

HP Project and Portfolio Management Center

Software Version: 9.20

Upgrade Guide

Document Release Date: September 2013 (Second Edition)

Software Release Date: February 2013



Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notice

© Copyright 1997 - 2013 Hewlett-Packard Development Company, L.P.

Trademark Notices

Adobe® is a trademark of Adobe Systems Incorporated.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition of a document, go to: <http://h20230.www2.hp.com/selfsolve/manuals>

This site requires that you register for an HP Passport and sign in. To register for an HP Passport ID, go to: <http://h20229.www2.hp.com/passport-registration.html>

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Document Changes

Chapter	Version	Changes
"Upgrade Overview" on page 7	9.20 (2nd Edition)	Updated Table 1-1 to include build 1460 for version 9.14 and supported upgrade paths for patches on top of version 9.14.

Support

Visit the HP Software Support Online web site at: <http://www.hp.com/go/hpsoftwaresupport>

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

To find more information about access levels, go to:

http://h20230.www2.hp.com/new_access_levels.jsp

HP Software Solutions Now accesses the HPSW Solution and Integration Portal Web site. This site enables you to explore HP Product Solutions to meet your business needs, includes a full list of Integrations between HP Products, as well as a listing of ITIL Processes. The URL for this Web site is

<http://h20230.www2.hp.com/sc/solutions/index.jsp>

Contents

Contents	3
Chapter 1: Upgrade Overview	7
Before You Begin	7
Overview of Upgrading to Version 9.20	8
Supported Upgrade Paths	8
Deploying Language Packs During an Upgrade	10
Upgrading Operational Reporting	10
Upgrading Document Management	10
Other Software Components	11
Overview of Upgrade Tasks	11
About Prevalidation	13
Upgrading an HP Deployment Management Extension	14
Reviewing System Requirements	15
Upgrading Best Practices Content	15
Keeping Customized Request Types Following the Upgrade	20
Backing Up the Database Schema and the PPM Center Home Directory	20
Protecting Backed-Up Data	20
Obtaining License Keys	21
Key Considerations	21
Performance Impact on Portlets with Customized SQL-Based Queries	21
Running on a Single Database Schema (HP Object Migrator)	21
Running in Graphic (Swing) or Console Mode (UNIX)	22
Changing the PPM Center System Language	22
PPM Center Documentation	22
Accessing PPM Center Documentation from the PPM Documentation Library	22
Chapter 2: Preparing to Upgrade to PPM Center Version 9.20	24
Preparing to Upgrade	24
Task 1: If Your Installed Instance is Earlier than PPM Center Version 9.10	24
Task 2: Assess the Impact of Upgrading	25

Task 3: Ensure Upgrade Requirements are Met	25
Task 4: Read the Latest Product and Upgrade Information	25
Task 5: Shut Down Your PPM Center Instance	25
Task 6: Back Up Your PPM Center Instance	25
Task 7: Back Up the PPM Center Configuration Files	27
Task 8: Back Up Customizations	27
Task 9: Drop Custom Triggers	28
Task 10: Install Java Development Kit (JDK) version 1.7.0 Update 4 or Later	28
Task 11: Gather Required Information	28
Task 12: Extract the Upgrade Files	28
Task 13: Setting Up a Shared Folder for a Server Cluster	29
Task 14: Optionally Evaluate Freestanding Budgets and Benefits for Prior Upgrade from Version 7.5	30
Task 15: Verify Environment Variables	30
Task 16: Modify Oracle Database Parameters	31
Task 17: Prepare a Back Out Plan	33
Upgrading Program Financial Summaries, Snapshots, and Approved Budget	34
Program Financial Summaries	34
Program Financial Summary Snapshots and Approved Budget	34
Upgrading Integrations	34
Upgrading Custom Integrations	35
Chapter 3: Upgrading to PPM Center Version 9.20	36
Default Permissions for PPM Center Schemas	36
Performing the Upgrade	37
Upgrading On a Windows System	38
Upgrading On a UNIX System	42
In Case of Upgrade Failure	47
Upgrading a PPM Center Server Cluster	47
Post-Upgrade Tasks	49
Installing Unicode Fonts for Export to PDF	49
Assigning the Portfolio Mgmt: Edit All Portfolios Access Grant	50
(Optional) Adding the Portfolio Field to PFM Request Types	51

(Optional) Preventing Submission of Time Sheets with Lines that Have No Data	51
(Optional) Allowing Users to Include Items from Previous Period When They Create a New Time Sheet	51
(Optional) Importing Freestanding Budgets and Benefits	52
Configuring the FTP Server (Windows Systems Only)	52
Verifying the Upgrade	52
Execution Log Files	53
Integrating Microsoft Project with PPM Center	53
Switching Between Stand-Alone and Server Cluster Configurations	53
Switching from Server Cluster to Stand-Alone Configuration	54
Switching from Stand-Alone to Server Cluster Configuration	54
Contacting Support	55
We appreciate your feedback!	56

Chapter 1: Upgrade Overview

This section contains the following topics:

- ["Before You Begin" below](#)
- ["Overview of Upgrading to Version 9.20" on the next page](#)
- ["Overview of Upgrade Tasks" on page 11](#)
- ["Key Considerations" on page 21](#)
- ["PPM Center Documentation" on page 22](#)

Before You Begin

While this guide provides all of the information you need to prepare for and then perform the upgrade to Project and Portfolio Management Center (PPM Center) version 9.20, it does not contain details on the effects of the upgrade or on what has changed in version 9.20. Before you perform the upgrade steps presented in this guide, consult the following documents:

- *What's New and What's Changed*

HP strongly recommends that before you perform any of the tasks associated with upgrading to PPM Center version 9.20, you first read *What's New and What's Changed*. That document contains details about the impact of upgrading and information on the platforms desupported in version 9.20.

- *System Requirements and Compatibility Matrix*

To make sure that your operating environment meets all of the minimum requirements, review the *System Requirements and Compatibility Matrix*.

- *Installation and Administration Guide*

The *Installation and Administration Guide* includes initial product installation procedures as well as configuration, operation, maintenance, migration, and performance information. This guide provides an overview of the PPM Center architecture and optional configurations—this information can help you determine the optimal configuration of your deployment.

- *Document Management Guide and Reference*

The *Installation and Administration Guide* includes initial product installation procedures as well as configuration, operation, maintenance, migration, and performance information. This guide provides an overview of the PPM Center architecture and optional configurations—this information can help you determine the optimal configuration of your deployment.

This document provides important information on the new database-based document management systems available with PPM Center version 9.20, and detailed instructions for migrating a Documentum-based document management system before you can upgrade PPM Center to version 9.20.

- *Deployment Best Practices for PPM Operational Reporting*

The *Deployment Best Practices for PPM Operational Reporting* contains recommendations, best practices, and examples intended to help you get the most out of PPM Center.

- *Multilingual User Interface Guide*

This document provides important information on the support of multiple languages on a single PPM Center version 9.20 instance.

- *Release Notes*

The *Release Notes* for PPM Center version 9.20 provide product information that is not included in the manuals.

- *Release Notes for PPM Center version 9.14.0004*

The *Release Notes* for PPM Center version 9.14.0004 contains defect fixes included in patches (up until 9.14.0004) on top of version 9.14 that are rolled into version 9.20.

Note: If you are on PPM Center patch 9.14.0005 (or later), do not upgrade to PPM Center version 9.20 yet, otherwise you may encounter some regressions regarding the defect fixes included in 9.14.0005. You may want to wait for the next available patch on top of version 9.20 to have those defect fixes.

To obtain these and other documents related to PPM Center, go to the HP Software Product Manuals Web site (h20230.www2.hp.com/selfsolve/manuals).

Overview of Upgrading to Version 9.20

This section provides information about the path for upgrading from installed releases of PPM Center and the high-level tasks you perform to upgrade to version 9.20.

Supported Upgrade Paths

To upgrade to PPM Center version 9.20, you must have PPM Center version 9.10 (with or without service packs) installed. If an earlier version is installed, you must first upgrade to version 9.10, and then upgrade to PPM Center version 9.20. For information on how to upgrade to version 9.10, see the *Upgrade Guide* for version 9.10. For information on supported upgrade paths for an HP Deployment Management Extension, see the documentation for that product.

Note: HP strongly recommends upgrading to the latest version of PPM Center. In general,

each new PPM Center version includes important product improvements that are not provided in earlier versions.

Caution: If your organization still uses a Documentum-based document management system (either embedded Documentum Content Server software HP supplies or integration with stand-alone Documentum Content Server software using connector), make sure you migrate it to PPM Center Database DMS using the Administration Console tool DMS Configuration on PPM Center version 9.13 or 9.14 before you upgrade PPM Center to version 9.20.

For detailed instructions about how to migrate a Documentum-based DMS, see the *Document Management Guide and Reference* for PPM Center version 9.20.

Caution: If you deployed an ALM content bundle for integration purpose on PPM Center version 9.12 or earlier, and configured any integration solutions using the ALM entities provided, to avoid any potential data loss with your integration solutions, make sure you upgrade PPM Center to version 9.14, then proceed to upgrade to version 9.20.

Note that unless advised otherwise, HP strongly recommends you keep using the old ALM content bundle. There is no need to deploy a new ALM content bundle, regardless of which version of PPM Center you upgraded to.

The following table describes supported upgrade paths in more details.

Table 1-1. Supported upgrade paths for current versions

Current PPM Center Version	Can be Upgraded to		
	8.0x	9.1x	9.20
7.5 SP3 or earlier ¹	8.00 or later	9.10 or later	9.20 ³
7.5 SP4, 7.5 SP5, 7.5 SP6 ¹	8.02 or later	9.10 or later	9.20 ³
7.5 SP7 ¹	8.03 or later	9.12 or later	9.20 ³
8.00 ²	8.00.01 or later	9.10 or later	9.20 ³
8.00.01 ²	8.02 or later	9.10 or later	9.20 ³
8.02 ²	8.03 or later	9.10 or later	9.20 ³
8.03 ² (build 1189 and build 1208)	8.04	9.12 or later	9.20 ³
8.04	—	9.14 (build 1460)	9.20 ³
9.10	—	9.11 or later	9.20 ³
9.11	—	9.12 or later	9.20 ³
9.12	—	9.13 or later	9.20 ³
9.13	—	9.14 (build 1460)	9.20 ³

Table 1-1. Supported upgrade paths for current versions, continued

Current PPM Center Version	Can be Upgraded to		
	8.0x	9.1x	9.20
9.14 (build 1435 or build 1460)	—	—	9.20 ³
9.14.0001~9.14.0004 ⁴	—	—	9.20 ³

1. If you are upgrading from a version prior to version 8.00, incremental upgrades are necessary (for example: version 7.5 to 8.00, followed by 8.00 to 9.10, and finally 9.10 to 9.20).

2. If you are upgrading from version 8.0x to 9.1x, you must initially upgrade to version 9.10 before upgrading to version 9.1x.

For example, PPM Center versions 9.10 and 9.11 were released before versions 8.03 and 9.12. Versions 8.03 and 9.12 include improvements to core functionalities that are not supported on the older versions 9.10 and 9.11.

If PPM Center is running at version 8.03, do not upgrade to and then run at version 9.10, 9.11, or 9.12. Instead, upgrade from version 8.03 to version 9.10 temporarily without running PPM Center, and then upgrade immediately to version 9.12 or later.

If you are upgrading from version 8.0x to 9.20, you must initially upgrade to version 9.10 before upgrading to version 9.20.

3. If your organization still uses a Documentum-based document management system, make sure you migrate it to PPM Center Database DMS using the Administration Console tool DMS Configuration on PPM Center version 9.13 or 9.14 before you upgrade PPM Center to version 9.20.
For detailed instructions about how to migrate a Documentum-based DMS, see the *Document Management Guide and Reference* for PPM Center version 9.20.

4. Defect fixes included in patches (up until 9.14.0004) on top of version 9.14 are rolled into version 9.20. If you are on PPM Center patch 9.14.0005 (or later), do not upgrade to PPM Center version 9.20 yet, otherwise you may encounter some regression regarding the defect fixes in 9.14.0005 (and later). You must wait, for the next available patch release, which contains the fixes through your current version. This compatibility information can be found in the potential target release notes (table Supported upgrades for current PPM Center versions).

Deploying Language Packs During an Upgrade

For information about language pack deployment for an upgraded PPM Center instance, see the *Multilingual User Interface Guide*.

Upgrading Operational Reporting

For information about how to upgrade Operational Reporting, see the *Operational Reporting Administrator's Guide*.

Upgrading Document Management

The document management module for PPM Center version 9.20 includes many new features and enhancements. For an overview of these features and enhancements, see *What's New and What's Changed*. For specific information about the changes, and for the requirements and instructions for configuring or upgrading document management, see the *Document Management Guide and*

Reference. You can access these documents from the HP Software Product Manuals Web site (h20230.www2.hp.com/selfsolve/manuals).

Documentum-based document management system (either embedded Documentum Content Server software HP supplies or integration with stand-alone Documentum Content Server software using connector) is not supported in PPM Center version 9.20. If your organization still uses a Documentum-based document management system, make sure you migrate it to PPM Center Database DMS using the Administration Console tool DMS Configuration on PPM Center version 9.13 or 9.14 before you upgrade PPM Center to version 9.20.

Note: If you are on PPM Center version 9.13, you can migrate your Documentum-based DMS using the DMS Configuration directly.

If you are on PPM Center version 9.12 or earlier, though you can upgrade PPM Center to version 9.13 or 9.14, HP recommends version 9.14 as it is more stable.

For detailed instructions about how to migrate a Documentum-based DMS, see the *Document Management Guide and Reference* for PPM Center version 9.20.

Other Software Components

The supported Oracle® database versions may require that you perform additional upgrade steps. For a comparison of the Oracle database versions supported for the PPM Server in PPM Center versions 8.00 and 9.20, see *What's New and What's Changed*. For more details specific to PPM Center version 9.20, see the *System Requirements and Compatibility Matrix*.

PPM Center version 9.20 uses Java Stored Procedures in Oracle. This enables you to call Java code from Procedural Language/Structured Query Language (PL/SQL). To successfully upgrade to PPM Center version 9.20 and to use this feature, you must install and configure Oracle Java virtual machine (JVM) is installed. For more information, see Task 5: Enable the Oracle JVM on page 28.

Changes to the supported versions of other software such as the Java Software Development Kit (SDK), and Secure Shell (SSH) will also require that you perform additional steps to upgrade to PPM Center version 9.20. For information about the supported versions of these and other products for PPM Center version 9.20, see the *System Requirements and Compatibility Matrix*.

Overview of Upgrade Tasks

To upgrade to PPM Center version 9.20, perform the following steps:

1. Read:
 - This chapter
 - *System Requirements and Compatibility Matrix*
 - Document Management Guide and Reference for important information about migrating a Documentum-based document management system before you upgrade PPM Center to version 9.20

- *What's New and What's Changed* for information on new features in version 9.20 and the potential impact of upgrading
 - *Release Notes* for important information that is not in the version 9.20 document set
 - ["Preparing to Upgrade to PPM Center Version 9.20" on page 24](#) for information about what to do before you upgrade.
2. If you plan to upgrade one of the HP Deployment Management Extensions, see the documentation for the product.

Note: After you upgrade to, and then configure, PPM Center version 9.20, you can install or upgrade Extensions in any order you choose. For information about optional product installations, see the *Installation and Administration Guide*.

3. Back up both the file system and the database schema (using any third-party tool).

If you have any customized data, back up them as well.

Note: If you configured LDAP integration previously, make sure you back up the `LdapAttribute.conf` file, which is located in the `<PPM_Home>/integration/ldap` directory on the PPM Server.

4. Verify that the `JAVA_HOME` environment variable is pointing to the root directory the JDK version 1.7.0. If the path set for `JAVA_HOME` is not correct, set it to the correct value.
5. Perform and verify the upgrade.

For detailed upgrade instructions, see ["Upgrading to PPM Center Version 9.20" on page 36](#).
6. Restore your customized data (if any).
7. Install or configure optional products you have purchased to work with PPM Center.

Also read and perform the following tasks:

- ["About Prevalidation" on the next page](#)
- ["Upgrading an HP Deployment Management Extension" on page 14](#)
- ["Reviewing System Requirements" on page 15](#)
- ["Upgrading Best Practices Content" on page 15](#)

- ["Backing Up the Database Schema and the PPM Center Home Directory" on page 20](#)
- ["Obtaining License Keys" on page 21](#)

About Prevalidation

After you start the upgrade process, you have the option to run the *prevalidation* step. HP strongly recommends that you select this option. Prevalidation checks for data inconsistencies that might cause upgrade problems. If you run prevalidation, the upgrade utility creates one or more html reports in the `<PPM_Home>/PPM_Upgrade/upgrade_920/logs/reports/html/integrity/validator` directory.

HP recommends that, at a minimum, you start the upgrade just to the prevalidation step for upgrades performed in advance of your production system upgrade. Running the prevalidation step can give you a good estimate of how long it takes to run prevalidation scripts against your specific data set, and allow you to plan your upgrade appropriately.

If the time to execute prevalidation scripts against your environment consumes a significant amount of the time allocated for the production upgrade, then consider performing the prevalidation step and resolving any uncovered issues before you upgrade your production instance.

Prevalidation Reports

Prevalidation may generate several reports that list any problems detected, their cause, and any corrective action to take before you start the upgrade process. The warnings and errors in these reports indicate potential problems with data that may cause the upgrade to fail. HP strongly recommends that you take corrective action for warnings and errors before you proceed to upgrade your PPM Center instance.

The following table lists the generated prevalidation report files.

Prevalidation Report File Name	Invalid Data Reported
INTPreValidation.html	Reports any of the following, if detected: <ul style="list-style-type: none">• Requests integrated with Mercury Application Mapping that must now be moved to Universal CMDB tables• Request types that contain the MAM Impact Analysis field group, which must now be replaced with the uCMDB field group

Prevalidation Report File Name	Invalid Data Reported
JVM_PreValidation.html	<p>Reports the following, if detected:</p> <ul style="list-style-type: none"> • JVM (Java virtual machine) is not installed and configured on the Oracle database server. • PPM Workbench Java plug-in version has been customized.
MLUPreValidation.html	Lists any calendars with names that conflict with system calendars.
PGMPrevalidation.html	Reports whether the state is missing on any business objectives.
PMPreValidation.html	Reports whether the start and finish periods for some projects are missing from the project field groups table.
RMPrevalidation.html	<p>Reports any of the following, if detected:</p> <ul style="list-style-type: none"> • Values in the resource_pool_seq column for parent resource pool are not continuous in the rsc_resource_pools table • At least one row in the table rsc_rp_distribution_entries table has no start time • Incorrect parent org unit ID
SYSPreValidation.html	Lists any missing access grants that are required for the PPM Center user.
TBLSPCPreValidation.html	Lists any tablespaces that are configured in PPM Center but are missing from your database. The tablespace names are configured in the kins_tablespaces table in the database schema. If problems are detected, you must manually update the kins_tablespaces table.
TMPreValidation.html	Reports on whether any actuals in HP Time Management do not match the corresponding actuals in HP Project Management any tasks or projects.

Prevalidation also detects invalid configuration and insufficient database access rights.

Upgrading an HP Deployment Management Extension

If you have purchased one of the following HP Deployment Management Extensions, you must upgrade the Extension(s) after you upgrade PPM Center:

- HP Deployment Management Extension for Oracle E-Business Suite
- HP Deployment Management Extension for Oracle Technology
- HP Deployment Management Extension for SAP Solutions

For detailed upgrade instructions, see the documentation for the individual products. You can access the documentation from the HP Software Product Manuals Web site (h20230.www2.hp.com/selfsolve/manuals).

Reviewing System Requirements

Before you start to upgrade to PPM Center version 9.20, check to make sure that your system environment meets all the requirements listed in the *System Requirements and Compatibility Matrix* document. You can access this document from the HP Software Product Manuals Web site (h20230.www2.hp.com/selfsolve/manuals).

Upgrading Best Practices Content

If the product license your organization purchased (for PPM Center version 7.5 or earlier) included Best Practices, you had the option of installing request types and workflows specifically designed to enhance your use of HP Demand Management, HP Project Management, and HP Portfolio Management.

Except for customized request types, all Best Practices content in your current instance is preserved during the upgrade to version 9.20. This includes request types and workflows that are not delivered in version 9.20.

In version 9.20, new content is delivered in Best Practices and Best Practices must be reinstalled in order to use this content. To reinstall Best Practices, run the following:

```
cd <PPM_Home>/bin  
sh ./kDeploy.sh -best-practices
```

HP Project Management and HP Portfolio Management access the request type content installed as part of Best Practices. This includes HP-supplied menu items that attempt to access these request types. The following table lists the Best Practices request types and their associated workflows, and provides descriptions of the product functionality they provide.

Caution: For PPM Center products to function correctly, you must have Best Practices installed on your system.

Table 1-2. Product functionality enabled by Best Practices content

Request Type /Workflow	Description	Menu Selections	Field Groups
PFM - Proposal / PFM - Proposal	Represents a proposal for a project.	<ul style="list-style-type: none"> • Create > Proposal • Open > Portfolio Management > Create Proposal 	PFM Proposal
PFM - Project / PFM - Project	Represents the data and process associated with a project. This request type is connected to a project type.	Not accessible as a menu selection. This request type must be connected to a project type.	PFM Project
PFM - Asset / PFM - Asset	Represents the ongoing costs and maintenance of the result of a project.	<ul style="list-style-type: none"> • Create > Asset • Open > Portfolio Management > Create an Asset 	PFM Asset
Project Issue / Issue Management Process	Represents issues associated with a project. (Also associated with a project type. This enables users to create requests of this type from the Project Overview page.)	<ul style="list-style-type: none"> • Search > Project Issues • Create > Project Issue • Open > Project Management > Project Controls > Submit Project Issue • Open > Program Management > Issues > Search Project Issues 	<ul style="list-style-type: none"> • Project Issue • Project Reference

Table 1-2. Product functionality enabled by Best Practices content, continued

Request Type /Workflow	Description	Menu Selections	Field Groups
Project Risk / Risk Management Process	Represents the risks associated with a project. (Also associated with a project type. This enables creating a request of this type from the Project Overview page.)	<ul style="list-style-type: none"> • Search > Project Risks • Create > Project Risk • Open > Project Management > Projects Controls > Search Project Risks • Open > Project Management > Projects Controls > Submit Risk • Open > Program Management > Risks > Search Project Risks 	<ul style="list-style-type: none"> • Project Risk • Project Reference
Project Scope Change Request / Scope Change Request Process	Represents scope changes associated with a project.	<ul style="list-style-type: none"> • Search > Project Scope Changes • Open > Project Management > Project Controls > Search Scope Changes • Open > Project Management > Project Controls > Submit Scope Change • Open > Program Management > Scope Changes > Search Scope Changes 	<ul style="list-style-type: none"> • Project Scope Change • Project Reference

Table 1-2. Product functionality enabled by Best Practices content, continued

Request Type /Workflow	Description	Menu Selections	Field Groups
Program Issue	Represents issues associated with a program.	<ul style="list-style-type: none"> • Search > Program Issues • Create > Program Issues • Open > Program Management > Issues > Search Program Issues • Open > Program Management > Issues > Submit Program Issue 	<ul style="list-style-type: none"> • Program Issue • Program Reference
Program Risk / Program Risk Management Process	Represents risks associated with a program.	<ul style="list-style-type: none"> • Search > Program Risks • Create > Program Risk • Open > Program Management > Issues > Search Program Risks • Open > Program Management > Issues > Submit Program Risk 	<ul style="list-style-type: none"> • Program Risk • Program Reference
DEM - Application Enhancement / DEM - Enhancement Request Process	Represents requests for new functionality in current applications.	<ul style="list-style-type: none"> • Create > Request • Search > Requests • Open > Demand Management > Create Request • Open > Demand Management > Search Requests • Open > Demand Management > Request Browser > Browse Requests 	<ul style="list-style-type: none"> • Demand Management SLA Fields • Demand Management Scheduling Fields

Table 1-2. Product functionality enabled by Best Practices content, continued

Request Type /Workflow	Description	Menu Selections	Field Groups
DEM - Database Refresh / DEM - Database Refresh	Represents the database refresh requests made for applications in the testing phase.	<ul style="list-style-type: none"> • Create > Request • Search > Requests • Open > Demand Management > Create Request • Open > Demand Management > Open > Search Requests • Open > Demand Management > Request Browser > Browse Requests 	<ul style="list-style-type: none"> • Demand Management SLA Fields • Demand Management Scheduling Fields
DEM - Application Bug / DEM - Bug Request Workflow	Represents reported defects in current applications.	<ul style="list-style-type: none"> • Create > Request • Search > Requests • Open > Demand Management > Create a Request • Open > Demand Management > Search Requests • Open > Demand Management > Request Browser > Browse Requests 	<ul style="list-style-type: none"> • Demand Management SLA Fields • Demand Management Scheduling Fields
DEM - Initiative / DEM - Project Initiative Process	Represents requests for key projects for future quarters.	<ul style="list-style-type: none"> • Demand Management > Create a Request • Demand Management > Search Requests • Demand Management > Request Browser > Browse Requests 	<ul style="list-style-type: none"> • Demand Management SLA Fields • Demand Management Scheduling Fields

Keeping Customized Request Types Following the Upgrade

If you customized a Best Practices request type provided with an earlier release, and you want to keep that customization, perform the following steps.

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

The PPM Workbench opens.
3. From the shortcut bar, select **Demand Mgmt > Request Types**.

The Request Type Workbench opens.
4. Click **List**.

The Request Type Workbench lists all request types.
5. Double-click the row for a customized request type that you want to keep.

The Request Type window opens and displays the record.
6. In the **Request Type Name** field, type a new name for the request type.
7. Repeat step 5 through step 6 for each additional customized Best Practices request type you want to keep.

Backing Up the Database Schema and the PPM Center Home Directory

Before you upgrade to PPM Center version 9.20, you must back up both the file system and the database schema. You can use any third-party tool to perform the backup.

Tip: HP recommends that you set up a copy of your current instance and run the upgrade on that system before you upgrade your Production instance. For information on how to copy an instance, see the *Installation and Administration Guide*.

Protecting Backed-Up Data

Because the backups (both server host and database backup) you create may contain sensitive information such as cryptographic keys and payload data, HP strongly advises that you protect the backups themselves. Oracle Advanced Security provides transparent data encryption of data stored in the database, the encryption of disk-based backups of the database, and network encryption for data traveling across the network between the database and client or mid-tier

applications. In addition, it provides a complete suite of strong authentication services to Oracle Database.

If you want to use Enterprise User Security in Oracle Database Enterprise Edition, you must license Oracle Internet Directory (OID). If you want to use stronger authentication alternatives (such as Kerberos or PKI) for enterprise user security, you must license Oracle Advanced Security and the Oracle Internet Directory (OID). For more information, see the release notes for your Oracle software.

Obtaining License Keys

You must have license keys for the earlier release of PPM Center that you purchased. PPM Center license keys are delivered in the `license.conf` file, which resides in the `<>PPM_Home>/conf` directory.

Note: In this document, `<PPM_Home>` represents the path where your PPM Center instance is installed.

Key Considerations

To prepare to install PPM Center, review the issues described in this section. This section addresses several decisions you must make before you begin to upgrade your PPM Center products.

Performance Impact on Portlets with Customized SQL-Based Queries

Upgrading PPM Center can result in decreased performance for some portlets that have complex customized SQL-based queries. If data are loaded quickly into such portlets on your current instance, upgrading PPM Center may still degrade performance, even with the same database.

You can try to improve the performance of customized portlets post-upgrade by tuning the underlying SQL queries. Bear in mind that HP does not support customized SQLs in portlets and it you are responsible for maintaining any such portlets you have created.

Running on a Single Database Schema (HP Object Migrator)

Before you upgrade to PPM Center version 9.20, it is important that you work with your database administration team to determine the appropriate backup and recovery strategy for your instance. HP recommends that you shut down the database and perform a cold backup of your database and a full file system backup to back up your PPM Center instance and its configuration files. Your organization may require a different strategy.

If the HP Object Migrator is installed and running on the same schema as PPM Center, it is especially important that you perform a cold backup before you begin the upgrade. If you encounter

problems during the upgrade, you can revert to the cold backup to preserve your HP Object Migrator installation.

Running in Graphic (Swing) or Console Mode (UNIX)

On Windows® platforms, you can only upgrade the PPM Server in graphic (or *swing*) mode. On UNIX® platforms, you can either upgrade the PPM Server in graphic mode or in console mode (from the command line).

Note: In this guide, "UNIX" is used to refer to all supported UNIX-based operating systems. For a list of these, see the *System Requirements and Compatibility Matrix*.

In some cases, you can only perform a console upgrade. If you choose to upgrade in graphic mode, and you are accessing the target machine remotely, you may require additional software or configuration. For example, if you access a UNIX system from a Windows system, you must have software that enables the UNIX application to redirect the display to Windows.

Changing the PPM Center System Language

During the upgrade to PPM Center version 9.20, you have the option of changing your PPM Center system language. Keep in mind that, after the upgrade is completed, all PPM Center 9.20 boilerplate content, and all of the custom data defined in the PPM Center 9.10 user space are set to the system language you select at upgrade. For more information, see the *Multilingual User Interface Guide*.

PPM Center Documentation

To complete the upgrade successfully, it is important that you read the following PPM Center version 9.20 documentation:

- *Document Management Guide and Reference*
- *What's New and What's Changed*
- *System Requirements and Compatibility Matrix*
- *Multilingual User Interface Guide*
- *Release Notes*

Accessing PPM Center Documentation from the PPM Documentation Library

The PPM Documentation Library includes a customizable framework that the PPM Center administrator can use to add only the documents that meet the needs of your PPM Center instance users.

After you upgrade to PPM Center version 9.20, you will need to add PPM Center version 9.20 documentation to the PPM Documentation Library. For detailed instructions on how to do this, see the *Customizing the Standard Interface* guide.

Chapter 2: Preparing to Upgrade to PPM Center Version 9.20

The section contains the following topics:

- ["Preparing to Upgrade" below](#)
- ["Upgrading Program Financial Summaries, Snapshots, and Approved Budget" on page 34](#)
- ["Upgrading Integrations" on page 34](#)

Preparing to Upgrade

Before you start the PPM Center upgrade procedure, perform the tasks described in this section.

Note: The placeholder `<PPM_Home>` is used throughout this document. It refers to the directory where PPM Center is installed. The specific name and location of this directory are up to you.

Task 1: If Your Installed Instance is Earlier than PPM Center Version 9.10

If you have a PPM Center instance earlier than version 9.10 installed, upgrade to version 9.10.

Note: For information on how to upgrade to PPM Center version 9.10, see the *Upgrade Guide* for version 9.10.

Note: If you use a Documentum-based document management system, make sure you upgrade your PPM Center to version 9.14 and then migrate the Documentum-based DMS to PPM Center Database DMS using the Administration Tool DMS Configuration before you upgrade PPM Center to version 9.20. For instructions on upgrading PPM Center to version 9.14, see the *Release Notes* for version 9.14.

For instructions on how to migrate a Documentum-based document management system, see the *Document Management Guide and Reference* for version 9.20.

Caution: If you deployed the ALM content bundle on PPM Center version 9.12 or earlier, and configured any integration solutions using the ALM entities provided, to avoid any potential data loss with your integration solutions, make sure you upgrade PPM Center to version 9.14, then proceed to upgrade to version 9.20.

Note that unless advised otherwise, HP strongly recommends you keep using the old ALM content bundle. There is no need to deploy a new ALM content bundle, regardless of which version of PPM Center you upgraded to.

Task 2: Assess the Impact of Upgrading

Review *What's New and What's Changed* for details about the impact of upgrading, platforms desupported, and objects obsolete in version 9.20.

Task 3: Ensure Upgrade Requirements are Met

Review the *System Requirements and Compatibility Matrix* document to ensure that your system meets the minimum requirements for upgrading to PPM Center version 9.20.

Task 4: Read the Latest Product and Upgrade Information

Review the *Release Notes* for recent changes to the product or upgrade process that are not addressed in the product documentation.

Task 5: Shut Down Your PPM Center Instance

Stop your PPM Server(s). For information about how to start and stop PPM Server(s), see the *Installation and Administration Guide*.

Task 6: Back Up Your PPM Center Instance

Before you start to upgrade PPM Center, back up your PPM Center instance. This involves backing up both the file system and database schema.

Tip: HP recommends that you set up a copy of your current instance and run the upgrade on that system before you upgrade your Production instance. For information on how to copy an instance, see the *Installation and Administration Guide*.

Backing Up the File System

There are many ways to back up the PPM Server file system. A common approach is described in ["Backing Up the File System on Windows" below](#) and ["Backing Up the File System On UNIX" on the next page](#). Regardless of the method you use, you must stop the PPM Server first.

Caution: The following procedure specifies that you stop the PPM Server and not restart it until after the upgrade is complete. The upgrade cannot run if the server is running. If you do not stop the server, users may be able to access the system; if problems occur, any data stored between the time you backed it up and the time the upgrade completes may be unrecoverable.

Backing Up the File System on Windows

To back up the file system on Windows:

1. Open the control panel.
2. To stop the PPM Center service, select it (the default name is HP PPM *ID* where *ID* is the name that you or another PPM Center administrator gave to the PPM Center service), and then click **Stop**.
3. Open a Command Prompt window and navigate to the parent directory of *<PPM_Home>*.
4. Create a zip archive by executing the following command:

```
zip <Backup_Filename>.zip -r <PPM_Home>
```

where *<Backup_Filename>* represents the name you give to the archive file.

The archive named *Backup_Filename.zip* is placed in the parent directory of *<PPM_Home>*. Keep this archive at least until you verify that the upgrade completed successfully and works correctly.

If you must restore the file system later, move the .zip file into the *<PPM_Home>* directory, and then extract the files.

Backing Up the File System On UNIX

To back up the file system on UNIX:

1. To stop the PPM Server, run the *kStop.sh* script, which is located in the *<PPM_Home>/bin* directory:

```
sh ./kStop.sh -now
```

2. In the *<PPM_Home>* directory, use SQL*Plus to create a .tar archive of the complete PPM Center directory tree by typing the following command (ensure that you have enough disk space):

```
tar cvf ../<Backup_Filename>.tar *
```

where *<Backup_Filename>* is the name you give to the archive file.

Note: For detailed information about creating an Oracle directory, see "Creating Directory Objects" on the Oracle By Example (OBE) web site (<http://www.oracle.com/technology/obe/start/index.html>).

The *<Backup_Filename>.tar* archive file is placed in the parent directory of *<PPM_Home>*. Keep this archive at least until you verify that the upgrade completed successfully and works correctly.

If you must restore the file system later, move the *<Backup_Filename>.tar* file to the *<PPM_*

Home> directory, and then type the following command:

```
tar xvf <Backup_Filename>.tar
```

Exporting the Database Schemas

Before you begin the upgrade, back up all PPM Center schemas (PPM Center database schema and RML schema) and tablespaces. For information on how to back up your schemas, see the documentation for your version of Oracle software.

Caution: Ensure that all PPM Server connections are closed and shut down the PPM Server before you export or import the schema. For instructions on how to stop and restart the PPM Server, see the *Installation and Administration Guide*.

HP recommends that you keep the exported file at least until you verify that the upgrade was successful.

Note: For instructions on how to import from the export file, see the *Installation and Administration Guide* or your Oracle documentation.

If you must restore the archive later, remove the schema from the database, re-initialize the database schema, and then import from the export file. Before you can restore an archive, you must first perform two tasks:

1. Before you import the .dmp file, run the `CreateKintanaUser.sql` script (as SYSTEM) to create a PPM Center user.
2. Run the `GrantSysPrivs.sql` script (as SYS DBA) to give the new PPM Center user to grant the privileges required by the PPM Server.

You can find the `CreateKintanaUser.sql` and `GrantSysPrivs.sql` scripts in the upgrade bundle.

Note: Make sure that for every one million (1,000,000) records in the `itg_compressed_elements` table, you have at least 400 MB of undo tablespace allocated in the PPM Center database.

Task 7: Back Up the PPM Center Configuration Files

Make copies of the `tune.conf`, `cache.conf`, `siteminder.conf`, and `LdapAttribute.conf` files. If you have made changes to these, you can revert each `conf` file to `conf.pre9.20` after the upgrade.

Task 8: Back Up Customizations

Back up any customizations (such as request rules and JavaScript methods, which are overwritten during an upgrade) that you want to continue to use with PPM Center version 9.20.

Task 9: Drop Custom Triggers

If you have configured custom triggers on your PPM Center instance, drop all of these before you upgrade so that they cannot interfere with the upgrade process. After you complete the upgrade to PPM Center 9.20, you can reconfigure the custom triggers.

Task 10: Install Java Development Kit (JDK) version 1.7.0 Update 4 or Later

PPM Center version 9.20 does not support JDK version 1.6.0. Make sure you obtain and install JDK version 1.7.0 update 4 or later for your PPM Server platform before you proceed to the next step.

For instructions about installing the JDK, see the Installation and Administration Guide

Task 11: Gather Required Information

Collect the information you are required to provide during the upgrade process. This information is listed in the following table.

Table 2-1. Required upgrade information

Prompt	Description
PPM Center Schema	PPM Center database schema password.
System Password	System password (if required).
License Configuration File	File that contains valid PPM Center license keys. The PPM Server is activated by license keys, provided in a <code>license.conf</code> file, which you must obtain before installation. If you do not have a valid <code>license.conf</code> file, go to the HP Software Support Web site (hp.com/go/hpssoftwaresupport).
JAVA_HOME	Directory in which Java is installed. Note: The directory path shall not contain any spaces.
ORACLE_HOME	Directory in which Oracle is installed.

Task 12: Extract the Upgrade Files

To extract the upgrade files:

1. Obtain the upgrade software.
2. Extract the files in `ppm-920-upgrade.zip` to `<PPM_Home>`. This creates a new `upgrade_920` directory that contains the upgrade executable file (`upgrade.exe` for Windows and `upgrade.sh` for UNIX systems.)

Caution: Do not rename the `upgrade_920` directory. If you do, the upgrade will fail.

Task 13: Setting Up a Shared Folder for a Server Cluster

If your PPM Center instance has a server cluster configuration, you must set up a shared folder to give all nodes access to the same `server.conf` file.

Caution: If you plan to configure the server cluster configurations on multiple machines, keep in mind that the nodes in the cluster must all run on the same operating system. Shared access to the `server.conf` file does not support mixed operating systems.

Setting Up a Shared Folder on a Windows System

To set up the shared folder for a server cluster on a Windows system:

1. Create a shared folder on your PPM Server. (Example: `//<IP_Address>/shared_folder`)

Note: Use only forward slashes (`/`) to specify the folder path.

2. Using a text editor, create a file named `"ppm_server_conf.env"`.
3. Open the new `ppm_server_conf.env` file and add the following text to it:

```
export PPM_SERVER_CONF_DIR=//<IP_Address>/shared_folder
```

4. Save and close the file.

Setting Up a Shared Folder on a UNIX System

To set up the shared folder for a server cluster on a UNIX system:

1. Create a local shared folder. Example: `<PPM_Home>/shared_folder`

Note: You can mount the local folder using NFS (Network File System).

2. Using a text editor, create a file named `"ppm_server_conf.env"`.

3. Open the new ppm_server_conf.env file and type the following text:

```
export PPM_SERVER_CONF_DIR=\\<PPM_Home>/shared_folder
```

4. Save and close the file.

Task 14: Optionally Evaluate Freestanding Budgets and Benefits for Prior Upgrade from Version 7.5

If you upgrade from version 7.5 to version 8.00 then to version 9.10, and then to version 9.20 *without* running the drop_75_objects.sql database cleanup script after either upgrade, you can still assign former freestanding budgets and benefits retained in the version 7.5 database to requests you specify. Then you can import the budgets and benefits as financial summary snapshots for those requests.

This capability is useful for preserving version 7.5 data that represented, in effect, a snapshot of the planned budget or benefit of a proposal or project.

Note: Since you cannot view the freestanding budgets and benefits in PPM Center after the upgrade to version 8.00, you might want to evaluate them before that upgrade to determine whether and how you intend to use them after the upgrade. HP recommends that you delete obsolete freestanding budgets and benefits before you perform the upgrade. For more information, see the *Upgrade Guide* for version 8.00.

Task 15: Verify Environment Variables

PPM Center requires that the JAVA_HOME and ORACLE_HOME environment variables be set in the system environment of the user account that is to be used to start the PPM Server(s).

Determining the JAVA_HOME or ORACLE_HOME Path on a Windows System

To determine the environment variable path from the command prompt on a Windows system:

- At the command line, type `echo %<Environment_Variable_Name>%`

where <Environment_Variable_Name> represents either the JAVA_HOME or ORACLE_HOME environment variable.

Determining the JAVA_HOME or ORACLE_HOME path on a UNIX System

To determine the environment variable path in a UNIX shell (SH, BASH, or KSH):

- At the prompt, type `echo ${<Environment_Variable_Name>}`

where <Environment_Variable_Name> represents either the JAVA_HOME or ORACLE_HOME environment variable.

Setting the Environment Variables from the Control Panel on a Windows System

To set the environment variable value on a Windows system:

1. Open the Control Panel.
2. Open the System Properties window.
3. Click the **Advanced** tab.
4. Click **Environment Variables**.

The Environment Variables window opens.

5. In the **System variables** section, click **New**.

The New System Variable dialog box opens.

6. In the **Variable name** field, type %<Environment_Variable_Name>%
7. In the **Variable value** field, type the full install directory path.
8. To save the new variable and close the New System Variable dialog box, click **OK**.
9. In the Environment Variables window, click **OK**.
10. In the System Properties window, click **OK**.

Setting the Environment Variables from the Command Prompt

To set the environment variable value from the command prompt, run the following command:

```
set <Environment_Variable_Name>=<Install_Directory>
```

where <Install_Directory> represents either the directory in which Java is installed, or the home directory for the Oracle client tools on the PPM Server machine.

Using the Bourne Shell to Set the Environment Variables on a UNIX System

To set the environment variable value in UNIX using the Bourne shell (SH, BASH, or KSH), run the following commands:

```
<Environment_Variable_Name>=<Install_Directory>
```

```
export <Environment_Variable_Name>
```

where <Install_Directory> represents either the directory in which Java is installed, or the home directory for the Oracle client tools on the PPM Server machine.

Task 16: Modify Oracle Database Parameters

This section provides information about temporary changes that you must make to the Oracle database before you upgrade PPM Center. It also contains information on how you can modify Oracle database parameters to improve upgrade performance.

Note: To modify these parameter settings, you must have SYS DBA privileges.

After you verify a successful upgrade, you can restore your original database parameter settings.

Archive Logging

Because archive logging adds additional overhead, HP recommends that you turn it off before you upgrade. The upgrade can migrate or update large volumes of data, which can result in unnecessary storage demands. In addition, archive logs are unnecessary since they would not provide any useful transactional data in this case; the upgrade completes or it does not.

For instructions on how to turn off archive logging, see the documentation for your Oracle software.

Caution: This recommendation is based on the assumption that PPM Center is the only application using the Oracle database instance that contains the data to be upgraded. If data for other third-party applications resides in the same Oracle database instance, then disabling archive logging might not be appropriate.

NLS_LENGTH_SEMANTICS Parameter

HP strongly recommends that you use a database whose NLS_LANG_SEMANTICS value is set to CHAR, especially if you are running a non-English version of PPM Center. If NLS_LENGTH_SEMANTICS is set to CHAR, Oracle allocates storage for VARCHAR fields in characters, not bytes. This is important if data contains international characters, which require more than one byte to store. So if NLS_LENGTH_SEMANTICS is set to BYTE, it accepts strings with international characters with length of two to three times less than the declared field length.

To see the current value set for NLS_LENGTH_SEMANTICS, run the following statement:

```
select * from v$nls_parameters;
```

To change the value to CHAR, run the following statement:

```
alter system set NLS_LENGTH_SEMANTICS=char scope=both;
```

Alternatively, you can change this parameter in (or add it to) the `init.ora` file.

UNDO_RETENTION Parameter

The database parameter UNDO_RETENTION specifies the minimum length of time that the system keeps undo information. The Oracle database retains undo information for at least the time specified for this parameter, and automatically tunes the undo retention period to satisfy the undo requirements of the queries. The default value for UNDO_RETENTION is 900 seconds, or 15 minutes.

Note: To determine the amount of time for which undo information is retained for the Oracle database for the current undo tablespace, query the TUNED_UNDORETENTION column of the V\$UNDOSTAT dynamic performance view.

Because upgrade operations can run for hours, especially with large databases, HP strongly recommends that you set the UNDO_RETENTION parameter value to 21,600 seconds, or six hours.

To set the UNDO_RETENTION parameter dynamically, run the following statement:

```
SQL> alter system set UNDO_RETENTION = 21600 scope=both;
```

Note: After you verify a successful upgrade, you can restore the original setting.

LOG_BUFFER Parameter

For systems with 50 or more concurrent users, set the LOG_BUFFER parameter value to 25 (expressed in MB).

UNDO_TABLESPACE Parameter

For a large deployment (more than 1,000 projects), set the UNDO_TABLESPACE parameter to at least 10 GB.

REDO LOG GROUPS

To reduce expensive log switches for large deployments (more than 1,000 projects), drop and then re-create the redo log groups. Create two redo log groups, each on a separate fast disk, and each with a single redo log file of 250 MB.

CURSOR_SHARING Parameter

Set the CURSOR_SHARING parameter to Exact. This value only enables statements that have identical text to share a cursor. HP recommends that you set the CURSOR_SHARING parameter to EXACT. If any other value is used, PPM Server will try to force the value of this parameter to EXACT for all PPM-related databases transactions.

PGA_AGGREGATE_TARGET Parameter

Automatic Program Global Area (PGA) memory management is enabled by default (unless PGA_AGGREGATE_TARGET is explicitly set to 0 or WORKAREA_SIZE_POLICY is explicitly set to MANUAL). PGA_AGGREGATE_TARGET defaults to 20 percent of the size of the SGA, unless explicitly set.

The PGA_AGGREGATE_TARGET parameter value determines the aggregate Program Global Area (PGA) memory available to all PPM Server processes attached to the instance. This parameter enables the automatic sizing of SQL working areas used by memory-intensive SQL operators such as sort, group-by, hash-join, bitmap merge, and bitmap create.

PGA_AGGREGATE_TARGET replaces the traditional SORT_AREA_SIZE parameter. Use it with the WORKAREA_SIZE_POLICY parameter set to AUTO.

Recommended Setting

Set the PGA_AGGREGATE_TARGET parameter value to a minimum of 450 MB. For very large databases, you can set the parameter to 1 GB.

Task 17: Prepare a Back Out Plan

If there is an error during a PROD environment upgrade, restore the backup of the file system and database schema so PROD environment down time is minimal. Then restore the PROD file system and database schema to the STAGE environment and test the upgrade again.

Upgrading Program Financial Summaries, Snapshots, and Approved Budget

The following sections describe the results of the upgrade in regard to the conversion of version 9.10 financial summaries, snapshots, and approved budget into version 9.20 financial summaries, snapshots, and approved budget for programs.

The financial summary of a program is available when the **Enable Financial Management for this program** checkbox is selected in the Program Settings page for the program.

Program Financial Summaries

The upgrade process consolidates the two financial summaries that are associated with a program (the roll-up financial summary and the editable financial summary). Both financial summaries are consolidated into a single financial summary where roll-up data is not editable and editable data remains editable.

The upgrade process also converts data stored in the local currency in the program financial summary to the base currency. Program financial summaries in version 9.20 are displayed and saved in the base currency only.

Program Financial Summary Snapshots and Approved Budget

The upgrade process converts data stored in the local currency in the program financial summary snapshot and approved budget to the base currency. Program financial summary snapshots and approved budget are displayed and saved in the base currency only.

Upgrading Integrations

If you upgrade your PPM Center instance to version 9.20, and you then upgrade an integrated Quality Center version 10.00 instance to HP Application Lifecycle Management version 11.00 or later, existing integrations of PPM Center requests and Quality Center entities (defects or requirements) on that instance are not upgraded. Integrations that you reestablish operate as new integrations.

Caution: If you deployed the ALM content bundle on PPM Center version 9.12 or earlier, and configured any integration solutions using the ALM entities provided, unless advised otherwise, HP strongly recommends you keep using the old ALM content bundle to avoid any potential data loss with your integration solutions.

There is no need to deploy a new ALM content bundle, regardless of which version of PPM Center you upgraded to.

For detailed instructions on how to upgrade an integrated Quality Center version 10.00 instance to HP Application Lifecycle Management version 11.00 or later, see the *HP Solution Integrations Guide*.

Upgrading Custom Integrations

If you have custom integrations that can be used to update PPM Center version 9.20 data, make sure that you perform the updates using a supported method. Using SQL to update the data directly in the database is very risky and could corrupt the data. HP strongly discourages direct updates to the database tables.

Chapter 3: Upgrading to PPM Center Version 9.20

This section contains the following topics:

- ["Default Permissions for PPM Center Schemas" below](#)
- ["Performing the Upgrade" on the next page](#)
- ["Upgrading a PPM Center Server Cluster" on page 47](#)
- ["Post-Upgrade Tasks" on page 49](#)
- ["Verifying the Upgrade" on page 52](#)
- ["Execution Log Files" on page 53](#)
- ["Integrating Microsoft Project with PPM Center" on page 53](#)
- ["Switching Between Stand-Alone and Server Cluster Configurations" on page 53](#)
- ["Contacting Support " on page 55](#)

Default Permissions for PPM Center Schemas

By default, the PPM Center database schema and RML database schema accounts (PPM_USER and RML_USER) are granted Oracle database privileges from an overall PPM Center perspective, which works for all customer scenarios and environments. Some of these privileges are required, but some are not, and can be revoked without affecting the PPM Center system.

The PPM Center database schema account is granted Oracle CONNECT role privileges. If this presents a problem for your organization, you can have your DBA revoke the CONNECT role privilege for the PPM Center database schema account.

Although revoking the CONNECT role privilege does not affect the PPM Center system, the PPM Center schema does require the following grants:

- grant create session
- grant create database link
- grant create procedure
- grant create sequence

- grant create synonym
- grant create table
- grant create view
- grant create trigger
- grant create job
- grant execute on ctxsys.ctx_ddl

The RML database schema account is granted Oracle RESOURCE role privileges. Because the RML schema requires the RESOURCE role privilege, it cannot be revoked. You can, however, revoke the following privileges, which are also granted to the RML database schema account:

- CREATE CLUSTER
- CREATE INDEXTYPE
- CREATE OPERATOR

Performing the Upgrade

This section provides the steps used to upgrade from PPM Center version 9.10 to version 9.20 on Windows and UNIX systems. It includes instructions for upgrading a stand-alone instance and additional PPM Servers in a clustered system configuration. ["Post-Upgrade Tasks" on page 49](#) provides information on what to do after you upgrade.

Note: HP strongly recommends that you upgrade a test instance before you upgrade your production instance. If you do not have a test instance, consider creating one for this purpose. For instructions on how to do this, see the *Installation and Administration Guide*.

The upgrade executable (Windows) or upgrade utility (UNIX) starts the file system and database schema upgrade process. Upgrading the database schema can take several hours. The upgrade utility asks you for the password for the PPM Center user, and for a user with system-level database accounts.

Note: To enable PPM Center to keep track of the open database sessions it uses, make sure that a public grant exists on the v_\$session dynamic performance table. To do this, connect as SYS DBA to the database that contains the PPM Center database schema, and then run the following SQL statement:

```
SQL> grant select on v_$session to public;
```

Caution: The PPM Center database must have at least 400 MB of undo tablespace allocated for every one million (1,000,000) records in the ITG_COMPRESSED_ELEMENTS table.

Upgrading On a Windows System

Perform the following steps to upgrade from PPM Center version 9.10 to PPM Center version 9.20 on a Windows system.

To upgrade to PPM Center version 9.20 on a Windows system:

1. (Documentum-based DMS only) If you use a Documentum-based document management system, make sure you upgrade your PPM Center to version 9.14 and then migrate the Documentum-based DMS to PPM Center Database DMS using the Administration Tool DMS Configuration before you upgrade PPM Center to version 9.20.

For detailed instructions on how to migrate a Documentum-based document management system, see the Document Management Guide and Reference for version 9.20.

2. Stop the PPM Server. If you have a server cluster setup, stop all nodes in the cluster.

Note: For information about how to start and stop the server, see the *Installation and Administration Guide*. For information on how to upgrade a server cluster, see "[Upgrading a PPM Center Server Cluster](#)" on page 47.

3. Navigate to the <PPM_Home>\upgrade_920 directory, and then double-click upgrade.exe.
4. In the language selection window, select the language that you want the upgrade wizard to use to display steps, and then click **OK**.

The upgrade wizard starts and displays basic requirements information.

5. Click **Next**.

The wizard asks if you want to check tablespace space availability before you continue.

6. To check space availability for the tablespaces, in the **Oracle System User Password** field, type your Oracle system user password. To skip this check, leave the field empty.

7. Click **Next**.

If you provided your Oracle system user password, the upgrade tool displays information about the tablespaces created for the PPM Center schemas. If information about a tablespace is displayed in red text, then the available space is too small for this upgrade. HP recommends that you quit the upgrade, resize the tablespace, and then restart the upgrade.

Note: If any system tests fail, follow the prompts to fix the problem. After all temporary

tables are reconciled, you can restart the upgrade. If you then encounter unexpected errors, visit the HP Software Support Web site (hp.com/go/hpssoftwaresupport).

8. Click **Next**.
9. In the **Password** field, type the PPM Center schema password.
10. Click **Next**.
11. The wizard asks whether you want to run the prevalidation step. To perform prevalidation, leave **Yes, I would like to run prevalidation step now** selected, and click **Next**. To skip prevalidation, select **No, I would like to skip the prevalidation step**, and then click **Next**.

Note: HP strongly recommends that you perform this step as part of the upgrade. Prevalidation checks for data inconsistencies that might cause upgrade problems. For more details, see "[About Prevalidation](#)" on page 13.

12. If you run prevalidation:
 - a. Review the `PreValidationResultsIndex.html` file, which is located in the `<PPM_Home>/upgrade_920/logs/reports/html/integrity/validator` directory.

The report lists all issues that you must resolve before you can successfully upgrade to PPM Center 9.20.
 - b. If prevalidation revealed problems, cancel the upgrade, resolve the problems, and then begin the upgrade again.

Note: If you need assistance with database issues, consult your database administrator.

- c. If prevalidation uncovered no problems, click **Next**.

Next, the upgrade utility:

- Checks to ensure that the PPM Server is shut down.
- Checks for old tables.
- Determines the directories in `<PPM_Home>/server` to upgrade and lists these.
- Lists the PPM Server or servers declared in the `server.conf` file, and which of these is to be upgraded.

- Deletes records of services with both SERVICE_ID<10000 and history of exceptions from the PPM_SERVICE_RECORDS table.

Note: Only records of customized services with history of exceptions are deleted from the PPM_SERVICE_RECORDS table as they can cause upgrade failure.

13. Click **Next**.
14. If the **Directory Name** field does not display the Java installation directory path, provide the path.
15. Click **Next**.

The system language selection step opens.

16. From the list of supported languages, select your preferred system language.

Note: Be cautious when selecting this option. It is intended for use only by those who developed the content in an unsupported language in 7.5, for which English was the only system language. Now with version 9.20 multilingual user interface (MLU) capabilities, such a user can now set the system language correctly.

The system language is the PPM Center default language for the installation. It is used as the default language setting for all regions (and by extension, all users). The system language is also the language used to generate system-level information such as server logs. For more information about the system language, see the *Multilingual User Interface Guide*.

17. Click **Next**.

The additional languages selection step opens.

18. (Optional) Select the checkboxes for any additional languages to install.

Note: If your organization includes staff in other countries who use this PPM Center instance, the additional languages you install enable them to work with PPM Center in their own languages (if supported). If you prefer not to install additional languages now, you can install them any time later. For more information about the session language, see the *Multilingual User Interface Guide*.

19. Click **Next**.

The wizard displays the current server mode (Stand-alone or Cluster) of the PPM Center instance.

20. Click **Next**.

The wizard lists the current server configuration settings for the PPM Server and JBoss server. The server configuration parameters listed for a stand-alone PPM Server are different than those listed for the primary PPM Server (the first node) in a server cluster.

21. If necessary, change the values for the listed parameter, and then click **Next**.

Note: For descriptions of and valid values for these parameters, see the *Installation and Administration Guide*.

The upgrade utility displays the directory path in which the upgrade is to be installed, and the total size (in MB) of the upgraded files.

22. Click **Next**.

The upgrade utility displays labeled indicators so that you can monitor the upgrade process.

23. The PPM Center standard interface uses Java Server Page (JSP) technology to display dynamic content. Each page must be compiled the first time it is accessed, which results in a delay for users. This process can take several minutes.

Note: HP strongly recommends that you recompile the JSP pages during the upgrade.

To precompile all JSP pages now, leave **Yes, I would like to compile all JSP files now** selected. To skip this step, select **No, I will let the server compile them at run-time**.

24. After the JSP files are all compiled, click **Next**.

To improve system performance, the upgrade utility can generate statistics for the Oracle optimizer.

25. To generate database statistics, leave **Yes. Gather the statistics now** selected. To skip this step, select **No. I will gather the statistics myself later**.

The upgrade utility installs additional languages you selected (if any) in [step 18](#).

26. Click **Next**.

After the upgrade is completed, the upgrade utility displays the upgrade log file path and asks you to check subsequent screens for information about what (if any) actions you need to take regarding the PPM Server.

27. Click **Next**.

The upgrade process checks the database tables and generates log files.

28. Click **Next**.
29. After the upgrade is completed, click **Finish**.
30. Locate the `server.conf` file, update the values for the following Java plug-in related parameters:
 - `WORKBENCH_PLUGIN_VERSION`
 - `JAVA_PLUGIN_VERSION`
 - `JAVA_PLUGIN_PATH_IE`
 - `JAVA_PLUGIN_PATH_NS`
 - `JAVA_PLUGIN_XPI_PATH`
 - `JAVA_PLUGIN_CLASSID`

Or, you can comment out these parameters from the `server.conf` file instead.

Save the modified `server.conf` file.

31. Start the PPM Server.

Upgrading On a UNIX System

To perform the upgrade:

Note: "UNIX" is used to refer to all supported UNIX-based operating systems. For a list of these, see the *System Requirements and Compatibility Matrix*.

1. (Documentum-based DMS only) If you use a Documentum-based document management system, make sure you upgrade your PPM Center to version 9.14 and then migrate the Documentum-based DMS to PPM Center Database DMS using the Administration Tool DMS Configuration before you upgrade PPM Center to version 9.20.

For detailed instructions on how to migrate a Documentum-based document management system, see the Document Management Guide and Reference for version 9.20.

2. Stop the PPM Server.

Note: For information about how to start and stop the server, see the *Installation and Administration Guide*.

3. Navigate to the `<PPM_Home>/upgrade_920` directory:

```
cd <PPM_Home>/upgrade_920
```

4. Start an X Window session.

Note: To run X Window System applications on a remote Unix or Linux system and have the graphics displayed on your Microsoft Windows workstation, you must run an X Window server on your workstation. If you need assistance with this, contact your system administrator.

5. Run the upgrade script (as the SYSTEM user) and specify the upgrade mode.

Example:

```
sh ./upgrade.sh [-swing|-console]
```

where `-swing` represents the GUI-based mode (this requires an X Window session) and `-console` represents the interactive command-line mode.

Note: Although the remaining steps describe the GUI-based upgrade steps, the information you are required to provide is the same.

A language selection window opens.

6. Select the language that you want the upgrade wizard to use to display steps, and then click **OK**.

The upgrade wizard starts and displays basic requirements information.

7. Click **Next**.

The wizard asks if you want to check tablespace space availability before you continue.

8. To check space availability for the tablespaces, in the **Oracle System User Password** field, type your Oracle system user password. To skip this check, leave the field empty.

9. Click **Next**.

If you provided your Oracle system user password, the upgrade tool displays information about the tablespaces created for the PPM Center schemas. If information about a tablespace is displayed in red text, that the available space is too small for this upgrade. HP recommends that you quit the upgrade, resize the tablespace, and then restart the upgrade.

Note: If any system tests fail, follow the prompts to fix the problem. After all temporary tables are reconciled, you can restart the upgrade. If you then encounter unexpected

errors, visit the HP Software Support Web site (hp.com/go/hpssoftwaresupport).

10. Click **Next**.
11. In the **Password** field, type the PPM Center schema password.
12. Click **Next**.
13. The wizard asks whether you want to run the prevalidation step. To perform prevalidation, leave **Yes, I would like to run prevalidation step now** selected, and click **Next**. To skip prevalidation, select **No, I would like to skip the prevalidation step**, and then click **Next**.

Note: HP strongly recommends that you perform this step as part of the upgrade. Prevalidation checks for data inconsistencies that might cause upgrade problems. For more detail, see "[About Prevalidation](#)" on page 13.

14. If you run prevalidation:
 - a. Review the `PreValidationResultsIndex.html` file, which is located in the `<PPM_Home>/upgrade_920/logs/reports/html/integrity/validator` directory.

The report lists all issues that you must resolve before you can successfully upgrade to PPM Center9.20.
 - b. If prevalidation revealed problems, cancel the upgrade, resolve the problems, and then begin the upgrade again.

Note: If you need assistance with this, consult your database administrator.

- c. If prevalidation revealed problems, click **Next**.

Next, the upgrade utility:

- Checks to ensure that the PPM Server is shut down.
- Checks for old tables.
- Determines the directories in `<PPM_Home>/server` to upgrade and lists these.
- Lists the PPM Server or servers declared in the `server.conf` file, and which of these is to be upgraded.
- Deletes records of services with both `SERVICE_ID<10000` and history of exceptions from the `PPM_SERVICE_RECORDS` table.

Note: Only records of customized services with history of exceptions are deleted from the PPM_SERVICE_RECORDS table as they can cause upgrade failure.

15. Click **Next**.
16. If the **Directory Name** field does not display the Java installation directory path, provide the path.
17. Click **Next**.

The system language selection step opens.

18. From the list of supported languages, select your preferred system language.

Note: Use care in selecting this option. It is intended for use only by those who developed the content in an unsupported language in 7.5, for which English was the only system language. Now with version 9.20 multilingual user interface (MLU) capabilities, such a user can now set the system language correctly.

The system language is the PPM Center default language for the installation. It is used as the default language setting for all regions (and by extension, all users). The system language is also the language used to generate system-level information such as server logs. For more information about the system language, see the *Multilingual User Interface Guide*.

19. Click **Next**.

The additional languages selection step opens.

20. (Optional) Select the checkboxes for any additional languages you want to install.

Note: If your organization includes staff in other countries who use this PPM Center instance, the additional languages you install enable them to work with PPM Center in their own languages (if supported). If you prefer not to install additional languages now, you can install them any time later. For more information about the session language, see the *Multilingual User Interface Guide*.

21. Click **Next**.

The wizard displays the current server mode (Stand-alone or Cluster) the PPM Center instance.

22. Click **Next**.

The wizard lists the current server configuration settings for the PPM Server and JBoss server. The server configuration parameters listed for a stand-alone PPM Server are different (and fewer) than those listed for a PPM Server that is the primary node in a server cluster.

23. If necessary, change the values for the listed parameter, and then click **Next**.

Note: For descriptions of and valid values for these parameters, see the *Installation and Administration Guide*.

The upgrade utility displays the directory path in which the upgrade is to be installed, and the total size (in MB) of the upgraded files.

24. Click **Next**.

The upgrade utility displays labeled indicators so that you can monitor the upgrade process.

The PPM Center standard interface uses Java Server Page (JSP) technology to display dynamic content. Each page must be compiled the first time it is accessed, which results in a delay for users. This process can take several minutes

25. To precompile all JSP pages now, leave **Yes, I would like to compile all JSP files now** selected. To skip this step, select **No, I will let the server compile them at run-time**.

Note: HP strongly recommends that you recompile the JSP pages during the upgrade.

26. After the JSP files are all compiled, click **Next**.

To improve system performance, the upgrade utility can generate statistics for the Oracle optimizer.

27. To generate database statistics, leave **Yes. Gather the statistics now** selected. To skip this step, select **No. I will gather the statistics myself later**.

The upgrade utility installs additional languages you selected (if any) in [step 18](#).

28. Click **Next**.

After the upgrade is completed, the upgrade utility displays the upgrade log file path and asks you to check subsequent screens for information about what (if any) actions you need to take regarding the PPM Server.

29. Click **Next**.

The upgrade process checks the database tables and generates log files.

30. After the upgrade is completed, click **Finish**.

31. Start the PPM Server.

If you are upgrading a server cluster, see "[Upgrading a PPM Center Server Cluster](#)" below for information on how to upgrade the remaining PPM Servers in the cluster.

In Case of Upgrade Failure

Do the following:

- **Implement the Back Out Plan**

If an error occurs during a PROD environment upgrade, implement the Back Out Plan.

- **Run kSupport.sh Script**

If the upgrade fails at any point, run the `kSupport.sh` script. This extracts relevant information about the problem from the database log tables and log files and generates an HTML file that contains the information.

The generated HTML file helps pinpoint the root cause by listing each upgrade task and indicating whether the task was successfully run, failed, or was not run. It also includes the upgrade build number for reference. For information about the `kSupport.sh` script and how to run it, see the *Installation and Administration Guide*.

- **Check Upgrade Log Files**

Upgrade log files are stored in the `<PPM_Home>/upgrade_920/logs` directory. The `ppm_upgrade.log` file in this directory may serve as an entry point, pointing you to other logs in the directory.

It is possible that you may need to run the upgrade process in several iterations. Every time you run an upgrade iteration, PPM Center will create a "run iteration number", so the `ppm_upgrade.log` file may point to a directory like this: `<PPM_Home>/upgrade_920/logs/<Run_Interaction_Number>`.

For example, your first upgrade iteration fails and you run the upgrade process again, then you should see the following log directories:

```
<PPM_Home>/upgrade_920/logs/1
```

```
<PPM_Home>/upgrade_920/logs/2
```

```
...
```

Upgrading a PPM Center Server Cluster

To upgrade a PPM Center server cluster, JBoss clustering technology requires parameters that are specific to the cluster, as well as parameters that are specific to each node in the cluster. Without this configuration, all nodes would use the same default port configuration, which can lead to server startup failure or other problems.

Note: Make sure that you set the cluster-specific and the server-specific parameters *before* you begin the upgrade process. The *Installation and Administration Guide* provides information on all of the server configuration parameters required for server cluster setup.

To upgrade a PPM Center server cluster:

1. Make sure that you have set up a shared folder to give all nodes in the cluster access to the server .conf file. (See "Task 13: Setting Up a Shared Folder for a Server Cluster" in ["Preparing to Upgrade" on page 24.](#))
2. Stop all nodes in the cluster.

Note: For information on how to stop and start a PPM Server, see the *Installation and Administration Guide*.

3. Perform the upgrade on the primary node in the cluster. (See ["Upgrading On a Windows System" on page 38](#) and ["Upgrading On a UNIX System" on page 42.](#))

Note: When you run the upgrade on the first server, both the file system and the database portions of the upgrade are executed.

4. If the nodes in the server cluster are hosted on multiple machines, run the upgrade on each host machine, one at a time.

After you configure the first server to include all additional nodes,

- a. Copy the entire `<PPM_Home>/` directory from machine1 to machine2, to the `BASE_PATH` defined in the `@node` directive.
- b. Zip the file, send it using FTP, and then unzip it at the destination.
- c. After you copy the file, change the directory to `<PPM_Home>/` on the new machine, and then rename the `<PPM_Home>/server/node1` directory to `<PPM_Home>/server/node2`.

The server name must match the value set for the `KINTANA_SERVER_NAME` parameter.

Example

The directories on machine1 could be:

```
<PPM_Home>  
+ server/  
+ node1
```

The directories on machine2 could be:

```
<PPM_Home>  
+ server/  
+ node2
```

- d. Put a new license on machine2, as required by the new IP address.

Run `kUpdateHtm1.sh` on both host machines to apply the `server.conf` changes.

- e. Repeat [step a](#) through [step d](#) on each of the remaining host machines in the cluster.

Note: This upgrades only the file system on subsequent machines, without upgrading the PPM Center database schema.

5. Restart the nodes, one node at a time.

Caution: Make sure that you wait until each node is fully started before you start the next node.

Note: You can define all nodes (clustering ports and node-specific configuration settings) in a single `server.conf` file, even if they are distributed among different machines. Each node configuration correctly reflects the same information. This allows scripts such as `kStatus.sh` to gather information from all the nodes in the cluster, and not just the nodes that reside on the machine from which you run the script. You can reuse this `server.conf` file on other machines with nodes that are part of the same cluster. This assumes that you modify the machine-specific server configuration parameter values.

For detailed information about server cluster configurations, see the *Installation and Administration Guide*.

Post-Upgrade Tasks

This section addresses tasks to perform after you upgrade to PPM Center version 9.20.

Installing Unicode Fonts for Export to PDF

The PPM Dashboard supports exporting PPM Center portlet content in PDF format in supported languages. To do this, the PPM Dashboard must have access to Unicode fonts.

The Unicode character encoding standard enables the sharing of messages and other items in a multilingual environment when the languages involved span multiple code pages. This means that translated portlet content is exported to PDF files in multiple languages, in one string, and in different locales.

Some operating systems, such as Windows, provide Unicode fonts. If your PPM Center instance runs on an operating system that does not provide Unicode, you must install a Unicode font on the machine that hosts the PPM Server, and then specify the font location by setting the `com.kintana.core.server.dashboard.PDF-Unicode-Font-File-Path` dashboard server configuration parameter. You can use any Unicode font (for example, Arial Unicode MS or Code2000). You can set additional font directory paths by setting the `com.kintana.core.server.dashboard.Fonts-Directory-Path` dashboard server configuration parameter in the `server.conf` file.

The PPM Dashboard looks for a Unicode font in the standard font locations for the operating system. The table below lists the fonts directories for supported operating systems.

Note: Unicode is the default mode that the PPM Dashboard uses. However, if it cannot locate a Unicode font, it switches to regular mode.

Table 3-1. Operating system-specific fonts directories

Operating System	Fonts Location
UNIX	<ul style="list-style-type: none"> • /usr/openwin/lib/X11/fonts/TrueType • /usr/X11/lib/X11/fonts/TrueType • /usr/X11/lib/X11/fonts/Type1
HPUX	<ul style="list-style-type: none"> • /usr/contrib/xf86/xterm/fonts • /usr/lib/X11/fonts/ms.st/typefaces
Linux	<ul style="list-style-type: none"> • /usr/share/fonts/truetype • /usr/share/fonts/local
Windows	<ul style="list-style-type: none"> • C:\\WINDOWS\\Fonts • C:\\WINNT\\Fonts
AIX	/usr/lpp/ Acrobat3/Fonts

For information about how to install fonts, see the documentation for your operating system. For information about how to set server configuration parameters, see the *Installation and Administration Guide*.

Assigning the Portfolio Mgmt: Edit All Portfolios Access Grant

The Portfolio Manager access grant has been renamed View All Portfolios, and it no longer allows users to create and manage business objectives. Assign the new Edit All Portfolios access grant to users who need to be able to create and manage business objectives.

(Optional) Adding the Portfolio Field to PFM Request Types

Any request type that uses the PFM Asset, PFM Project, or PFM Proposal field group, including the PFM - Proposal, PFM - Project, and PFM - Asset request types, now includes the new **Portfolio** field. This field displays the portfolio, if there is one, that includes the proposal, project, or asset. For upgrades, this field is hidden by default so the requests do not appear to have changed. The administrator can make the new **Portfolio** field visible by editing the applicable request header type.

(Optional) Preventing Submission of Time Sheets with Lines that Have No Data

The ability of users to submit time sheets that contain "empty" lines (lines in which all values are 0) is controlled by the setting of a new server configuration parameter `ENABLE_TM_ALLOW_EMPTY_ITEM` and by a corresponding setting on each time sheet policy. *By default*, the time sheet policy setting initially reflects the server configuration parameter setting. You can change the time sheet policy setting, which controls the operation when users submit time sheets with empty lines. By default, after the upgrade, the server configuration parameter is set to `WARNING`—if a user submits a time sheet that contains any empty lines, a message tells the user which of the lines have no time entered (with options to delete all the empty lines at once or move them all to the user's My Items list), but the user is allowed to submit the time sheet anyway. In the past, a user could submit a time sheet with empty lines without seeing a message.

To *prohibit* users from submitting time sheets that have empty lines, HP strongly recommends that you change the value of the server configuration parameter `ENABLE_TM_ALLOW_EMPTY_ITEM` from `WARNING` to `RESTRICT`. Thereafter, *new* time sheet policies (on the **Time Sheet Policy** tab) will, by default, prevent users assigned to those policies from submitting time sheets that have empty lines. To prohibit users assigned to *existing* time sheet policies from submitting time sheets that have empty lines, on the **Time Sheet Policy** tab of those time sheet policies, change the option for specifying the level of enforcement for empty lines to **Prevent the Resource from submitting a Time Sheet containing empty lines**. The resource must enter time on all lines in the time sheet (or remove the empty lines) before it can be submitted.

For more information about the server `.conf` parameter, see the *Installation and Administration Guide*.

For more information about configuring time sheet policies, see the *HP Time Management Configuration Guide*.

(Optional) Allowing Users to Include Items from Previous Period When They Create a New Time Sheet

By default, when users create a new time sheet, they can no longer include (copy) items from a time sheet for the most recent previous period. Instead, they can copy all open items from their personal My Items lists.

If you want to allow users to continue to be able to include items from time sheets for the previous period, change the `TM_DISABLE_INCLUDING_LAST_TS_ITEMS` parameter in the `server.conf` file from `true` to `false`. For performance reasons, HP recommends keeping this parameter set to `true`.

If you change this parameter, users can still choose to include all open items from their My Items lists, but HP Time Management prevents users from including items from both their My Items lists and a time sheet for the previous period.

(Optional) Importing Freestanding Budgets and Benefits

If you have upgraded from version 7.5 to version 8.00 and then to version 9.20 *without* running the `drop_75_objects.sql` database cleanup script after either upgrade, you can still assign former freestanding budgets and benefits retained in the version 7.5 database to requests you specify, and then import the budgets and benefits as financial summary snapshots for those requests. For more information, see "Task 14: Optionally Evaluate Freestanding Budgets and Benefits for Prior Upgrade from Version 7.5" in "[Preparing to Upgrade](#)" on page 24 and the *Upgrade Guide* for version 8.00.

Configuring the FTP Server (Windows Systems Only)

PPM Center uses FTP to move files between machines. To transfer files between machines on a network, each source and destination machine must be running an FTP server. On UNIX platforms, this is standard functionality, but machines running Windows require additional FTP server configuration to function with PPM Center.

If you are configuring PPM Server after upgrading, you probably already have an FTP server set up. If you do, ensure that the installed FTP server is supported. For information about how to configure an FTP server, see the *Installation and Administration Guide*.

Supported communication software is documented in the *System Requirements and Compatibility Matrix* document.

Verifying the Upgrade

To verify the installation, perform the following tasks:

1. Open the `ppm_upgrade.log` file (located in the `<PPM_Home>/upgrade_920` directory) and check for error messages at the end of the file.
2. If your review of the `ppm_upgrade.log` file reveals errors, do the following. Otherwise, continue to the next step.
 - a. Run the `kSupport.sh` script to gather information useful to HP Software Support in diagnosing system problems, and create a Zip file with a timestamp in the `support/zipfiles` directory. For information about the `kSupport.sh` script and how to run it, see the *Installation and Administration Guide*.

- b. Contact HP Software Support Web site (hp.com/go/hpssoftwaresupport) and provide them with the Log.txt file produced by the kSupport.sh script run.
3. Log on to PPM Center.
4. Start the PPM Workbench.
5. Run a report.
6. Create a request.
7. Test the graphical view of the request.

If you encounter any problems, or have questions about the upgrade, visit the HP Software Support Web site (hp.com/go/hpssoftwaresupport).

Execution Log Files

The upgrade process generates and maintains several log files that you can use to assist with troubleshooting should a problem occur. You can find these log files in the `<PPM_Home>/install_920/logs` or `<PPM_Home>/upgrade_920/logs` directory (where `<PPM_Home>` represents the path where the PPM Center software was installed).

Integrating Microsoft Project with PPM Center

If you are a Microsoft® Project user, note that integrating PPM Center with Microsoft Project involves installing the Plug-in for PPM from the standard interface after you upgrade. For information on the HP Project Management and Microsoft Project requirements for installing the Plug-in for PPM, see the *HP Project Management User's Guide*.

Note: You must download and install the latest version of the Plug-in for PPM. However, before you install the latest version, you must first manually uninstall the earlier version using **Add or Remove Programs** from the Control Panel.

Switching Between Stand-Alone and Server Cluster Configurations

If you upgrade a stand-alone instance of PPM Center, and you later determine that a server cluster configuration better meets the needs of your organization, you can switch to a clustered server setup. Conversely, if you have configured a server cluster for a test or development instance and you determine that a stand-alone setup would be adequate, you can transition to a stand-alone deployment. This section provides instructions for performing both of these transitions.

Note: For information about server clustering, see the *Installation and Administration Guide*.

Switching from Server Cluster to Stand-Alone Configuration

If you plan to migrate data from a Production instance to a Development, Test, or Sandbox instance, and you do not want to migrate all the cluster configurations, you can switch from a server cluster to a stand-alone deployment.

To switch from a server cluster configuration to a stand-alone configuration:

1. Stop all PPM Servers. (For instructions, see the *Installation and Administration Guide*.)
2. Navigate to the `<PPM_Home>/upgrade_920/archives` directory and locate the `deployStandalone.zip` file.
3. Extract the `deployStandalone.zip` file contents to the `PPM_Home/bin/` directory.
4. Run the following command:

```
sh ./kStandaloneDeploy.sh
```

5. The script asks you to provide the `.zip` file name. Type the relative or absolute path to the `deployStandalone.zip` file.

The `kStandaloneDeploy.sh` script does the following:

- Removes any server cluster-related files
 - Unzips the `deployStandalone.zip`
 - Runs the `kUpdateHtml.sh` script.
6. After the script run is completed, run the `kStart.sh` script to start the PPM Server.

Note: For information about the `kStart.sh` script, see the *Installation and Administration Guide*.

Switching from Stand-Alone to Server Cluster Configuration

To switch from a stand-alone to a server cluster deployment:

1. Stop the PPM Server. (For instructions, see the *Installation and Administration Guide*.)
2. Navigate to the `<PPM_Home>/ppm920/archives` directory and locate the `deployCluster.zip` file.

3. Open the `<PPM_Home>/bin/server.conf` file in a text editor, and check to make sure it contains all of the following server cluster-related port parameters, and that they are uncommented:
 - `PPM_CLUSTER_NAMING_SERVICE_RMI_PORT`
 - `PPM_CLUSTER_NAMING_SERVICE_BINDING_PORT`
 - `PPM_CLUSTER_WEBSERVICE_PORT`
 - `PPM_CLUSTER_JRMP_INVOKER_RMI_PORT`
 - `PPM_CLUSTER_POOLED_INVOKER_BINDING_PORT`
 - `PPM_CLUSTER_HAJNDI_RMI_PORT`
 - `PPM_CLUSTER_HAJNDI_BINDING_PORT`
 - `PPM_CLUSTER_POOLEDHA_BINDING_PORT`
 - `PPM_CLUSTER_JMX_RMI_PORT`
 - `PPM_CLUSTER_UIL2_BINDING_PORT`
4. Save and close the `server.conf` file.
5. From the `<PPM_Home>/bin` directory, run the following command:

```
sh ./kClusterDeploy.sh
```
6. The script asks you to provide the `.zip` file name. Type the relative or absolute path to the `deployCluster.zip` file.
7. Complete the PPM Server cluster environment setup as described in the *Installation and Administration Guide*.
8. After the script run is completed, run the `kStart.sh` script to start the PPM Server.

Contacting Support

If you encounter any problems, or have questions about the upgrade, visit the HP Software Support Web site (hp.com/go/hpssoftwaresupport).

We appreciate your feedback!

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Upgrade Guide (Project and Portfolio Management Center 9.20)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to HPSW-BTO-PPM-SHIE@hp.com.