services:
 - i. For version 7.01, select

Menu Navigation > Tailoring > WSDL Configuration.

For version 7.10 or version 9.20, select Menu Navigation > Tailoring > Web Services > WSDL Configuration.

ii. Type cm3r in the Name field and click Search.

For version 7.01, the search finds only the Change object and opens it immediately. Perform step iii.

For version 7.10 or version 9.20, the search finds the Change and ChangeIIA objects. Open each object and perform step iii for each object.

iii. Click the **Fields** tab and add fields with captions and types to the table as follows:

New Field	New Caption	Туре
sysmodtime	sysmodtime	DateTimeType
orig.date.entered	orig.date.entered	DateTimeType

iv. For version 9.20, change existing WSDL captions as follows:

Field	Original Caption	New Caption
header,number	ChangeID	changeNumber
header,brief.description	Title	briefDescription

2. Import the unload file provided with PPM Center to set up the Change Management Web service for the integration with PPM Center. The unload file is located at:

<PPM_Home>\conf\sdi\serviceManagerFiles\sm_operations

where <*PPM_Home*> represents the path where the PPM Center instance is installed. For example: xyzserver/E/PPMServer.

Configuring the Change Management Service Manager Web Service

To configure the Change Management Service Manager Web service:

- 1. To associate a display action to the new processes:
 - a. To navigate to the Objects menu, select
 Menu Navigation > Tailoring > Document Engine > Objects.
 - b. Type cm3r in the File name field and click Enter.
 - c. Specify the default state.
 - d. Add a new Display action associated with the process—associate the **checkretract** action with **ccm.check.retract**.
 - e. Add a new Display action associated with the process—associate the **checkapproval** action with **ccm.check.approval**.
 - f. Close the cm3r object.
 - g. Repeat step a through step f for the cm3t object.
- 2. To configure the ChangeManagement WSDL:
 - a. For version 7.01, select
 Menu Navigation > Tailoring > WSDL Configuration.

For version 7.10 or version 9.20, select Menu Navigation > Tailoring > Web Services > WSDL Configuration.

- b. In the Service Name field, type ChangeManagement and click Search.
- c. Add the following actions for table cm3r:

Allowed Action	Action Name
checkapproval	CanApprove
checkretract	CanRetract

d. Repeat step c for table cm3t.

(Optional) Configuring Browsing of Service Manager Changes from a URL

This optional procedure enables RFCs in PPM Center to be updated with URL links to the corresponding changes in Service Manager, so that PPM Center users can easily jump directly to those changes. To enable this capability, configure Service Manager as follows (otherwise go to *Configuring for Bidirectional Integration* on page 102):

- 1. To configure the Web server URL in the Service Manager server:
 - a. To open the System Information Definition, select
 Menu Navigation > System Administration > Base System Configuration
 > Miscellaneous > System Information Record.
 - b. In the form, select the Active Integrations tab.
 - c. In the **WebServer URL** field in the WebServer Information pane, type the URL of the Service Manager Web server configured for Web access. For example:

http://<Host>:<Port>/sm/index.do

- d. Click **OK** to save the System Information Definition and exit.
- 2. To create and configure the **record.url** field in the cm3r table:
 - a. Create the **record.url** field in the cm3r table, using the following Service Manager Help topic:

"How do I add a field to a table?"

b. Configure the record.url field as follows:

Section Name	Field Name	Value
General Properties	Туре	Character
General Properties	Caption	Change URL

- c. In the SQL mapping section, do the following:
 - i. Type **RECORD_URL** in the **SQL** field name field.
 - ii. Type varchar in the SQL data type field.
 - iii. Type 400 in the SQL data length field.

d. To add record.url to the Change Management Web service:

For version 7.01, select
 Menu Navigation > Tailoring > WSDL Configuration.

For version 7.10 or version 9.20, select Menu Navigation > Tailoring > Web Services > WSDL Configuration.

ii. Type cm3r in the Name field and click Search.

For version 7.01, the search finds only the Change object and opens it immediately. Perform step iii.

For version 7.10 or version 9.20, the search finds the Change and ChangeIIA objects. Open each object and perform step iii for each object.

- iii. Click the Fields tab and add to the table a field named record.url with the caption record.url and the type DateTimeType.
- e. The **record.url** field is populated in the cm3r.pre.add trigger. To configure this trigger:
 - i. Navigate to System Definition > Tables > cm3r.
 - ii. Open the list of triggers.
 - iii. Open the cm3r.pre.add trigger.
 - iv. Copy the following JavaScript into the trigger:

v. Click **Save** to save the script.

vi. Click **Compile** to check for any errors and compile. No errors should occur.

Now, any new record will have the **record.url** field populated. However, as described in the following steps, you will need to perform the Mass Update procedure to populate the **record.url** field for existing records.

- f. To prepare to perform the Mass Update procedure:
 - i. Navigate to Menu Navigation.
 - ii. Click Change Management > Changes > Search Changes.
 - iii. Use **Search** to display a list of change records.
 - iv. Select the records you want to update.
- g. To perform the Mass Update procedure:
 - i. Click Mass Update in the toolbar to start updating the listed records.

Database Manager displays the initial form again, but with different options (buttons).

ii. Do not specify values in any field. Click Complex Update.

Database Manager displays the Mass Add/Update Instruction screen.

iii. Specify the following assignment statement in the **Instructions for** action on EACH RECORD input field:

For each record updated, this step sets the **record.url** field based on the Web server URL entered in System Information Record. Then this step returns terminal control to you and displays the following message:

<n> records updated in the cm3r file. where <n> is the number of records updated. h. To browse directly from the Web server using a URL that includes a ticket ID, disable the querySecurity parameter by using the instructions in the following Service Manager Help topic:

"Web parameter: sc.querySecurity"

i. Add the following line to the conversion script file in PPM Center for converting Service Manager changes to PPM Center requests:

where *<display text for URL reference>* represents the text to be displayed for the link to the URL.

For information about copying the sample conversion file provided with ALM and revising the copy, see *Configuring the Service Manager Adapter Converter Property (Script)* on page 112.

For information about the addURLReference function, see *ppmRFC Object* on page 115.

Configuring for Bidirectional Integration

Perform this procedure only if you plan to configure the integration to be bidirectional.

To be able to verify later that bidirectional integration works, configure the fields that are required to map a PPM Center request to an Service Manager change. For example:

• Create a structure called ppmFields in the cm3r table. See the following Help topic:

"How do I add a structure to the Database Dictionary?"

- Create fields in the ppmFields structure. If you want to use the conversion script file provided with ALM as is, for Service Manager enter the following fields:
 - o ppmurl with a Caption of ppmurl and select a Type of StringType.
 - requestModifiedDate with a Caption of reqModDate and select a Type of DateTimeType.

For details of a similar procedure for Service Manager, see step d on page 97.

If you want to use a custom mapping, you may need to create additional fields and create entries for those fields using the WSDL configuration tool.

Generating Web Service Stubs



Perform this procedure for new installations of ALM and after any upgrade of PPM Center.

In Service Manager, you can modify which fields are available through Web services. Each time you modify these settings, a new Web Services Description Language (WSDL) descriptor is created. In the PPM Server, you must regenerate the Web service stubs from the new descriptor.

To generate the stubs:

1. Navigate to the <PPM_Home>/bin/sdi directory on the PPM Server.

where <*PPM_Home*> represents the path where the PPM Center instance is installed. For example: xyzserver/E/PPMServer.

2. Run the following script:

```
./kGenerateServiceCenterStub.sh <wsdl-url> <PPM_Server_Name>
where
```

<wsdl-url></wsdl-url>	represents the Service Manager WSDL URL for Change Management.
<ppm_server_name></ppm_server_name>	represents the subdirectory of < <i>PPM_Home</i> >/server specified during installation as the value for the KINTANA_SERVER_NAME parameter in the server.conf file. (This value is not necessarily the actual host name of the server.) When generated, the stubs will be placed in this subdirectory.

The specific script is in the following format:

```
./kGenerateServiceCenterStub.sh http://<Host>:<Port>/
sc62server/PWS/ChangeManagement?wsdl <PPM_Server_Name>
```

For example:

```
./kGenerateServiceCenterStub.sh http://ServManager:13080/
sc62server/PWS/ChangeManagement?wsdl kintana
```

3. Verify that the stubs are now in the following directory:

```
<PPM_Home>/server/<PPM_Server_Name>/deploy/itg.war/WEB-INF/
classes/
```



The stub generation might fail if the host is not resolvable by name. To resolve the host by name, make an entry in the hosts file for the machine you want to connect. See the documentation for your operating system for the location of the hosts file.

Configuring the Service Manager Adapter Configuration File

The Service Manager adapter configuration file is an XML file in PPM Center that enables integration of Service Manager with PPM Center and converts Service Manager changes to PPM Center requests. The configuration file consists of the following components, each with its own attributes or properties (see *Figure 4-1* on page 93):

- General settings for the adapter itself, such as its name and the name of the Service Manager application in which the changes are created.
- Connector between Service Manager and the adapter.
- Converter of changes in the Service Manager data model to generic requests in the PPM Center data model. The converter calls the scripts that define the field mapping and filter functions.
- PPM Center sender, which sends the converted and filtered requests to PPM Center.



If PPM Center is operating in a clustered server configuration, share or copy the <*PPM_Home*>/sdi-persistency directory and the <*PPM_Home*>/conf/sdi directory among all the servers in the cluster.

The following sections describe how to configure the Service Manager adapter configuration file and the scripts called by its converter, and how to modify copies of the provided files while preserving the originals.

Location, Naming, and Structure of Service Manager Adapter Configuration Files

Each Service Manager adapter configuration file must follow specific conventions for its location, naming, and structure, as described in the following sections.

Location and Naming of the Service Manager Adapter Configuration File

The adapter configuration files are located in the <*PPM_Home*>/conf/sdi directory of the PPM Server. This directory contains the following:

• Configuration file for the adapter (or one for each adapter if there are multiple adapters).

In this configuration file, you define a name for the adapter. The configuration file must have a .settings file extension.

• Subdirectory (or one for each adapter configuration file if there are multiple files).

The subdirectory contains the conversion scripts, which are called by the converter to map the fields between and to filter the changes and requests. The name of the subdirectory must be the same as the <adapter name> (for a description, see Structure of the Service Manager Adapter Configuration File on page 106 and Table 4-1 on page 108) followed by .ext.

For example, if the adapter name is serviceManager-adapter, the <*PPM_Home*>/conf/sdi directory must contain a subdirectory named serviceManager-adapter.ext to hold all the conversion script files for the adapter.

Structure of the Service Manager Adapter Configuration File

ALM provides, as a template, a default Service Manager adapter configuration file named serviceManager-adapter.settings1. The adapter file you configure and use must have a .settings file extension.

Copy the default adapter file (to preserve the original), and rename the copy with a .settings file extension and, if desired, a different file name.

As detailed in subsequent sections, the adapter file has the following basic structure, including adapter attributes, and properties for its connector, converter, and sender:

```
<?xml version="1.0" encoding="UTF-8"?>
<settings>
<adapter adapter-name="<adapter name>">
   <service-desk-application><SD application>
      </service-desk-application>
   <number-of-tickets><number of tickets>
      </number-of-tickets>
   <polling-schedules><schedule></polling-schedules>
   <polling-frequency><frequency></polling-frequency>
   <initial-load-state></date></initial-load-state>
   <request-types>
   <request-type level="1">
   <polling-operation>
   <connector>
   <connector-type>serviceManagerChange</connector-type>
      <properties>
         idProperty=
         userQuery=
         lastUpdatedPropertyForQuery=
         creationDatePropertyForQuery=
         lastUpdatedPropertyForResult=
         creationDatePropertyForResult=
         keyMethodName=
         timeZone=
         wsDateFormatPattern=
         queryDateFormatPattern=
         userName=
         password=
         serviceUrl=
      </properties>
   </connector>
```

```
<converter>
   <converter-type>scriptConverter</converter-type>
      <properties>
         scripts=<convert1>.js,<convert2>.js,...
      </properties>
   </converter>
   </polling-operation>
   </request-type>
   </request-types>
   <sender>
   <sender-type>PPMSender</sender-type>
      <properties>
         userName=
         password=
         requestType=
         updateRequest=
         ticketIdFieldName=
         sdSystemFieldName=
         staticFieldNames=
      </properties>
   </sender>
</adapter>
</settings>
```



Do not delete or change the values provided for <connector-type>, <converter-type>, or <sender-type>.

The following sections describe how to configure the adapter attributes, the connector properties, the converter property (scripts), and the sender properties.

Configuring the Service Manager Adapter Attributes

Specify the adapter attributes of the Service Manager adapter configuration file, such as the adapter name and the service desk application, as described in *Table 4-1*.

Attribute Name (*Required)	Description	Default Value
*adapter-name	Logical name that represents the adapter name on the client machine. For example: serviceManager-adapter This name is also used for the scripts (.ext) directory. (See Location and Naming of the Service Manager Adapter Configuration File on page 105.)	(None)
*service-desk-application	Unique logical name for the service desk system you are using. For example: Service Manager	(None)
number-of-tickets	Number of changes that the adapter processes at a time.	50
polling-schedules	Times of day that the adapter polls Service Manager for changes, formatted as a list of cron expressions separated by the new line character. For example: 30 * * * * < <i>new line</i> > 0 * * * *	(None)

Table 4-1. Service Manager adapter attributes (page 1 of 2)
Attribute Name (*Required)	Description	Default Value
polling-frequency	Frequency (in seconds) that the adapter polls Service Manager for changes.	If polling-schedules and polling-frequency are unspecified, then the default polling-frequency is 30 seconds, starting when you restart the PPM Server.
initial-load-state	Earliest creation date and time of changes the adapter retrieves from Service Manager, in the following format: MM/dd/yy HH:mm:ss z For example: 10/19/08 21:30:00 EST After completion, the adapter does not retrieve any new or updated changes (per the polling-schedules and polling-frequency attributes) until this attribute is commented out.	(None)

Table 4-1. Service Manager adapter attributes (page 2 of 2)

Configuring the Service Manager Adapter Connector Properties

Specify the properties for the connector section of the Service Manager adapter configuration file as described in *Table 4-2*.

Property Name (*Required)	Description	Default Value
*idProperty	Property name of the ID field in the instance returned from the Service Manager Web service.	(None)
userQuery	Service Manager query on the Change Management table (cm3r) that would work in the Service Manager query engine.	(None)
*lastUpdatedPropertyForQuery	Property name of the last-update field used to query the Service Manager Web service (the field name used in an expert search on the Service Manager client machine).	(None)
*creationDatePropertyForQuery	Property name of the creation-date field used to query the Service Manager Web service.	(None)
*lastUpdatedPropertyForResult	Property name of the last-update field in the instance returned from the Service Manager Web service (usually the field name exposed as API).	(None)
*creationDatePropertyForResult	Property name of the creation-date field in the instance returned from the Service Manager Web service.	(None)
*keyMethodName	Name of the method for request keys (usually the ID field name).	(None)

Table 4-2. Service Manager adapter connector properties (page 1 of 3)

Property Name (*Required)	Description	Default Value
	Time zone, used for converting the last updated time of a request from Service Manager. Use the same time zone as the Service Manager server.	
*timeZone	The format can be GMT+ $$ or GMT– $$, where $$ is the offset in hh:mm format from GMT. For example, GMT–07:00.	(None)
	However, to handle Daylight Saving Time, use an area time zone instead of specifying a time relative to GMT.	
	Date format used in the Service Manager Web service answer.	
*wsDateFormatPattern	For available formats, see the following URL:	(None)
	http://java.sun.com/j2se/1.4.2/docs/ api/java/text/SimpleDateFormat.html	
	Date format used for querying the Service Manager system (as used in the UI expert search).	
*queryDateFormatPattern	Make sure this value is consistent with the Service Manager server date pattern. For available formats, see the following URL:	(None)
	http://java.sun.com/j2se/1.4.2/docs/ api/java/text/SimpleDateFormat.html	

Table 4-2. Service Manager adapter connector properties (page 2 of 3)

Property Name (*Required)	Description	Default Value
	User name in the Service Manager system that PPM Center uses to connect to Service Manager.	
*userName	This user name must include only single-byte characters.	(None)
	This user must have full access to the Change Management module in Service Manager.	
*password	Password in the Service Manager system that PPM Center uses to connect to Service Manager.	(None)
	Web service URL of Service Manager. The format is as follows:	
*serviceUrl	http:// <service_manager_ Host>:<port>/sc62server/PWS/</port></service_manager_ 	(None)
	where < <i>Service_Manager_Host</i> > represents the host machine where Service Manager is running.	

Table 4-2. Service Manager adapter connector properties (page 3 of 3)

Configuring the Service Manager Adapter Converter Property (Script)

The converter section of the Service Manager adapter configuration file contains the scripts property. The script file is written in the JavaScript language, and it maps the fields from the Service Manager data model to the PPM Center data model and filters the requests.

The scripts property is a script file name in the following format:

scripts=<convert1>.js

This file must reside in the same directory as the adapter, as follows:

<PPM_Home>/conf/sdi/<adapter name>.ext

where *<adapter* name> is as defined in *Table 4-1* on page 108.



Make sure that no line in a script exceeds 256 characters.

Multiple scripts are supported, using a comma-separated list, in the following format:

scripts=<convert1>.js,<convert2>.js,...

The adapter searches for these conversion script files in the adapter directory.

The conversion script is responsible for field mapping during the conversion of changes in the Service Manager data model to requests in the PPM Center data model, and for filtering the changes and requests.

The script must contain the convert function and can contain the optional preFilter and postFilter functions, as follows:

• **preFilter.** The following function filters the changes before they are converted to the PPM Center data model, so that no unnecessary requests are converted:

```
preFilter(smChange)
```

For example, the following preFilter function specifies that Service Manager changes with a Low priority will not be converted and that all other requests will be converted:

```
function preFilter(smChange){
    if (smChange.get("Request Urgency")==SM_PRIORITY_LOW)
        return false;
    else
        return true;
}
```

• **convert.** After identifying the PPM Center request attributes that are required for Service Manager changes, use the convert function of the conversion script to map fields of Service Manager changes to fields of PPM Center requests.

The following convert function uses the mapping you specify to convert the fields of the change in Service Manager to the fields of the request in PPM Center:

```
convert(smChange, ppmRFC)
```

• **postFilter.** The following function filters the converted requests, so that only the desired requests will be imported into PPM Center:

```
postFilter(ppmRFC)
```

For example, the following postFilter function specifies that only PPM Center requests with a status of Approved will be sent to the PPM Server:

```
function postFilter(ppmRFC){
    ppmStatus=ppmRFC.getField("status");
    if (ppmStatus=STATUS_APPROVED)
        return true;
    else
        return false;
}
```

ALM provides a sample conversion script file named

```
ConvertSMToPPM.js.sample in the
```

Copy the sample file, delete the .sample extension in the copy, and revise the copied conversion script as needed. Use the syntax described in the following sections for the conversion script APIs.

smChange Object

The smChange object represents the Service Manager change. For the preFilter and convert script functions, use one of the following functions to retrieve fields from the Service Manager change:

- value=SMRFC.get(String fieldName);
- SMRFC.get("Request Urgency")=SM_PRIORITY_LOW;

ppmRFC Object

The ppmRFC object represents the PPM Center request. For the convert and postFilter script functions, use the following functions to modify the PPM Center request fields:

• Reference ID

You must use the following function to track the Service Manager change ID in the PPM Center request:

setRefId(String referenceId);

• Time Stamp

You must use the following function to set the last update time in the PPM Center request:

```
/**
* Set the time stamp in long format-that is, the number of
* milliseconds since January 1, 1970, 00:00:00 GMT
**/
setUpdatedTimeStamp(long updatedTimeStamp);
/**
* Set the time stamp in the Java simple date format, which is
* described at the following location:
* http://java.sun.com/j2se/1.4.2/docs/api/java/text/
SimpleDateFormat.html
**/
setUpdatedTimeStamp(String updatedTimeStamp, String format);
```

• Status

Use the following function to change the status of the PPM Center request and allow the workflow of the request to advance:

setStatus(String newStatus)

To view or change the set of statuses provided with PPM Center, open the request type in the PPM Workbench, select the **Request Status** tab, and click **Request Status**. For more information, see the *HP Demand Management Configuration Guide*.

• General Field

Use the following function to set the value of a general field in the PPM Center request:

setField (String fieldName, String value);

• Date

Use the following function to set the value of a date field in the PPM Center request:

• Notes to be added upon creation of a PPM Center request

Use the following function to add a note upon creation of a PPM Center request:

```
addUserNoteOnCreate(String content, String addedBy,
long time;
```

• Notes to be added upon update of a PPM Center request

Use the following function to add a note upon update of a PPM Center request:

```
addUserNoteOnUpdate(String content, String addedBy,
```

```
long time;
```

• URL reference creation

If you have configured Service Manager to expose the ticket URL as the record.url attribute (see (*Optional*) Configuring Browsing of Service Manager Changes from a URL on page 99), you can use the following function to create a URL reference to an Service Manager change:

addURLReference(String attachmentURL, String attachments);

Configuring the Service Manager Adapter Sender Properties

Specify the properties for the sender section of the Service Manager adapter configuration file as described in *Table 4-3*. The sender controls creating RFCs in PPM Center with the converted data.

Property Name (*Required)	Description	Default Value
*userName	User name in PPM Center by whose credentials requests are created. This user name must include only single-byte characters.	(None)
*password	Password of the userName. You must encrypt this password by using the kEncrypt.sh script, which is located in the bin directory of the PPM Server. Encrypted passwords must be created in a CDATA section.	(None)
*requestType	PPM Center request type that should be created for the converted changes. For example: ALM - Request for Change (RFC)	(None)
updateRequest	If set to true, enables <i>updates</i> made to Service Manager changes to be automatically sent to existing PPM Center requests. HP recommends retaining the default value of false because usually, after Service Manager changes are converted to PPM Center requests, processing takes place entirely in PPM Center.	false
*ticketIdFieldName ^a	Field in PPM Center containing the Service Manager ticket ID. This field is presented in the PPM Center request as the Ticket Id field in the Service Desk Info section.	(None)

Table 4-3. Service Manager adapter sender properties (page 1 of 2)

Property Name (*Required)	Description	Default Value		
*sdSystemFieldName ^a	Field in PPM Center containing the Service Manager system name. This field is presented in the PPM Center request as the System Name field in the Service Desk Info section.	(None)		
*staticFieldNames (Applicable and required only for bidirectional integration)	List of PPM Center request fields (separated by semicolons) that are <i>not</i> to be updated when changes are made to their mapped Service Manager change fields. This list is used to prevent inappropriate update of Service Manager tickets for bidirectional integration. For example, to prevent a ticket from being updated when the last update time in PPM Center changes, specify the following: REQD-SD_LAST_UPDATE	(None)		
a. If PPM Center is integrate	a. If PPM Center is integrated with multiple Service Manager servers, the combination of values in the			

Table 4-3. Service Manager adapter sender properties (page 2 of 2)

ticketIdFieldName and sdSystemFieldName properties ensures that all the tickets from all the Service Manager servers are uniquely identified in PPM Center.

The sender is the last section of the adapter configuration file. Make sure the file ends with the following lines:

```
</adapter>
</settings>
```

This completes the configuration of the Service Manager adapter configuration file.

If PPM Center is operating in a clustered server configuration, share or copy the <PPM_Home>/sdi-persistency directory and the <PPM_Home>/conf/sdi directory among all the servers in the cluster.

If you want to establish bidirectional integration, proceed to *Configuring the* PPM Center Adapter Configuration File. Otherwise, go to Configuring the server.conf Parameter in PPM Center on page 131.

Configuring the PPM Center Adapter Configuration File



This procedure is optional. It establishes bidirectional integration. (See Introduction to Integrating PPM Center Requests with Service Manager Changes, Using ALM on page 91.) If you do not want to establish bidirectional integration at this time, proceed to Configuring the server.conf Parameter in PPM Center on page 131.

The PPM Center adapter configuration file is an XML file in PPM Center that enables integration of PPM Center with Service Manager and then converts PPM Center RFCs to Service Manager change updates. The configuration file consists of the following components, each with its own attributes or properties (see *Figure 4-2* on page 94):

- General settings for the adapter itself, such as its name.
- Connector between PPM Center and the adapter.
- Converter of RFCs in the PPM Center data model to change updates in the Service Manager data model. The converter calls the scripts that define the field mapping and filter functions.
- Sender, which sends the converted and filtered requests to Service Manager.



If PPM Center is operating in a clustered server configuration, share or copy the <*PPM_Home*>/sdi-persistency directory and the <*PPM_Home*>/conf/sdi directory among all the servers in the cluster.

The following sections describe how to configure the PPM Center adapter configuration file and the scripts called by its converter, and how to modify copies of the provided files while preserving the originals.

Location, Naming, and Structure of PPM Center Adapter Configuration Files

Each PPM Center adapter configuration file must follow specific conventions for its location, naming, and structure, as described in the following sections.

Location and Naming of the PPM Center Adapter Configuration File

The adapter configuration files are located in the <*PPM_Home*>/conf/sdi directory of the PPM Server. This directory contains the following:

• Configuration file for the adapter (or one for each adapter if there are multiple adapters).

In this configuration file, you define a name for the adapter. The configuration file must have a .settings file extension.

• Subdirectory (or one for each adapter configuration file if there are multiple files).

The subdirectory contains the conversion scripts, which are called by the converter to map the fields between and to filter the tickets and requests. The name of the subdirectory must be the same as the *<adapter name>* (for a description, see *Structure of the PPM Center Adapter Configuration File* on page 121 and *Table 4-4* on page 123) followed by .ext.

For example, if the adapter name is ppm-adapter, the <PPM_Home>/conf/sdi directory must contain a subdirectory named
ppm-adapter.ext to hold all the conversion script files for the adapter.

Structure of the PPM Center Adapter Configuration File

ALM provides, as a template, a default PPM Center adapter configuration file named ppm-sm-adapter.settings1. The adapter file you configure and use must have a .settings file extension.

Copy the default adapter file (to preserve the original), and rename the copy with a .settings file extension and, if desired, a different file name.

As detailed in subsequent sections, the adapter file has the following basic structure, including adapter attributes, and properties for its connector, converter, and sender:

```
<?xml version="1.0" encoding="UTF-8"?>
<settings>
<adapter adapter-name="<adapter name>">
   <service-desk-application><SD application>
      </service-desk-application>
   <number-of-tickets><number of tickets></number-of-tickets>
   <polling-schedules><schedule></polling-schedules>
   <polling-frequency><frequency></polling-frequency>
   <request-types>
   <request-type level="1">
   <polling-operation>
   <connector>
   <connector-type>PPMRequest</connector-type>
      <properties>
         sdSystemName=
         requestType=
         datePattern=
         userName=
         password=
         sdSystemFieldName=
         idProperty=
         updateTimeField=
         createTimeField=
         requestStatusNames=
      </properties>
   </connector>
   <converter>
   <converter-type>scriptConverter</converter-type>
      <properties>
         scripts=<convert1>.js,<convert2>.js,...
      </properties>
   </converter>
```

```
</polling-operation>
   </request-type>
   </request-types>
   <sender>
   <sender-type>serviceManagerSender</sender-type>
      <properties>
         userName=
         password=
         queryDateFormatPattern=
         timeZone=
         keyMethodName=
         serviceUrl=
         staticFieldNames=
         idProperty=
      </properties>
   </sender>
</adapter>
</settings>
```



Do not delete or change the values provided for <connector-type>, <converter-type>, or <sender-type>.

The following sections describe how to configure the adapter attributes, the connector properties, the converter property (scripts), and the sender properties.

Configuring the PPM Center Adapter Attributes

Specify the adapter attributes of the PPM Center adapter configuration file, such as the adapter name and the service desk application, as described in *Table 4-4*.

Attribute Name (*Required)	Description	Default Value
*adapter-name	Logical name that represents the adapter name on the client machine. For example: ppm-adapter This name is also used for the scripts (.ext) directory. (See Location and Naming of the PPM Center Adapter Configuration File on page 120.)	(None)
*service-desk-application	Unique, logical name for the PPM Center system you are using. For example: PPM	(None)
number-of-tickets	Number of tickets that the adapter processes at a time.	50
polling-schedules	Times of day that the adapter polls PPM Center for changes, formatted as a list of cron expressions separated by the new line character. For example: 30 * * * * < <i>new line</i> > 0 * * * *	(None)
polling-frequency	Frequency (in seconds) that the adapter polls PPM Center for changes.	If polling-schedules and polling-frequency are unspecified, then the default polling-frequency is 30 seconds, starting when you restart the PPM Server.

Table 4-4. PPM (Center	adapter	attributes
------------------	--------	---------	------------

Configuring the PPM Center Adapter Connector Properties

Specify the properties for the connector section of the PPM Center adapter configuration file as described in *Table 4-5*.

Property Name (*Required)	Description	Default Value
*sdSystemName	Name of the adapter from which changes are imported into PPM Center as requests. Must be the same value as specified for the service-desk-application property in the Service Manager adapter (see <i>Table 4-1</i> on page 108). For example: Service Manager	(None)
*requestType	PPM Center request type that should be created for the converted changes. For example: ALM - Request for Change (RFC)	(None)
datePattern	Date format for the date field. Use the Java [™] simple date format. See the following URL: http://java.sun.com/j2se/1.4.2/docs/api/ java/text/SimpleDateFormat.html	yyyy-MM-dd HH:mm:ss
*userName	User name in PPM Center by whose credentials requests are created. This user name must include only single-byte characters.	(None)
*password	Password of the userName. This password should be encrypted using the PPM Center script kEncrypt.sh, which is located in the bin directory of the PPM Server. Encrypted passwords must be created in a CDATA section.	(None)

Table 4-5. PPM Center adapter connector properties (page 1 of 2)

Property Name (*Required)	Description	Default Value
*sdSystemFieldName	Field in PPM Center containing the Service Manager system name. This field is presented in the PPM Center request as the System Name field in the Service Desk Info section.	(None)
*idProperty	Property name of the ID field in the instance returned from the Service Manager Web service.	(None)
*updateTimeField	Field in PPM Center that represents the time the request was updated in PPM Center.	(None)
*createTimeField	Field in PPM Center that represents the time the request was created in PPM Center.	(None)
requestStatusNames	List of PPM Center request statuses, separated by semicolons (;). Only requests with the statuses you specify are retrieved from PPM Center for processing. However, if you do not specify any statuses, all requests are retrieved.	(None)

Table 4-5. PPM	Center	adapter	connector	properties	(page	2 of	2)
					1 5		

Configuring the PPM Center Adapter Converter Property (Script)

The converter section of the PPM Center adapter configuration file contains the scripts property. The script file is written in the JavaScript language. The script maps the fields from the PPM Center data model to the Service Manager data model, and filters the requests.

The scripts property is a script file name in the following format:

scripts=<convert1>.js

This file must reside in the same directory as the adapter, as follows:

<PPM_Home>/conf/sdi/<adapter name>.ext

where <adapter name> is as defined in Table 4-4 on page 123.



Make sure that no line in a script exceeds 256 characters.

Multiple scripts are supported, using a comma-separated list, in the following format:



scripts=<convert1>.js,<convert2>.js,...

The adapter searches for these conversion script files in the adapter directory.

The conversion script is responsible for field mapping during the conversion of requests in the PPM Center data model to change updates in the Service Manager data model, and for filtering the requests and change updates.

The script must contain the convert function and can contain the preFilter and postFilter functions, as follows:

• **preFilter.** The following function filters the changes before they are converted to the Service Manager data model, so that no unnecessary requests are converted:

```
preFilter(ppmRFC)
```

• **convert.** After identifying the Service Manager change attributes that need to be updated from the PPM Center requests, use the convert function of the conversion script to map fields of PPM Center requests to fields of Service Manager changes.

The following convert function uses the mapping you specify to convert the fields of the request in PPM Center to the fields of the change in Service Manager:

convert(ppmRFC, smChange)

• **postFilter.** The following function filters the converted change updates, so that only the desired updates will be applied to the corresponding change in Service Manager:

postFilter(smChange)

ALM provides a sample conversion script file named ConvertPPMToSM.js.sample in the <PPM_Home>/conf/sdi/serviceManager-adapter.ext directory.

Copy the sample file, delete the .sample extension in the copy, and revise the copied conversion script as needed. Use the syntax described in the following sections for the conversion script APIs.

ppmRFC Object

The ppmRFC object represents the PPM Center request. For the preFilter and convert script functions, use the following function to retrieve request fields from PPM Center:

```
get(String fieldName);
```

smChange Object

The smChange object represents the Service Manager ticket. For the convert and postFilter script functions, use the following functions to modify the ticket fields: Reference ID

You must use the following function to track the Service Manager change ID in the PPM Center request:

setRefId(String referenceId);

• Time Stamp

You must use the following function to set the last update time in the PPM Center request:

• General Field

Use the following function to set a value of a general field in the PPM Center request:

setField (String fieldName, String value);

• Date

Use the following function to set a value of a date field in the PPM Center request:

Configuring the PPM Center Adapter Sender Properties

Specify the properties for the sender section of the PPM Center adapter configuration file as described in *Table 4-6*. The sender controls updating changes in Service Manager with the converted data.

Property Name (*Required)	Description	Default Value
	User name in the Service Manager system that PPM Center uses to connect to Service Manager.	
*userName	This user name must include only single-byte characters.	(None)
	This user must have full access to the Change Management module in Service Manager.	
*password	Password in the Service Manager system that PPM Center uses to connect to Service Manager.	(None)
	Date format used for querying the Service Manager system (as used in the UI expert search).	
*queryDateFormatPattern	Make sure this value is consistent with the Service Manager server date pattern. For available formats, see the following URL:	(None)
	http://java.sun.com/j2se/1.4.2/docs/api/java/ text/SimpleDateFormat.html	
	Time zone, used for converting the last updated time of a request from Service Manager. Use the same time zone as the Service Manager server.	
*timeZone	The format can be GMT+ $$ or GMT- $$, where $$ is the offset in hh:mm format from GMT. For example, GMT-07:00.	(None)
	However, to handle Daylight Saving Time, use an area time zone instead of specifying a time relative to GMT.	

Table 4-6. PPM Center adapter sender properties (page 1 of 2)

Property Name (*Required)	Description	Default Value	
*keyMethodName	Name of the method for request keys (usually the ID field name).	(None)	
*keyMethodName *serviceUrl	Web service URL of Service Manager. The format is as follows:		
	http:// <service_manager_host>:<port>/ sc62server/PWS/</port></service_manager_host>	(None)	
	where < Service_Manager_Host> represents the host machine where Service Manager is running.		
*staticFieldNames (Applicable and required only for bidirectional integration)	List of Service Manager change fields (separated by semicolons) that are <i>not</i> to be updated when changes are made to their mapped PPM Center request fields.		
	This list is used to prevent inappropriate update of PPM Center requests for bidirectional integration. For example, to prevent a request from being updated when the last update time in Service Manager changes, specify the following: sysmodtime	(None)	
idProperty	Property name of the ID field in the instance returned from the Service Manager Web service.	(None)	

Table 4-6. PPM Center adapter sender properties (page 2 of 2)

The sender is the last section of the adapter configuration file. Make sure the file ends with the following:

</adapter> </settings>

This completes the configuration of the PPM Center adapter file.



If PPM Center is operating in a clustered server configuration, share or copy the PPM_Home>/sdi-persistency directory and the <PPM_Home>/conf/sdi
directory among all the servers in the cluster.

Configuring the server.conf Parameter in PPM Center



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

Add (if not present) and specify the parameter related to Service Manager integration to the PPM Center server.conf configuration file, as follows:

- 1. Stop the PPM Server.
- 2. Run the following script:

sh ./kConfig.sh

Set the parameter and value as shown in the following table. (All parameter names begin with com.kintana.core.server. but that is not shown in the table.)

Parameter	Value
MAC_LOG_SEVERITY	Specify the level of logging to be used. When set to 0 (the default), only integration exceptions (errors) and a summary are logged. When set to 1, non-error events related to the processing of changes are also logged. See <i>Error and Non-Error Logging</i> on page 133.

3. Restart the PPM Server.

Enabling the ALM Startup Service

To enable the ALM Startup service:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Open > Administration > Schedule Services.**

The Schedule Services page opens.

- 3. In the Service Name column, select the ALM Startup service.
- 4. In the **Status** column for the service, select **Enabled**.
- 5. Specify one hour for the interval in the **Schedule** column. This interval has no effect on the polling of Service Manager for tickets.
- 6. Click Save.
- 7. If a date was specified in the initial-load-state Service Manager adapter attribute in order to retrieve existing Service Manager changes from that date forward, those changes will be retrieved, converted, and sent to PPM Center, but then no new Service Manager changes will be retrieved. In this case, to retrieve Service Manager changes on an ongoing basis, do the following:



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

- a. Stop the PPM Server.
- b. Comment out the initial-load-state Service Manager adapter attribute.
- c. Restart the PPM Server in normal mode.
- d. Repeat step 1 through step 6 to verify that the ALM Startup service is running.

Error and Non-Error Logging

As described in the following sections, logging is essential for ensuring correct operation of the integration. You can specify the following two types of logging for Service Manager integration:

- System-level logging using a summary logs table and a log details table. See *System-Level Logging*.
- Configurable logging for conversion scripts. See *Configurable Logging for Conversion Scripts* on page 136.

System-Level Logging

System-level logging is the only way to administer the integration on an ongoing basis. HP recommends creating a portlet or a report to regularly query and display the logging tables and help you identify potential problems.

You can configure ALM to log only errors for integration exceptions and a summary, or to also log entries for non-error events related to the processing of changes. For information about setting the server.conf parameter that controls the level of logging (MAC_LOG_SEVERITY), see *Configuring the server.conf Parameter in PPM Center* on page 131.

Setting the MAC_LOG_SEVERITY parameter to 0 causes the summary logs table (SDI_SUMMARY_LOGS) to include only a summary of errors. Setting this parameter to 1 causes the summary logs table to also include information about tickets as they are being processed.

The summary logs table maintains only one row for each unique combination of the **TICKET_ID** and **ADAPTER_NAME** columns. See *Summary Logs Table* on page 134. Each row is updated on an ongoing basis as status changes.

The log details table (SDI_LOG_DETAILS) includes details about the errors that have a value of **Y** in the **MESSAGES** column of the summary logs table. See *Log Details Table* on page 135. (The setting of the MAC_LOG_SEVERITY parameter in the server.conf file does not affect the contents of the log details table.)

Summary Logs Table

The columns in the summary logs table (SDI_SUMMARY_LOGS) that contain useful information are described in *Table 4-7*.

Column	Description
LOG_ID	Primary key for this table.
TICKET_ID	Ticket ID imported using the connector. In some cases such as connection errors or authentication failures, the value is SUMMARY.
STATUS	 Current state of the ticket. Possible values are as follows: Retrieved/Not processed. The ticket was retrieved and has not been processed. preFilter Passed. The ticket passed the preFilter function and was sent to the convert function. Rejected in preFilter. The ticket did not pass preFilter criteria. Ticket converted. The ticket passed the convert function and was sent to the postFilter function. postFilter Passed. The ticket passed the convert function and was sent to the postFilter function. postFilter Passed. The ticket passed the postFilter function and was sent to the sender function. Rejected in postFilter. The ticket did not pass the postFilter function. Rejected in JavaScript. An exception occurred in the preFilter, convert, or postFilter function file. Ticket processed. The ticket was created in the target system. Errors occurred when sending the ticket. An exception occurred and the ticket could not be sent to the sender .
LAST_UPDATE_DATE	Last time the ticket was updated in PPM Center.
COMPONENT	Component that logged the message—the connector, converter, or sender.

Table 4-7. Summary logs table (SDI_SUMMARY_LOGS) (page 1 of 2)

Column	Description
ADAPTER_NAME	Service desk name in the adapter settings file.
MESSAGES	If the value is Y , further details for this log entry are provided in the log details table (SDI_LOG_DETAILS). If the value is N , no further details are provided.
IN_PROCESS	If the value is Y , processing of this ticket is complete. If the value is N , processing of this ticket is not yet complete.

Table 4-7. Summaı	y logs table	(SDI_SUMMARY	LOGS) (page 2 of 2)
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Log Details Table

The log details table (SDI_LOG_DETAILS) includes the details described in *Table 4-8* for the errors that have a value of **Y** in the **MESSAGES** column of the summary logs table.

Table 4-8. Log details table (SDI_LOG_DETAILS)

Column	Description
LOG_DETAIL_ID	Primary key for this table
LOG_ID	Foreign key to the entry in the SDI_SUMMARY_LOGS table
DETAILS	Detailed error message captured when the error occurred

Configurable Logging for Conversion Scripts

Configurable logging is useful for debugging your integration mapping. During testing, you can specify log messages that appear at key points in the conversion script to indicate correct or incorrect conversion. Before deploying the integration to production, you would typically want to comment out the messages for correct operation so they do not quickly accumulate in the logs.

If you want to view log messages describing the activity that occurs during the request conversion process, you can include logging objects in your conversion scripts. During the conversion process, you can view the log messages in the conversion script log files, located in the <PPM_Home>/script-logs directory. Each adapter logs messages in a separate log file. The names of the log files are based on the names of the adapters for which the files log errors.

Within any of the script functions, a logging object with the following syntax should be included:

```
logger.<type of message>("<log message>");
```

The following message types can be used:

- info. Records all processing activity that is performed.
- warn. Records warning messages.
- error. Records error messages.



Logging is also controlled by the severity specified in the PPM Center logging.conf file.

For example, you can include a logging object such as the following:

If you want the conversion script log files to display a list of all Service Manager fields, you can include the following logging object in your conversion script:

```
logger.info(BeanUtils.describe(ticket));
```

If you use this logging object, make sure the following line is included at the beginning of the conversion script:

importPackage(Packages.org.apache.commons.beanutils);

5 Integrating PPM Center with HP Universal CMDB, Using ALM

Introduction to Integrating PPM Center with Universal CMDB, Using ALM

Universal CMDB consists of a business-service-oriented data model with built-in discovery of the following:

- Configuration items (CIs) and their dependencies
- Visualization and mapping of business services
- Tracking of configuration changes

When you integrate PPM Center with Universal CMDB, you can select CIs and run impact analysis reports from change requests in PPM Center, to determine which components of a system will be affected by a software change, and to what extent. The integration assists IT managers and Change Advisory Boards in deciding whether a change request should be approved for development or deployment.

For example, your software change might involve upgrading a database server. Before you can perform the upgrade, you need to stop the server. In some cases this could prevent users from accessing crucial services, or even cause a crash of your production system. Impact analysis determines the effect on the entire system of stopping the server, and gives you a report showing the components that will be impacted. This enables you to plan the change with minimal disturbance to your operations.

For more information about the benefits of this integration, see Integration of *PPM Center with Universal CMDB for Impact Analysis of Requests, Using ALM* on page 19.

For information about the versions supported for integration, see the *System Requirements and Compatibility Matrix.*



No software needs to be installed on the Universal CMDB server to integrate PPM Center and Universal CMDB. However, see the *System Requirements and Compatibility Matrix.*

For more information about Universal CMDB, see its product documentation at the Web site described in *Optional PPM Center Integrations* on page 17.

Using Impact Analysis in a Change Request Lifecycle

Since a software change might be developed and deployed over a lengthy period of time, you might want to generate an Impact Analysis Report at the following stages in the lifecycle of the change request:

• **Before you approve or develop the change.** Before you approve or develop the change, it is useful to forecast the effect that introducing the change will have on your production system. You describe the intended change, specify the components that you think will be affected, and run impact analysis to forecast the effect of the change.

The resulting report gives you an indication of how your system will cope with the change after the change has been developed and deployed, and helps you decide whether to approve the change for development.

• After the change is approved for deployment to a production system, but before you deploy the change. While the software change is being developed and then evaluated for quality, modifications may occur in your system infrastructure. For example, servers might be added or removed, or applications might be changed. As a result, the original impact analysis may no longer give an accurate indication of what will happen when you introduce the change. So after the change has been developed, evaluated, and approved for deployment, you perform another impact analysis to give you an up-to-date picture.

Configuring Universal CMDB for the Integration

To configure Universal CMDB for the integration, configure views in Universal CMDB and create a PPM Center user and password in Universal CMDB. See the Universal CMDB documentation.

Configuring PPM Center for the Integration

Perform the procedures in this section to configure PPM Center for the integration.

Configuring server.conf Parameters in PPM Center



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

Add (if not present) and specify the parameters related to Universal CMDB integration to the PPM Center server.conf configuration file, as follows:

- 1. Stop the PPM Server.
- 2. Run the following script:

sh ./kConfig.sh

Set the parameters and values as shown in the following table. (All parameter names begin with com.kintana.core.server. but that is not shown in the table.)

Parameter	Value
UCMDB_GATEWAY_URL	URL of the Probe Gateway component of the Discovery and Dependency Mapping (DDM) Probe. The Probe Gateway provides communication (HTTP or HTTPS) between the Probe Manager and the Universal CMDB user for processes such as downloading tasks and returning task results.
	usually the same as for the UCMDB_SERVER_URL parameter.
	http:// <ucmdb_host>:<port>/mam/ gateway?</port></ucmdb_host>
UCMDB_MAX_CI_NUMBER	Maximum number of CIs a request is allowed to have. Valid values are from 1 to 100. If a value greater than 100 is specified, the PPM Server will not restart and displays an error message. The default is 20.
	Password for Universal CMDB user specified in UCMDB_USER.
UCMDB_PASSWORD	This password must be encrypted as described in <i>Encrypting the Password Specified as a server.conf Parameter</i> .
	URL of the Universal CMDB server:
	http:// <ucmdb_host>:<port>/ucmdb/</port></ucmdb_host>
	or
UCMDB_SERVER_URL	https:// <ucmdb_host>:<port>/ucmdb</port></ucmdb_host>
	where <ucmdb_host> represents the host machine on which Universal CMDB is running.</ucmdb_host>
	Note: If the Universal CMDB server is configured to support HTTPS, make sure you configure the UCMDB_SSL_KEYSTORE_PATH parameter.

Parameter	Value
UCMDB_SERVER_VERSION	Do not use.
UCMDB_SSL_KEYSTORE_ PATH	Universal CMDB keystore path, used only if the UCMDB_SERVER_URL parameter uses HTTPS.
UCMDB_USER	Universal CMDB user name, for example, admin.
	This user name must include only single-byte characters.

3. Restart the PPM Server.

Encrypting the Password Specified as a server.conf Parameter

The password that you assigned to the UCMDB_PASSWORD parameter must be encrypted, as follows:

- 1. Navigate to the <PPM_Home>/bin/ucmdb directory.
- 2. Run the kEncryptUcmdbPassword.sh utility.
- 3. Specify the password you want to encrypt.

The utility encrypts the password and displays the encrypted text.

4. Copy the text in the Encrypted text section on the screen and paste the text as the value for UCMDB_PASSWORD in the server.conf file, making sure that you do not copy any carriage returns into the file.

Configuring a Request Type

The integration requires a request type with the Universal CMDB Impact Analysis field group. The ALM - Request for Change (RFC) request type provided with ALM includes this field group, which is enabled by default.

If necessary, you can add the Universal CMDB Impact Analysis field group to a different request type, as follows:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Demand Mgmt > Request Types.**

The Request Types Workbench opens.

- 4. Select the request type to which you will add the Universal CMDB Impact Analysis field group.
- 5. Open the request type and its request header type.
- 6. Click Field Groups.
- 7. In the Field Groups window, scroll down and select the check box to enable the Universal CMDB Impact Analysis field group.
- 8. Click **OK** to add the Universal CMDB Impact Analysis field group to the request header type.
- 9. Expand Universal CMDB Impact Analysis in the Prompt column on the Fields tab in the request header type.
- 10. Select the CI List field, and click Edit.
- 11. On the Attributes tab, select No for the Display Only option and select Yes for the Display option.
- 12. Select the **Security** tab and edit field-level security for the **CI List** field as needed.
- 13. Click **OK** to save and close the Edit window and click **OK** to save and close the Request Header Type window.

- 14. Return to the request type, which now has the Universal CMDB Impact Analysis section, including the **Cl List** field, based on the changes you made to the request header type.
- 15. Use the **Layout** tab to reposition the **Impacted Configuration Items** section on the request type, as desired.



On the Status Dependencies tab for the CI List field, leave the Required, Reconfirm, and Clear options set to No.

You can change the Visible and Editable options as desired.

Using the Integration

The Configuration Management Database (CMDB) in Universal CMDB contains information about all your CIs (servers, applications, hosts, and so on) and their relationships. CIs can vary widely in complexity, size, and type, from an entire system (including all hardware, software, and documentation) to a single module or minor hardware component.

For example, the CMDB contains information about which CIs are affected when other CIs stop functioning or have operational problems.

You generally perform impact analysis as follows:

• Select the CIs that you suspect might be affected by the planned software change.

HP recommends using CI names in Universal CMDB that will be meaningful to you in PPM Center.

- Run impact analysis on the selected CIs. Impact analysis analyzes the relationships among the selected CIs in the CMDB, and generates a report showing the CIs that will be affected by the planned change.
- Run impact analysis at additional points. Examples:
 - Before approving a change, to forecast the effect that the change will have on your system.
 - After the change has been created, in case your system infrastructure has changed since the previous impact analysis was performed.

Selecting CIs in Universal CMDB and Adding the CIs to a Request

To select the desired CIs in Universal CMDB to add to the request:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Create > Request**.
- 3. Create a request using a request type that includes the Universal CMDB Impact Analysis field group.
- 4. In the **Impacted Configuration Items** section of the new request, click **Select Configuration Items**.

The CI selector applet from Universal CMDB launches, with **Browse** and **Search** tabs.

- 5. Use the tabs to select the desired CIs for the request.
 - To use the **Browse** tab, select a view such as **Network Topology** from the **View** list.

🖉 Select Configuration Items - Mi 🔳 🗖	×
Browse Search	^
69 G	
View: NetworkTopology	
⊞————————————————————————————————————	
Find:	
OK Cancel	Y
😂 A 🛛 😼 Local intranet	:

Expand the view as desired. You can select multiple items in the tree by using Ctrl + click or shift + click.
• To use the Search tab, complete the Search for field to limit the search results, and select a CI Type. Click the search icon for the CI Name field and select items as needed. You can select multiple items by using Ctrl + click or shift + click.

Select Configura	ntion Items - Mi 🔳 🗖	>
Browse Views	Search Cls	
CI Type: Host;	••••	
CIName:	9	
Name	CI Type	
🗐 Host001	Host 🔺	
I Host002	Host	
I Host003	Host	
I Host004	Host	
🗐 Host005	Host	
💕 Unix001	Unix	
🚰 Unix002	Unix	
💕 Unix003	Unix	
💕 Unix004	Unix	
💕 Unix005	Unix	
🍜 Window001	Windows 🗸	
<u>F</u> ind:	\odot \odot	
Search results count:15	5	
0	K Cancel	
Ê A	Scal intranet	

 Click OK to add the selected CIs to the request, under the Impacted Configuration Items heading in the Universal CMDB Impact Analysis section. The added CIs are shaded in color. Duplicate CIs are not added.

For each CI, data appears in the **CI Name** and **CI ID** columns. If you selected CIs using the **Browse** tab in the Universal CMDB applet, data also appears for the **View Name**, **View Type**, **View Tree Name**, and **View TQL Name** columns. Data does not appear for these columns if you selected CIs using the **Search** tab, because the same CI can exist in multiple views.

If adding the CIs to the request would exceed the maximum number allowed by the UCMDB_MAX_CI_NUMBER parameter in the server.conf file, none of the selected CIs are added.

When you select and add CIs in Universal CMDB to the PPM Center request, the CIs are never changed or deleted in Universal CMDB.

Create New ALM - Request for C	Change (RFC)
--------------------------------	--------------

Expa	and All Collapse All							Submit	Cancel
	Header								
±	RFC Summary								
Ξ	Details								
-	RFC Details								
*	SOX Information								
*	Implementation D	etails							
	Impact & Resource	e Assessment							
Imp	act Severity	[~		Impact Analysis Re	port	(no document attache	ed) Add
Imp	act Assessment Sumr	nary:				Impact Assessmen	nt Report:	(no document attache	ed) Add
Expe	ected Duration:	[Expected Effort:			
Expe	ected Cost:	[Backout Plan:		(no document attache	ed) Add
CAB	Recommendations:								
Use	rs Impacted:	[
Ξ	Impacted Configur	ration Items							
Sele	ct Configuration Items								
Im	pacted Configuration It	tems							
	CI Name	CI ID	204+042+42++0		View Name	View Type	View Tree Name	View TQI	. Name
	Unix001	4511906000007505446 3d186fbd6c4c1446603	317b0db3212a9						
×	Window001	f905c89164d77cf815e	a6bb15909839a						
3 cor	nfiguration item(s) add	led.							
	Launch HP Univers	al CMDB Impact Analy	sis	Launch HP Rele	ase Control				
	QA Details								
*	Quality Center Info)							
*	Service Desk Syste	em Info							
*	Review Summary								
±	Notes								
±	References								
								Submit	Cancel

7. As necessary, click the **Delete** icon to the left of any CI you want to delete.

The **Delete** icon becomes an undo icon to allow you to undo the pending deletion.

8. After the desired CIs are listed in the request, click **Submit** (or **Save** for an existing request) to add the list of CIs to the request.



If a request with a list of CIs is copied, the list of CIs is not copied to the new request.



The CIs in a request are available as part of standard Web services for a request. The token is $REQ_VP_KNTA_UCMDB_CI_LIST$. The value of the field represented by this token is a comma-separated list of CI IDs.

Generating Impact Analysis Reports

To generate an Impact Analysis Report for the CIs that have been added to a request:

 Click the Launch HP Universal CMDB Impact Analysis button in the Impacted Configuration Items section of the request. Log in to Universal CMDB if prompted to do so.

An Impact Analysis Report is generated in Universal CMDB.

- 2. Add the Impact Analysis Report to the request, using the Impact Analysis Report field in the Impact & Resource Assessment section of the request.
- Based on the impact analysis report, make your recommendations in an Impact Assessment Report. Add your report to the request using the Impact Assessment Report field in the Impact & Resource Assessment section of the request.

The Launch HP Release Control button appears if PPM Center is also integrated with HP Release Control, as described in Chapter 7, *Integrating PPM Center with HP Release Control, Using ALM*, on page 245.

6 Integrating PPM Center with HP Quality Center, Using ALM

Introduction to Integrating PPM Center with Quality Center, Using ALM

Integrating PPM Center with Quality Center enables you to create Quality Center requirements and defects while using PPM Center. This allows users of both applications to participate in the processing of defects, change requests, and release requests.

In PPM Center, a request type is a template, and when you create a request, you must select a request type. With the PPM Center–Quality Center integration, creating the request in PPM Center automatically creates a defect or requirement in the integrated Quality Center project. For example, depending on the integration configuration, creating a PPM Center request of type PPM_Defect could create a defect in Quality Center project A or project B, and creating a PPM Center request of type PPM_Requirement could create a requirement in Quality Center project B.

In addition, for integration with Quality Center version 11.00, when a Quality Center defect is created, an associated PPM Center request can be created automatically.

When an IT manager or business liaison enters a change request or creates a release comprising a group of change requests in PPM Center, PPM Center–Quality Center integration causes a requirement to be created in Quality Center. This informs QA personnel that they should begin the QA process.

PPM Center–Quality Center integration allows ongoing synchronization between fields such as status fields that have been mapped between a request type in PPM Center and an associated defect or requirement in a Quality Center project.

Upon completion of the QA process, the IT manager or business liaison is notified on the PPM Dashboard and can complete the deployment process.

Using Quality Center version 10.00, multiple PPM Center request types can be integrated with the same Quality Center entity (either a defect or a requirement) in a project. Using Quality Center version 11.00, each integration must include a one-to-one, unique mapping between a PPM Center request type and a Quality Center entity (defect or requirement).

In any case, different PPM Center request types can be integrated with different entities of the same project or different projects in Quality Center. If the request types are integrated with entities of different projects, the projects can be on the same or different Quality Center servers, and each Quality Center server can be at version 10.00 or version 11.00.

PPM Center version 9.10 can be integrated with Quality Center versions 10.00 and 11.00, but the integration configuration procedures are significantly different.

- For integration with Quality Center version 10.00, PPM Center provides the PPM Center-Quality Center Integration Tool, which you can install on any computer. You use a software wizard to help create the required mapping files, which you then deploy to PPM Center and to Quality Center.
- For integration with Quality Center version 11.00, you use a menu option in PPM Center to create the mapping files in a central PPM Center location rather than creating them elsewhere and deploying them to PPM Center or Quality Center.

Be sure to follow the appropriate integration procedures in this chapter, based on the installed version of Quality Center. Do *not* attempt to use the PPM Center-Quality Center Integration Tool to configure integration with Quality Center version 11.00.

For more information about the benefits of this integration, see *Integration of PPM Center with Quality Center, Using ALM* on page 20 and *Benefits and Functionality of the Integration.*

For information about the Quality Center versions supported for integration and, for integration with Quality Center version 10.00, the required version of .NET Framework for the machine on which the integration tool is run, see the *System Requirements and Compatibility Matrix*.



No software needs to be installed on the Quality Center server to integrate PPM Center and Quality Center. However, see the *System Requirements and Compatibility Matrix*.

For more information about Quality Center, see its product documentation at the Web site described in *Optional PPM Center Integrations* on page 17.

Benefits and Functionality of the Integration

Integrating PPM Center and Quality Center provides the following benefits to users of each application:

- **Data sharing.** The integration allows data sharing between PPM Center and Quality Center. Business managers and IT personnel using PPM Center gain visibility into how a project is affected by both the quality control process and the parameters that are collected in Quality Center. They can use Quality Center capabilities when creating requests for changes.
- Inclusion of Quality Center data in the workflow. The PPM Center workflow is a well-defined process that allows IT managers to plan, track, and deploy software enhancements. Integration allows you to build your own workflows and steps in PPM Center while using fields and data from Quality Center. The Quality Center defect resolution capabilities become part of the workflow. This makes the quality process an integral and formal part of the IT processes.
- QA-dependent workflow progression (for integration with Quality Center version 10.00 only). Progress from one step in the PPM Center workflow to the next can be made dependent on progress by the QA team. In PPM Center, the IT manager can view how a project is affected by the quality defects that are collected in Quality Center and can decide whether a defect has been resolved or an enhancement can be deployed.
- Direct activation of processes, and creation of Quality Center requirements and defects from PPM Center. Processes can be activated by PPM Center—creating a PPM Center request of a type that is integrated with Quality Center creates a defect or requirement in Quality Center when the relevant step in the PPM Center workflow is activated.

• Synchronization of mapped field values between PPM Center and Quality Center. When fields are mapped between a PPM Center request type and a Quality Center defect or requirement, changing the value of a mapped field in one application can automatically change the value of the associated field in the other application. For example, when you change the status of a request related to defects to Fixed in PPM Center, the status of the associated Quality Center project defect changes to Fixed.

Users can specify that one of the following occurs for any pair of mapped fields:

- Changing the value of the field in the Quality Center defect or requirement automatically updates the value of the mapped field in the PPM Center request accordingly, that is, Quality Center is dominant for (controls) the pair of mapped fields.
- Changing the value of the field in PPM Center request automatically updates the value of the mapped field in the Quality Center defect or requirement accordingly, that is, PPM Center is dominant for (controls) the pair of mapped fields.
- Changing the value of the field in either application automatically updates the value of the mapped field in the other application accordingly, that is, the field mapping is bidirectional.

Synchronization of defects enables the following:

- Developers can use PPM Center to manage the defect-fixing process, while QA personnel continue to use Quality Center.
- Project managers and IT managers can view all the defects in the system, whether the defects originated in PPM Center or in Quality Center. This helps the managers to decide on content for the next release or new requirements and enhancements.
- QA personnel can use Quality Center to manage defects created through PPM Center.
- **Request hierarchy synchronization.** The hierarchical structure of requirements in Quality Center can be synchronized with the structure of the associated requests in PPM Center. That is, you can force the Quality Center requirement hierarchy to match the PPM Center request hierarchy automatically.

• **Synchronization with PPM Center notes.** The integration allows you to synchronize a notes-related field in Quality Center with notes in the associated PPM Center request. When you update the content of the notes in a PPM Center request, the associated notes field in Quality Center is updated.

Added Functionality of Integration with Quality Center Version 11.00

Integration with Quality Center version 11.00 provides the following added capabilities compared to integration with Quality Center version 10.00:

- Creating a defect in Quality Center version 11.00 can create a request in PPM Center.
- Configuration uses the PPM Center standard interface, not a separate integration tool that must be installed on a Windows machine.
- Configuration no longer requires explicit deployment of the field mapping file to Quality Center or to PPM Center.
- The integration with Quality Center version 11.00 has an event and error log you can view.
- Email notification options are enhanced—you can optionally have notifications sent as follows:
 - When the integration creates or updates Quality Center defects as well as other entities.
 - When integration errors occur.
 - In a daily consolidation of notifications, as an alternative to individual notifications.

The information in the notifications matches the information in the event and error log.

- The integration supports HTTPS.
- When a PPM Center request is created, the integration automatically populates the request fields related to Quality Center—the Quality Center server instance (URL), domain, and project—with the values PPM Center retains from initial configuration of the integration.

ALM Entities Used by the Integration

The ALM entities that are used by the integration with Quality Center are described in the following sections.

ALM - Defect Template with Quality Center Integration Request Type

The PPM Center request type that ALM provides for integration with Quality Center project defects is the ALM - Defect Template with Quality Center Integration request type. This request type uses only the ALM - Defect Template with Quality Center Integration workflow. To prevent you from inadvertently using a workflow that is not enabled for this integration, you cannot choose a different workflow. This request type includes the Quality Center Defect Information field group.



Although you can create new request types from scratch, HP recommends that you use the provided ALM request type as a template to create new request types. In the PPM Workbench, you can copy the provided request type and modify the copy. If you create your own request types to integrate PPM Center and Quality Center, make sure you use workflows that are enabled for integration.

You can also create a new request type with a customized request header type.

Figure 6-1 shows the Create New ALM - Defect Template with Quality Center Integration page that appears when you create a request and select the ALM - Defect Template with Quality Center Integration request type. *Table 6-1* describes the fields in the request, including some fields that do not appear until the request is submitted for creation or until other conditions are met.

The fields in the **Quality Center Defect Information** section of the request are defined by the Quality Center Defect Information field group in the request header type for the request. For more information about these fields, see *Quality Center Defect Information Field Group* on page 160.

Figure 6-1. ALM - Defect Template with Quality Center Integration request

Expand All Collapse All				Submit	Cancel
🗏 Header					
Summary					
*Summary:					
Denartment:	~	Created By:	Admin User		
*Severity		Assigned To:			
"seventy:	¥	Assigned 10:			
Detected in Version:		Assigned Group:			=
Defect Priority:	*	Application:			E
Reproducible:		Request Status:	New		
Quality Center Defect Inform	ation				
*Quality Center Instance:	E	*Quality Center Domain:			⊞
*Quality Center Project:	I				
Detected in Quality Center by:					
Defect Number:		Quality Center Defect Status:			
Quality Center Message:					
Quality Center Attachments:	(No Link)				
Details Planned vs. Actual					
Planned Closing Version:		Closed in Version:			
Estimated Fix Time (days):		Actual Fix Time (days):			
		Closed on:			
Defect Information					
Detailed Description:					
·					
		<u></u>			
Developer Comments:					
		×			
Notes					
Notes to be added on save:					
	~				
References					
				Submit	Cancel

Create New ALM - Defect Template with Quality Center Integration

Field Name (*Required)	Description
Summary section	·
Request No.	(Added after the request is created) Number of the request
Created On	(Added after the request is created) Date the request was created
*Summary	Summary description of the request
Department	Department to which the user belongs
Created By User who created the request	
*Severity	Severity of the defect
Assigned To	Developer assigned to work on the defect
Detected in Version	Version of the application in which the defect was detected
Assigned Group	Group responsible for addressing the defect
Defect Priority	Priority of the defect
Application	Application in which the defect was discovered
Reproducible	Option to indicate whether the defect is reproducible
Request Status	Status of the request

Table 6-1. ALM - Defect Template with Quality Center Integration request fields (page 1 of 2)

Quality Center Defect Information section ^a

*Quality Center Instance	URL of the Quality Center instance with the project used for the integration
*Quality Center Domain	Domain of the project in Quality Center
*Quality Center Project	Quality Center project that is integrated with this request type
Detected in Quality Center by	User in Quality Center who detected the defect

Table 6-1. ALM - Defect Template with Quality Center Integration request field	S
(page 2 of 2)	

Field Name (*Required)	Description
Defect Number	(Added after the defect is created in Quality Center) Defect number in Quality Center
Quality Center Defect Status	(Added after the defect is created in Quality Center) Status of the defect in Quality Center
Quality Center Message	(Read-only. Added after the defect is created in Quality Center.) Quality Center status message indicating success or error in the most recent operation
Quality Center Attachments	URL of the list of attachments to the Quality Center requirement or defect
Planned vs. Actual section	
Planned Closing Version	Version of the application targeted to have the defect fix
Closed in Version	Version of the application that has the defect fix
Estimated Fix Time (days)	Original estimate of the number of days it would take to fix the defect
Actual Fix Time (days)	Actual number of days it took to fix the defect
Closed on	Date the defect was closed in Quality Center
Defect Information section	
Detailed Description	Detailed description of the defect
Developer Comments	Developer comments regarding the defect
a. Fields in the Quality Center Defect	t Information section remain visible by default but are not used if

PPM Center is not integrated with Quality Center.

The administrator can remove the **Quality Center Defect Information** section from the request type by removing the Quality Center Defect Information field group from the ALM - Defect Template with Quality Center Integration request header type. See the *HP Demand Management Configuration Guide* for details about request header types and field groups.

To submit an ALM - Defect Template with Quality Center Integration request:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Create > Request.**

The Create New Request page appears.

3. On the Create New Request page, in the Request Type field, select ALM - Defect Template with Quality Center Integration and click Create.

The Create New ALM - Defect Template with Quality Center Integration page appears, displaying the appropriate request fields.

Required fields have a red asterisk. All other fields are optional, but are often helpful when others are reviewing an open request. For information concerning a specific field, click the **Help** icon next to the field (if available).

4. Complete the fields in all sections as appropriate.

The **Notes** section contains fields where notes and information concerning the request can be entered and stored. Typically, when you create a request, you do not need to add a note to it. However, add a note if you want to convey additional information to the reviewers and processors of the request.

In the **References** section of the request, you can add useful references such as a Web-accessible file or a document or file attached from a local machine. For more information about adding references, see the *HP Demand Management User's Guide*.

5. On the Create New Request page, click Submit.

The request is submitted. The Request Creation Confirmed page appears.



PPM Center can be configured to allow you to save the request before you submit it. To have this feature enabled, see your PPM Center administrator.

After submitting the request, on the Request Creation Confirmed page you can click the link for the particular request number in the **Request #** field to view the detail page of the newly generated request.

When the request is submitted, it is assigned an initial status, such as New. The request is then routed along the ALM - Defect Template with Quality Center Integration workflow (see *ALM - Defect Template with Quality Center Integration Workflow* on page 161).

Request Header Types

By default, when you create a new request type from a provided one, the new request type uses the same request header type as the provided request type uses.

When creating a new request type, you can do the following:

- Use the supplied request header type as is.
- Copy the request header type, customize the copy, and use the customized copy in the new request type.
- Create a completely new request header type.



Your request header type must include the Quality Center fields that appear in the provided request header type. If you customize a request header type, make sure you do not delete the Quality Center fields.

If you create a new request header type, add the required integration-related fields by selecting the appropriate field group, as follows:

- 1. Log on to PPM Center.
- 2. From the menu bar, select **Open > Administration > Open Workbench.**

The PPM Workbench opens.

3. From the shortcut bar, select **Demand Mgmt > Request Header Types.**

The Request Header Type Workbench opens.

4. In the Request Header Type Workbench, click New Request Header Type.

The Request Header Type window opens.

5. Click Field Groups.

The Field Groups window lists the available field groups.

- 6. Select the appropriate field group:
 - For a defect, select the Quality Center Defect Information field group.
 - For a requirement, select the **Quality Center Info** field group.

Quality Center Defect Information Field Group

The fields in the **Quality Center Defect Information** section of the ALM - Defect Template with Quality Center Integration request type (see *Table 6-1* on page 156) are defined by the Quality Center Defect Information field group. These fields support integration with Quality Center defects and should not be modified (except for their Field Prompts, as desired). *Table 6-2* provides more information about these fields.

Field Name	Field Database ID	Field Type
Quality Center Instance	KNTA_QC_DEFECT_INSTANCE	Autocomplete List
Quality Center Domain	KNTA_QC_DEFECT_DOMAIN	Autocomplete List
Quality Center Project	KNTA_QC_DEFECT_PROJECT	Autocomplete List
Detected in Quality Center by	QC_DETECTED BY	Text (40)
Defect Number	KNTA_QC_DEFECT_NO	Numeric Text (10 digits)
Quality Center Defect Status	KNTA_QC_DEFECT_STATUS	Text (300)
Quality Center Message	KNTA_QC_DEFECT_INT_MSG	Text (300)
Quality Center Attachments	KNTA_QC_DEFECT_ATT_URL	URL

Table 6-2. Fields in Quality Center Defect Information field group

ALM - Defect Template with Quality Center Integration Workflow

The PPM Center workflow that ALM provides for integration with Quality Center project defects is the ALM - Defect Template with Quality Center Integration workflow, which includes execution steps to create a defect or requirement in Quality Center. You can use this workflow as a template for creating your own workflows.

Although you can create new workflows from scratch, HP recommends that you create them from this template. To create a new workflow, use the PPM Workbench to create a copy of a provided workflow, and then modify the copy (add, delete, or change its steps) to suit your needs.

The integration also uses the ALM - Release Request workflow to create a release entity that includes several requests for change. This workflow can be used for ITIL purposes whether or not PPM Center is integrated with other applications. For more information, see *ALM - Release Request Workflow* on page 74.

The ALM - Defect Template with Quality Center Integration workflow is used to create a defect and to track how the defect is resolved. See *Figure 6-2* and workflow step 5, Defect Verification.



Figure 6-2. ALM - Defect Template with Quality Center Integration workflow

When a request of type ALM - Defect Template with Quality Center Integration is created in PPM Center, the first step in the workflow creates a defect in Quality Center. Subsequent steps cause the defect status in Quality Center to change to Open, Reopen, Fixed or Closed, depending on the stage in the PPM Center workflow.

Types of Workflow Steps

As with any PPM Center workflow, the ALM - Defect Template with Quality Center Integration workflow can contain the following types of steps:

• **Decision steps.** Steps that require action from the user in order to proceed. When the user reaches the decision step, the user sees a set of choices. Each choice causes the workflow to proceed in a different manner. For example, at one decision step in a workflow, a project manager might be offered the choice of either deploying a package or sending it back to QA for more testing.

- **Condition steps.** Steps that determine the direction that the workflow takes.
- **Execution steps.** Steps that are automated through PPM Center. For example, an execution step might create a requirement or defect in Quality Center, execute a script, or run a build.

ALM provides two execution steps that can be used in PPM Center to build a workflow for integration of PPM Center with Quality Center. The execution steps create a defect or a requirement in Quality Center.

ALM Request Types Used for Integration with Quality Center Requirements

Integration with Quality Center project requirements can use the following request types and workflows:

• ALM - Request for Change (RFC) request type for requests for change, which are used in multiple HP products (see *ALM - Request for Change* (*RFC*) *Request Type* on page 32).

This request type is used in conjunction with the ALM - Request for Change workflow (see *ALM* - *Request For Change Workflow* on page 41).

• ALM - Release Management request type for requirements (see *ALM - Release Management Request Type* on page 68).

This request type is used in conjunction with the ALM - Release Request workflow (see *ALM* - *Release Request Workflow* on page 74).

These request types include the Quality Center Info field group (see *Quality Center Info Field Group*), and their associated workflows can generate requirements in Quality Center.



Although you can create new request types from scratch, HP recommends that you use the provided ALM request type as a template to create new request types. In the PPM Workbench, you can copy the provided request type and modify the copy. If you create your own request types to integrate PPM Center and Quality Center, make sure you use workflows that are enabled for integration.

You can also create a new request type with a customized request header type.

Quality Center Info Field Group

The fields in the **Quality Center Info** section of the ALM - Request for Change (RFC) request type or the ALM - Release Management request type are defined by the Quality Center Info field group. These fields support integration with Quality Center requirements and should not be modified (except for their Field Prompts, as desired). *Table 6-3* provides more information about these fields.

PPM Center Field Name	PPM Center Field Database ID	PPM Center Field Type	Description		
Quality Center Instance	KNTA_QC_INSTANCE	Autocomplete List	URL of the Quality Center instance with the project that will integrate with the PPM Center request.		
Quality Center Domain	KNTA_QC_DOMAIN	Autocomplete List	Domain of the working Quality Center project.		
Quality Center Project	KNTA_QC_PROJECT	Autocomplete List	Quality Center project that is integrated with this request type.		
Quality Center Assigned To User	KNTA_QC_ASSIGNED_TO	Not applicable	Obsolete field that is not used by ALM. Do not use.		
Quality Center Requirement No.	KNTA_QC_REQUIREMENT_ NO	Numeric Text (10 digits)	Requirement number in Quality Center.		
Quality Center Status	KNTA_QC_REQUIREMENT_ STATUS	Text (300)	Status of the requirement in Quality Center.		
Quality Center Message	KNTA_QC_REQUIREMENT_ INT_MSG	Text (300)	Quality Center status message indicating success or error in the most recent operation.		
Quality Center Attachments	KNTA_QC_REQUIREMENT_ ATT_URL	URL	URL of the list of attachments to the Quality Center requirement.		

Table 6-3. Fields in Quality Center Info field group

Selecting the Appropriate Integration Procedure

If multiple Quality Center servers (instances) are integrated with PPM Center, some of the Quality Center instances can be at version 10.00 and others can be at version 11.00.

The PPM Center-Quality Center Integration Tool must be used only for integration with Quality Center version 10.00. It cannot detect integrations that were previously established with Quality Center version 11.00 instances, and any existing integration with a version 11.00 instance prevails if you try to use the integration tool for that integration.



If PPM Center is at version 9.10 and you upgrade a Quality Center instance from version 10.00 to version 11.00, existing integrations of PPM Center requests and Quality Center entities (defects or requirements) on that instance will not be upgraded. If the integrations are reestablished, they will operate as new integrations.



In configuring a Quality Center version 11.00 integration, make sure you establish a one-to-one, unique mapping between each integrated PPM Center request type and its associated Quality Center entity (defect or requirement).

The procedure to configure integration of PPM Center with Quality Center version 11.00 is significantly different from the procedure to configure integration with Quality Center version 10.00. You must use only the appropriate procedure, as follows:

- For integration with Quality Center version 10.00, go to *Configuring Integration with Quality Center Version 10.00* on page 166.
- For integration with Quality Center version 11.00, go to *Configuring Integration with Quality Center Version 11.00* on page 210.



Configuring Integration with Quality Center Version 10.00

The procedures in this section apply to integrating PPM Center with Quality Center version 10.00 only. If you are integrating PPM Center with Quality Center version 11.00, go to *Selecting the Appropriate Integration Procedure* on page 165.

Integration with Quality Center version 10.00 requires installing the PPM Center-Quality Center Integration Tool on any Windows machine that can open HTTP connections to the PPM Server and to the Quality Center server. This tool enables Quality Center projects for integration and maps PPM Center fields to Quality Center fields.



The PPM Center-Quality Center Integration Tool is used only for integration with Quality Center version 10.00. Do *not* attempt to use the procedures in this section to configure integration with Quality Center version 11.00.

Before proceeding, verify that Quality Center version 10.00 is installed and running on the Quality Center server to be integrated.

Overview of Installation and Configuration Process

The procedures for configuring integration of PPM Center and Quality Center version 10.00 are described in detail in the following sections, and are summarized as follows:

- If an earlier version of the PPM Center-Quality Center Integration Tool was installed, uninstall it.
- Install the latest version of the PPM Center-Quality Center Integration Tool (see the *System Requirements and Compatibility Matrix*). This tool enables a Quality Center project for integration and maps PPM Center fields to Quality Center fields in an XML mapping file.
- Using the PPM Center-Quality Center Integration Tool, configure integration with a Quality Center project as follows:
 - Enable a Quality Center project for integration.

- If you are integrating a PPM Center request type with a Quality Center requirement, specify the following:
 - Whether email notifications are to be sent when requirements are created and/or updated
 - Whether the requirement hierarchy is to be synchronized with (driven by) the request hierarchy
- Create a mapping between PPM Center fields and Quality Center fields, including their value lists.
- Map the Notes field in PPM Center to an existing Quality Center project.
- Deploy the mapping file to PPM Center and Quality Center.

If you want to integrate PPM Center requests with both existing and new defects in a Quality Center project, create a new Quality Center project with integration enabled and copy the existing defects (or the desired subset) from the existing project to the new project.

• Configure PPM Center for the integration, including specifying server.conf parameters.

Changes to Quality Center Value Lists and Workflows Made by the Integration Tool

When the user enables a Quality Center project for integration using the PPM Center-Quality Center Integration Tool, the tool performs one of the following actions:

- If the project is new, the tool creates Quality Center value lists and adds Quality Center workflow scripts to the user's existing scripts.
- If the project already exists, the tool updates some of the Quality Center value lists so that those lists contain the same values as they would for a new project.

The lists and Quality Center scripts create a Quality Center project that can work as is with the provided ALM request types and workflows.

As described in the following sections, the integration tool changes the value lists and workflow enforcement in a Quality Center project to enable the project for integration.

Changes to Value Lists

As part of enabling a Quality Center project for integration and establishing a field mapping, the integration tool adds two new value lists and adds a new value to an existing default value list in Quality Center, as follows:

- New Requirement Status value list, with the following values:
 - o New
 - Cancelled
 - Closed
 - 1-Requirements Setup Completed
 - o 2-Test Plan Setup Completed
 - o 3-Test Lab Setup Completed
 - o 4-Running Tests in Quality Center
 - 5-Test Execution Completed
 - o 6-Running Sanity Tests in Quality Center
 - 7-Sanity Testing Completed
- New Test Level value list, with the following values:
 - Functional
 - Integration
 - Regression
 - Sanity
- New default value of Deleted for the existing Bug Status value list

Workflow Enforcement

As part of enabling a Quality Center project for integration and establishing a field mapping, the integration tool updates the Quality Center project workflow to enforce the following constraints on Quality Center entities:

- **Defect.** The user can make only the following status changes:
 - Fixed to Closed
 - o Rejected to Closed
 - o Fixed to Reopen
- **Requirement.** The user can make only the following status changes:
 - New to 1-Requirements Setup Completed
 - o 1-Requirements Setup Completed to 2-Test Plan Setup Completed
 - o 2-Test Plan Setup Completed to 3-Test Lab Setup Completed
 - o 4-Running Tests in Quality Center to 5-Test Execution Completed
 - 6-Running Sanity Tests in Quality Center to 7-Sanity Testing Completed

Installing the PPM Center-Quality Center Integration Tool

Integration requires installing the PPM Center-Quality Center Integration Tool on a Windows machine that can open HTTP connections to the PPM Server and to the Quality Center server.

To install this tool:

- 1. If an earlier version of the PPM Center-Quality Center Integration Tool was installed, uninstall it. See *Uninstalling the Integration Tool*.
- 2. Copy the PPM Center-Quality Center Integration Tool setup.exe file to a Windows machine that can open HTTP connections to the PPM Server and to the Quality Center server. This file is located in the PPM Server at:

<PPM_Home>/integration/mac/ppmqcintegrationtool

where <*PPM_Home*> represents the path where your PPM Center instance is installed. For example: xyzserver/E/PPMServer.

3. Double-click the setup.exe file to launch the InstallShield wizard.

By default, the tool gets installed in the C:/Program Files/ Hewlett-Packard/PPM Center-Quality Center Integration Tool directory.

4. Follow the instructions in the wizard. When the installation completes, do not launch the PPM Center-Quality Center Integration Tool yet.

Proceed to *Configuring a Quality Center Project for the Integration* on page 171.

Uninstalling the Integration Tool

If you want to uninstall the PPM Center-Quality Center Integration Tool (for example, to be able to run the tool from another Windows machine only), select **Start > Settings > Control Panel > Add/Remove Programs** and follow the instructions on the screen.

You use the tool to create an initial mapping between PPM Center fields and Quality Center fields (or to revise an existing mapping). Unless you need to install a later version of the tool, before you uninstall the tool, remember to use it to deploy the mapping to both PPM Center and Quality Center simultaneously.

Enabling Web Services



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

Verify that Web services in PPM Center are enabled, as follows:

- 1. Stop the PPM Server.
- 2. Run the following script:

sh ./kConfig.sh

3. Verify that the ENABLE_WEB_SERVICES parameter in the PPM Center server.conf configuration file is set to true.

4. Restart the PPM Server.



If PPM Center uses a cluster configuration, repeat this procedure to enable Web services on all nodes of the cluster.

Configuring a Quality Center Project for the Integration

As documented in the following sections, you establish integration of PPM Center with Quality Center independently for each Quality Center project as needed, using wizards in the PPM Center-Quality Center Integration Tool to do the following:

- Enable a Quality Center project for integration
- Create the XML mapping file between PPM Center and Quality Center fields
- Deploy this mapping file to PPM Center and Quality Center

You might also need to manually map the **Notes** field in a PPM Center request to the Quality Center project.

Enabling a Quality Center Project for the Integration

Use the PPM Center-Quality Center Integration Tool to enable a Quality Center project for the integration as described in this section.



HP strongly recommends that you enable a project only once, otherwise problems might occur in the integration. There is no reason to enable a project twice. You can use the integration tool to change the integration of a project at any time.

To enable a Quality Center project for integration:

1. From the Windows Start menu, select All Programs > Hewlett-Packard > PPM Center-Quality Center Integration Tool.

The main PPM Center-Quality Center Integration Tool window opens.



2. Select File > PPM Center Settings.

The PPM Center Settings window opens.

PPM Center Settings		\mathbf{X}
Host:	http://16.89.26.11:18080/itg	
	Example: http://myhost:8092/itg	
Administrator User Name:	admin	-
Administrator Password:	ate ate ate ate ate	-
	Test Connection)
	<u>OK</u> <u>Cancel</u>	

3. In the **Host** field, type the URL of the PPM Server.

If the PPM Server is installed in a WAN, use the IP address for the PPM Server, for example http://192.60.28.01:8080, rather than its host name, for example http://ppmhost:8080.

- 4. In the Administrator User Name and Administrator Password fields, type the PPM Center user name and password.
- 5. Click **Test Connection** to test the connection with PPM Center.
- 6. If a message appears stating that connection was successful, click **OK** to close the PPM Center Settings window, otherwise resolve the connection issue.
- In the main PPM Center-Quality Center Integration Tool window, select Action > Enable Project.

The Enable Quality Center Project wizard opens.



8. Click **Next** to continue.

9. In the **Host** field, type the URL of the Quality Center server.

🕅 Enable Quality Center Project 🛛 🛛 🔀
Enter Quality Center host
Host : http://16.89.26.18:9999/qcbin Example : http://myhost:8080/qcbin/
Business Technology
Cancel Cancel Next >

10. Click **Next** to continue.

🐕 Enable Quality Center Project 🛛 🛛 🗙		
	 Enter Quality Center project administrator's user name and password 	
	User Name:	
	Password:	
	Test Connection	
Business Technology		
Optimization		
	Cancel < Back Next >	

11. In the **User Name** and **Password** fields, specify the user name and password of the Quality Center project administrator.

- 12. Click **Test Connection** to test the connection with Quality Center.
- 13. If a message appears stating that connection was successful, click **OK** on the message, then click **Next**. Otherwise resolve the connection issue.

🐕 Enable Quality Center Project 🛛 🛛 🔀		
	Select Quality Center domain and project Domain: DEFAULT Project:	
	Select Quality Center entity for integration defect requirement	
Business Technology Optimization	Cancel < <u>B</u> ack <u>N</u> ext >	

14. Select a Quality Center domain and project, and specify whether you want to map Quality Center defects, requirements, or both.

If you are enabling defects but not requirements for integration, skip to step 17 on page 176.

15. Click **Next** to continue.

If you are enabling requirements for integration, the following window appears.



You can use this window to do the following:

- Request notification by email when a PPM Center request creates a new Quality Center requirement.
- Request notification by email when a PPM Center request updates a field in an existing Quality Center requirement.



To send any notifications, Quality Center must be configured to automatically send them, using email addresses established in Quality Center. See *Optional PPM Center Integrations* on page 17 for information about accessing the Quality Center documentation.

- Synchronize the PPM Center request hierarchy with the Quality Center requirement hierarchy. For information about this synchronization, see *Request Hierarchy Synchronization* on page 234.
- 16. Select the desired check boxes.
- 17. Click Next to continue.

The wizard displays user-defined fields related to the PPM Center request that the integration tool will enable in the Quality Center project, for defects, requirements, or both, as specified in step 14 on page 175.



Prior to version 7.0, PPM Center was known as Mercury IT Governance Center or ITG. Field names in Quality Center version 10.00 and in the integration tool in the context of Quality Center still use ITG when referring to PPM Center.

18. Click **Next** to continue.

The listed fields are added to the Quality Center project, and the Quality Center workflow script is updated to support integration with PPM Center.

If the Quality Center project already contains one or more fields with the same names, a dialog box asks you whether you want to change the names of the added fields. If you select **Yes**, the added fields will be given different names. If you select **No**, the procedure to enable the project for integration is aborted.

If the Quality Center project does not have a workflow script in its repository, a dialog box asks you whether you want to create a new one. If you select **Yes**, a new script with support for the integration is added to the Quality Center repository. If you select **No**, the script file is not created.

If the project is not new and its script files have been previously customized, select **No** and manually merge the customized scripts with the scripts that the wizard adds automatically, which are located in the installation directory of the PPM Center-Quality Center Integration Tool.



19. Click **Finish** to complete enabling the project for integration and close the wizard.

Creating the Mapping Between PPM Center and Quality Center Fields

After you enable a Quality Center project for the integration, you use the PPM Center-Quality Center Integration Tool to map a particular PPM Center request type to a Quality Center defect or requirement and to specify the desired mapping between the PPM Center fields and the Quality Center fields.



For information about the provided default mappings, see *Default Field Mappings for PPM Center and Quality Center Version 10.00* on page 203.

To create the mapping:

1. In the left pane of the PPM Center-Quality Center Integration Tool, expand the tree until the child node at the lowest level (**defect**, **requirement**, or both) is visible.



2. Click the child node you want to map and select Action > Add Mapping (or right-click the node you want to map and click Add Mapping).

The Map Fields wizard opens.



3. Click **Next** to continue.

Map Fields	X
<u>4</u> p	Business Technology Optimization
Enter Quality Center administrator's user name and password	1
User Name: admin	
Password: ****	
[Test Connection]	
<	Back Next > Cancel

- 4. In the **User Name** and **Password** fields, type the user name and password of the Quality Center administrator.
- 5. Click **Next** to continue.

The **PPM Center Request Type** field appears with a drop-down list.

6. Click the arrow of the drop-down list to display a list of all the PPM Center request types that can be mapped to a Quality Center defect or requirement (depending on which you selected in step 2 on page 179).

For information about the default PPM Center request types that are available to map to Quality Center defects and requirements, see *Using the Integration of PPM Center with Quality Center* on page 226.
7. Select the request type in PPM Center that is to be mapped to the Quality Center defect or requirement.



8. Click Next to continue.

From the integration tool, the wizard displays the default mapping between the Quality Center fields and PPM Center fields for the request type you selected. In this Map Fields window, the fields map either a PPM Center request type for defects to a Quality Center defect, or a PPM Center request type for changes to a Quality Center requirement.



The **Quality Center Field** column displays Quality Center field names, followed by their DB field names (the names of the columns in the database) in parentheses.

The **PPM Center Field** column displays the PPM Center request field names, followed by their tokens in parentheses.

The **Override** column specifies which field, if any, is the "dominant" field for a pair. The **Override** column can have one of the following values for any pair of mapped fields (row):

• **QC.** In this case, Quality Center is said to be dominant for the mapped pair. When the Quality Center entity is created or modified in any way, then the integration updates *all* the mapped PPM Center fields for which Quality Center is dominant.

When Quality Center is dominant for a mapped pair and the value in the PPM Center field is changed, the value in the associated Quality Center field is not affected.

When the integration creates a Quality Center entity, the PPM Center request fields have no effect on the fields for which Quality Center is dominant.

• **PPM.** In this case, PPM Center is said to be dominant for the mapped pair. When the PPM Center request is created or modified in any way, then the integration updates *all* the mapped Quality Center fields for which PPM Center is dominant.

When PPM Center is dominant for a mapped pair and the value in the Quality Center field is changed, the value in the associated PPM Center field is not affected.

When the integration creates a PPM Center request, the Quality Center entity fields have no effect on the fields for which PPM Center is dominant.

- **BIDIRECTIONAL.** In this case, *both* the PPM Center fields and their mapped Quality Center fields operate as though they are dominant— when *either* the integrated PPM Center request or Quality Center entity is created or modified, the integration updates *all* the associated fields in the Quality Center entity or PPM Center request respectively, as specified by the mappings.
- 9. If you want to change which field, if any, is dominant for a field mapping, click the value in the **Override** column for the field mapping of interest, and select another value from the list that appears.
- 10. If you want to add a pair of fields to the mapping, do the following:
 - a. Click Add.

The Add Field window opens.

🚰 Add Field	
Quality Center Field:	
PPM Center Field:	
	<u>_K</u> Cancel

b. In **Quality Center Field** and **PPM Center Field**, select the fields you want to map to each other.

c. Click OK.

The pair of fields is added to the mapping and appears in the list.

If the mapped fields in a pair have different sets of valid values, you must resolve the differences so that a change to one field can update the other. See *Resolving Lists of Valid Values* on page 186.

- 11. If you want to remove a pair of fields from the mapping, do the following:
 - a. Click a line to select the pair.
 - b. Click Remove.
 - c. When the application asks whether you want to delete the selected line or lines, click **Yes.**
- 12. Click **Next** to continue.

Map Fields	×
	Business Technology Optimization
The Create Mapping Wizard has collected the mapping you specified.	information required to create the new
Click Finish to save the Mapping.	
	< <u>B</u> ack <u>Finish</u> Cancel

13. Click **Finish** to save the mapping and close the wizard.

The new mapping is displayed in the PPM Center-Quality Center Integration Tool. (In the example, expand the **defect** list.)



14. By default, a local copy of the mapping file (ITGQCIntegration.xml) is saved in the Windows directory in which you installed the PPM Center-Quality Center Integration Tool. As discussed later, you will use the tool to deploy the mapping file to the PPM Server and the Quality Center server. Then the integration can operate without any dependency on the local Windows machine on which the integration tool is installed.

If you want to save the XML mapping file elsewhere, select **File > Save To** and specify the location.

If you want to open an XML mapping file stored in another location, click **File > Open.**

15. Click **File > Exit** to close the PPM Center-Quality Center Integration Tool.

Resolving Lists of Valid Values

This section describes how to resolve differences between the sets of valid values for a pair of mapped fields, so that a change to one field correctly updates the other.

To open the mapping file and access the Map Value Lists window:

- 1. Open the mapping file as described in *Viewing and Changing a Mapping* on page 198.
- 2. Select the row for the pair of fields of interest and click Map Value Lists.



Some field pairs are automatically mapped and their mappings cannot be changed.

The Map Value Lists window opens, displaying the lists of valid values for each field in the pair.

Resolve the differences between the sets of valid values based on which of the following three cases applies.

Case One

If you created a new user-defined field in Quality Center and mapped the field to a PPM Center field that has a list of values, create a new Quality Center list of valid values from the PPM Center list, as follows:

- 1. Select the **Create a new list in Quality Center...** option in the Map Values List window.
- 2. In the List Name field, specify a name for the list or accept the default.
- 3. Click OK.

A new Quality Center value list containing the PPM Center values is created and associated with the Quality Center field.

Case Two

If the fields in the pair have different sets of values and some records in the Quality Center project already use the current list of values, but from now on you want to use the values that appear in the PPM Center list, add the PPM Center values to the Quality Center list, as follows:

- 1. Select the Add the PPM Center values to the existing Quality Center list option in the Map Values List window.
- 2. Click OK.

The Quality Center value list now includes the PPM Center values as well as the original Quality Center values.

Case Three

If both fields in the pair already have lists of values that you need to map or remap, do the following:

- 1. Select the Map Values option in the Map Values List window.
- 2. Select a value in the Quality Center list, select the value in the PPM Center list to which you want to map it, and click the right-arrow button.

The pair of mapped values appears in the right pane of the Map Value Lists window. For example, if the value representing lowest impact in the Quality Center field is **Enhancement** and the value representing lowest impact in the PPM Center field is **1-Low**, map the two values as shown in the following figure.

🌠 Map Value Lists						X
Quality Center / Critical Enhancement Major Minor Normal	PPM Center / I-Low 2-Medium 3-High 4-Very High 5-Urgent	1	Default	QC Critical Major Normal Minor Enhancement	<> <> <>	PPM 5-Urgent 4-Very High 3-High 2-Medium 1-Low
Map Values Create a new list in Qualit list with the Quality Cente List Name: Defect Seve Add the PPM Center value	y Center with the Project and r field BG_USER_01 (the old inity as to the existing Quality Cen	d Portfolio Ma list will not be	, nagement C ; deleted).	Center values and	d associ	ate the new
					<u>0</u> H	<u>Cancel</u>

Integrating PPM Center with HP Quality Center, Using ALM

Between the **QC** and **PPM** columns in the right pane, the mapping displays one of the following:

- --> if the **Override** column for the pair of fields is set to **QC**
- <-- if the **Override** column for the pair of fields is set to **PPM**
- <--> if the Override column for the pair of fields is set to BIDIRECTIONAL
- 3. Repeat step 2 for all the values that require mapping.
 - You must map all the values in the Quality Center list if Quality Center is dominant for that field pair, as indicated by **QC** in the **Override** column in the Map Fields window and by --> between the **QC** and **PPM** columns in the right pane of the Map Value Lists window.
 - Similarly, you must map all the values in the PPM Center list if PPM Center is dominant for that field pair, as indicated by **PPM** in the **Override** column in the Map Fields window and by <-- between the **QC** and **PPM** columns in the right pane of the Map Value Lists window.
 - You must map all the values in both lists if neither field of the pair is dominant, as indicated by **BIDIRECTIONAL** in the **Override** column in the Map Fields window and by <--> between the **QC** and **PPM** columns in the right pane of the Map Value Lists window.

If you map two or more values in one list to one value in the other list, you must select a check box in the **Default** column to indicate which mapping prevails.

Consider the example in the following figure, where the two value lists are of different lengths and the mapping is **BIDIRECTIONAL**.

• •	PPM Center A		Default	QC		PPM
1-Low	1-Low		✓	6-Critical	<>	5-Urgent
2-Medium	2-Medium			5-Urgent	<>	5-Urgent
8-High	3-High			4-Very High	<>	4-Very High
4-Very High	4-Very High			3-High	<>	3-High
5-Urgent	5-Urgent	4		2-Medium	<>	2-Medium
5-Critical		-		1-Low	<>	1-Low
Map Values						
∼ Create a new list in list with the Quality	Quality Center with the Projec Center field BG_PRIORITY (th	t and Portfolio Mar e old list will not be	agement C e deleted).	enter values an	d associ	iate the new
List Name: Defec	t Priority					

In this example, you must do the following:

- a. Map two or more values in one list to a single value in the other list. Here, both the values **6-Critical** and **5-Urgent** for the field in Quality Center have been mapped to a value of **5-Urgent** for the field in PPM Center.
- b. Select the appropriate Default check box to eliminate ambiguity as to which pair will be used to map the values. In this example, if the field in PPM Center changes to a value of 5-Urgent, the value of the field in Quality Center becomes 6-Critical, based on the selected Default pair of values. If the second check box, for which the PPM Center value is also 5-Urgent, is chosen as the default instead, then if the field in PPM Center changes to a value of 5-Urgent, the value of the field in Quality Center becomes 5-Urgent.
- 4. Click OK.

The PPM Center values and Quality Center values for the field become mapped as you have specified.

Mapping the Notes Field in PPM Center to an Existing Project

When you enable a new Quality Center project for integration, the integration tool attempts to create new fields in the Quality Center project to correspond to the **Notes to be added on save** field for the PPM Center request. When you update the content of this field in a PPM Center request, the associated field is updated in Quality Center.

When you enable a new Quality Center project, the new fields are named as follows:

- For a defect, the added field in the Defects table is called **BG_USER_<XX>**, for example **BG_USER_25**.
- For a requirement, the added field in the Requirements table is called **RQ_USER_**<*XX*>, for example **RQ_USER_26**.



If you enable an existing project that already includes some user-defined memo fields, the added fields may have different names.

Since the Quality Center fields are memo fields and there can be no more than three user-defined memo fields per table, the attempt to map Notes to memo fields may fail. If the attempt fails, you cannot use the integration tool to map the **Notes to be added on save** field. Instead, you must add the memo fields to the project manually, and edit the XML mapping file by adding one of the following to the appropriate mapping file, using the example:

• For defects:

<param name="BUG_ITG_NOTES">BG_USER_25</param>

• For requirements:

<param name="REQ_ITG_NOTES">RQ_USER_26</param>

Deploying the Mapping File to PPM Center and Quality Center

After you have completed the mapping, use the PPM Center-Quality Center Integration Tool to deploy the XML mapping file (ITGQCIntegration.xml) to PPM Center and to Quality Center.

At certain times, you might need to manually edit or back up the XML mapping file. When you created the XML mapping file, it was stored either in the directory in which you installed the integration tool or in another directory that you specified (see step 14 on page 185). If you do not know where the file is located, check the Windows registry. The path in the registry is HKEY_LOCAL_MACHINE\SOFTWARE\ Hewlett-Packard\PPM Center-Quality Center Integration Tool. Remember to redeploy the mapping file to both PPM Center and Quality Center.

To deploy the XML mapping file to PPM Center and Quality Center:

- 1. Verify that the PPM Center server.conf parameters are as specified in step 2 on page 194. Set the ENABLE_QUALITY_CENTER_INTEGRATION parameter to true.
- 2. In the main window of the PPM Center-Quality Center Integration Tool, select File > Deploy to Centers.

The Deploy Configuration File to Centers window opens, listing the URLs of the PPM Center and Quality Center servers to which the mapping file will be deployed.



3. Click Deploy.

The tool starts the deployment process. If any errors occur during deployment, a message is displayed in the window.

4. When the deployment completes, a message indicating that deployment completed successfully is added to the Deploy Configuration File to Centers window.



5. Click **OK** to close the window.

On the PPM Server, the mapping file is deployed to the <<u>PPM_Home</u>>/conf directory, where <<u>PPM_Home</u>> represents the path where the PPM Center instance is installed.

In a clustered PPM Center environment, you must manually deploy the ITGQCIntegration.xml mapping file to all nodes that do not use a shared <PPM_Home>/conf directory. The integration tool cannot deploy the mapping file to multiple nodes.



As needed, copy the mapping file from the <*PPM_Home*>/conf directory on the computer on which the integration tool is installed to a convenient location or device (or select **File** > **Save To** in the integration tool and specify the location). Then copy the file to the <*PPM_Home*>/conf directory in the other nodes in the cluster.

On the Quality Center server (or servers), the mapping file is deployed to the <<u>QC_Home</u>>/repository/sa/DomsInfo/BTO directory, where <<u>QC_Home</u>> represents the path where Quality Center is installed.

For information about changing and otherwise maintaining existing mappings, see *Managing Existing Mappings* on page 195.

This completes creating and deploying the mapping file. To configure PPM Center for the integration, proceed to *Configuring PPM Center for the Integration*.

Configuring PPM Center for the Integration

Before beginning to configure the integration as described in the following sections, make sure that ALM has been installed and initially configured as described in Chapter 2, *Installing and Setting Up ALM Software*, on page 23.

Connecting PPM Server with Quality Center Servers

Make sure that an HTTP port is open between the PPM Server and each Quality Center server having projects that are to be integrated.

Configuring server.conf Parameters in PPM Center



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

Add (if not present) and specify the parameters related to Quality Center integration to the PPM Center server.conf configuration file, as follows:

1. Stop the PPM Server.

2. Run the following script:

sh ./kConfig.sh

Set the parameters and values as shown in the following table. (All parameter names begin with com.kintana.core.server. but that is not shown in the table.)

Parameter	Value
	Set this parameter to false if an XML mapping file has not been generated and deployed to PPM Center and Quality Center.
ENABLE_QUALITY_ CENTER_INTEGRATION	Set this parameter to true if an XML mapping file has been generated and deployed to PPM Center and Quality Center, so that integration can be enabled. If a mapping file has not been deployed and you set this parameter to true, the PPM Server will not restart.
	This parameter controls whether PPM Center attempts to send information to Quality Center. (Even if this parameter is set to false, Quality Center sends information to PPM Center.)
BASE_URL	The URL of the PPM Server. By default, contains the host name of the PPM Server, for example, http://ppmhost:8080.
(already present in server.conf)	However, if the PPM Server is installed in a WAN, use the IP address of the PPM Server, for example, http://192.60.80.01:8080, rather than its host name.
ENABLE_QUALITY_ CENTER_METRICS_SYNC	Always set this parameter to false. It does not apply to ALM.

3. Restart the PPM Server.

For information about using the integration, see *Using the Integration of PPM Center with Quality Center* on page 226.

Managing Existing Mappings

After you have configured PPM Center and Quality Center for integration, you can use the integration tool to make changes to the configuration.

You can change the configuration for a request type mapping or for an entire Quality Center project. When you change a mapping for a project, the changes apply to all the request types mapped to the project. For example, if you delete the mapping for a project, the mapping for all of the project's mapped request types is also deleted.

As described in the following sections, you can do the following:

- Delete a mapping
- Disable a mapping
- Re-enable a previously disabled mapping
- View and change a mapping
- Enable and disable request hierarchy synchronization
- Enable and disable email notification on requirement creation
- Enable and disable email notification on requirement update



Remember to redeploy the mapping file to PPM Center and Quality Center after any mapping revision described in the following sections. See *Deploying the Mapping File to PPM Center and Quality Center* on page 191.

Deleting a Mapping

When you delete a mapping, the connection between the associated fields in PPM Center and Quality Center is removed, and updating a field in one application no longer causes an update in the other.



If you later want the applications to update each other, you will need to create a new mapping.

To delete a mapping:

1. Right-click the project or request type of interest and select **Delete Mapping.**



The tool asks whether you want to delete the mapping.

2. Click Yes.

Disabling and Re-Enabling a Mapping

When you disable a mapping, the mapping is not deleted, but creating a request in PPM Center does not create a defect or requirement in the Quality Center project. In addition, updating a field in one application does not update the field to which it is mapped in the other application.

To disable the mapping between a request type and a defect or requirement:

1. Right-click the project or request type of interest and select **Disable Mapping.**



The tool asks whether you want to disable the mapping.

2. Click Yes.

To enable a mapping that was previously disabled, right-click the project or request type and select **Enable Mapping**.

Viewing and Changing a Mapping

To view a mapping and make changes to the mapping:

1. Right-click the request type of interest and select Mappings.



The Map Fields window opens.

2. If the Mapping tab is not already selected, select it to display the mapping.



3. Use this tab to change the mapping in the same way you created the original mapping. See *Creating the Mapping Between PPM Center and Quality Center Fields* on page 178.

Enabling and Disabling Request Hierarchy Synchronization

You can enable or disable the request hierarchy synchronization between a PPM Center request and a Quality Center requirement.

To enable the synchronization:

- 1. Right-click requirement.
- 2. If the **Synchronize Request Hierarchy** option is *not* selected (has no check mark), click it to select the option.



To disable the synchronization:

- 1. Right-click requirement.
- 2. If the **Synchronize Request Hierarchy** option *is* selected (has a check mark), click it to clear the option.

For information about the effect of request hierarchy synchronization, see *Request Hierarchy Synchronization* on page 234.

Enabling and Disabling Email Notification on Requirement Creation



To send any notifications, Quality Center must be configured to automatically send them, using email addresses established in Quality Center. See *Optional PPM Center Integrations* on page 17 for information about accessing the Quality Center documentation.

You can enable or disable sending an automatic email notification when a requirement is created by the integration.

To enable the email notification for requirement creation:

- 1. Right-click requirement.
- 2. If the **Notify When Created** option is *not* selected (has no check mark), click it to select the option.



To disable the email notification for requirement creation:

- 1. Right-click requirement.
- 2. If the **Notify When Created** option *is* selected (has a check mark), click it to clear the option.

Enabling and Disabling Email Notification on Requirement Update



To send any notifications, Quality Center must be configured to automatically send them, using email addresses established in Quality Center. See *Optional PPM Center Integrations* on page 17 for information about accessing the Quality Center documentation.

You can enable or disable sending an automatic email notification when a requirement is updated by the integration.

To enable the email notification for requirement update:

- 1. Right-click requirement.
- 2. If the **Notify When Update** option is *not* selected (has no check mark), click it to select the option.



To disable the email notification for requirement update:

- 1. Right-click requirement.
- 2. If the **Notify When Update** option *is* selected (has a check mark), click it to clear the option.

This concludes the sections in this chapter that describe configuring integration with Quality Center version 10.00. For information about default mappings between PPM Center and Quality Center version 10.00, see *Default Field Mappings for PPM Center and Quality Center Version 10.00*. For information about fields added to Quality Center version 10.00 for the integration, see *Fields the Integration Enables in Quality Center Version 10.00 Entities* on page 207.

For information about using the integration (with Quality Center version 10.00 or version 11.00), see *Using the Integration of PPM Center with Quality Center* on page 226.

Default Field Mappings for PPM Center and Quality Center Version 10.00

The following sections apply to integration with Quality Center version 10.00 only, and they describe the default field mappings that are available for integration with Quality Center defects and requirements.

Default Field Mappings for Quality Center Version 10.00 Defects

Table 6-4 describes the default defect mappings that can be modified for the integration between the Defects Module in Quality Center and the ALM - Defect Template with Quality Center Integration request type in PPM Center. The **Override** column indicates which field is dominant by default— PPM Center (if set to **PPM**), Quality Center (if set to **QC**), or neither (if set to **BIDIRECTIONAL**). For more information, see step 8 on page 181.

Quality Center Field Name, Database ID, and Field Type	PPM Center Field Name, Database ID [°] , and Field Type	Override
Reproducible BG_REPRODUCIBLE Y/N	Reproducible REPRODUCIBLE Y/N	QC
Project BG_PROJECT List	Application APPLICATION_CODE List	QC

Table 6-4. Default defect mappings you can modify (page 1 of 3)

Quality Center Field Name, Database ID, and Field Type	PPM Center Field Name, Database ID°, and Field Type	Override
Actual Fix Time BG_ACTUAL_FIX_TIME Date	Actual Fix Time (days) ACTUAL_FIX_TIME Date	QC
Closed in Version BG_CLOSING_VERSION List	Closed in Version CLOSING_VERSION Text (40)	QC
Severity BG_SEVERITY Enumeration	Severity SEVERITY Drop-down list	BIDIRECTIONAL
Closing Date BG_CLOSING_DATE Date	Closed on CLOSING_DATE Date	QC
Detected in Version BG_DETECTION_VERSION List	Detected in Version DETECTION_VERSION Text (40)	BIDIRECTIONAL
Planned Closing Version BG_PLANNED_CLOSING_VER List	Planned Closing Version PLANNED_CLOSING_VER List	BIDIRECTIONAL
Estimated Fix Time BG_ESTIMATED_FIX_TIME Number	Estimated Fix Time (days) ESTIMATED_FIX_TIME Numeric Text (10 digits)	BIDIRECTIONAL
Comments BG_DEV_COMMENTS Memo	Developer Comments DEV_COMMENTS Text (1800)	РРМ
Detected on Date BG_DETECTION_DATE Date	Created On CREATION_DATE Date	РРМ

Table 6-4. Default defect mappings you can modify (page 2 of 3)

Quality Center Field Name, Database ID, and Field Type	PPM Center Field Name, Database ID °, and Field Type	Override
Priority BG_PRIORITY Enumeration	Priority DEFECT_PRIORITY_CODE Drop-down list	BIDIRECTIONAL
Description BG_DESCRIPTION Memo	Detailed Description DEFECT_DESCRIPTION Text (1800)	BIDIRECTIONAL
Detected By BG_DETECTED_BY Quality Center users list	Detected in Quality Center by QC_DETECTED_BY Text (40)	QC
Status ^{b, c}	Request Status ^b STATUS_ID List	PPM ^b
Enumeration	Quality Center Defect Status ^c KNTA_QC_DEFECT_STATUS Text (300)	QC °
Summary BG_SUMMARY Text (255)	Summary DESCRIPTION Text (200)	BIDIRECTIONAL

Table 6-4. Default defect mappings you can modify (page 3 of 3)

a. The listed PPM Center database IDs are the same as in the PPM Workbench. The exact database IDs are displayed by the integration tool.

b. When the Request Status field is updated in PPM Center, the new status is sent to Quality Center. If the new status matches one of the defect statuses in Quality Center, the Status field in Quality Center is updated; if not, the update is ignored by Quality Center.

c. When the status of a defect is updated in Quality Center, the associated Quality Center Defect Status field in PPM Center is updated accordingly if the value sent by Quality Center is a valid workflow step transition in PPM Center.

Default Field Mappings for Quality Center Version 10.00 Requirements

Table 6-5 describes the default requirement mappings that can be modified for the integration between the Requirements Module in Quality Center and the ALM - Request for Change (RFC) request type or the ALM - Release Management request type in PPM Center. The **Override** column indicates which field is dominant by default—PPM Center (if set to **PPM**), Quality Center (if set to **QC**), or neither (if set to **BIDIRECTIONAL**). For more information, see step 8 on page 181.

Quality Center Field Name, Database ID, and Field Type	PPM Center Field Name, Database ID °, and Field Type	Override
Priority RQ_REQ_PRIORITY Enumeration	RFC Priority PRIORITY_CODE Drop-down list	РРМ
Author ^b RQ_REQ_AUTHOR User list	Created By CREATED_BY User list	РРМ
ITG Request Status ^{c, d}	RFC Status ^c STATUS_ID List	PPM ^c
Enumeration	Quality Center Status ^d KNTA_QC_REQUIREMENT_STATUS Text (300)	QC ^d
Name RQ_REQ_NAME Text (255)	RFC Summary DESCRIPTION Text (200)	РРМ
ITG Request Description RQ_USER_XX ^e Memo	RFC Description RFC_DESCRIPTION Text (1800)	РРМ

Table 6-5. Default requirement mappings you can modify (page 1 of 2)

Quality Center Field Name, Database ID, and Field Type	Center Field Name, PPM Center Field Name, Database ID °, and Field Type			
Assigned To	Quality Center Assigned To User			
RQ_USER_XX°	KNTA QC ASSIGNED TO	РРМ		
User list				
 a. The listed PPM Center database IDs are the same as in the PPM Workbench. The exact database IDs are displayed by the integration tool. b. The Author field in Quality Center displays the name of the user who created the request in PPM Center. Quality Center can accept any name, but PPM Center cannot. If you configure this field to be bidirectionally updateable and a user selects a user name in Quality Center that does not exist in PPM Center, the operation will fail. User name lists must therefore be synchronized. c. When the RFC Status field is updated in PPM Center, the new status is sent to Quality Center. If the new status matches one of the requirement statuses in Quality Center, the ITG Request Status field in Quality Center is updated if pot, the update is inported by Quality Center. 				
d. When the status of a requirement is updated in Quality Center, the associated Quality Center Status field in PPM Center is updated accordingly if the value sent by Quality Center is a valid workflow step transition in PPM Center.				
e. The Quality Center fields with the database ID of RQ_USER_XX are user fields that are added to Quality Center when using the integration tool to enable a project. The value of XX is determined when the user				

Table 6-5. Default requirement mappings you can modify (page 2 of 2)

Fields the Integration Enables in Quality Center Version 10.00 Entities

The following sections apply to integration with Quality Center version 10.00 only. They describe the initially disabled fields in Quality Center defects and requirements that the PPM Center-Quality Center Integration Tool enables to support the integration with PPM Center request types.

The integration automatically populates these Quality Center defect or requirement fields from data in PPM Center. These are *not* mappings you establish between fields in PPM Center and Quality Center. The integration updates some Quality Center fields on an ongoing basis as indicated.

In addition, the **Attachments** tab in Quality Center lists URLs for all of the attachments to the PPM Center request. Clicking one of the links opens the PPM Center request (after login).

field is added to Quality Center.

Fields the Integration Enables in Quality Center Version 10.00 Defects

Table 6-6 describes the fields that the PPM Center-Quality Center Integration Tool enables in Quality Center defects when the project is enabled (in step 17 on page 176), and their PPM Center data source. These fields should not be modified (except for their Labels, as desired).

Table 6-6. Fields the integration enables in Quality Center version 10.00 defects

PPM Center Data Source	Quality Center Field Name	Quality Center Field Database ID	Quality Center Field Type	Description
PPM Server base URL	ITG Server	BG_USER_XX ^a	Text (120)	User field containing PPM Center URL.
Name of integrated request type	ITG Request Type	BG_USER_XX ^a	Text (40)	User field containing the PPM Center request type of the associated PPM Center request. Used for field mapping.
Notes (formatted)	ITG Notes ^b	BG_USER_XX ^a	Memo	Quality Center memo field. Stores PPM Center notes. Always overridden by PPM Center. Added to Quality Center if the user chooses to synchronize the Notes field.
Request ID	ITG Request Id	BG_REQUEST_ID	Integer	System field containing PPM Center request ID.

a. The Quality Center fields with the database ID of BG_USER_XX are user fields that are added to Quality Center when using the integration tool to enable a project. The value of XX is determined when the user field is added to Quality Center.

b. Updated on an ongoing basis.

Fields the Integration Enables in Quality Center Version 10.00 Requirements

Table 6-7 describes the fields that the PPM Center-Quality Center Integration Tool enables in Quality Center requirements when the project is enabled (in step 17 on page 176), to support integration, and their PPM Center data source. These fields should not be modified (except for their Labels, as desired).

PPM Center Data Source	Quality Center Field Name	Quality Center Field Database ID	Quality Center Field Type	Description
PPM Server base URL	ITG Server	RQ_USER_XX ^a	Text (120)	User field containing the PPM Center URL.
Name of integrated request type	ITG Request Type	RQ_USER_XX ^a	Text (40)	User field containing the PPM Center request type of the associated PPM Center request. Used for field mapping.
Notes (formatted)	ITG Notes ^b	RQ_USER_XX ^a	Memo	Quality Center memo field. Stores PPM Center notes. Always overridden by PPM Center. Added to Quality Center if the user chooses to synchronize the Notes field.
Request ID	ITG Request Id	RQ_REQUEST_ID	Integer	System field containing PPM Center request ID.
PPM request status	ITG Request Status ^b	RQ_USER_XX ^a	Text (40)	Status of the PPM Center request.
"Updated by PPM at < <i>timestamp</i> >" (translated as needed)	ITG Updates ^b	RQ_USER_XX ^a	Text (120)	User field that shows integration message for success or error in most recent operation.
PPM Server base URL	ITG Request Description	RQ_USER_XX ^a	Memo	Description of the PPM Center request.

Table 6-7. Fields the integration enables in Quality Center version 10.00 requirements

a. The Quality Center fields with the database ID of RQ_USER_XX are user fields that are added to Quality Center when using the integration tool to enable a project. The value of XX is determined when the user field is added to Quality Center.

b. Updated on an ongoing basis.



This concludes the sections in this chapter that describe integration with Quality Center version 10.00. For information about using the integration (with Quality Center version 10.00 or version 11.00), see *Using the Integration of PPM Center with Quality Center* on page 226.

Configuring Integration with Quality Center Version 11.00

The procedures in this section apply to integrating PPM Center with Quality Center version 11.00 only. If you are integrating PPM Center with Quality Center version 10.00, go to *Selecting the Appropriate Integration Procedure* on page 165.

The PPM Center-Quality Center Integration Tool must be used only for integration with Quality Center version 10.00. It cannot detect integrations that were previously established with Quality Center version 11.00 instances, and any existing integration with a version 11.00 instance prevails if you try to use the integration tool for that integration. If the PPM Center-Quality Center Integration Tool was previously installed, do *not* try to use it to configure integration with Quality Center version 11.00.

If PPM Center is at version 9.10 and you upgrade a Quality Center instance from version 10.00 to version 11.00, existing integrations of PPM Center requests and Quality Center entities (defects or requirements) on that instance will not be upgraded. If the integrations are reestablished, they will operate as new integrations.



In configuring a Quality Center version 11.00 integration, make sure you establish a one-to-one, unique mapping between each integrated PPM Center request type and its associated Quality Center entity (defect or requirement).

For important information about integrating PPM Center request types with defects and requirements on multiple Quality Center servers, where some Quality Center servers can be at version 10.00 and others can be at version 11.00, see *Selecting the Appropriate Integration Procedure* on page 165.

Before proceeding, verify that Quality Center version 11.00 is installed and running on the Quality Center server to be integrated.

Overview of Installation and Configuration Process

The procedures for configuring integration of PPM Center and Quality Center version 11.00 require the Configuration license and are performed almost entirely by using the PPM Center standard interface. They are described in detail in the following sections and are summarized as follows:

- Verify that the PPM Server is running and that each Quality Center server to be integrated is running version 11.00.
- In Quality Center, enable fields related to PPM Center as needed.

- Modify value lists in Quality Center to support the integration with PPM Center requests, as needed.
- Based on the eligible request type you select in PPM Center, configure the integration details, including:
 - Field mappings between PPM Center fields and Quality Center fields, including value mappings
 - Email notification options for errors and creation or update of entities.
 - Whether creating a PPM Center request creates a Quality Center entity (defect or requirement), or creating a Quality Center entity creates a PPM Center request
 - If you are integrating a PPM Center request type with a Quality Center requirement:
 - Default folder in Quality Center for new requirements
 - Whether the requirement hierarchy in Quality Center is to be synchronized with (driven by) the request hierarchy in PPM Center

Verify the PPM Server and Quality Center Servers Are Running

Verify that the PPM Server is running and that each Quality Center server with projects to be integrated is running.

Enable PPM Center-Related Fields in Quality Center

The following sections apply to integration with Quality Center version 11.00 only. They describe the initially disabled fields in Quality Center defects and requirements that you may need to enable to support the integration with PPM Center request types. Fields in Quality Center that are related to PPM Center are not initially enabled.

The integration automatically populates these Quality Center defect or requirement fields from data in PPM Center. These are *not* mappings you establish between fields in PPM Center and Quality Center. The integration updates some Quality Center fields on an ongoing basis as indicated.

In addition, the **Attachments** tab in Quality Center lists URLs for all of the attachments to the PPM Center request. Clicking one of the links opens the PPM Center request (after login).

Fields Associated with the Integration in Quality Center Version 11.00 Defects

Table 6-8 describes the fields in Quality Center defects that you may need to enable for the integration, and their PPM Center data source. These fields should not be modified (except for their Labels, as desired).

Table 6-8. Fields you may need to enable in Quality Center version 11.00 defects

PPM Center Data Source	Quality Center Field Name	Quality Center Field Database ID	Quality Center Field Type	Description		
PPM Server base URL	PPM Server URL	BG_REQUEST_SERVER	Text (120)	PPM Center URL.		
Name of integrated request type	PPM Request Type	BG_REQUEST_TYPE	Text (120)	PPM Center request type of the associated PPM Center request. Used for field mapping.		
Notes (formatted)	PPM Request Note ^a	BG_REQUEST_NOTE	Memo	Quality Center memo field. Stores PPM Center notes. Always overridden by PPM Center. Added to Quality Center if the user chooses to synchronize the Notes field.		
Request ID	PPM Request Id	BG_REQUEST_ID	Integer	System field containing PPM Center request ID.		
a. Updated on an ongoing basis						

Fields Associated with the Integration in Quality Center Version 11.00 Requirements

Table 6-9 describes the fields in Quality Center requirements that you may need to enable for the integration, and their PPM Center data source. These fields should not be modified (except for their Labels, as desired).

Table 6-9. Fields you may need to enable in Quality Center version 11.00 requirements

PPM Center Data Source	Quality Center Field Name	Quality Center Field Database ID	Quality Center Field Type	Description
PPM Server base URL	PPM Server URL	RQ_REQUEST_SERVER	Text (120)	PPM Center URL.
Name of integrated request type	PPM Request Type	RQ_REQUEST_TYPE	Text (120)	PPM Center request type of the associated PPM Center request. Used for field mapping.
Notes (formatted)	PPM Request Note ^a	RQ_REQUEST_NOTE	Memo	Quality Center memo field. Stores PPM Center notes. Always overridden by PPM Center. Added to Quality Center if the user chooses to synchronize the Notes field.
Request ID	PPM Request Id	RQ_REQUEST_ID	Integer	System field containing PPM Center request ID.
PPM request status	PPM Request Status ^a	RQ_REQUEST_STATUS	Lookup List	Status of the PPM Center request.
"Updated by PPM at < <i>timestamp</i> >" (translated as needed)	PPM Synchronization Data ^a	RQ_REQUEST_UPDATES	Text (120)	Integration message for success or error in most recent operation.

a. Updated on an ongoing basis

Modifying Value Lists in Quality Center

As needed, create or modify the value lists in Quality Center defects and requirements to support the integration with PPM Center requests. See *Optional PPM Center Integrations* on page 17 for information about accessing the Quality Center documentation.

The following configuration procedures include configuring value mappings when both fields in a field mapping are value lists.

Configuring the Integration

To integrate a PPM Center request type with a Quality Center (QC) version 11.00 entity:

- 1. Log on to PPM Center.
- 2. From the menu bar, select

Open > Administration > Integration > Quality Center.

the Quality Center Info field group (for requirements).

The QC Integration screen opens.

QC Integration							
Eligible Request Type List						Showir	ng 1 to 7 of 7
Request Type	Status	QC Server URL	QC Version	Domain	Project	Entity Type	
ALM - Defect Template with Quality Center Integration	Integration Disabled						
ALM - Release Management	Integration Disabled						
ALM - Request for Change (RFC)	Integration Disabled						
PPM_Defect	Deployed	http://QC_host:18080/qcbin/	QC 11	DEFAULT	NewProject	Defect	View Log
PPM_Defect Type 2	Integration Disabled						
PPM_Requirement	Not Deployed	http://QC_host:18080/qcbin/	QC 11	DEFAULT	NewProject	Requirement	
PPM_Requirement Type 2	Integration Disabled						
						Shov	ving 1 to 7 of 7

The screen lists all the PPM Center request types that are "eligible," that is, the request types that are already integrated or can be integrated with Quality Center defects or requirements. A request type is eligible if it includes the Quality Center Defect Information field group (for defects) or

For integration with Quality Center version 11.00 (shown as **QC 11** in the **QC Version** column), the eligible request types have links you can click to configure their integrations.

Request types that are integrated with Quality Center version 10.00 (shown as **QC 10** in the **QC Version** column) are read only, with no links for configuration in the standard interface—those request types must be configured using the PPM Center-Quality Center Integration Tool, which works only with Quality Center version 10.00 (see *Selecting the Appropriate Integration Procedure* on page 165).

The status for each request type on the QC Integration screen is one of the following:

- **Deployed.** The integration of the request type and Quality Center entity (defect or requirement) is enabled and operable.
- Not Deployed. The integration of the request type and Quality Center entity has been configured at least partially, but the integration is not operable.
- Integration Disabled. The integration of the request type and Quality Center entity is disabled.

The Quality Center data displayed for each request type also includes the URL of the Quality Center server and the Quality Center version, domain, project, and entity type (defect or requirement).

3. For a Quality Center version 11.00 integration, in the **Request Type** column click the eligible request type you want to configure.

The Configure QC Integration for Request Type page opens. In this example, the selected request type has not been configured and the **Integration Disabled** option, the initial default, remains selected.

Configure QC Integr	ation for Request Type: PPM_De	efect Type 2			
 Integration Disabled Integration Enabled 					
Deployment Status:	Not Deployed				
*QC Server URL:					
*QC Username:					
*Password:					
*QC Server Time Zone:	GMT -08:00 (America/Los_Angeles) Pacific Stand	dard Time	r		
*Domain:			Get Domains		
*Project:			r		
*Entity Type:	Defect				
Field Mapping:	QC Entity Fields		PPM	l Request Fields	
	Current Field Mappings: QC Field	РРМ	Field	Control	
Notification Options:	Send notification when error occurs Email addresses: Send notification immediately Send consolidated notification daily Send notification when the integration create Email addresses: Send notification immediately Send consolidated notification daily	is or updates entities			
Integration Options:	 Creating a PPM Center request automatically Creating a QC entity automatically creates an 	creates an associate associated PPM Cen	d QC entity ter request		

Save & Deploy Save Cancel

In this case, the selected request type, PPM_Defect Type 2, includes the Quality Center Defect Information field group, so it will be associated with a Quality Center defect, as indicated in the **Entity Type** field.

If the request type includes the Quality Center Info field group instead, the request type is associated with a Quality Center requirement, as indicated in the **Entity Type** field. In this case, the **Integration Options** are different, as described later.

If the request type includes both the Quality Center Defect Information field group and the Quality Center Info field group, you will select whether a Quality Center defect or requirement will be the associated **Entity Type**.
4. Select the Integration Enabled option.

At any step in this procedure:

• Click **Save** to save the configuration established thus far. If the integration for the request type was previously deployed, it remains deployed.



- Click **Save & Deploy** to both save the configuration and make the integration active (Deployed) for the request type.
- If the integration for the request type has been previously deployed, click **Save & Undeploy** to both save the configuration and make the integration inactive.
- 5. Complete the fields described in the following table.

Field Name (*Required)	Description
Deployment Status	(Read only) Status of the integration of this request type.
*QC Server URL	URL of the Quality Center server, in the format: http://< <i>QC Server Host>:<port></port></i> /qcbin/ (HTTPS is supported. Use https in the URL as needed.)
*QC Username	Username used to access Quality Center.
*Password	Password for the QC Username.
*QC Server Time Zone	Time zone of the Quality Center server. Required to ensure that the integration correctly manages updates between fields mapped as bidirectional between PPM Center requests and associated Quality Center defects or requirements. Default is the time zone of the PPM Server.
*Domain	Domain on the Quality Center server to use for the integration. To retrieve the set of domains, click Get Domains.
*Project	Project to use for the integration. (List is populated when Domain is selected.)

Field Name (*Required)	Description
*Entity Type	Quality Center entity type to be used for integration— Defect or Requirement. Available option(s) depend on whether the Quality Center Defect Information field group (for defects) or the Quality Center Info field group (for requirements) or both field groups are configured in the request header type for the request type. If only one of the field groups is configured in the request header type, this field is read only.
Field Mapping	Separate lists of unmapped QC Entity Fields and PPM Request Fields, followed by a table of the previously configured Current Field Mappings. See <i>Configuring Field Mappings</i> .
Notification Options	Options for email notification when integration errors occur, and when integration creates or updates entities. See <i>Configuring Email Notification Options</i> on page 223.
Integration Options	Options that change based on whether the request type is integrated with a defect or a requirement. See <i>Configuring Integration Options</i> on page 223.

Configuring Field Mappings

The **Field Mapping** section of the Configure QC Integration for Request Type page displays a drop-down list of the unmapped **QC Entity Fields**, a drop-down list of the unmapped **PPM Request Fields**, and the **Current Field Mappings** table. Following is an example of an integration that has some field mappings configured.

Integration Enabled					
Deployment Status:	Deployed				
QC Server URL:	http://QC_host:18080/qcbin/		1		
QC Username:	admin				
Password:	•••••				
QC Server Time Zone:	GMT -08:00 (America/Los_Angeles) Pacific S	Standard Time 👻			
Domain:	DEFAULT	-	Get Domains		
Project:	NewProject	-]		
Entity Type:	Defect				
Field Mapping:	QC Entity Fields		PPM Reques	t Fields	
	Actual Fix Time (actual-fix-time)	Actual Fix Time (actual-fix-time)			
	Current Field Mappings:				
	QC Field	ield	Control		
	Detected By (detected-by)	ATED_BY)	PPM 👻		
	Severity (severity)	RTY)	PPM 👻	Map Values	
	Summary (name)	Detailed Description: (REQD.DEFECT_DESCRIPTION)	PPM 👻	
	Detected on Date (creation-time)	Created On: (REQ.CR	EATION_DATE)	PPM 👻	
Notification Options:	Send notification when error occurs Email addresses: Send notification immediately Send consolidated notification daily				
	Send notification when the integration or Email addresses: Send notification immediately	reates or updates entities.			
	Send notification when the integration or Email addresses: Send notification immediately Send consolidated notification daily	reates or updates entities.			
Integration Options:	Send notification when the integration or Email addresses: Send notification immediately Send consolidated notification daily Creating a PPM Center request automatic:	eates or updates entities.	QC entity		
Integration Options:	Send notification when the integration or Email addresses: Send notification immediately Send consolidated notification daily Creating a PPM Center request automatic Creating a QC entity automatically createst	eates or updates entities. ally creates an associated s an associated PPM Center	QC entity er request		
Integration Options:	Send notification when the integration or Email addresses: Send ontification immediately Send consolidated notification daily Creating a PPM Center request automatic: Creating a QC entity automatically createst	eates or updates entities. ally creates an associated s an associated PPM Cente	QC entity er request		
Integration Options:	Send notification when the integration or Email addresses: Send notification immediately Send consolidated notification daily Creating a PRI Center request automatic: Creating a QC entity automatically creates	eates or updates entities. ally creates an associated s an associated PPM Cente	QC entity er request		

In the Current Field Mappings table:

- The **QC Field** column displays Quality Center field names, followed by their DB field names (the names of the columns in the database) in parentheses.
- The **PPM Field** column displays the PPM Center request field names that are mapped to (that is, associated with) the QC fields, followed by their tokens in parentheses.

- The **Control** column specifies which field in the mapped field pair controls the other, or that a change to either field changes the other. (Quality Center version 10.00 refers to the controlling field as the dominant field.) The **Control** column can have one of the following values and meanings for any pair of mapped fields (row):
 - **QC.** The Quality Center entity field controls the mapped PPM Center request field. When the Quality Center entity is created or modified in any way, then the integration updates *all* the mapped PPM Center request fields that are controlled by Quality Center.

When Quality Center controls a mapped pair and the value in the PPM Center field is changed, the value in the associated Quality Center field is not affected.

When the integration creates a Quality Center entity, the PPM Center request fields have no effect on the fields controlled by Quality Center.

• **PPM.** The PPM Center request field controls the mapped Quality Center entity field. When the PPM Center request is created or modified in any way, then the integration updates *all* the mapped Quality Center entity fields that are controlled by PPM Center.

When PPM Center controls a mapped pair and the value in the Quality Center field is changed, the value in the associated PPM Center field is not affected.

When the integration creates a PPM Center request, the Quality Center entity fields have no effect on the fields controlled by PPM Center.

• **Bidirectional.** In effect, *both* the PPM Center fields and their mapped Quality Center fields operate as if they are in control—when *either* the integrated PPM Center request or Quality Center entity is created or modified, the integration updates *all* the associated fields in the Quality Center entity or PPM Center request respectively, as specified by the mappings. To create a new field mapping:

1. From the **QC Entity Fields** drop-down list, select the QC entity field that you want to map to a PPM request field.

Each QC entity field that you must map to a PPM request field is indicated by an asterisk (*) to the right of the field name in the **QC Entity Fields** list.

- 2. From the **PPM Request Fields** drop-down list, select the PPM request field that you want to map to the QC entity field you selected.
- 3. Click Map Fields.

The field pair is added to the Current Field Mappings table.

4. Repeat this procedure for all the QC entity fields that must be mapped and for other pairs of fields you want to map.

To configure or modify a field mapping:

- If you want to change which field, if any, controls a current field mapping (row), change the value in the **Control** column for that field mapping.
- If you want to remove a pair of fields from the mapping, click the Delete icon in the row of the field pair you want to delete.
- If both fields in the mapping are lists of values and you want to map the values, see *Configuring Value Mappings*.

Configuring Value Mappings

When both fields in a field mapping are lists of values, the **Map Values** button appears to the right of the row in the **Current Field Mappings** table. In this case, to map the values of one field to the values of the other field:

1. Click Map Values.

The Map Values window opens. In the example, some QC Values and PPM Values have been mapped and others have not.

1-Low 2-Med	vc values		PPM values	
2-Med	/		4.1	
	ium		2-Medium	
3-High	1		4-Very High	
4-Ven	y High	<=	5-Urgent	
5-Urge	ent	=>	3-High	
(All un	imapped QC values)		(All unmapped PPM Values)	
urrent	Value Mappings			
	QC Value ∆		PPM Value	
×	1-Low	<=	1-Low	
×	2-Medium	<=	2-Medium	

2. Select a value from the QC Values column and a value from the PPM Values column. Then select an enabled <=, =>, or <=> button between the columns to specify the direction of the value mapping.

The integration does not allow you to configure invalid value mappings. For example, if the field mapping specified in the **Control** column is **QC** or **PPM**, not **Bidirectional**, then only the corresponding direction for value mapping is available.

If the field mapping specified in the **Control** column is **PPM**, you can use the **(All unmapped PPM Values)** option to map all the remaining unmapped **PPM Values** to one of the **QC Values**. Conversely, if the field mapping specified in the **Control** column is **QC**, you can use the **(All unmapped QC Values)** option to map all the remaining unmapped **QC Values** to one of the **PPM Values**.

If the field mapping specified in the **Control** column is **Bidirectional**, you can map either all the remaining **PPM Values** to one of the **QC Values** or all the remaining **QC Values** to one of the **PPM Values**.

Make sure that the mapping you specify will not result in invalid values in terms of PPM Center or Quality Center processes.

3. Click OK.

Configuring Email Notification Options

In **Notification Options**, you can optionally send emails to addresses you specify when integration errors occur, either as they occur or as a daily consolidation.

Separately, you can optionally send emails to addresses you specify when the integration creates or updates entities, either as these changes occur or as a daily consolidation.

Event logs provide the same information as email notifications. See *Viewing Event Logs (Quality Center Version 11.00 Only)* on page 225.

Configuring Integration Options

The **Integration Options** are different for a PPM Center request that is integrated with a Quality Center defect than for a request that is integrated with a PPM Center requirement, as described in the following sections.

Integration with a Quality Center Defect

For an integrated PPM Center request type and Quality Center defect, in the **Integration Options**, select one of the following options as needed:

- Creating a PPM Center request automatically creates an associated QC entity. Selecting this option causes the following:
 - Creating or updating a request in PPM Center creates or updates the associated entity in Quality Center. Previously configured field mappings and value mappings, if controlled by PPM or bidirectional, apply to the entity in Quality Center.
 - Creating the PPM Center request automatically populates the request fields related to Quality Center.
 - If a Quality Center user deletes the entity, the integration re-creates the entity in Quality Center.
 - If a PPM Center user deletes the request, the *association* with the entity in Quality Center is removed but the entity is *not* deleted.

- Creating a QC entity automatically creates an associated PPM Center request. Selecting this option causes the following:
 - Creating or updating a defect in Quality Center creates or updates the associated request in PPM Center. Previously configured field mappings and value mappings, if controlled by QC or bidirectional, apply to the request in PPM Center.
 - If a PPM Center user deletes the request, the integration re-creates the request in PPM Center.
 - If a Quality Center user deletes the defect, the *association* with the request in PPM Center is removed but the request is *not* deleted.

Integration with a Quality Center Requirement

For integration with a Quality Center requirement, the **Integration Options** at the bottom of the Configure QC Integration for Request Type page are different than for integration with a Quality Center defect.

Integration Options:	Send consolidated Default QC Folder Name: Make QC requirement	hierarchy match PPM request hierarchy	an a	na shi na mana sa mara fana	-
				Save & Deploy	Save Cancel

To configure the **Integration Options** for an integrated PPM Center request type and Quality Center requirement:

1. Complete the **Default QC Folder Name** field for the Quality Center requirements associated with the PPM Center requests.

If request hierarchy synchronization is not enabled for a request type (see step 2), all new requirements that the integration creates when users create requests will be placed in the Quality Center folder you specify in this field.

2. Specify the **Make QC requirement hierarchy match PPM request hierarchy** option for this request type. This option is also known as request hierarchy synchronization.

For information about the effect of request hierarchy synchronization, see *Request Hierarchy Synchronization* on page 234.

This concludes the configuration procedure for integrating one PPM Center request type with one Quality Center defect or requirement. Remember to click **Save** to save the configuration or click **Save & Deploy** to both save the configuration and make the integration active (Deployed) for the request type.

As needed, configure integration for other eligible request types, starting at step 2 on page 214.

Viewing Event Logs (Quality Center Version 11.00 Only)

For integration with Quality Center version 11.00, an event log, including error information, is maintained in PPM Center. The QC Integration page in PPM Center has a link named **View Log** for each request type (row) that has a deployed integration. If you click one of these links, you can search the log for all the events that are logged for that request type or for only their error events, over the date range you specify.

The information provided in the search results includes the following:

- Nature of the event, that is, whether a PPM Center request, Quality Center defect, or Quality Center requirement was created or updated
- Date and time of the event
- Whether or not the event was an error
- Other details

Email notifications, when enabled, provide the same information as event logs. See *Configuring Email Notification Options* on page 223.



This concludes the sections in this chapter that describe configuring integration with Quality Center version 11.00. For information about using the integration (with Quality Center version 10.00 or version 11.00), see *Using the Integration of PPM Center with Quality Center*.

Using the Integration of PPM Center with Quality Center

As necessary, you use the provided ALM request types and workflows as templates to create your own PPM Center request types and workflows enabled for integration of PPM Center with Quality Center.

As provided by HP, the only PPM Center request type with a request header type that includes the Quality Center Defect Information field group, and thus the only request type that is available to map to a Quality Center *defect* is the ALM - Defect Template with Quality Center Integration request type.

As provided by HP, the only PPM Center request types with a request header type that includes the Quality Center Info field group, and thus the only request types that are available to map to a Quality Center *requirement*, are the following:

- ALM Release Management
- ALM Request for Change (RFC)

This section describes how the request types and workflows provided in ALM support integration of PPM Center with Quality Center, and this section provides guidelines for modifying those request types and workflows.

Steps in PPM Center Workflows that Involve Integration with Quality Center

Several workflows and subworkflows provided in ALM software have steps that are related to the integration of PPM Center with Quality Center, as follows:

• The ALM - Defect Template with Quality Center Integration workflow generates a defect or requirement in Quality Center as soon as a request of the associated type is created. See *ALM - Defect Template with Quality Center Integration Workflow* on page 161.

- The ALM Request For Change workflow (see *ALM Request For Change Workflow* on page 41) calls the following subworkflows at the indicated steps:
 - At step 17, the ALM Request For Change workflow calls the Plan Tests Sub WF (see *ALM - Plan Tests Sub WF Subworkflow* on page 52).

In this subworkflow, step 1, Quality Process Mode, determines whether the test planning will be done manually or using integration of PPM Center with Quality Center. If integration is to be used, the following additional subworkflow steps relate to the integration:

- Step 4, Quality Process Entry
- Step 5, Generate Requirement in Quality Center
- Step 6. Quality Center Failure
- Step 7, Quality Center Requirements Setup
- Step 8, Quality Center Test Plan Setup
- Step 9, Quality Center Test Lab Setup
- At step 22, the ALM Request For Change workflow calls the Deploy and Test Changes Sub WF (see *ALM - Deploy and Test Changes Sub WF Subworkflow* on page 54).

In this subworkflow, step 3, Quality Process Mode, determines whether the testing will be done manually or using integration of PPM Center with Quality Center. If integration is to be used, the following additional subworkflow step relates to the integration:

- Step 5, Quality Center Test Execution
- The ALM Release Request workflow (see *ALM Release Request Workflow* on page 74), includes the following steps that relate to integration of PPM Center with Quality Center for the release management process:
 - Step 3, Integrate with Quality Center?
 - o Step 4, Quality Process Entry
 - o Step 5, Create Release Requirement in Quality Center
 - Step 6, Quality Center Failure

Configuring Request Types and Workflows for the Integration

This section provides guidelines on how to build request types and workflows that support the integration of PPM Center with Quality Center.

To enable integration between PPM Center requests and Quality Center projects, you must ensure that the request types and projects have the necessary matching fields and that the workflows use steps that support integration.

ALM provides request types and workflows that use Quality Center capabilities, and the workflows include the required steps. You can create integration-enabled request types and workflows in any of the following ways:

- By using the PPM Workbench to copy the provided ALM request types and workflows, which already contain the request type fields and workflow special commands required for integration, and changing the copies as needed. This is often the easiest approach.
- By creating new request types and workflows that incorporate the fields and special commands required for integration.
- By customizing your existing PPM Center request types and workflows by adding the fields and special commands required for integration.

After you configure the required request types and workflows, you map the PPM Center fields and their valid values to the Quality Center fields and their valid values.

For detailed information about configuring request types and workflows, see the *HP Demand Management Configuration Guide* as necessary.

Configuring Request Types

The guidelines to configure a request type for integration are as follows:

• Make sure the request header type for the request type to be associated with a Quality Center defect includes the Quality Center Defect Information field group. Only request types with this field group can be mapped to Quality Center defects.

By default, the Quality Center Defect Information field group is included in only the ALM - Defect Template with Quality Center Integration request header type.

Make sure the request header type for the request type to be associated with a Quality Center requirement includes the Quality Center Info field group. Only request types with this field group can be mapped to Quality Center requirements.

By default, the Quality Center Info field group is included in only the ALM - Request for Change (RFC) request header type and the ALM - Release Management request header type.

See Request Header Types on page 159.

- Decide which request type to map to each Quality Center project, then make sure that the request type and project have the required mapping of associated fields.
- Make sure that each pair of mapped fields includes the required valid values. For example, if a Quality Center field contains a lookup list, make sure that the associated field in the PPM Center request accepts the mapped values. If you update a field in one application with a value that does not have a valid mapped value in the other application, the field in that other application will not be updated.

For details when integrating with Quality Center version 10.00, see *Resolving Lists of Valid Values* on page 186.

Quality Center workflows can limit the changes a user can make to a field. For example, a script might specify that at a certain point in the Quality Center workflow, the user cannot change the status from Open to Closed.

For integration with Quality Center with a valid field mapping, if a PPM Center field is updated, the associated Quality Center field is updated even if a Quality Center workflow script specifies the update as invalid.



Configuring Workflows

The guidelines to configure a workflow for integration are as follows (refer to the *HP Demand Management Configuration Guide* for details as necessary):

• Make sure the workflow includes execution steps and decision steps that enable the integration of PPM Center with Quality Center. The workflows provided by ALM include such steps.



A PPM Center decision step that depends on Quality Center (that is, a PPM Center request that is supposed to be updated by a Quality Center status change) can have its status changed in Quality Center only by a user who has Administrator rights.

- If you need to customize a workflow to create a defect or a requirement, HP recommends using the execution steps that are included in the ALM - Defect Template with Quality Center Integration workflow, instead of building the steps yourself. To create defects or requirements in Quality Center, your workflow must include one of the following execution steps that uses the stated special command:
 - To create defects, the **ALM Create QC Defect** execution step with the ksc_create_defect_in_QC special command
 - To create requirements, the ALM Create QC Requirement execution step with the ksc_create_requirement_in_QC special command

In the **Properties** tab of the workflow execution step, specify a value in the **Request Status** field that is valid for Quality Center, for example, **1-Requirements Setup Completed** when creating a requirement.

Once an execution step has created a requirement or defect in Quality Center, then every time the PPM Center request status changes, the Quality Center requirement or defect status also changes if the same PPM Center status exists for the Quality Center requirement or defect. For example, if the PPM Center request status changes to Open, the Quality Center requirement or defect status will also change to Open, as long as Open is one of the values allowed in the status field of the requirement or defect.

For more information about configuring workflow steps, see the *HP Demand Management Configuration Guide*.

After Quality Center sends an update to PPM Center, Quality Center waits for a response, and the Quality Center record remains locked until Quality Center receives the response. Meanwhile, if PPM Center advances to the next workflow step and attempts, for example, to update (synchronize) Quality Center with a new request status, Quality Center rejects the update since the record is locked.

Therefore, a PPM Center workflow should not contain successive steps such that the first causes a PPM Center request to advance based on a change in Quality Center status, and the second causes PPM Center to attempt to update Quality Center. Make sure there is an intervening step between two such steps.

• When a PPM Center request is integrated with a Quality Center project, you can use a change in the Quality Center status to cause the PPM Center request to advance through an active decision step to the next step in the associated PPM Center workflow. For example, when the QA manager sets the status of a Quality Center project to indicate that test planning is complete, the associated request in PPM Center can automatically advance from the step in the PPM Center workflow that is awaiting that notification.

Conversely, whenever the status of a PPM Center request changes, PPM Center notifies Quality Center, and (assuming the new status is valid in Quality Center) Quality Center users can take appropriate action such as starting tests.

To enable this functionality, you must design the workflow decision steps such that the following three items have the same values:

- Quality Center status that will trigger the advancement in the PPM Center workflow.
- Transition name (which is specified as the **Meaning** field of the validation value for the workflow step source) for the active decision step in the PPM Center workflow.

HP recommends that you give the **Meaning** field of the transition a value that is unique to this transition, that is, a value that does not exist anywhere else in the workflow. When this value becomes assigned to the **ITG Status** field in Quality Center version 10.00 or the **PPM Status** field in Quality Center version 11.00, the PPM Center workflow advances if the value matches a valid transition in an active workflow step. If the workflow has more than one active step and the **Meaning** is not unique, the workflow could advance to an unintended step.

• **Request Status** field in the destination step in the PPM Center workflow.

If the Quality Center status does not appear in the list of valid request status values in PPM Center, PPM Center sends an error message to Quality Center, the Quality Center status reverts to its previous value, and the PPM Center workflow does not advance.

For example, in the following portion of the ALM - Plan Tests Sub WF subworkflow, the transition from step 7 to step 8 is called **1-Requirements Setup Completed.**



If you double-click step 8 (the destination step), the **Properties** tab of the Workflow Step window shows that the value in the **Request Status** field is also **1-Requirements Setup Completed.**

4	Workflow Step						X	
	Timeout	User Data	1	Results	Dis	olay Settings		
	Properties	Security		Segregation of [Duties	Notifications		
	Step Nu	mber: 8						
	Step N	Mame: Quality	Quality Center Test Plan Setup					
	Action Sum	mary:						
	Descri	ption:						
	Source	Type: Decisio	n					
	Source M	Name: ALM - (Quality	/ Center Test Plan	Setup			
	Ena	abled: () Yes			() NO			
	Di	splay: Always					~	
	Workflow Paran	neter: NONE					~	
	Avg Lead	Time:						
	Request SI	tatus: 1-Requ	ireme	nts Setup Comple	eted			
	Current % Com	plete:						
	Parent Assigned To	User:				Edit Cle	ear	
	Parent Assigned To G	iroup:				Edit Cle	ear	
	Workflow Step Inforn	nation					U	
	Authentication Red	quired None					~	
1					ОК	Apply Ca	ncel	
1	Ready							

All three items—the Quality Center status, the transition, and the **Request Status** field of the destination step—have the same value. Therefore, if the QA team changes the Quality Center status to **1-Requirements Setup Completed** when step 7 is active, the workflow will advance to step 8.

If you need to change the value of the **Request Status** field of the destination step, in the **Properties** tab of the Workflow Step window for that step, specify the new value in the **Request Status** field and click **OK**.

If you need to change the **Meaning** field that defines the transition name, right-click the preceding decision step and select **Edit Source**; in the **Validation** section of the Decision window, click **Open**; click the validation value (row) of interest and click **Edit**; specify the new value in the **Meaning** field; click **OK** to close all open windows. For more detailed information, see the *HP Demand Management Configuration Guide*.

Request Hierarchy Synchronization

For information about enabling request hierarchy synchronization with requirements in Quality Center **version 10.00**:

- If a mapping has not been created between the Quality Center requirement and the PPM Center request type, see step 15 on page 176.
- If a mapping has been created, see *Enabling and Disabling Request Hierarchy Synchronization* on page 200.

For information about enabling request hierarchy synchronization with requirements in Quality Center **version 11.00**, see *Integration with a Quality Center Requirement* on page 224.

The integration of PPM Center with Quality Center allows you to synchronize the hierarchies of requests in PPM Center and requirements in Quality Center, that is, to make the Quality Center requirement hierarchy match the PPM Center request hierarchy automatically, as in the following example sequence:

- 1. A PPM Center request named Request A is created.
- 2. With integration, an associated Requirement A is automatically created in Quality Center.
- 3. A PPM Center request named Request B is created with a reference to Request A indicating that Request A is the parent of Request B.
- 4. An associated Requirement B is automatically created in Quality Center. If request hierarchy synchronization is enabled, since Request B is the child of Request A, Requirement B is automatically created as the child of Requirement A.

If Requirement A does not exist in Quality Center, creating a reference in PPM Center from Request B to Request A has no effect in Quality Center.

If you later delete the relationship (the reference) between Request A and Request B in PPM Center, the relationship between Requirement A and Requirement B is automatically deleted in Quality Center. For integration with Quality Center version 11.00, instead of being a child of Requirement A, Requirement B is moved to the folder specified in the **Default QC Folder Name** field.



When request hierarchy synchronization is first enabled, it does not cause immediate reorganization of existing requirements in Quality Center to retroactively match the hierarchy of associated requests. Thereafter, however:

- Any update to any field in an existing integrated request initiates an update to the hierarchy (folder structure) of the associated requirement to reflect the hierarchy of the request.
- Upon creation of any new PPM Center request, the integration creates a new Quality Center requirement in a matching hierarchy.
- Any changes you make to the hierarchy in PPM Center are automatically reflected in the hierarchy of the Quality Center requirements. Thus, changes made in Quality Center to the hierarchy of a requirement can be overridden later by updates to the associated PPM Center request.

PPM Center allows a request to have multiple parents, but Quality Center limits a requirement to only one parent. If a PPM Center request has multiple parents, Quality Center does not duplicate that hierarchy in the project, and PPM Center displays a message indicating a problem with hierarchy synchronization.

Example of Request Hierarchy Synchronization

The following screen shows a Quality Center requirement called **Req. Hierarchy** with three requirements.



Field names **ITG Request Id, ITG Server,** and **ITG Request Status** are used for Quality Center version 10.00. In Quality Center version 11.00, these field names are **PPM Request Id, PPM Server,** and **PPM Request Status.**

Requirements View Tools Analysis								
Document View 👻								
<u>▲ 🏡 🖌 🖟 " × ∽ " 🖩 Q, " M 🖉 Q ⊡ "</u>								
🔗 Name	Direct Cover Status	🦫 ReqID	ITG Request Id	ITG Server	Priority	ITG Request Status		
Ŧ 🔹 New Requests	? Not Covered	[RQ0390]	0					
🖃 🔹 Req. Hierarchy	? Not Covered	[RQ0401]						
 Grand-child Requirement 	? Not Covered	[RQ0400]	30004	http://wish:8099/itg/	5-Urgent	New		
 Child Requirement 	? Not Covered	[RQ0399]	30003	http://wish:8099/itg/	3-High	New		
 Parent Requirement 	? Not Covered	[RQ0398]	30002	http://wish:8099/itg/	4-Very High	New		

Each requirement is mapped to a PPM Center request of type ALM - Request for Change (RFC). The request numbers in PPM Center are shown in the **ITG Request Id** column (for Quality Center version 10.00) or **PPM Request Id** column (for Quality Center version 11.00). When the requests were created, their **RFC Summary** fields were specified as **Parent Requirement, Child Requirement,** and **Grand-child Requirement** to indicate their intended hierarchy (first in PPM Center and then automatically as requirements in Quality Center) after establishing the relationships among the requests in PPM Center.

When you open a request, you can add a different request in the **References** section and specify the relationship of the reference request to the request you opened. For example, the reference request can be a child or a parent of the open request.

For the example, you could use any one of the following methods to establish the relationships among requests, which would then automatically synchronize the relationships among the associated Quality Center requirements:

- Open request 30002 and make it the parent of request 30003, and then open request 30003 and make it the parent of request 30004.
- Open request 30003 and make it the child of request 30002, and then open request 30004 and make it the child of request 30003.
- Open only request 30003 and make it both the child of request 30002 and the parent of request 30004. This method is slightly quicker and is used in the following procedure.

To create the relationships between the requests, in PPM Center:

1. Select and open the request for which you want to define one or more relationships.

In the example, open request 30003.

2. In the **Reference Additions** section of the request, in the **New Reference** drop-down list, select **Request (Existing)**.

Printable Version	A printable Version								
ALM - Request for Ch	ALM - Request for Change (RFC) - #30003								
Description: Unio Requirement Request Status: In Review (View Full Status Below)									
Available Actions									
Filter RFC									
More Information	Needed		Accepted	Rejected					
Make a Copy Delete									
Expand All Collapse All						Save			
E Header									
RFC Summary									
RFC ID:	30003		Created By:	Admin User	Created On:	May 29, 2009			
RFC Status:	In Review		Contact Name:	Jones, David	Contact Phone:				
RFC Priority:	Medium		Contact Email:		Contact Location:				
RFC Summary:	Child Requirement	t							
Expected Start Date:		2	Expected Finish Date:	2					
Assigned Developer:		<u>a</u>	Release ID:						
Detaile									
Details									
SOX Information									
Implementation Deta	ile								
Impact & Resource A	ssessment								
Impacted Configurati	ion Itoms								
OA Details	ion nom								
Quality Center Info									
Service Desk System	Info								
Review Summary									
Notes			No Note	e Eviet					
Status			140 14016						
References									
Reference Additions									
New Reference: Request (Ex	sting) 🗙 🛛 Add	i							
References to be added on Sa	ive:								
		Open Re	move						
Make a Copy Delete									
						0.000			

3. Click Add.

The Add Reference: Request window opens.

Add Reference:	Request			Search	Cancel			
Search for Reque	sts to View				Clear Fields			
Request Type:			Advanced Search					
Status:		12	Priority:		Ħ			
Assigned To:		2	Assigned To Group:					
Created By:		2	Request Sub Type:					
Department:		Ħ	Application:		Ħ			
Workflow:		I	Request Group:		I			
Contact:		Ħ	Company Name:					
Linked Project:		II	Request #:					
Creation Date From:	2	To:		Ν				
Last Update Date From:	2	То:	21	13				
Request Key Words:	Search the content of Re	quest Notes and I	Descriptions.					
Preventing Action On:	Requests		Eligible for My Action?	⊖Yes ⊙No				
	Packages		Include Closed?	⊖Yes ⊙No				
Additional Filters:	5		3	Query Builder				
Sort By: Req # Ascending © Descending *Maximum Results Per Page: 50 *Limit Rows Returned To: 1000								
Choose Columns								
Available Columns % Complete Application Assigned To Group Company Name Contact Creation Date Department Last Updated Request Group		Selected Colur Req.#* Request Type Description Status Assigned To Priority Created By	nns A	Note: Columns followed by an asterisk"; cannot be removed from the display.				
				Search	Cancel			

4. Specify data about the request to be related to the open request, and click **Search.**

In this example, type 30002 in the Request # field and click Search.

If the search is successful, the following window opens.



The window allows you to select from the search results which requests will be references (in the example, 30002 is the only request found using the specified search criteria), and to select an option to specify the relationship the reference request (or requests) will have to the open request (30003 in the example).

- 5. In the **Request Search Results** section, select the check box for the request that is to be made a reference.
- 6. In the upper section of the window, select the option for the relationship you want this reference request to have to the open request.

In this example, select **Parent of this Request** because you want reference request 30002 to be the parent of open request 30003.

7. Click Add.

The reference request and its relationship are added to the **References to be** added on Save text box in the open request.

ALM - Kequisarior Change (K+C) - #30003 Description: Change (K+C) - #30003 Description: Change (K+C) - #30003 Available Actions Fitter RFC Accepted Actions Fitter RFC More Information Needed Accepted Rejected Rejected Rejected Rejected Rejected Actions Fitter RFC Rejected Actions RFC Summary Child Requirement RFC Summary: RFC Su
Description: Child Requirement Request Status: In Review (Vew Full Status Below) Available Actions Filter RFC Nore Information Needed Accopted Rejected Nake a Copy Delete Executed All Collapse A
Available Actions Filter RFC More Information Meeded Accepted Redet RFC Summary: Index Contact Mane: Ones, David Index Contact Mane: Contact Phone: Contact Phone: Contact Phone: Contact Phone: Contact Phone: Preceded Start Date: Implementation Details Solution: Implementation Details
Rifer RFC Nome Information Needed Accepted Reserved Reserved Reserved RFC Dit 30003 Created By: Admin User Created On: May 29, 2009 RFC Status: In Review Contact Name: Jones, David Expected Start Date: Expected Start Date: Expected Start Date: RFC Details Proteins Reserved Start Date: RFC Details Implementation Details Implementation Details
Recented Accepted Rejected Name Contagee All Save Expand All Collapse All Collapse All Brc Cottagee All Contagee By: Admin User Created Dn: May 29, 2009 RFC Di: 30003 Created By: Admin User Created Dn: May 29, 2009 RFC Di: 30003 Created By: Admin User Created Dn: May 29, 2009 RFC Di: 30003 Created By: Admin User Created Dn: May 29, 2009 RFC Status: In Review Contact Name: Joines, David Contact Phone: RFC Status: In Review Contact Email: Contact Location: RFC Summary: Child Requirement: Expected Finish Date: Image: Contact Location: Breated Developer: Child Requirement: Image: Contact Location: Image: Contact Location: Breated Developer: Release ID: Image: Contact Location: Image: Contact Location: Breated Developer: Release ID: Image: Contact Location: Image: Contact Location: Breated Developer: Release ID: Image: Contact Location: Image: Contact Location: Breated Developer: Release ID: Image: Contact Location: Image: Contact Location: Breate: Image: Contact Location: Image: Contact Location: Image: Contact Location: Breate: Release ID: Image: Contact Location: Image: Contact Location: Breate:
Bake a Copy Delete Expand Al Collapse Al I Header I Header I Reder I REC Summary: Solution: In Review Contact Name: Contact Name: In Review Contact Name: Contact Priority: Medium Contact Email: Contact Email: Expected Start Date: I Details I Rec Details I Inplementation Details
Expand All Collapse Al Save I Header Image: Al All Collapse Al I RFC Driority: Image: Al All Contact Name: I Medium Contact Email: Contact Developer: Image: Alease ID: I Details Image: Alease ID: I SOX Information Image: Alease ID: I Implementation Details Image: Alease ID:
■ RFC Summary RFC ID: 30003 Created By: Admin User Created On: May 29, 2009 RFC Status: In Review Contact Name: Jones, David III Contact Phone: RFC Priority: Medium Contact Email: Contact Location: Contact Location: RFC Summary: Child Requirement Image: Contact Email: Contact Location: Image: Contact Location: Expected Start Date: Image: Contact Image: Contact Email: Image: Contact Imag
Image: PRC Summary RFC ID: 30003 Created By: Admin User Created On: May 29, 2009 RFC Status: In Review Contact Name: Jones, David Contact Phone: Image: Proving Image: Provimage: Provimage: Provimage: Proving Image: Proving Image: Provima
RFC ID: 3003 Created By: Admin User Created Do: May 29, 209 RFC Status: In Review Contact Name: Iones, David Contact Phone: Contact Phone: RFC Priority: Medium Contact Email: Contact Email: Contact Location: Contact Location: RFC Summary: Child Requirement Expected Start Date: Expected Finish Date: Iones Finish Date: Iones RFC Details Release ID: IIII: Iones Iones Iones Iones RFC Details Iones Iones Iones Iones Iones Iones SOX Information Iones Iones Iones Iones Iones Iones Inplementation Details Iones Iones Iones Iones Iones Iones Inplexed Configuration Iones Iones Iones Iones Iones Iones Iones
RFC Status: In Review Contact Name: Jones, David Contact Phone: RFC Priority: Medium Contact Email: Contact Location: RFC Summary: Child Requirement Sepected Start Date: Contact Phone: Expected Start Date: Image: Image: Image: Assigned Developer: Image: Release ID: Image: Image: Image: Image: Image: SOX Information Image: Image: Image: Image: Image: Image: Image: Image: Image: Image: Image: Image: Image: Image: Image:
RFC Priority: Medium Contact Email: Contact Location: RFC Summary: Child Requirement Expected Start Date: Implementation Details Implementation Details SOX Information Implementation Details Implementation Details Implementation Details Implementation Details Implementation Details Implementation Details
RFC Summary: Child Requirement Expected Start Date: Implementation Details Implementation Details Implementation Details Implementation Details Implementation Items
Expected Start Date: Implementation Details Implementation Details Implementation Details Implementation Items
Assigned Developer: Release ID: Details RFC Details SOX Information Implementation Details Implementation Details Implementation Letails Implementation Letails Implementation Letails Implementation Letails Implementation Letails
 Details RFC Details SOX Information Implementation Details Impact & Resource Assessment Impact d Configuration Items
RFC Details Implementation Details Impact & Resource Assessment Impact Configuration Items
g SOX Information g Implementation Details g Impact & Resource Assessment g Impact d Configuration Items
Implementation Details Impact & Resource Assessment Impacted Configuration Items
 Impact & Resource Assessment Impacted Configuration Items
Impacted Configuration Items
🗷 QA Details
B Quality Center Info
B Service Desk System Info
Review Summary
B Notes No Notes Exist
🖻 Status
E References
Reference Additions
New Reference: Request (Existing) V Add
References to be added on Save:
Adding Request 30002 (Parent of this Request)
Open Remove
Make a Copy Delete

8. Repeat step 2 on page 237 through step 7 (or step 3 on page 238 through step 7) as necessary to create parent and child relationships with additional requests.

In this example, follow step 3 through step 7, but in step 4 type 30004 in the **Request #** field to make that request the one to reference, and in step 6 select **Child of this Request** because you want reference request 30004 to be the child of open request 30003.

Printable Version					Result 3 of 7
ALM - Request for Ch	ange (RFC) - #30	003			
Description: Child Requiremen	nt				
Request Status: In Review (V	(iew Full Status Below)				
Available Actions					
More Information	Needed	Accepted	Rejected		
		•	-		
Make a Copy Delete					
Expand All Collapse All					Save
Header					
RFC Summary					
RFC ID:	30003	Created By:	Admin User	Created On:	May 29, 2009
RFC Status:	In Review	Contact Name:	Jones, David	Contact Phone:	
RFC Priority:	Medium	Contact Email:		Contact Location:	
RFC Summary:	Child Requirement				
Expected Start Date:	2	Expected Finish Date:	2		
Assigned Developer:	2	B Release ID:	:=1		
Assigned Sevelopen		i i i i i i i i i i i i i i i i i i i	14		
🔳 Details					
RFC Details					
SOX Information					
Implementation Deta	ails				
Impact & Resource A	Assessment				
Impacted Configurat	tion Items				
QA Details					
Quality Center Info					
Service Desk System	n Info				
Review Summary					
🔳 Notes		No N	lotes Exist		
Status					
References					
Reference Additions					
New Reference: Request (Ex	cisting) 🗸 🗛 Add				
References to be added on Sa	ave:				
Adding Request 30002 (Parent o	of this Request)		1		
Adding Request 30004 (Child of	this Request)				
r	Op	en Remove	1		
Make a Copy Delete					
					Save

9. Click Save.

The reference requests with which you have defined relationships are listed in the **References** section, **Requests** subsection of the open request.

Printable Version	(DEO)	#20002						Result 3 of 7 🕨
ALM - Request for Cr	ange (RFC) -	#30003						
Description: Child Requirement Request Status: In Review ()	nt /iew Full Status Belor	<u>w</u>)						
Available Actions								
Filter RFC								
More Information	Needed	Accept	ed		Rejected			
Make a Copy Delete								
Expand All Collapse All						Save Succe	ssful 12:16:52 PM PDT	Save
🔳 Header								
E RFC Summary								
RFC ID:	30003	Created	i By:	Admin Use	er	Created On:	May	29, 2009
RFC Status:	In Review	Contact	Name:	Jones, Da	vid	Contact Pho	ne:	
RFC Priority:	Medium	Contact	Email:			Contact Loc	ation:	
RFC Summary:	Child Requiremen	t						
5					174			
REC Details								
SOX Information								
Implementation Det	ails							
Impact & Resource	Assessment							
Impacted Configurat	tion Items							
QA Details								
Quality Center Info								
Service Desk System	n Info							
Review Summary								
Notes			No Notes I	Exist				
Status								
References								
Reg # Assigned User	Description	Request Type	Status	% Complete	Relationship		Relationship Detail	s
30002	Parent	ALM - Request for	In Douisuu	0%	Parent of this Requ	est 🗸	Informational: Reques	at 30002 is the parent
30004	Grand-child Requirement	ALM - Request for Change (REC)	In Review	0%	Child of this Reques	st 💌	Informational: Request of Request 30003	at 30004 is the child
D.C. ALL'S		onungo (ni o)						
Reference Additions								
New Reference: Attachment	✓ Add	Highlighted Ite	ems are actively co	ntrolling this Requ	est			
References to be added on S	ave:							
				-				
		Open Remove						
Make a Copy Delete								
						Save Succe	ssful 12:16:52 PM PDT	Save

In Quality Center, the requirements (rows) are now reorganized and indented to reflect the relationship hierarchy you specified among the PPM Center requests.



Field names **ITG Request Id, ITG Server,** and **ITG Request Status** are used for Quality Center version 10.00. In Quality Center version 11.00, these field names are **PPM Request Id, PPM Server,** and **PPM Request Status.**

Requirements View Tools Analysis						
Document View 👻						
▲ ☆ 🖌 🔟 🏗 · × ∽ · 🔟 ལ, · 🏟 🎝 🖉 🝳 🖻 ·						
🖉 Name	Direct Cover Status	🦫 ReqID	ITG Request Id	ITG Server	Priority	ITG Request Status
Ŧ 🔹 New Requests	? Not Covered	[RQ0390]	0			
🗏 🔍 Req. Hierarchy	8 Not Covered	[RQ0401]				
🖃 🔹 Parent Requirement	? Not Covered	[RQ0398]	30002	http://wish:8099/itg/	4-Very High	New
 Child Requirement 	? Not Covered	[RQ0399]	30003	http://wish:8099/itg/	3-High	New
 Grand-child Requirement 	? Not Covered	[RQ0400]	30004	http://wish:8099/itg/	5-Urgent	New

7 Integrating PPM Center with HP Release Control, Using ALM

Introduction to Integrating PPM Center with Release Control, Using ALM

Integrating PPM Center with Release Control enables you to link directly from a change request in PPM Center to associated impact analysis data in Release Control. Based on the information provided in Release Control, you can then decide whether to approve or reject the deployment of the change request.

For more information about the benefits of this integration, see *Integration of PPM Center with Release Control, Using ALM* on page 21.

For information about the versions supported for integration, see the *System Requirements and Compatibility Matrix.*



No software needs to be installed on the Release Control server to integrate PPM Center with Release Control. However, see the *System Requirements and Compatibility Matrix.*

For more information about Release Control, see its product documentation at the Web site described in *Optional PPM Center Integrations* on page 17.

Configuring Release Control for the Integration

To configure Release Control for integration, you must do the following:

- Configure the PPM Center Web Services adapter in Release Control
- Configure the JavaScript files in Release Control



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

Before beginning this configuration, verify that Web services are enabled for use with PPM Center, as follows:

- 1. Stop the PPM Server.
- 2. Run the following script:
 - sh ./kConfig.sh
- 3. Verify that the ENABLE_WEB_SERVICES parameter in the PPM Center server.conf configuration file is set to true.
- 4. Restart the PPM Server.

Configuring the PPM Center Web Services Adapter

To establish integration, you must configure the PPM Center Web Services adapter in Release Control to convert change requests that come from PPM Center to generic requests that Release Control can process, as follows:

1. Configure the PPM Center Web Services connector settings as described in the *HP Release Control Installation and Configuration Guide*.



Before version 7.0, PPM Center was known as Mercury IT Governance Center or ITG. Release Control software and documentation might still refer to PPM Center as IT Governance Center or ITG.

 In the itg-ws-adapter.settings file, under <request-type level="1">, set the requestTypeName to the name of the PPM Center request type representing a PPM Center release, for example, ALM - Release Management. In the itg-ws-adapter.settings file, under <request-type level="2">, set the requestTypeName to the name of the PPM Center request type representing a PPM Center change, for example, ALM - Request for Change (RFC), and set the parentRequestTypeName to the value of the requestTypeName in step 2.

Configuring the JavaScript Files

Configure the JavaScript files in Release Control for the integration with PPM Center.



If PPM Center is (or will be) integrated with HP Universal CMDB as well, additional configuration steps may be required in Release Control before configuring the JavaScript.

Refer to documentation for Release Control and contact HP Release Control Support as necessary.

Configuring PPM Center for the Integration

Before beginning to configure the integration as described in this section, make sure that ALM has been installed and initially configured as described in Chapter 2, *Installing and Setting Up ALM Software*, on page 23.

Establishing Server Connections for Supported Versions

Make sure that the HTTP port is open between the PPM Server and the Release Control machines.

Verify that a supported version of Release Control is installed and running (see the *System Requirements and Compatibility Matrix*).

Configuring the server.conf Parameter in PPM Center



For more information about the steps in this procedure, see the *Installation and Administration Guide*.

To be able to open Release Control from PPM Center as part of the integration, add and specify the parameter related to Release Control integration to the PPM Center server.conf configuration file, as follows:

- 1. Stop the PPM Server.
- 2. Run the following script:

sh ./kConfig.sh

Set the parameter and value as shown in the following table. (All parameter names begin with com.kintana.core.server. but that is not shown in the table.)

Parameter	Value		
CCM_MACHINE_URL	URL of the Release Control server:		
	http:// <rc_host>:<port>/ccm/</port></rc_host>		
	where <rc_host> represents the host machine on which Release Control is running</rc_host>		

- 3. Verify that the ENABLE_WEB_SERVICES parameter in the server.conf file is set to true.
- 4. Restart the PPM Server.

Using the Integration of PPM Center with Release Control

ALM provides the ALM - Releases portlet to facilitate the release request process (see *ALM* - *Releases Portlet* on page 82). If PPM Center and Release Control are integrated, for each release request you can click the **Click to View** link in the **View Impact** column in the portlet to log in to Release Control. When you log in, Release Control displays the **Overview** tab and other tabs. The information displayed for the selected change request includes the following, for example:

- The "service desk application" from which the request originated. From the perspective of Release Control, PPM Center is a service desk application in this context.
- On the **Request Details** tab, the request ID number of the original change request, with a link to open the change request in PPM Center.
- On the **Request Details** tab, the planned and actual start and end times for execution of the request.
- On the **Overview** tab, the number of configuration items (CIs) and applications that are affected by the request, with links that access the **Impact Analysis** tab, where details of the affected CIs and applications are displayed.
- On the **Collaboration** tab, the communication among users regarding action items.

If PPM Center is integrated with Release Control *and* with Universal CMDB, you can click the Launch HP Release Control button in the Impacted Configuration Items section of an ALM - Request for Change (RFC) request in PPM Center to access Release Control.

8 Integrating PPM Center Tasks with HP Service Manager RFCs

Introduction to Integrating PPM Center Tasks with Service Manager RFCs

For an overview of the integration of PPM Center tasks with Service Manager RFCs, see *Integration of PPM Center Project Tasks with Service Manager RFCs* on page 22.



This integration does not use the ALM entities and does not require installing the ALM software.

This integration allows PPM Center project managers to specify which tasks in a project, if any, automatically create corresponding requests for change (RFCs) in Service Manager. As the RFCs are completed in Service Manager, the statuses of the associated PPM Center tasks are automatically set to Complete (or Cancelled).

The typical flow of this integration is as follows:

- A project manager creates a task in a PPM Center project, which initiates an operational RFC in Service Manager.
- Key information is copied from the task to the RFC (and is updated when the task is modified).
- A Service Manager user works on the RFC, and the PPM Center task is automatically updated to reflect the RFC status.
- The project manager can review the status of the Service Manager RFC as reflected in the PPM Center task.

• Upon completion of the Service Manager RFC, the PPM Center task status is updated to **Complete** or **Cancelled**.

Configuring the Integration of PPM Center Tasks and Service Manager RFCs

To configure this integration, perform the following steps in PPM Center and Service Manager. You must have system administrator privileges in both PPM Center and Service Manager.

- 1. Stop the PPM Server.
- 2. Check the PPM Center Web services configuration. Make sure the basic authentication mode is enabled.
 - a. Open the configuration file located at: <PPM_Home>\server\ <PPM_Server_Name>\deploy\itg.war\WEB-INF\conf\axis2.xml, where <PPM_Server_Name> is the host name or IP address of your PPM Center instance.
 - b. Make sure the value of InFlowBasicAuth is true.

If PPM Center is operating in a cluster configuration, you must update the axis2.xml file for all of the nodes in the cluster.

- 3. Log on to Service Manager. In the cm3r table in Service Manager, add a new field for the PPM Center task ID (for example, PPMTaskId). The field name you specify here will be used for field mapping in step 4.
- 4. In PPM Center, check the field mapping file, which defines the field mapping from PPM Center to Service Manager:
 - a. In the <PPM_Home>\conf\smrfc directory, copy the field mapping file sm-rfc-mapping.xml.sample under the same directory and rename the copied file to sm-rfc-mapping.xml.
 - b. In the new mapping file, map the TASK_ID field to the Service Manager field that you created in step 3. The fields in the mapping file are case-sensitive.
c. In the new mapping file, verify that the Status field in Service Manager is set to initial. This value will be maintained by Service Manager after the change record is created in Service Manager.

The following is an example of the sm-rfc-mapping.xml file:

```
<?xml version="1.0" ?>
<PPMSMIntegration>
<SMRFCMapping>
       <field>
              <smField>PPMTaskId</smField>
              reld>TASK_ID/presid>
              <useOnCreate>true</useOnCreate>
              <useOnUpdate>true</useOnUpdate>
       </field>
       <field>
              <smField>BriefDescription</smField>
              rield>TASK_NAME/ppmField>
              <useOnCreate>true</useOnCreate>
              <useOnUpdate>true</useOnUpdate>
       </field>
       <field>
              <smField>Description</smField>
              confield>TASK_DESCRIPTION/presid>
              <useOnCreate>true</useOnCreate>
              <useOnUpdate>true</useOnUpdate>
              <defaultValue>ppm task does not have a description
                                                                                                              </defaultValue>
       </field>
       <field>
              <smField>RequestedDate</smField>
              compare 
              <useOnCreate>true</useOnCreate>
              <useOnUpdate>true</useOnUpdate>
       </field>
       <field>
              <smField>RequestedBy</smField>
              <useOnCreate>true</useOnCreate>
              <defaultValue>FALCON, JENNIFER</defaultValue>
       </field>
</SMRFCMapping>
```

```
</PPMSMIntegration>
```

Element	Description
field	Each field element represents a field mapping between PPM Center and Service Manager.
smField	Caption name of the Service Manager field. The Service Manager field must be exposed through the ChangeIIA object in the ChangeManagement Web service in Service Manager. For more information, see step 5 on page 256.
ppmField	Field name of the PPM Center task. For the tokens available for this element, see the notes following this table.
useOnCreate	Specifies whether or not the field value is sent to Service Manager when an RFC is created.
useOnUpdate	Specifies whether or not the field value is sent to Service Manager when an RFC is updated.
defaultValue	Provides a default value for the Service Manager field. Note: If ppmField is not specified, or the value of ppmField is null or empty, then this default value is used.

Each element in the mapping file is described in the following table:

Notes:

- You can add more mappings as needed. However, make sure that all the Service Manager fields specified in the field mapping file are exposed through the Service Manager ChangeManagement Web service. For more information, see step 5 on page 256.
- The tokens in the following table can be used in the ppmField element.

Token	Description
TASK_ID	Task ID
TASK_NAME	Name of the task
TASK_DESCRIPTION	Description of the task
TASK_STATUS	Status meaning of the task
TASK_PRIORITY	Priority of the task
TASK_IS_MILESTONE	Whether the task is a milestone

Token	Description
TASK_IS_MAJOR_MILESTONE	Whether the task is a major milestone
TASK_SCHEDULED_END_DATE	Scheduled finish date of the task
TASK_SCHEDULED_START_DATE	Scheduled start date of the task
TASK_PATH	Path of the task in the following format: rootTask > firstLevelTask > secondLevelTask >
TASK_USERDATA_01 through TASK_USERDATA_20	User data fields 1 – 20 of the task
PROJECT_ID	Project ID
PROJECT_NAME	Name of the project
PROJECT_REQUEST_ID	PFM request ID of the project
PROJECT_MANAGER_USER_ID	User ID of the project manager
PROJECT_MANAGER_USERNAME	User name of the project manager
PROJECT_MANAGER_FULLNAME	Full name of the project manager
PROJECT_MANAGER_EMAIL	Email address of the project manager
SYS_USER_ID	User ID of the current user
SYS_USERNAME	user name of the current user
SYS_USER_FULLNAME	Full name of the current user
SYS_USER_EMAIL	Email address of the current user

5. Make sure that the Service Manager fields specified in the field mapping file are exposed through the ChangeIIA object in the ChangeManagement Web service in Service Manager.

In Service Manager, check that all the fields are listed on the **Fields** tab of the ChangeIIA object (for the cm3r table) in the ChangeManagement Web service. If any field is not listed, add the field name and caption name to the **Field** and **Caption** columns. For details on how to expose the fields of a table through a Service Manager Web service, see the Service Manager online help.



- 6. Load the following files, located in the <PPM_Home>\conf\smrfc directory, into Service Manager:
 - **PPMIntegration.unl** (the integration unload file)
 - PPMIntegration_Schedule.unl (the ppmfailover schedule object file)

If you are using an Oracle database with Service Manager, loading of the PPMIntegration.unl file might fail the first time. Normally, reloading the file will solve the problem.

If you load the <code>PPMIntegration_Schedule.unl</code> file more than one time, duplicate <code>ppmfailover</code> schedules will be created in Service Manager. If this is the case, delete the redundant <code>ppmfailover</code> schedules.

7. Configure the integration table in Service Manager.

In Service Manager, open the related form for the ppmIntegration table and add the following new record to the table:

Table Field	Value
ld	1
Field to Store TaskId	The value of this field must match the field name you previously added to the cm3r table for the PPM Center task ID (see step 3 on page 252). For example, PPMTaskId .
	If the field names do not match, the integration will fail.
PPM Server URL	URL of the PPM Center Web services. For example: http:// <host_name>:<port>/itg/ppmservices/</port></host_name>
	The user name that Service Manager uses to call the PPM Center Web services.
PPM Server Username	This user name must include only single-byte characters.
	HP recommends that you create a separate user account for this purpose.
PPM Server Password	The password of the user name that Service Manager uses to call the PPM Center Web services.

8. Modify the Service Manager processes as necessary.

Modify the processes that will call the PPM Center Web services to update the RFC status and task status, by adding the following code to the **Final Javascript** tab of each process:

	IP Service Manager - Process: cm.reject - HP Service Manager Client 📃 🔼 🔼
File	Edit Window Help
] 🛃	🕴 🔤 🔽 schedule 🔽 🕨 🖉 🖏 🗮 🙀
Ê	🔄 schedule: 2588638 🛛 🚆 Search schedule R 🖓 System Status 🙀 Process: cm.reject 🗙 🎇 🖓 🗖 🗖
	💌 🚯 Mass Add 🙆 Mass Update 🐧 Mass Delete 🔞 Mass Unload 😪 😒 💌
-0	Process Name
	cm.km.select.assignee
40	cm.km.select.owner
	m.km.transfer
	cm.km.unowned
	cm.next.phase
	cm.notify
	cm.ok
	cm.open
	cm.open.cancel
	cm.open.save
	cm open task
	Contract v
	🔝 🗸 OK 😫 Cancel 🕆 Previous 🤚 Next 🧔 Add 🔜 Save 🖳 Delete 🔍 Find 🗂 Fill 😒 💌
	Cancel 🔐 Previous 🕂 Next 🚯 Add 🔜 Save 🎭 Delete 🔍 Find 😷 Fill 😒 💌
	🖸 🗸 OK 🗱 Cancel 🕂 Previous 🚯 Next 🧔 Add 🔚 Save 🖳 Delete 🔍 Find 🕂 Fill 😪 🛩
	V OK 🗱 Cancel 🕆 Previous 🕂 Next 🔅 Add 🗮 Save 🖳 Delete 🔍 Find 📑 Fill 😒 👻
	Cancel 🔐 Previous 🕀 Next 🔮 Add 📄 Save 🔩 Delete 🔍 Find 👘 Fill 😒 🔻
	Image: Solution of the second sec
	Image: Applied on the second seco
	Image: Source of the previous Image: Next Image: Add Image: Source of the previous Image: Source of the previ
	✓ OK Scancel Previous Next Add Save Delete Find Total Total Process Definition Process Name: (cm.reject) Save Cursor Position? Run Standard Process when complete? Window Table: Is Not Mindow? Window Table: Total Example A total Example Total Example A total Example
	✓ OK Scancel Previous Next Add Save Delete Find The same of the same o
	Image: Concel in Previous in Next in Add in Save in Delete in Fill in the Process Definition Process Definition Process Name: Cm.reject Bave Delete in Next in Next in the Process when complete? Run in Window? Window Title: Instal Expressions in Thill Javascript in Next Process Isystem.library.HPPPNSMIntegration.integratePPM() ;
	V OK * Cancel r Previous Next Add Save Delete Find

system.library.HPPPMSMIntegration.integratePPM();



The code was added to the **cm.close**, **cm.reject**, **cm.update.save**, and **cm.next.phase** processes when you loaded the PPMIntegration.unl file. The standard **Save**, **Close**, **Reject**, **Next Phase**, and **Reopen** actions for RFCs invoke these processes. If you have added any other actions used to update changes (through tailoring of your Service Manager instance), you must also modify the processes that these self-defined actions will invoke.

9. Configure the ppmfailover schedule in Service Manager.

By default, the Repeat Interval of the ppmfailover schedule is one hour. You can change the default Repeat Interval to another value. However, do not change other field values.

10. Start the ppmfailover schedule in Service Manager.



For more information about the following steps, see the *Installation and Administration Guide.*

11. Run the following script:

```
sh ./kConfig.sh
```

12. Add (if not present) and specify the parameters and values related to Service Manager integration to the PPM Center server.conf configuration file, as shown in the following table. (All parameter names begin with com.kintana.core.server. but that is not shown in the table.)

Parameter	Value	
SM_RFC_INTEGRATION_ENABLED	true	
SM_USERNAME	User name that PPM Center uses to access Service Manager. This user name must include only single-byte characters. For example: admin.	
SM_PASSWORD	Password that PPM Center uses to access Service Manager. You must encrypt this password by using the kEncrypt.sh script, which is located in the bin directory of the PPM Server. Then remove #!# from the beginning and the end of the encrypted password.	
SM_URL	Host name or IP address of Service Manager. For example: http:// <host_name>:13080</host_name>	
SM_WEB_URL	Address of Service Manager Web tier. For example: http://< <i>Host_Name</i> >:< <i>Port</i> >/ < <i>WebTier_Package_File_Name</i> >/ index.do	
ENABLE_WEB_SERVICES	true	

13. Start the PPM Server.

Enabling RFC Creation for a PPM Center Project Type

In the HP Service Manager project policy in PPM Center, you can enable or disable the RFC creation capability at the project type level. The settings of a project type affect all projects of that project type. However, the policy has an option to allow project managers to override the project type setting for particular projects.

To set the RFC creation capability for a project type:

- 1. Log on to PPM Center.
- From the menu bar, select Open > Administration > Project Types & Templates > Manage Project Types.
- 3. Open the project type you want to configure.

The Modify Project Type window for that project type opens.

4. In the list of policies, click HP Service Manager.

The HP Service Manager policy opens.

The default settings for the options enable RFC creation for projects of the selected project type and allow project managers to override that setting for particular projects of that type:

Modify Project Type - Enterpris	e	
Below are the settings for all of the policies cont	ained in this project type.	
Configure Access	Save Done	Cancel
* Project Type: Enterprise		
Description:		
Coloria collecte configure		
Project Fields	HP Service Manager	
	Ine HP Service Manager Integration requires setup on the HP PHIL server. The ability to create an operation request for change (kFC) is not available when using the "Microsoft controls all shared work plan information" option in the Microsoft Project Integration policy.	I
Work Plan	Allow project managers to override these settings? \odot Yes \bigcirc No	
Request Types	Enable RFC creation capability	
Scheduling		
Schedule Health		
Contract File of		
Cost and errort		
Cost and Earned Value Health		
Microsoft Project Integration		
Staffing Profile Assignments		
Project Health		
Issue Health		
Task Auditing		
Project Overview Layout		
Project Security		
UD Sequice Manager		
ne service manager		
 Key: Policies are inherited from Project Type and cannot be altered. 		
Enabled	note: usagaing this project type will not affect projects that are currently using it. However, it will no longer be available for Copy Project Type new projects.	9
 Disabled for future use 		
Configure Access	Save Done	Cancel

 To enable all projects of this project type for RFC creation and prevent project managers from disabling this capability, make sure that the Enable RFC creation capability check box is selected and the override option is set to No.

If you want project managers to control the RFC creation capability for particular projects regardless of the setting of the **Enable RFC creation capability** check box, set the override option to **Yes**.

6. Click Save.

Enabling RFC Creation for a PPM Center Project

If the RFC creation capability is enabled for the project type used by a project, the RFC creation capability is, by default, enabled for the project when it is created.

If the RFC creation capability is not enabled for a project, to enable it:

- 1. Log on to PPM Center.
- 2. Open the project in PPM Center.
- 3. On the Project Overview page, click Project Settings.
- 4. In the list of policies, click HP Service Manager.

The HP Service Manager policy opens.

Project Settings - Whirlwind				
	l	Save	Done	Cance
* Project Type: Enterprise Description: OOTB Uses "Project Details" R	T and short WF			
Select a policy to configure:	HP Service Manager			
Project Fields	The HP Service Manager integration requires setup on the HP PPMC server. The ability to create an operation request for ch available when using the "Microsoft controls all shared work plan information" action in the Microsoft Broject Integration coll	ange (F	RFC) is n	ot
Work Plan	available when baing the imposant controls as shared work plan shorthallow option is the microsoft Project streg atom points	cy.		
Request Types	 Enable RFC creation capability 			
Scheduling				
Schedule Health				
Cost and Effort				
Cost and Earned Value Health				
Aicrosoft Project Integration				
Staffing Profile Assignments				
Project Health				
ssue Health				
ask Auditing				
Project Overview Layout				
Project Security				
HP Service Manager				
Key: Policies are inherited from Project Type and cannot be altered.				
		Save	Done	Cano

- 5. Use one of the following procedures to verify or enable your ability to create Service Manager RFCs for the project:
 - If the **Enable RFC creation capability** check box is selected, you can create Service Manager RFCs for the project.
 - If the **Enable RFC creation capability** check box is not selected but you can select it, select it.
 - If the Enable RFC creation capability check box is not selected and you cannot select it, the setting on the project type used by the project does not currently allow you to enable RFC creation for any projects of that type or to override that setting for particular projects. In this case, see *Enabling RFC Creation for a PPM Center Project Type* on page 260 and set the override option on the project type to Yes, or contact the person who configures these settings. Then return to the HP Service Manager policy for the project and select the Enable RFC creation capability check box for the project.
- 6. Click Done.

Creating a Service Manager RFC from a PPM Center Task

To create an RFC in Service Manager that is associated with a project task in PPM Center:

- 1. Log on to PPM Center, and do the following:
 - a. Make sure the RFC creation capability is enabled for the project. See *Enabling RFC Creation for a PPM Center Project*.
 - b. On the Project Overview page, click **Edit Work Plan**, and then double-click a task to open it.

The Task Details page for that task opens.

c. On the **Operational RFC** tab on the Task Details page, select the **Create an Operational Request for Change (RFC) upon task save** check box.

d. Click Save.

After the task is saved, PPM Center returns to the task page. If Service Manager returns an RFC Change ID, the information on the **Operational RFC** tab is automatically updated with the following information from Service Manager, which is read-only in PPM Center:

ltem	Value
Change Number	Change ID (for example, C10029) of the RFC created in Service Manager, which is displayed as a link. Clicking the link takes you to the Service Manager logon screen.
Change Status	Value from the Status field of the RFC in Service Manager.
Closure Code	Value from the Closure Code field of the RFC in Service Manager.
Closure Comments	Reason entered when the RFC in Service Manager was closed or rejected.
Change Last Update Date	Date (and time) when the RFC was last updated in Service Manager.

In addition, the status line, which is located at the bottom of the task page, indicates the success of the RFC creation.

If Service Manager does not return an RFC Change ID, an error message is displayed on the status line. In most cases, this means the RFC was not created. However, it is possible that the RFC was successfully created but communication problems prevented Service Manager from returning the RFC Change ID to PPM Center.

To prevent duplicate RFCs from being created for the same task, when the task is saved, PPM Center searches for an RFC Change in Service Manager to which the task should be attached. If an RFC is found, PPM Center integrates with it. If PPM Center does not find an RFC, it creates one.



- 2. Log on to Service Manager, and do the following to verify that the RFC has been successfully created.
 - a. Click Menu Navigation > Change Management > Changes, and then double-click Search Changes.
 - b. Click Search.

A list of changes opens, where you can find the change (RFC) created for the PPM Center task with the following fields related to the PPM Center task:

Field	Value
Change ID	Change ID generated for the task (shown as Change Number in PPM Center). For example, C10029.
Brief Description	Name of the PPM Center task. For example, Task 6.
PPM Task ID	Task ID that PPM Center assigned to this task. For example, 36002.

Synchronizing an RFC with its Associated PPM Center Task

When you update a Service Manager RFC that has an associated PPM Center task, the information on the PPM Center task's **Operational RFC** tab is automatically updated.

To update an RFC and then check the status of its associated task:

- 1. Log on to Service Manager.
- 2. From the change list, double-click a change (RFC) that has an associated PPM Center task.
- 3. Update the RFC in Service Manager.
- 4. In PPM Center, refresh the Task Details page for the task to verify that the **Operational RFC** tab displays the updated status of the associated RFC.

Updating the Status of a PPM Center Task when the Associated RFC is Closed or Rejected

When you close or reject a Service Manager RFC that has an associated PPM Center task, the status of the PPM Center task is automatically set to Complete or Cancelled, and the information on the task's **Operational RFC** tab is updated accordingly.

To close or reject an RFC and then check the status of its associated task:

- 1. Log on to Service Manager.
- 2. From the change list, double-click a change that has an associated PPM Center task.
- 3. Close or reject the change.
- 4. In PPM Center, refresh the Task Details page for the associated task to verify that the **Operational RFC** tab is updated and that the task status is also updated as shown in the following table:

Field	Value
Status	One of the following:Complete (if the change was closed)Cancelled (if the change was rejected)
% Complete	One of the following:100 (if the change was closed)0 (if the change was rejected)

Error Logging

PPM Center includes a sample logging file to debug or monitor the integration. Configure logging as in the following example:

1. Open the sample logging file, located at:

<PPM Server>/conf/smrfc/logging.conf.sample

2. Copy the last two lines from the sample logging file into the PPM Center logging file, which is located at:

```
<PPM Server>/conf/logging.conf
```

These two lines are as follows, and they enable logging for the integration-specific classes SmRfcFieldMap and SmRfcFieldMapReader:

- 3. Revise the copied lines as needed.
- 4. By default, the copied lines set the logging mode for the integration to DEBUG. When you do not need to debug the integration, set the logging mode on the copied lines to ERROR or comment out the copied lines.

9 Integrating PPM Center with HP Universal CMDB for Service Portfolio

Introduction to Integrating PPM Center with Universal CMDB for Service Portfolio

For service portfolio functionality, services can be associated with the **Service** field in PPM Center requests, and then labor costs can be tracked for each service. The list of services can be retrieved from Universal CMDB in real time, that is, each time a PPM Center user needs the list to specify the **Service** field.

The service list does not reside in PPM Center. After configuring the integration with Universal CMDB, the service list can be retrieved from Universal CMDB.



This integration does not use the ALM entities and does not require installing the ALM software.

Configuring Universal CMDB for the Integration

To configure Universal CMDB for the integration:

1. In Universal CMDB, create a configuration item type (CI type) for the service list, if none has been created for the service list. The CI type should include Name and Service Description attributes. Later, this CI type will be specified in the server.conf configuration file in PPM Center.

2. Create CIs of this type, one for each service that is to be included in the service list.



If your Universal CMDB server is configured to support HTTPS, additional configuration steps are required to enable the real-time integration with Universal CMDB. For details, see *(Optional) Configuring Universal CMDB to Support HTTPS for the Integration.*

(Optional) Configuring Universal CMDB to Support HTTPS for the Integration

If you need to enable real-time integration with Universal CMDB using HTTPS, perform one of the following procedures, depending on whether or not the Universal CMDB server already supports HTTPS. Then proceed to *Configuring PPM Center for the Integration* on page 273.

Configuring Universal CMDB if the Server Already Supports HTTPS

If the current Universal CMDB server is already configured to support HTTPS, you can use the existing keystore file directly:

- 1. Locate the keystore file.
- 2. Locate the certificate in the keystore.
- 3. Run the script below to export the certificate:

4. Import the certificate to the PPM server:

Configuring Universal CMDB if the Server Does Not Support HTTPS Yet

If the current Universal CMDB server is not configured to support HTTPS yet, do the following:

1. Generate the keystore file on Universal CMDB.

Run the following scripts:

Enter the keystore password and provide other information as necessary when prompted.

- 2. Enable SSL on the Web server for Universal CMDB Server.
 - a. To enable JBoss in SSL, edit the following file:

Uncomment the following entry:

```
<!-- SSL/TLS Connector configuration using the admin devl
guide keystore:
<Connector port="8443" address="${jboss.bind.address}"
maxThreads="100" strategy="ms"
maxHttpHeaderSize="8192"
emptySessionPath="true"
scheme="https" secure="true" clientAuth="false"
keystoreFile="${jboss.server.home.dir}/conf/
ucmdb.keystore"
keystorePass="changeit" [keyAlias="myCert"]
sslProtocol = "TLS" />
```

Make sure that keystoreFile and keystorePass are set to the correct path of a java keystore and its password respectively.



If the keystore holds more than one certificate, the first one will be used. (Optional) To choose a specific certificate, use the keyAlias attribute with the alias of the certificate. With the above settings, JBoss will look for the keystore in:

b. Restart the Universal CMDB server.

Now, to access the Universal CMDB web page in SSL you can go to the URL

https://<UCMDB_Server_HOST>:8443/ucmdb

- 3. Generate a certificate in the keystore file with alias ucmdbCer, then export the certificate and import it to the PPM Server.
 - a. Run the script below to generate the certificate:

```
keytool -genkey -alias ucmdbCer -keyalg RSA -keystore
<UCMDB_Server_HOME>\UCMDBServer\j2f\EJBContainer\server\
mercury\conf\ucmdb.keystore
```

b. Export the certificate:

```
keytool -export -alias ucmdbCer -keystore
<UCMDB_Server_HOME>\UCMDBServer\j2f\EJBContainer\server\
    mercury\conf\ucmdb.keystore -file c:\ucmdbCer
```

c. Import the certificate to the PPM server:

keytool -import -trustcacerts -alias ucmdbCer -keystore
 [keystore or certs file path] -file c:\ucmdbCer

Configuring PPM Center for the Integration

To configure PPM Center for the integration, you configure the required server.conf parameters and a request type with the **Service** field, as described in the following sections.

Configuring server.conf Parameters in PPM Center



For more information about the steps in this procedure, see the *Installation and Administration Guide.*

Add (if not present) and specify the parameters related to Universal CMDB integration for service portfolio to the PPM Center server.conf configuration file, as follows:

- 1. Stop the PPM Server.
- 2. Run the following script:

sh ./kConfig.sh

Set the parameters and values as shown in the following table. (All parameter names begin with com.kintana.core.server. but that is not shown in the table.)

Parameter	Description
	Specifies the source of the list of available services:
	 uCMDB to retrieve the list of services from Universal CMDB each time they are needed for PPM Center requests
SERVICE_LIST_SOURCE	 lookup to retrieve the list of services from PPM Center for PPM Center requests and project tasks
	For integration with Universal CMDB, enter uCMDB.

Parameter	Description
SERVICE_LIST_UCMDB_ CACHE_TIMEOUT	Length of time (in seconds) the service list remains in PPM Center cache before it is retrieved again, for example, 300. For more information, see the <i>Installation and</i> <i>Administration Guide.</i>
SERVICE_LIST_UCMDB_ CI_MAPPINGS	 Service list mappings between the following pairs of attributes: The name attribute for the Service List uCMDB autocomplete list in PPM Center, and the CI name attribute in Universal CMDB The description attribute for the Service List uCMDB autocomplete list in PPM Center, and the CI description attribute in Universal CMDB The mappings are formatted in pairs and separated by commas as follows (with no spaces or new lines): name: uCMDB_CI_Name_Attribute>, description: uCMDB_CI_Description_Attribute> For example, the value of this parameter could be: name:data_name,description: service_description This example maps name in PPM Center to the CI name attribute data_name in Universal CMDB, and it maps description in PPM Center to the CI description attribute service_description in Universal CMDB.
SERVICE_LIST_UCMDB_ CI_TYPE	Name of the CI type used to store the service list, for example, Service. HP recommends using the value Service. Note: You must create this CI type on the Universal CMDB server. For more information about creating a CI type, see the Universal CMDB documentation.

Parameter	Description
SERVICE_LIST_UCMDB_ MAX_CI_NUMBER	The maximum number of Universal CMDB configuration items allowed in the service list, for example 1000. For more information, see the <i>Installation and Administration Guide.</i>
UCMDB_SERVER_URL	URL of the Universal CMDB server:
	http:// <ucmdb_host>:<port>/ucmdb/</port></ucmdb_host>
	or
	https:// <ucmdb_host>:<port>/ucmdb</port></ucmdb_host>
	where <ucmdb_host> represents the host machine on which Universal CMDB is running.</ucmdb_host>
	Note: If the Universal CMDB server is configured to support HTTPS, make sure you configure the UCMDB_SSL_KEYSTORE_PATH parameter. For information about enabling HTTPS for Universal CMDB, see (<i>Optional</i>) Configuring Universal CMDB to Support HTTPS for the Integration on page 270.
UCMDB_SERVER_ VERSION	Do not use.
UCMDB_SSL_ KEYSTORE_PATH	Universal CMDB keystore path, used only if the UCMDB_SERVER_URL parameter uses HTTPS.
UCMDB_WS_MAX_ CONNECTION_NUMBER	Maximum number of connections allowed to connect to the Universal CMDB server using the Web Service API, for example, 10.
UCMDB_WS_ PASSWORD	Password for Universal CMDB user specified in UCMDB_WS_USER, logging in through Web service.
	You must encrypt this password by using the kEncrypt.sh script, which is located in the bin directory of the PPM Server.
UCMDB_WS_USER	Universal CMDB user name for logging in through Web service, for example, admin.
	characters.

3. Restart the PPM Server.

Creating a Request Type with the Service Field

To create a request type that includes the Service field:

- 1. In PPM Center, create a request header type and enable its Service field group.
- 2. Open the **Service** field in the request header type and make sure the validation for this field is Service List uCMDB. This validation is an autocomplete list. When users click the autocomplete for the **Service** field, this validation invokes a special command to retrieve the service list from Universal CMDB. (As with any request field, the administrator can make the **Service** field optional or required.)
- 3. Create a request type that uses the new request header type.

When users create a request of that new request type and click the autocomplete for the **Service** field, the service list options are retrieved from Universal CMDB at that time.

Index

A

- adapter configuration files
 - PPM Center, for bidirectional integration of PPM Center requests with Service Manager changes, using ALM, **119**
 - Service Manager, for integration of PPM Center requests with Service Manager changes, using ALM, **104**

ALM, 11

- ALM Change Migration workflow, 59
- ALM Change Review and Approval Sub WF subworkflow, **48**
- ALM Change Summary report, 65
- ALM Defect Template with Quality Center Integration request type, 154
- ALM Defect Template with Quality Center Integration workflow, 161
- ALM Deploy and Test Changes Sub WF subworkflow, 54
- ALM Deployed Releases portlet, 79
- ALM Forward Schedule of Changes for RFC report, 66
- ALM Forward Schedule of Releases report, 87
- ALM Impact & Resource Assessment Sub WF subworkflow, **50**
- ALM Infrastructure Changes Sub WF subworkflow, **51**

- ALM My Releases portlet, 80
- ALM My RFCs portlet, 60
- ALM Non Release Sub WF subworkflow, 56
- ALM Open Releases portlet, 81
- ALM Open RFCs portlet, 61
- ALM Plan Tests Sub WF subworkflow, 52
- ALM Release Content report, 88
- ALM Release Distribution Sub WF subworkflow, 78
- ALM Release Distribution workflow, 78
- ALM Release Management request type, 68
- ALM Release Request workflow, 74
- ALM Release Sub WF subworkflow, 58
- ALM Release Summary report, 89
- ALM Releases By Category portlet, 83
- ALM Releases By Type portlet, 84
- ALM Releases portlet, 82
- ALM Request for Change (RFC) request type, 32
- ALM Request For Change workflow, 41
- ALM RFC Urgent Change Management Sub WF subworkflow, **47**
- ALM RFCs By Category portlet, 62
- ALM RFCs By Reason for Change portlet, 63
- ALM RFCs By Status portlet, 64
- ALM RFCs per Release portlet, 85

ALM-based integrations See name of specific product that integrates with PPM Center using ALM.

Application Lifecycle Management See ALM entries.

B

bidirectional integration of PPM Center requests and Service Manager changes, **91**

С

change management, ITIL portlets, 60 adding, **60** ALM - My RFCs, 60 ALM - Open RFCs, 61 ALM - RFCs By Category, 62 ALM - RFCs By Reason for Change, 63 ALM - RFCs By Status, 64 reports, 65 ALM - Change Summary, 65 ALM - Forward Schedule of Changes for RFC, 66 request types ALM - Defect Template with Quality Center Integration, 154 ALM - Request for Change (RFC), 32 workflows ALM - Change Migration workflow, 59 ALM - Defect Template with Quality Center Integration workflow, 161 ALM - Request For Change workflow, 41

CIs

See configuration items.

commands

special for integrations

See special commands: integrations using ALM.

configuration items in Universal CMDB, 137, 143 configuring ALM-related entities in PPM Center, 25 contact user data for integrations using ALM. 25 CRT - Priority - Enabled validation for integrations using ALM, 27 integration of PPM Center requests with Service Manager changes, using ALM, 95 integration of PPM Center tasks with Service Manager RFCs, 252 integration of PPM Center with Quality Center, using ALM, 165 integration of PPM Center with Release Control, using ALM, 246 integration of PPM Center with Universal ČMDB for CI selection, using ALM, 139 integration of PPM Center with Universal CMDB for service portfolio (service list retrieval), 269 PPM Center adapter file for bidirectional integration of PPM Center requests with Service Manager changes, using ALM, **119** security groups for integrations using ALM, 28 Service Manager adapter file for integration of PPM Center requests with Service Manager changes, using ALM, 104 validation CRT - Priority - Enabled for integrations using ALM, 27 workflow security for integrations using ALM, 28 contact user data configuration for integrations using ALM, 25 CRT - Priority - Enabled validation

configuration for integrations using ALM, 27

D

defects, Quality Center See Quality Center.

documentation for products that integrate with PPM Center, 17

E

entities ALM-related, **31**

error logs

for integration of PPM Center requests with Service Manager changes, 133 for integration of PPM Center tasks with

Service Manager RFCs, 267

for integration with Quality Center version 11.00, 225

event logs

for integration of PPM Center requests with Service Manager changes, 133 for integration with Quality Center version 11.00, 225

Н

hierarchy synchronization of Quality Center requirements with PPM Center requests, 234

impact analysis See Universal CMDB.

installing

ALM procedure, 24 system requirements, 23

integrating

PPM Čenter requests with Service Manager changes, using ALM *See* Service Manager: integration of changes with PPM Center requests, using ALM.

PPM Center tasks with Service Manager RFCs See Service Manager: integration of RFCs with PPM Center tasks. PPM Center with Quality Center, using ALM See Quality Center: integration with PPM Center, using ALM. PPM Center with Release Control, using ALM See Release Control: integration with PPM Center, using ALM. PPM Center with Universal CMDB for CI selection, using ALM See Universal CMDB: integration with PPM Center for CI selection, using ALM. PPM Center with Universal CMDB for service portfolio See Universal CMDB: integration with PPM Center for service portfolio (service list retrieval). integration tool, PPM Center-Quality Center See PPM Center-Quality Center Integration Tool (for Quality Center version 10.00).

integrations with other HP products See name of specific product that integrates with PPM Center.

ITIL Change Management, 14 *See also* change management, ITIL. roles, 15

ITIL Release Management, 16 *See also* release management, ITIL. roles, 17

Κ

kConfig.sh script, 131, 139, 170, 194, 246, 248, 259, 273 kEncrypt.sh script, 117, 259, 275

L

logging errors and events for integration of PPM Center requests with Service Manager changes, 133 for integration of PPM Center tasks with Service Manager RFCs, 267 for integration of PPM Center with Quality Center version 11.00, 225

M

mapping of PPM Center and Quality Center fields, 152

See also Quality Center version 10.00: mapping of PPM Center and Quality Center fields.

See also Quality Center version 11.00: mapping of PPM Center and Quality Center fields.

Ν

Notes field in PPM Center, mapping to Quality Center version 10.00, **190**

P

portlets ALM - Deployed Releases, ALM - My Releases, ALM - My RFCs, ALM - Open Releases, ALM - Open RFCs, ALM - Releases, ALM - Releases By Category, ALM - Releases By Type, ALM - RFCs By Category, ALM - RFCs By Reason for Change, ALM - RFCs By Status, ALM - RFCs per Release, change management, release management, **PPM** Center integration of requests with Service Manager changes, using ALM See Service Manager: integration of changes with PPM Center requests, using ALM. integration of tasks with Service Manager RFCs See Service Manager: integration of RFCs with PPM Center tasks. integration with Quality Center See Quality Center: integration with PPM Center, using ALM. integration with Release Control See Release Control: integration with PPM Center, using ALM. integration with Universal CMDB for CI selection, using ALM See Universal CMDB: integration with PPM Center for CI selection, using ALM. integration with Universal CMDB for service portfolio See Universal CMDB: integration with PPM Center for service portfolio (service list retrieval). PPM Center adapter file for bidirectional integration of requests with Service Manager changes, configuring, **119** PPM Center-Quality Center Integration Tool (for Quality Center version 10.00), 166 creating a field mapping, 178 default field mappings, 203 deploying a field mapping, 191 enabling a Quality Center project for integration, 171 installing, 169 managing existing mappings, 195 mapping Notes field in PPM Center to a Quality Center project, **190** Quality Center fields enabled by, 207 priority validation configuration for integrations using ALM, 27

project tasks

integration with Service Manager RFCs See Service Manager: integration of RFCs with PPM Center tasks.

Q

QC See Quality Center.

Quality Center See also Quality Center version 10.00. See also Quality Center version 11.00. integration with PPM Center, using ALM, 20, 149 configuring, 165 using, 226 special commands for integration, 90 synchronization of requirements hierarchy with PPM Center requests hierarchy, 234 Quality Center version 10.00 enabling a project for integration with PPM Center, 171 mapping of PPM Center and Quality Center fields creating, 178 defaults, 203 deploying, 191 managing, 195 Notes field in PPM Center, 190

Quality Center version 11.00 added functionality compared to version 10.00, 153 error and event logging, 225 mapping of PPM Center and Quality Center fields, 219

R

Release Control integration with PPM Center, using ALM, 21, 245 using, 249

release management, ITIL portlets, 79 adding, 79 ALM - Deployed Releases, 79 ALM - My Releases, 80 ALM - Open Releases, 81 ALM - Releases, 82 ALM - Releases By Category, 83 ALM - Releases By Type, 84 ALM - RFCs per Release, 85 reports, 86 ALM - Forward Schedule of Releases, 87 ALM - Release Content, 88 ALM - Release Summary, 89 request type ALM - Release Management, 68 workflows ALM - Release Distribution workflow, 78 ALM - Release Request workflow, 74 reports ALM - Change Summary, 65 ALM - Forward Schedule of Changes for RFC, 66 ALM - Forward Schedule of Releases, 87 ALM - Release Content, 88 ALM - Release Summary, 89 change management, 65 modifying ALM-related, 32 release management, 86 Request for Change, 32 request hierarchy synchronization for integration between PPM Center and Quality Center, 234 request types ALM - Defect Template with Quality Center Integration, 154 ALM - Release Management, 68 ALM - Request for Change (RFC), 32 modifying ALM-related, 32

requests

integration with Service Manager changes See Service Manager: integration of changes with PPM Center requests, using ALM.

requirements, Quality Center *See* Quality Center.

requirements, system *See* system requirements.

RFC, 32

roles

ITIL Change Management, 15 ITIL Release Management, 17

S

scripts kConfig.sh, 131, 139, 170, 194, 246, 248, 259, 273 kEncrypt, 117, 259, 275 setServerMode.sh, 25, 29

security group configuration for integrations using ALM, 28

service list retrieval from Universal CMDB See Universal CMDB: integration with PPM Center for service portfolio (service list retrieval).

Service Manager integration of changes with PPM Center requests, using ALM, 18, 91 adapter file, configuring, 104 configuring, 95 logging of errors and events, 133 integration of RFCs with PPM Center tasks, 22, 251 configuring, 252 service portfolio

See Universal CMDB: integration with PPM Center for service portfolio (service list retrieval). setServerMode.sh script, 25, 29 special commands integration of PPM Center with Quality Center using ALM, 90 modifying ALM-related, 32 stubs, Web services generating for integration of PPM Center requests with Service Manager changes, using ALM, 103 subworkflows *See* workflows. system requirements installing ALM, 23

T

tasks integration with Service Manager RFCs *See* Service Manager: integration of RFCs with PPM Center tasks.

U

Universal CMDB integration with PPM Center for CI selection, using ALM, 19, 137 configuring, 139 using, 143 integration with PPM Center for service portfolio (service list retrieval), 22, 269 configuring, 269 Universal Configuration Management

Database See Universal CMDB.

V

validation configuration for integrations using ALM, 27

W

Web services stubs for integration of PPM Center requests with Service Manager changes, using ALM, 103 workflow security configuration for integrations using ALM, 28 workflows ALM - Change Migration workflow, 59 ALM - Change Review and Approval Sub WF subworkflow, 48 ALM - Defect Template with Quality Center Integration workflow, 161 ALM - Deploy and Test Changes Sub WF subworkflow, 54 ALM - Impact & Resource Assessment Sub WF subworkflow, 50 ALM - Infrastructure Changes Sub WF subworkflow, 51 ALM - Non Release Sub WF subworkflow, 56 ALM - Plan Tests Sub WF subworkflow, 52 ALM - Release Distribution Sub WF subworkflow, 78 ALM - Release Distribution workflow, 78 ALM - Release Request workflow, 74 ALM - Release Sub WF subworkflow, 58 ALM - Request For Change workflow, 41 ALM - RFC - Urgent Change Management Sub WF subworkflow, 47

modifying ALM-related, 32