

HP Project and Portfolio Management Center

Software Version: 9.22

System Requirements and Compatibility Matrix

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- Software Version number, which indicates the software version.
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The following table indicates changes made to this document since the last released edition.

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- 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

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To find more information about access levels, go to:

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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>

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Chapter 1: Introduction

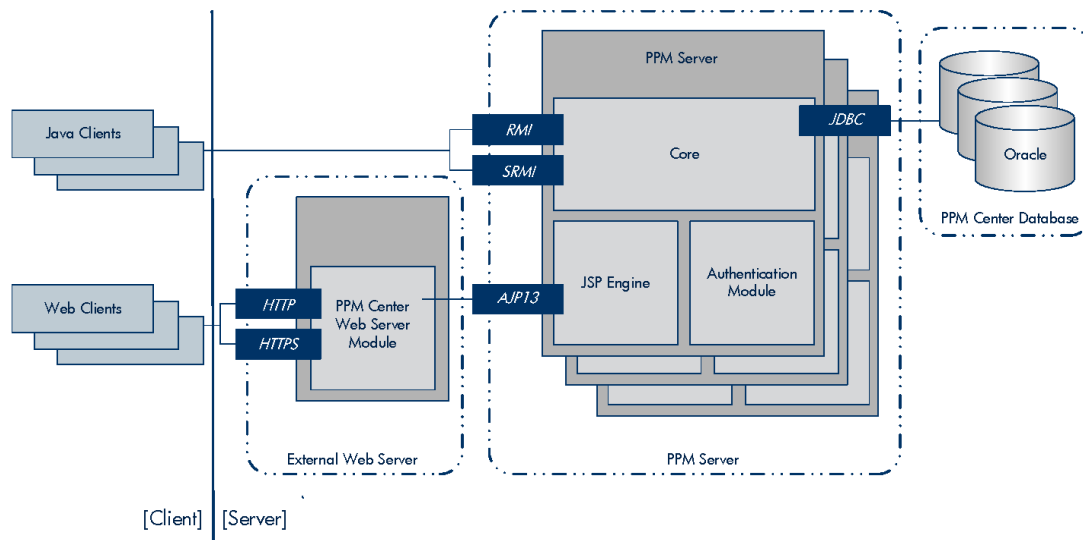
Welcome to Project and Portfolio Management Center (PPM Center). The goal of this document is to provide you with the details that will allow you to understand the hardware and software options available for your deployment of PPM Center.

This document provides the details about the environments and products supported by HP for this version of PPM Center. Additionally, this guide identifies required third-party software as well as software that can be used to enable optional features, functionality, and topologies.

An Overview of the PPM Center Architecture

PPM Center employs a three-tier, client-server architecture as shown in the following conceptual diagram. Refer to the *Installation and Administration Guide* for details about the available system configuration options.

PPM Center architecture



"[Client-Side Products and Environments](#)" on page 9 provides details about the requirements and optional software used in the client tier. These components are identified in the client-side (left) portion of the figure above.

"[Server-Side Products and Environments](#)" on page 15 focuses on the hardware and software requirements for the application and database tiers. The major components of these tiers are identified the server-side (right) portion of the figure above.

In addition the application and database tier components, the server-side chapter also provides details about the optional Web server component.

Although not shown in the previous figure, PPM Center is able to integrate with most industry standard single sign-on systems such as CA SiteMinder version 6.0.

Note: HP will support single sign-on integration to the extent that the HP API is used for this purpose. HP will provide logging information so that customers and third-party vendors can troubleshoot the integration themselves. HP will not set up the third-party system for debugging purposes. HP does not commit to changing any HP-produced code should the integration fail.

["HP Migrator and Extension Products and Environments"](#) on page 45 details the third-party software supported for the PPM Center Extensions and Migrators.

["Using PPM Center with HP Software and Other Software"](#) on page 51 details support requirements for the PPM Center integration products.

provides details on the platforms and products that have been desupported with the release of this software version.

An Overview of Language Support

The PPM Center software must be installed (or upgraded) and maintained on servers relying on either an English-language or Japanese-language operating system. Installation of language packs provide the appropriate language content for the principal areas of the PPM Center user interface and entities. PPM Center clients should use one of the languages deployed on the PPM Center instance.

The following language packs are available with the initial release of the product and are included in the installation bundle:

- English (en)
- Russian (ru)
- Portuguese (pt_BR)
- Spanish (es)
- Chinese (zh_CN)
- German (de)
- French (fr)
- Korean (ko)
- Turkish (tr)
- Italian (it)
- Japanese (ja)
- Dutch (nl)

The following language pack is added after the initial release of the product and is included in the updated Language Pack bundle:

- Swedish (sv) (released in January 2014)
- Arabic (ar) (released in May 2014)

Note: Language codes (abbreviations) may need to be used when generating fiscal periods, translating customized entities, or identifying language-specific paths on the PPM Server. Make sure that you use the language codes shown in parentheses in the previous list and that the specified language is installed on PPM Center.

Note: From version 7.5 to version 9.2x, PPM Center integrations with other HP Software products or third-party products will not work if language packs are applied.

However, the following integration solutions available since PPM Center version 9.20 support multiple languages:

- The View Project Quality integration solution
- The integration between PPM Center tasks and HP Agile Manager

Even if the integrated product is an English-only instance, PPM Center can still retrieve data, but displays the data in English.

Related Information

Selected information from the following documents can assist you with your planning and deployment activities:

- *Installation and Administration Guide*

This guide includes initial product installation procedures as well as configuration, operation, maintenance, migration, and performance information.

In particular, 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*

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.

- *HP Solution Integrations Guide*

This document describes how to configure and use integrations of PPM Center with other HP products.

- *Release Notes*

These documents provide late-breaking information that may affect your installation and deployment of PPM Center.

These guides include initial product installation procedures as well as configuration, operation, maintenance, migration, and performance information.

Note: Before any installation, read the Release Notes for the version you are installing and or the Release Notes for the patch being applied.

Chapter 2: Client-Side Products and Environments

The following sections provide information about Web client environment requirements for both the PPM Center standard interface and the PPM Workbench as well as support for optional, third-party, client-based products.

Platform and Browser Requirements

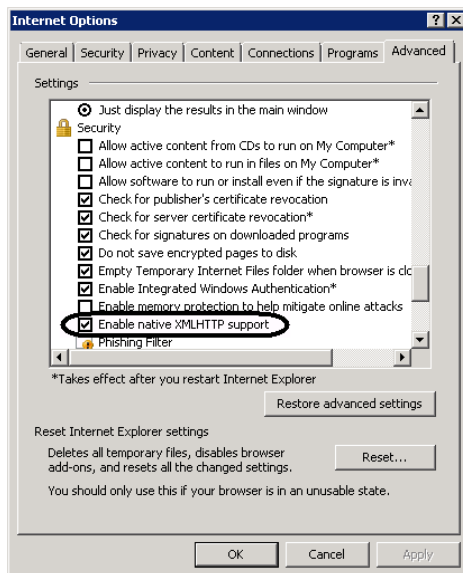
Note: These are minimum requirements. Additional performance enhancing options, such as additional RAM/memory, may be desired.

Client requirements include the following:

- **Operating system**
 - Microsoft® Vista® Business/Enterprise Edition SP2 (both 32- and 64-bit)
 - Microsoft® Windows® 7 Enterprise Edition (both 32- and 64-bit)
 - Microsoft® Windows® 8 Enterprise Edition (both 32- and 64-bit)
- **Mobile operating system for PPM Mobility Accelerator**
 - Windows Mobile 6.1
 - Blackberry OS 4.6.0.167
 - Symbian OS 9.3
- **Mobile operating system for PPM Apps**
 - iOS 4.0 and above
 - Android 2.2 and above
- **Hardware**
 - 1.0 GHz (or faster) processor
 - RAM

- At least 512 MB
- For PPM Workbench, at least 1 GB
- **Tablet computer**
The following tablet computer as PPM Center client:
 - iPad 2 with iOS 5 or later
 - iPad 3 with iOS 5.1 or later
 - iPad 4 with iOS 6 or later
 - HP ElitePad
- **Adobe® Acrobat Reader 5.0 (or later)**
- **Browsers**
 - Microsoft Internet Explorer 7.0 (32-bit)
 - Enable native XMLHTTP support

Access this setting using **Tools > Internet Options > Advanced Tab > Security (Section)**.



- Microsoft Internet Explorer 8.0 (32-bit)

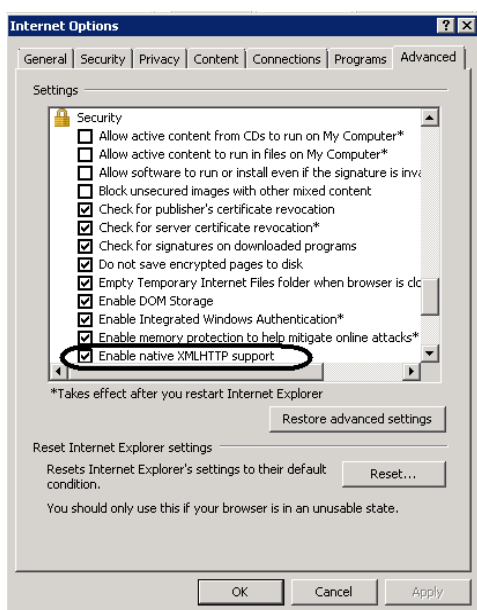
- Enable native XMLHTTP support

Access this setting using **Tools > Internet Options > Advanced Tab > Security (Section)**.

- Microsoft Internet Explorer 9.0 (both 32-bit and 64-bit)

- Enable native XMLHTTP support

Access this setting using **Tools > Internet Options > Advanced Tab > Security (Section)**.



Note: If using Internet Explorer, to achieve optimal viewing and application performance, HP recommends you use Internet Explorer 9.0.

- Microsoft Internet Explorer 10 (compatible mode ONLY) on the following PPM Center client platforms:

- Microsoft® Windows® 7 Enterprise Edition (both 32-bit and 64-bit)
- Microsoft® Windows® 8 Enterprise Edition (both 32-bit and 64-bit)

Note: Starting from PPM Center 9.22.0007, Microsoft Internet Explorer 11 (compatible mode ONLY) is supported.

- Mozilla Firefox 11

Note: Starting from PPM Center 9.22.0005, Mozilla Firefox versions from 11 to 31.2 ESR are supported.

Multilingual User Interface Support

To support the languages listed in "[An Overview of Language Support](#)" on page 6, clients should be configured with at least one of the languages as that installed on the PPM Center instance.

For example, if your PPM Center instance has only the French language pack installed, all clients that access this instance should be configured to use French.

PPM Workbench Requirements

Java™ Plug-In Requirements

Access to the PPM Workbench requires an appropriate version of the Oracle Java plug-in installed.

Supported versions include:

- Java 7 Update 11 (7u11) (32-bit and 64-bit) for all supported browsers

The Java plug-in is automatically installed the first time a user accesses the PPM Workbench.

Disk Space Requirements

User machines that access the PPM Workbench require 40 MB of disk space more than is required by the browser. This space is required to store client-side Java files.

Optional Products

This section lists the optional products that can be used with this version of PPM Center.

Microsoft Project

HP Project Management supports the following versions of Microsoft Project:

- Microsoft Office Project Standard 2007 SP2 (both 32- and 64-bit)
- Microsoft Office Project Professional 2007 SP2 (both 32- and 64-bit)
(single-user or connected to Microsoft Office Project Server 2007)
- Microsoft Office Project Standard 2010 (both 32- and 64-bit)
- Microsoft Office Project Professional 2010 (both 32- and 64-bit)
(single-user or connected to Microsoft Office Project Server 2010)

Note: Starting from PPM Center 9.22.0001, the following Microsoft Project versions are supported:

- Microsoft Project Standard 2013 (both 32- and 64-bit)
- Microsoft Project Professional 2013 (both 32- and 64-bit)
(single-user or connected to Microsoft Office Project Server 2013)

For more information about using Microsoft Project with HP Project Management, see the *HP Project Management User's Guide*.

Visual Studio Tools for Office (VSTO)

- Version 3.0 for Microsoft Project 2007 and 2010

Microsoft Office Primary Interop Assemblies for Microsoft Project

- Version 2007 for Microsoft Project 2007
- Version 2010 for Microsoft Project 2010

Microsoft Excel

The following versions of Microsoft Excel are supported:

- Microsoft Office Excel 2007 SP1
- Microsoft Office Excel 2010
- Microsoft Office Excel 2013

Microsoft .NET Framework

- Microsoft .NET Framework version 3.5 or later

Language Support

The optional products should use the corresponding language of the client (and supported on the PPM Center instance).

For example, if your PPM Center instance has the French language pack installed, clients with a French session language should use French for their optional software products.

Note: Do not attempt to use PPM Center with software products that have a mix of languages, such as a PPM Center instance supporting English, Korean, and French interacting with a German client having an Italian version of Excel software. All the software products used in your PPM Center client should rely on the same language, and this language must also be supported on the

PPM Center instance.

Chapter 3: Server-Side Products and Environments

HP PPM Center Software Platform Support

Support is limited to the software and versions specifically mentioned in this document unless otherwise noted.

Third Party Software Platform Support

Third party platform support information provided in this document does NOT supersede anything provided by the third party vendors. Please make sure that all third party software and platform combinations used in conjunction with PPM Center are supported by the respective vendors, and that the combinations are supported by HP. HP is not responsible for any discrepancies involving support platforms for third party products.

The following sections list the requirements for the PPM Center server-side components. Details specific to each component are documented in their own section. For your convenience the information is further categorized by platform and each section includes additional important information and considerations, if necessary.

Important Considerations

Carefully consider each of the following during your planning and deployment phases of PPM Center:

- **Oracle® Support**

- All installed Oracle versions should include the most recent patches and follow the guidelines provided in the latest *Critical Patch Update*. This information is available from <https://metalink.oracle.com>.

Throughout this guide, any Oracle patches or similar updates that are critical for PPM Center support are noted.

- Standard Edition One, as well as the Standard and Enterprise Editions of the Oracle database versions are supported.
- HP supports 32-bit and 64-bit Oracle for the versions and operating systems supported by PPM Center. These are subject to the hardware and operating system requirements established by Oracle.

- **Operating System Support**

- Support for each operating system version assumes that the appropriate patch or patches have been applied to support the Java JDK installation on that system.
- On x86 platforms, the distinction is made whether HP supports the 32- or 64-bit version of the operating system (Windows or Linux). On other platforms such as Oracle SPARC, IBM Power4/5, and HP PA-RISC or Itanium®, HP does support their respective 64-bit UNIX® operating system.

- **VMware Support**

- Where VMware ESX Server (on x86 platforms) is supported, this version of PPM Center is expected to function properly in virtual environments for which HP has explicitly stated support; however, there may be functional and performance implications. HP will not require customers to re-create and troubleshoot every issue in a non-VMware environment; however, HP does reserve the right to request that customers diagnose certain issues in a native supported operating system environment without the virtual environment. HP will only make this request when there is reason to believe that the virtual environment is a contributing factor to the issue. If the issue cannot be reproduced in a supported non-virtual environment, customers will need to refer their issues to VMware. VMware-specific problems must be handled by the customer and VMware.

- **HP Integrity Virtual Machine**

- Project and Portfolio Management Center for HP-UX 11i Integrity is binary compatible to run within an HP Integrity Virtual Machine (VM).

- **Language Support**

- The language for the operating system used for both the PPM Server and database must be either English or Japanese regardless of the languages deployed on the PPM Center instance.

Limitation: If Japanese is the default language of Java Virtual Machine, the email notification is displayed in Japanese even though the log-in language is English. Therefore, when the PPM instance is on a platform whose operating system language is Japanese, you must explicitly specify English as the default language of Java Virtual Machine.

To do so, change `<PPM_HOME>/bin/kStart.sh` by adding the line: `SERVER_OPTION="$SERVER_OPTION -Duser.language=en -Duser.country=US"` after the following:

```
if [ "$OS_NAME" = "AIX" ]; then
    SERVER_OPTION=""
else
    SERVER_OPTION="-server"
fi
```

- Implementation of the various languages on the PPM Center instance may require additional configuration and maintenance.

- National language support is available for the Managing Application Change integration software and the Migrators and Extensions on a limited basis—see the appropriate product documentation for details.

PPM Server Platforms

Microsoft Platforms

Operating System	Requirements	Additional Information
Platform		
<p>One of the following:</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2003, Standard and Enterprise Edition (both 32- and 64-bit) • Microsoft Windows Server 2003, Standard and Enterprise Edition (both 32- and 64-bit) • Microsoft Windows Server 2003 SP1, Standard and Enterprise Edition (32-bit only) • Microsoft Windows Server 2003 SP2, Standard and Enterprise Edition (both 32- and 64-bit) • Microsoft Windows Server 2003 R2, Standard and Enterprise Edition (both 32- and 64-bit) • Microsoft Windows Server 2003 R2 SP2, Standard and Enterprise Edition (both 32- and 64-bit) • Microsoft Windows Server 2008, SPs 1 through 2, Standard, Enterprise, and Datacenter Edition (64-bit) • Microsoft Windows Server, 2008 R2, Standard and Enterprise Edition (64-bit) 	<p>All of the following:</p> <ul style="list-style-type: none"> • x86 and compatible chip architectures (1.5 GHz) • 2 GB RAM • 1 GB disk space 	<ul style="list-style-type: none"> • These are minimum requirements—faster processors and additional memory and storage are acceptable. • See "Hardware Sizing Estimates" on page 31 for additional considerations. • Limits on physical memory for 32-bit Windows operating systems depend in part on whether the Physical Address Extension (PAE) is enabled. The PAE allows some 32-bit Windows systems (Windows Server 2008 Datacenter and Windows Server 2008 Enterprise) to use more than 4 GB of physical memory. (To enable PAE, use the /PAE switch in the <code>Boot.ini</code> file.) Because PAE is not available for Windows Server 2003 32-bit Standard Edition, the total available physical RAM on this system is limited to 4 GB. For detailed information about memory support and memory limitations on Windows operating systems, see Microsoft Support online.
<p>When installed on an x86 VMware ESX Server version 4.1 partition or VMware ESXi Server version 5.0 partition, one of the following:</p> <ul style="list-style-type: none"> • All Microsoft operating systems previously identified in this table 	<p>All of the following:</p> <ul style="list-style-type: none"> • x86 and compatible chip architectures (1.5 GHz) • 3 GB RAM • 1 GB disk space for installed files • 400 MB temporary space for installation files 	<ul style="list-style-type: none"> • These are minimum requirements—faster processors and additional memory and storage are acceptable. • Remote Management of ESX is required. • For system sizing impact, contact HP Software Support (hp.com/go/hpssoftwaresupport).

Operating System	Requirements	Additional Information
JDK Software		
All Microsoft operating systems previously identified in this table, except as described in the row below	The following: <ul style="list-style-type: none"> • Java SE Development Kit (JDK) 7u3 (1.7.0 Update 3) or later (available from Oracle) 	
Communications Software		
All Microsoft operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • Microsoft Windows Services for UNIX versions 3.0 and 3.5 • Microsoft Telnet Services 	
Secure Communications Software		
For: <ul style="list-style-type: none"> • All previously identified Microsoft Windows Server 2003-based versions 	One of the following: <ul style="list-style-type: none"> • OpenSSH (included in Cygwin) <ul style="list-style-type: none"> ■ Version 4.5p1 ■ Version 4.6p1 ■ Version 4.7p1 ■ Version 4.9p1 ■ Version 5.1p1 • VanDyke (VShell Server) <ul style="list-style-type: none"> ■ Version 2.6 ■ Version 3.0 ■ Version 3.5 ■ Version 3.6.2 	During Cygwin installation, use the following settings: <ul style="list-style-type: none"> • Select All Users for the Install For field • Select Dos/text for the Default Text File Type field
For: <ul style="list-style-type: none"> • All previously identified Microsoft Windows Server 2008-based versions 	One of the following: <ul style="list-style-type: none"> • OpenSSH (included in Cygwin) <ul style="list-style-type: none"> ■ Version 4.5p1 ■ Version 4.6p1 ■ Version 4.7p1 ■ Version 4.9p1 ■ Version 5.x • VanDyke (VShell Server) <ul style="list-style-type: none"> ■ Version 2.6 ■ Version 3.0 ■ Version 3.5 ■ Version 3.6.2 	
Terminal Emulation Software		

Operating System	Requirements	Additional Information
All Microsoft operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • "Dumb" mode • VT100 mode • VT220 mode 	
Other Software		
All Microsoft operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • SQL*Net • SQL*Plus 	<ul style="list-style-type: none"> • The Oracle client version should correspond to the version of the database used with the PPM Center instance. • SQL*Net must be configured to recognize the connection string of the Oracle database that contains the PPM Center database schema. • Oracle Java virtual machine (OracleJVM) must be enabled for PPM Center. For more information, see the Installation and Administration Guide or the <i>Upgrade Guide</i>.
All Microsoft operating systems previously identified in this table	(Optional) The following: <ul style="list-style-type: none"> • Email application configuration 	<ul style="list-style-type: none"> • If you are planning to use notifications, an email application is needed. See "Email Server Requirements" on page 31 for details.
All Microsoft operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • Bourne shell 	<ul style="list-style-type: none"> • This software is included in the Cygwin utilities. • The Bourne shell (bash) must be available on both the source and destination servers.

Oracle Platforms

Operating System	Requirements	Additional Information
Platform		
One of the following: <ul style="list-style-type: none"> • Oracle Solaris 10, Updates 1 through 8 (Sparc) • Oracle Solaris 11 (Sparc) 	All of the following: <ul style="list-style-type: none"> • UltraSPARC III (1050 MHz) • 2 GB RAM • 1 GB disk space • 400 MB temp space • 300 MB on root partition (for installation only) The following packages (or later versions) are required for Oracle database 11g R2 for Oracle Solaris 10: <ul style="list-style-type: none"> • SUNWarc • SUNWbtool • SUNWhea • SUNWlibC • SUNWlibm • SUNWlibms • SUNWspot • SUNWtoo • SUNWi1of • SUNWi1cs (ISO8859-1) • SUNWi15cs (ISO8859-15) • SUNWxwfont • SUNWcsl 	<ul style="list-style-type: none"> • These are minimum requirements—faster processors and additional memory and storage are acceptable. • See "Hardware Sizing Estimates" on page 31 for additional considerations.
One of the following: <ul style="list-style-type: none"> • Oracle Enterprise Linux (OEL) 5 (RHEL Clone) • Oracle Enterprise Linux (OEL) 6 (RHEL Clone) 	All of the following: <ul style="list-style-type: none"> • x86, x86_64 • 1 GB RAM (minimum) 	These are minimum requirements—faster processors and additional memory and storage are acceptable.
JDK Software		
All Oracle operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • Java SE Development Kit (JDK) 7u3 (1.7.0 Update 3) or later (available from Oracle) 	
Secure Communications Software		

Operating System	Requirements	Additional Information
For: <ul style="list-style-type: none"> • All previously identified Oracle Solaris 10-based versions • Oracle Solaris 11 	One of the following: <ul style="list-style-type: none"> • SSH-2.0_Sun_SSH_1.1 • OpenSSH version 4.6p1 • OpenSSH version 4.7p1 • OpenSSH version 4.9p1 • OpenSSH version 5.9 • Reflection for Secure IT for Unix v7.1 	
Terminal Emulation Software		
All Oracle operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • "Dumb" mode • VT100 mode • VT220 mode 	
Other Software		
All Oracle operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • SQL*Net • SQL*Plus 	<ul style="list-style-type: none"> • The Oracle client version should correspond to the version of the database used with the PPM Center instance. • SQL*Net must be configured to recognize the connection string of the Oracle database that contains the PPM Center database schema. • Oracle Java virtual machine (OracleJVM) must be enabled for PPM Center. For more information, see the <i>Installation and Administration Guide</i> or the <i>Upgrade Guide</i>.
All Oracle operating systems previously identified in this table	(Optional) The following: <ul style="list-style-type: none"> • Email application configuration 	If you are planning to use notifications, an email application is needed. See " Email Server Requirements " on page 31 for details.
All Oracle operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • Bourne shell 	The Bourne shell is available by default on most UNIX systems. However, in some environments, it might be not configured or enabled. Check with your UNIX system administrator to make sure that the Bourne shell is available and configured on your system.

HP Platforms

Operating System	Requirements	Additional Information
Platform		
One of the following: <ul style="list-style-type: none"> HP-UX 11i v2 (B.11.23) (IA64) (64-bit) HP-UX 11i v3 (B.11.31) (IA64) (64-bit) 	All of the following: <ul style="list-style-type: none"> Itanium 2 (1.4 GHz) 2 GB RAM 1 GB disk space 400 MB temp space 300 MB on root partition (for installation only) 	<ul style="list-style-type: none"> These are minimum requirements—faster processors and additional memory and storage are acceptable. See "Hardware Sizing Estimates" on page 31 for additional considerations.
When using the Integrity VM, one of the following: <ul style="list-style-type: none"> HP-UX 11i v2 (B.11.23) (IA64) (64-bit) HP-UX 11i v3 (B.11.31) (IA64) (64-bit) 		
JDK Software		
All HP operating systems previously identified in this table	The following: <ul style="list-style-type: none"> HP-UX 11i Java Development Kit (JDK) for the Java 2 Platform Standard Edition 7 (Java SE 7) version 7.0.01 (7.0 Update 1) or later (available from HP) 	
Secure Communications Software		
All HP operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> OpenSSH version 4.2p1 OpenSSH version 4.3p2 OpenSSH version 4.4p1 OpenSSH version 4.7p1 OpenSSH version 4.9p1 OpenSSH version 5.9 Reflection for Secure IT for Unix v7.1 	
Terminal Emulation Software		
All HP operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> "Dumb" mode VT100 mode VT220 mode 	
Other Software		

Operating System	Requirements	Additional Information
All HP operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • SQL*Net • SQL*Plus 	<ul style="list-style-type: none"> • The Oracle client version should correspond to the version of the database used with the PPM Center instance. • SQL*Net must be configured to recognize the connection string of the Oracle database that contains the PPM Center database schema. • Oracle Java virtual machine (OracleJVM) must be enabled for PPM Center. For more information, see the Installation and Administration Guide or the <i>Upgrade Guide</i>.
All HP operating systems previously identified in this table	(Optional) The following: <ul style="list-style-type: none"> • Email application configuration 	If you are planning to use notifications, an email application is needed. See " Email Server Requirements " on page 31 for details.
All HP operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • Bourne shell 	The Bourne shell is available by default on most UNIX systems. However, in some environments, it might be not configured or enabled. Check with your UNIX system administrator to make sure that the Bourne shell is available and configured on your system.

IBM Platforms

Operating System	Requirements	Additional Information
Platform		
<p>The following:</p> <ul style="list-style-type: none"> IBM AIX version 6.1 	<p>All of the following:</p> <ul style="list-style-type: none"> POWER4™ / POWER5™ / POWER7® (both 32- and 64-bit) 2 GB RAM 1 GB disk space 400 MB temp space 300 MB on root partition (for installation only) <p>The following operating system filesets are required for AIX 6.1:</p> <ul style="list-style-type: none"> bos.adt.base bos.adt.lib bos.adt.libm bos.perf.libperfstat 6.1.2.1 or later bos.perf.perfstat bos.perf.proctools xlC.aix61.rte.10.1.0.0 or later xlC.rte.10.1.0.0 or later gpfs.base 3.2.1.8 or later 	<ul style="list-style-type: none"> These are minimum requirements—faster processors and additional memory and storage are acceptable. See "Hardware Sizing Estimates" on page 31 for additional considerations.
<p>The following:</p> <ul style="list-style-type: none"> IBM AIX version 7.1 	<p>All of the following:</p> <ul style="list-style-type: none"> POWER4™ / PPC970 / POWER5™ / POWER6® / POWER7® (both 32- and 64-bit) 2 GB RAM 1 GB disk space 400 MB temp space 300 MB on root partition (for installation only) <p>The following operating system filesets are required for AIX 7.1:</p> <ul style="list-style-type: none"> bos.adt.base bos.adt.lib bos.adt.libm bos.perf.libperfstat bos.perf.perfstat bos.perf.proctools xlC.aix61.rte.10.1.0.0 or later xlC.rte.10.1.0.0 or later gpfs.base 3.3.0.11 or later 	<ul style="list-style-type: none"> These are minimum requirements—faster processors and additional memory and storage are acceptable. See "Hardware Sizing Estimates" on page 31 for additional considerations.
JDK Software		

Operating System	Requirements	Additional Information
All IBM operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • Java SE Version 7 (32-bit and 64-bit) (available from IBM) 	
Secure Communications Software		
For: <ul style="list-style-type: none"> • IBM AIX version 6.1 • IBM AIX version 7.1 	One of the following: <ul style="list-style-type: none"> • OpenSSH version 4.1p1 • OpenSSH version 4.3p2 • OpenSSH version 4.4p1 • OpenSSH version 4.5p1 • OpenSSH version 4.6p1 • OpenSSH version 4.7p1 • OpenSSH version 4.9p1 • OpenSSH version 5.9 • Reflection for Secure IT for Unix v7.1 	
Terminal Emulation Software		
All IBM operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • "Dumb" mode • VT100 mode • VT220 mode 	
Other Software		
All IBM operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • SQL*Net • SQL*Plus 	<ul style="list-style-type: none"> • The Oracle client version should correspond to the version of the database used with the PPM Center instance. • SQL*Net must be configured to recognize the connection string of the Oracle database that contains the PPM Center database schema. • Oracle Java virtual machine (OracleJVM) must be enabled for PPM Center. For more information, see the <i>Installation and Administration Guide</i> or the <i>Upgrade Guide</i>.
All IBM operating systems previously identified in this table	(Optional) The following: <ul style="list-style-type: none"> • Email application configuration 	If you are planning to use notifications, an email application is needed. See "Email Server Requirements" on page 31 for details.

Operating System	Requirements	Additional Information
All IBM operating systems previously identified in this table	The following: <ul style="list-style-type: none"><li data-bbox="581 344 753 373">• Bourne shell	The Bourne shell is available by default on most UNIX systems. However, in some environments, it might be not configured or enabled. Check with your UNIX system administrator to make sure that the Bourne shell is available and configured on your system.

Red Hat Platforms

Operating System	Requirements	Additional Information
Platform		
One of the following: <ul style="list-style-type: none"> Red Hat Enterprise Linux Advanced Platform 5.0 (both 32- and 64-bit) Red Hat Enterprise Linux 6 (both 32- and 64-bit) 	All of the following: <ul style="list-style-type: none"> x86 and compatible chip architectures (1.5 GHz) 2 GB RAM 1 GB disk space 400 MB temp space 300 MB on root partition (for installation only) 	<ul style="list-style-type: none"> These are minimum requirements—faster processors and additional memory and storage are acceptable. See "Hardware Sizing Estimates" on page 31 for additional considerations.
When installed on an x86 VMware ESX Server version 4.1 partition or VMware ESXi Server version 5.0 partition, one of the following: <ul style="list-style-type: none"> Red Hat Enterprise Linux Advanced Platform 5.0 (both 32- and 64-bit) Red Hat Enterprise Linux 6 (both 32- and 64-bit) 	All of the following: <ul style="list-style-type: none"> x86 and compatible chip architectures (1.5 GHz) 3 GB RAM 1 GB disk space for installed files 400 MB temporary space for installation files 300 MB on root partition (for installation only) 	<ul style="list-style-type: none"> These are minimum requirements—faster processors and additional memory and storage are acceptable. Remote Management of ESX is required. For system sizing impact, contact HP Software Support (hp.com/go/hpssoftwaresupport)
The following on HP Cloud Services environment: <ul style="list-style-type: none"> CentOS 6 Server (64-bit) 		Note: This is the only operating system PPM Center version 9.22 is certified for when running a PPM server in the HP Cloud Services environment.
JDK Software		
All Red Hat operating systems previously identified in this table	The following: <ul style="list-style-type: none"> Java SE Development Kit (JDK) 7u3 (1.7.0 Update 3) or later (available from Oracle) 	
Secure Communications Software		

Operating System	Requirements	Additional Information
All Red Hat operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • OpenSSH version 4.3p2 (included with the product bundle from Red Hat, Inc.) • OpenSSH version 4.4p1 • OpenSSH version 4.5p1 • OpenSSH version 4.6p1 • OpenSSH version 4.7p1 • OpenSSH version 4.9p1 • OpenSSH version 5.9 • Reflection for Secure IT for Unix v7.1 	
Terminal Emulation Software		
All Red Hat operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • "Dumb" mode • VT100 mode • VT220 mode 	
Other Software		
All Red Hat operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • SQL*Net • SQL*Plus 	<ul style="list-style-type: none"> • The Oracle client version should correspond to the version of the database used with the PPM Center instance. • SQL*Net must be configured to recognize the connection string of the Oracle database that contains the PPM Center database schema. • Oracle Java virtual machine (OracleJVM) must be enabled for PPM Center. For more information, see the <i>Installation and Administration Guide</i> or the <i>Upgrade Guide</i>.
All Red Hat operating systems previously identified in this table	(Optional) The following: <ul style="list-style-type: none"> • Email application configuration 	If you are planning to use notifications, an email application is needed. See "Email Server Requirements" on page 31 for details.
All Red Hat operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • Bourne shell 	The Bourne shell is available by default on most UNIX systems. However, in some environments, it might be not configured or enabled. Check with your UNIX system administrator to make sure that the Bourne shell is available and configured on your system.

SUSE Platforms

Operating System	Requirements	Additional Information
Platform		
One of the following: <ul style="list-style-type: none"> SUSE Linux Enterprise Server 10 (both 32- and 64-bit) SUSE Linux Enterprise Server 11 (both 32- and 64-bit) 	All of the following: <ul style="list-style-type: none"> x86 and compatible chip architectures (1.5 GHz) 2 GB RAM 1 GB disk space 400 MB temp space 300 MB on root partition (for installation only) 	<ul style="list-style-type: none"> These are minimum requirements—faster processors and additional memory and storage are acceptable. See "Hardware Sizing Estimates" on the next page for additional considerations.
When installed on an x86 VMware ESX Server version 4.1 partition or VMware ESXi Server version 5.0 partition, one of the following: <ul style="list-style-type: none"> All SUSE Linux operating systems previously identified in this table 	All of the following: <ul style="list-style-type: none"> x86 and compatible chip architectures (1.5 GHz) 3 GB RAM 1 GB disk space 400 MB temp space 300 MB on root partition (for installation only) 	<ul style="list-style-type: none"> These are minimum requirements—faster processors and additional memory and storage are acceptable. Remote Management of ESX is required. For system sizing impact, contact HP Software Support (hp.com/go/hpsoftwaresupport)
JDK Software		
All SUSE Linux operating systems previously identified in this table	The following: <ul style="list-style-type: none"> Java SE Development Kit (JDK) 7u3 (1.7.0 Update 3) or later (available from Oracle) 	
Secure Communications Software		
For: <ul style="list-style-type: none"> SUSE Linux Enterprise Server 10 (both 32- and 64-bit) SUSE Linux Enterprise Server 11 (both 32- and 64-bit) 	One of the following: <ul style="list-style-type: none"> OpenSSH version 4.1p1 (SUSE Linux Enterprise Server 10 only) OpenSSH version 4.3p1 OpenSSH version 4.3p2 OpenSSH version 4.4p1 OpenSSH version 4.5p1 OpenSSH version 4.6p1 OpenSSH version 4.7p1 OpenSSH version 4.9p1 OpenSSH version 5.9 Reflection for Secure IT for Unix v7.1 	
Terminal Emulation Software		

Operating System	Requirements	Additional Information
All SUSE Linux operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • "Dumb" mode • VT100 mode • VT220 mode 	
Other Software		
All SUSE Linux operating systems previously identified in this table	One of the following: <ul style="list-style-type: none"> • SQL*Net • SQL*Plus 	<ul style="list-style-type: none"> • The Oracle client version should correspond to the version of the database used with the PPM Center instance. • SQL*Net must be configured to recognize the connection string of the Oracle database that contains the PPM Center database schema. • Oracle Java virtual machine (OracleJVM) must be enabled for PPM Center. For more information, see the <i>Installation and Administration Guide</i> or the <i>Upgrade Guide</i>.
All SUSE Linux operating systems previously identified in this table	(Optional) The following: <ul style="list-style-type: none"> • Email application configuration 	If you are planning to use notifications, an email application is needed. See "Email Server Requirements" below for details.
All SUSE Linux operating systems previously identified in this table	The following: <ul style="list-style-type: none"> • Bourne shell 	The Bourne shell is available by default on most UNIX systems. However, in some environments, it might be not configured or enabled. Check with your UNIX system administrator to make sure that the Bourne shell is available and configured on your system.

Hardware Sizing Estimates

The hardware specifications provided in this guide are the minimum requirements for a valid PPM Center production installation. The requirements as they apply to each installation will vary based on the number of users, volume of activity, and type of activity. HP will conduct hardware assessments for customers at appropriate stages of the implementation. Contact HP Software Support (hp.com/go/hpssoftwaresupport) for a detailed assessment.

Email Server Requirements

An email server is required if you are planning to use notifications. PPM Center can send email notifications to identify pending actions or to notify users of status changes for various packages, requests, and tasks.

PPM Center can integrate with any SMTP-compliant mail server, including Microsoft Exchange, UNIX sendmail, and others. For example, the following Microsoft Exchange Server versions are supported:

- Microsoft Exchange Server 2007
- Microsoft Exchange Server 2010

To work with these third-party products, the PPM Server needs the IP address of the email server and the logon name of one or more valid users on the email server, which the PPM Server uses as "from" addresses for its notifications.

For information about configuring the email server, see the *Installation and Administration Guide*.

PPM Center Database Requirements

The following Oracle database versions are supported on all PPM Server platforms:

- Oracle 11.2.0.2, Standard and Enterprise Edition (RAC and Non-RAC)
- Oracle 11.2.0.3, Standard and Enterprise Edition (RAC and Non-RAC)
- Oracle 11.2.0.4, Standard and Enterprise Edition (RAC and Non-RAC)

Note: Because Oracle Enterprise DB Server is not supported on VMware, PPM Center does not work with Oracle Enterprise DB Server on VMware.

For sizing information for database-based DMS solutions, see "[Database Sizing](#)" on page 40.

For details about server requirements, see Oracle documentation specific to your operating system in the Oracle Database Documentation Library (http://www.oracle.com/pls/db112/portal.portal_db?selected=11&frame=).

For information on periodic database maintenance tasks, see the Oracle Database Administrator's Guide.

Database Character Sets

The table below lists the database character sets supported for English-language deployments of this version of PPM Center.

Code	Description
US7ASCII	ASCII 7-bit U.S. America
WE8ISO8859P1	ISO 8859-1 Western Europe
WE8ISO8859P9	ISO 8859-9

Code	Description
WE8ISO8859P15	ISO 8859-15
WE8MSWIN1252	Microsoft Windows code page 1252 8-bit Western Europe
UTF8	Unicode 3.0 UTF-8
AL32UTF8	Unicode 3.0 UTF-8 Note: For new PPM Center installations, make sure you ALWAYS use AL32UTF8.

You should also specify:

- AL32UTF8 for NLS_CHARACTERSET
- AL16UTF16 for NLS_NCHAR_CHARACTERSET

Single Sign-On and Authentication

The following Single Sign-On (SSO) and authentication software products are supported for this version of PPM Center:

- NTLM version 2 (Microsoft Windows operating systems only)
- Any LDAP v3.0-compliant Server
 - LDAP + SSL
 - LDAP (special mode)
- SiteMinder 6.x
- SiteMinder 12

Operational Reporting Solution

Note: If there are any discrepancies between the information in this section and the Release Notes for Operational Reporting Content Pack 1.3, the information in the Release Notes shall prevail.

BusinessObjects Software

The Operational Reporting Content Pack 1.3 for PPM Center requires the following version of BusinessObjects software:

- SAP BusinessObjects Enterprise XI 3.1 with Service Pack 5 Fix Pack 3 (BOE XI 3.1 SP5 FP3)

If you are first-time users, install BusinessObjects Enterprise XI 3.1 Service Pack 5 (BOE XI 3.1 SP5) directly, then upgrade to BOE XI 3.1 SP5 FP3.

Existing users shall follow the supported upgrade sequences described in the table below:

Current Version	Supported Upgrade Sequence
BOE XI 3.1 SP2	BOE XI 3.1 SP2 > BOE XI 3.1 SP4 > BOE XI 3.1 SP5 > BOE XI 3.1 SP5 FP3
BOE XI 3.1 SP4 FP1	BOE XI 3.1 SP4 FP1 > BOE XI 3.1 SP5 > BOE XI 3.1 SP5 FP3

Compatibility Matrix

Compatibility matrix between the Operational Reporting solution and SAP BusinessObjects Enterprise XI 3.1

Operational Reporting Solution Version	SAP BusinessObjects Enterprise XI 3.1 Version		
	BOE XI 3.1 SP2	BOE XI 3.1 SP4 FP1	BOE XI 3.1 SP5 FP3
9.10 (GA)	X		
9.12 Content Pack 1	X		
Content Pack 1.1	X	X	
Content Pack 1.2	X	X	
Content Pack 1.3			X

Compatibility matrix between the Operational Reporting solution and PPM Center

Operational Reporting Solution Version	PPM Center Version				
	8.0x	9.10	9.11	9.12~9.14	9.20
9.10 (GA)		X			
9.12 Content Pack 1			X	X	
Content Pack 1.1				X	

Operational Reporting Solution Version	PPM Center Version				
	8.0x	9.10	9.11	9.12~9.14	9.20
Content Pack 1.2				X	
Content Pack 1.3				X	X

Supported Operational Reporting Solution Installation and Upgrade Paths

The Operational Reporting Content Pack 1.3 for PPM Center package contains an install bundle and an upgrade bundle. Therefore, it supports the following installation and upgrade paths:

- **Fresh installation.** For new users of the Operational Reporting solution, they can install Content Pack 1.3 directly, as this version contains everything since version 9.10 (GA) of the Operational Reporting solution.
- **Upgrade.** The following upgrade paths are supported:

From version	To version
9.10 (GA)	Content Pack 1.3
9.12 Content Pack 1	Content Pack 1.3
Content Pack 1.	Content Pack 1.3
Content Pack 1.2	Content Pack 1.3

For detailed instructions about fresh installation and upgrade, see the *Operational Reporting Administrator's Guide for Content Pack 1.3*.

BusinessObjects Server Requirements

BusinessObjects Enterprise XI 3.1 SP5 is supported for the following operating systems:

- Windows
- Linux
- HP-UX
- IBM AIX
- Oracle Solaris

For detailed information on your hardware and software requirements,

- Visit the SAP BusinessObjects Articles page (<https://www.sdn.sap.com/irj/boc/articles>), and then go to **BI Platform > SUPPORTED PLATFORMS/PARS > SAP BUSINESSOBJECTS**

ENTERPRISE XI 3.1. Or,

- Visit the SAP Indirect Client Knowledge Center to access all BusinessObjects documentation. The SAP Indirect Client Knowledge Center requires that you register a user ID. To register for a user ID, go to the [Request Your User ID for the BusinessObjects Indirect Client Knowledge Center](#) page.
Or,
- Find all the BusinessObjects user guides here:
http://help.sap.com/boall_en/

Note: The table below provides server platforms that are also supported by PPM Center version 9.20. If an independent machine is to be used to host BusinessObjects server, other versions of operating systems may also be used. For more details, see SAP documentation specific to your operating system.

Business Object server platforms

Server Platforms	Versions Supported
Microsoft Platforms	One of the following: <ul style="list-style-type: none"> • Microsoft Windows Server 2003 SP2 (both 32- and 64-bit) • Microsoft Windows Server 2003 R2 SP2 (both 32- and 64-bit) • Microsoft Windows Server 2008 (both 32- and 64-bit) • Microsoft Windows Server 2008 SP2 (both 32- and 64-bit) • Microsoft Windows Server 2008 R2 (both 32- and 64-bit)
Oracle Platforms	The following: <ul style="list-style-type: none"> • Solaris 10 (SPARC)
HP Platforms	One of the following: <ul style="list-style-type: none"> • HP-UX 11.23 (IA64) • HP-UX 11.31 (IA64)
IBM Platforms	The following: <ul style="list-style-type: none"> • IBM AIX 6.1 • IBM AIX 7.1

Server Platforms	Versions Supported
Red Hat Platforms	One of the following: <ul style="list-style-type: none">• Red Hat Linux Enterprise Advanced Platform Server 5• Red Hat Linux Enterprise Server 6
SuSE Platforms	One of the following: <ul style="list-style-type: none">• SuSE Linux Enterprise Server 10• SuSE Linux Enterprise Server 11

BusinessObjects Database Client Software

Requirements and recommendations for setting up the database for Operational Reporting are as follows:

- HP strongly recommends that you create an Oracle database specifically for Operational Reporting (independent of your PPM Center database instance), and for better performance, install the database on a separate instance (independent of any other databases or applications), with Oracle Block Size (DB_BLOCK_SIZE) set to 32k.

HP also recommends that the Operational Reporting database be preferably configured with OLAP Settings.

- HP strongly recommends that you use the Enterprise Edition of Oracle Database for the Operational Reporting database. The advanced compression and partitioning featured in the Enterprise Edition significantly improve performance, especially if you report on a large and growing volume of data.
- Make sure that you configure the Operational Reporting database to use the same encoding as that for PPM Center database, and add the following MLU database parameters with appropriate values:
 - NLS_LENGTH_SEMANTICS = CHAR (same setting for both the Operational Reporting database and the PPM Center database)
 - NLS_CHARACTERSET = <Same value as that for PPM Center Database>
 - NLS_NCHAR_CHARACTERSET = <Same value as that for PPM Center Database>

BusinessObjects Database

- Oracle 11.2.0.2, Standard/Enterprise Edition (RAC and Non-RAC)
- Oracle 11.2.0.3, Standard/Enterprise Edition (RAC and Non-RAC)

Note: Because Oracle Enterprise DB Server is not supported on VMware, PPM Center (including the Operational Reporting solution) does not work with Oracle Enterprise DB Server on VMware.

Check <https://metalink.oracle.com> for any necessary patches or configuration changes.

BusinessObjects Database Clients

- Minimum requirement for SQL*Plus client on the BO instance
 - 11.1.0.7
- Oracle Client to be deployed on the BO server host machine
 - Recommend Oracle client Ver 11.x (although Ver 10.x is supported)

External Web Servers

PPM Center comes with an internal Web server to handle HTTP requirements in many implementations.

External Web servers are required in the following situations:

- PPM Center is deployed as a cluster configuration and you do not want to use a hardware load balancer to distribute the load.
- HTTPS is required to access PPM Center.
- PPM Server is running on a UNIX platform and the HTTP port number must be lower than 1024.
- Integration with a single sign-on system that utilizes the PPM Center Web Server Module (such as CA SiteMinder) is desired.

An external Web server does not have to be installed on the same machine as the PPM Server. The optional Web servers supported by HP are listed in the table below

For information about configuring an external Web server (as well as setting up a cluster environment), see the *Installation and Administration Guide*.

Web Server support

Operating System	Requirements
Microsoft Platforms	

Operating System	Requirements
For: <ul style="list-style-type: none"> • Microsoft Windows Server 2003 (both 32- and 64-bit) • Microsoft Windows Server 2003 SP2 (both 32- and 64-bit) • Microsoft Windows Server 2003 R2, SPs 1 through 2 (both 32- and 64-bit) 	One of the following: <ul style="list-style-type: none"> • Apache HTTP 2.2 (32-bit only)
For: <ul style="list-style-type: none"> • Microsoft Windows Server 2008, SPs 1 through 2 (both 32- and 64-bit) 	The following: <ul style="list-style-type: none"> • Microsoft IIS 7.0 (32-bit only)
For: <ul style="list-style-type: none"> • Microsoft Windows Server 2008, SPs 1 through 2 (64-bit only) 	The following: <ul style="list-style-type: none"> • Apache HTTP 2.2 (32-bit only)
For: <ul style="list-style-type: none"> • Microsoft Windows Server 2008 R2 (64-bit) 	The following: <ul style="list-style-type: none"> • Microsoft IIS 7.5 (64-bit only)
Oracle Platforms	
For: <ul style="list-style-type: none"> • Oracle Solaris (SPARC-32) 	One of the following: <ul style="list-style-type: none"> • Sun Java System Web Server 6.1 (GA and Updates 1 through 9) (32-bit only) • Sun Java System Web Server 7.0 (GA and Updates 1 through 2) (32-bit only)
For: <ul style="list-style-type: none"> • Oracle Solaris 10, Updates 1 through 8 (PA-RISC/Itanium) • Oracle Solaris 11 	One of the following: <ul style="list-style-type: none"> • Sun Java System Web Server 6.1 (GA and Updates 1 through 9) (64-bit only) • Sun Java System Web Server 7.0 (GA and Updates 1 through 2) (64-bit only)
HP Platforms	
For: <ul style="list-style-type: none"> • HP-UX 11i v2 • HP-UX 11i v3 	The following: <ul style="list-style-type: none"> • Apache HTTP Server 2.2 (32-bit only on 64-bit HP-UX)
IBM Platforms	

Operating System	Requirements
For: <ul style="list-style-type: none"> IBM AIX version 6.1 IBM AIX version 7.0 	The following: <ul style="list-style-type: none"> IBM HTTP Server (IHS) version 6.1.0 (32-bit only) (available from IBM) IBM HTTP Server 7.0 (both 32-bit and 64-bit) (available from IBM)
Red Hat Platforms	
For: <ul style="list-style-type: none"> Red Hat Enterprise Linux Advanced Platform 5.0, Updates 1 through 6 (both 32- and 64-bit) 	The following: <ul style="list-style-type: none"> Apache HTTP Server 2.2 (both 32- and 64-bit)
SUSE Platforms	
For: <ul style="list-style-type: none"> SUSE Linux Enterprise Server 10, SPs 1 through 3 (both 32- and 64-bit) SUSE Linux Enterprise Server 11 (both 32- and 64-bit) 	The following: <ul style="list-style-type: none"> Apache HTTP Server 2.2 (both 32- and 64-bit)

Document Management System Solutions

The HP document management system (DMS) is remodelled to fully leverage your current Oracle databases—either a PPM Center-dedicated database or an external database on your network.

Note: Even though any Oracle version supporting Oracle TEXT indexes should work as an external DMS database, HP only certified the solution with the same Oracle versions as are currently supported by PPM Center.

For detailed system requirements and supportability matrices for the database-based DMS solutions (PPM Center Database DMS or PPM Center External Database DMS), see ["PPM Server Platforms" on page 18](#) and ["PPM Center Database Requirements" on page 32](#).

Database Sizing

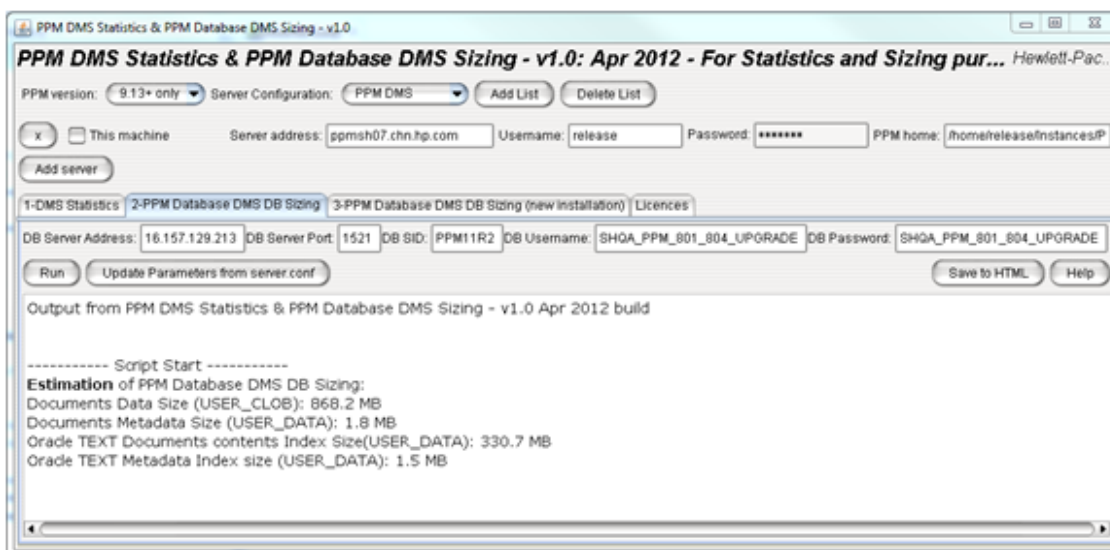
The only sizing impact of using PPM Center Database DMS or PPM Center External Database DMS is in your Database Server, as everything happens in the database.

Database Disk Space

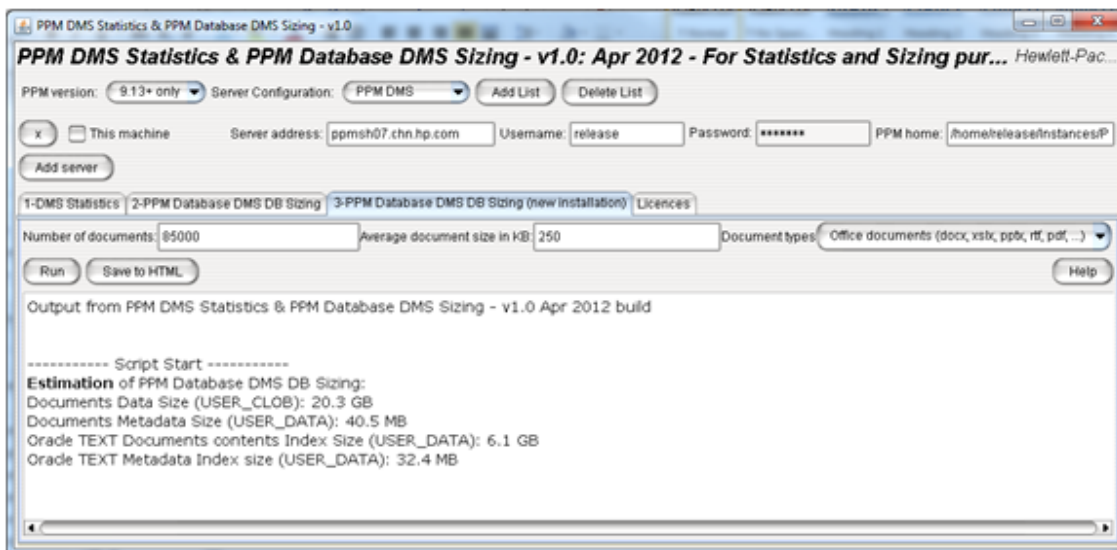
The database disk space consumed by PPM Center Database DMS or PPM Center External Database DMS can be split into three different parts:

- Space taken up by Document contents (about equal to total documents size)
- Space taken up by Documents metadata (proportional to number of documents and propensity of PPM users to input lengthy documents descriptions, key words, and version comments).
- Space taken up by TEXT Indexes
 - Index on document contents, proportional to total size and types of documents (index on pure text file such as a logs file might take more space than the file itself, while index on a picture file, even very large, does not take any space as no text content can be extracted from the picture).
 - Index on text metadata, proportional to the size of metadata (as all indexed metadata is text and can be indexed).

The PPM DMS Statistics & PPM Database DMS Sizing tool available from HP Support automatically estimates the extra disk space needed in database to migrate an existing PPM Server environment to either of the database-based DMS solution. The tool computes estimates based on quantity of documents, total size of documents, and types of documents. All this information are retrieved from the KNTA_DOCUMENTS table of PPM Center database.



The tool can also provide estimates for new PPM Center installations, based on user's input on planned usage of documents in PPM Center (estimated total number and size of documents, text concentration of stored documents).



Customer Case

Here is an example of Database Space consumption from an existing PPM Center customer who used a Documentum-based DMS solution previously. ["Customer documents statistics"](#) below lists customer documents statistics, and ["Customer Case: Document repartition by type"](#) below lists detailed document repartition information.

Customer documents statistics

Item	Statistics
Total number of documents	128,853
Average number of versions per document	1.003
Maximum number of versions for a document	8
Total number of documents versions	129,221
Cumulated size of all documents versions (estimated)	32,056 MB
Document repartition by type	See the table below

Customer Case: Document repartition by type

Document Type	Text Content	Files Count	Cumulated total size (MB)
RTF	Medium	2,175	10,513
MSG	Medium	49,088	6,507
DOC	Medium	21,767	4,684
TXT	High	14,365	3,367

Document Type	Text Content	Files Count	Cumulated total size (MB)
XLS	Medium	5,457	1,500
PDF	Medium	8,634	1,399
ZIP	Unknown	864	797
XLSX	Medium	1,248	650
DOCX	Medium	2,604	649
BMP	None	302	386
none	Unknown	1,922	342
HTM	High	16,783	319
TIF	None	667	242
REP	Unknown	22	141
EXE	None	21	76
DOT	Medium	126	57
JPG	None	349	54
MDB	Medium	2	48
SQL	High	782	27
PPT	Medium	13	21
Other	Unknown	2,030	278

Text-only documents contain high level text contents, Microsoft Office documents contain medium level text contents, and images as well as binary documents contain practically no text content. This is reflected in the document contents index size.

Text Index creation time: ~ 6 hours (on a 2-instance RAC server with 4 x Dual Core CPU Intel(R) Xeon (R) E5540 @ 2.53GHz per instance).

Disk space consumed by PPM Center Database DMS:

Item	Disk Space Consumed (MB)
Documents binary contents (BLOB Columns)	32,041
DMS Tables without BLOB columns (not including KNTA_DOCUMENTS):	30
Total Metadata Indexes	21.7
Document Contents Indexes	6,011

As you can see, the size of document contents index (~6 GB) accounts for almost 20 percent of the documents contents size (~32 GB). This is a relatively ratio, which can be explained by the large amount of office documents in the customer's attachments.

It might be possible that the index size is larger than the document contents if all the attachments are pure text files (such as .txt, .sql, and .log files).

Caution: The BLOB columns containing the documents are appearing slightly smaller than the estimated total size of documents (15 MB smaller). The reason is that the total size of the documents is an estimation, computed using "Versions count * file size of latest version" for each document. It appears that the earlier versions of documents are smaller in size in average, resulting in the observed discrepancy.

Database Server CPU

If you have no plan to enable full-text search (or more precisely, if you do not need to create TEXT indexes), there is virtually no impact on database CPU, as reading and writing documents contents to database are mainly I/O intensive operations.

If you do create TEXT indexes, but schedule them to be updated only out of peak hours, there should be no need to consider an upgrade of DB Server CPU based on standard PPM Center sizings.

However, if you are using frequent index updates, or use SYNC (ON COMMIT) indexes for real time indexing, a CPU upgrade of your DB Server might be necessary, especially if your PPM Center users tend to store a large amount of text intensive files in PPM Center (more than 1 GB of new documents per week, with peak document activity concentrated on a few hours in the week).

Chapter 4: HP Migrator and Extension Products and Environments

The system requirements provided in the following sections are in addition to the requirements for this version of PPM Center.

These supplemental products are available in English language only.

Migrators

Application Requirements

Various versions of PPM Center support particular combinations of Object Migrator, GL Migrator, and the following Oracle E-Business Suite Releases:

- 11i (11.5.7 through 11.5.10.2 (CU2))
- Release 12 (12.0.0 through 12.1.3)

Note: Oracle no longer supports Oracle E-Business Suite Release 11 or Releases 11.5.1 through 11.5.6 (which are early releases of 11i), so HP no longer supports use of PPM Center Extensions, GL Migrator, or Object Migrator with those releases.

Each unshaded cell in "[Migrators](#)" above lists the versions of PPM Center that support the combination of Oracle E-Business Suite release (in a table row) and a migrator (in a table column). Combinations that are *not* supported on any version of PPM Center are shown in the lightly shaded table cells. In a cell, "8.0x" represents PPM Center version 8.00 with or without any of its service packs, and "9.1x" represents PPM Center version 9.10 with or without any of its service packs.

Oracle E-Business Suite Release	Kintana Object* Migrator Version 5.1	Mercury Object Migrator Version 6.0	HP Object Migrator Version 7.5	Mercury GL Migrator Version 6.0	HP GL Migrator Version 9.12
11.5.7 Application Object Library: FND.E Applications DBA: AD.F Common Modules: AK.D Financials Suite: Family Pack A	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	8.0x, 9.1x, 9.2x

Oracle E-Business Suite Release	Kintana Object* Migrator Version 5.1	Mercury Object Migrator Version 6.0	HP Object Migrator Version 7.5	Mercury GL Migrator Version 6.0	HP GL Migrator Version 9.12
11.5.8 Application Object Library: FND.F Applications DBA: AD.G Common Modules: AK.E Financials Suite: Family Pack C	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	8.0x, 9.1x, 9.2x
11.5.9 ^a Application Object Library: FND.G Applications DBA: AD.H Common Modules: AK.F Financials Suite: Family Pack D	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	8.0x, 9.1x, 9.2x
11.5.10 with FND.H Mini Pack ^{b, c} Application Object Library: FND.H Applications DBA: AD.I Common Modules: AK.G Financials Suite: Family Pack F		7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	8.0x, 9.1x, 9.2x
11.5.10.2 (CU2) ^{c, d} Application Object Library: FND.H Applications DBA: AD.I.6 Common Modules: AK.G Financials Suite: Family Pack F		7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	7.5, 8.0x, 9.1x, 9.2x	8.0x, 9.1x, 9.2x
12.0.0 through 12.1.3 ^e Applications Technology: R12.ATG_PF.A through R12.ATG_PF.B.DELTA.3 Applications DBA: R12.AD.A through R12.AD.B.DELTA.3			7.5, 8.0x, 9.1x, 9.2x		8.0x ^f , 9.1x ^f , 9.2x Important: See footnote f.
<p>a. 11.5.8 with the FND.G Mini Pack is functionally equivalent to 11.5.9.</p> <p>b. 11.5.8-11.5.9 with the FND.H Mini Pack is functionally equivalent to 11.5.10 (for Object Migrator). 11.5.8-11.5.9 with the Financials Family Pack F is functionally equivalent to 11.5.10 (for GL Migrator).</p> <p>c. Support for the Oracle Applications E-Business Suite version 11.5.10 with the 10G database version requires installation of patch 154770. See the HP Object Migrator Version 6.0 Database version 10G Compatibility Patch (#154770) readme for details.</p> <p>d. See the HP Object Migrator Oracle Apps Version 11.5.10.2 Compatibility Patch (#174141) readme for details.</p> <p>e. HP Object Migrator version 7.5 requires patch PPMC_00090 in order to work with Oracle E-Business Suite Release 12.1.2 or later.</p> <p>f. Using PPM Center version 8.0x with Oracle Release 12.1.3 (or later) and HP GL Migrator version 9.12 requires patch PPMC_00097 for HP Deployment Management Extension for Oracle E-Business Suite version 8.00. Using PPM Center version 9.1x with Oracle Release 12.1.3 (or later) and HP GL Migrator version 9.12 requires patch PPMC_00098 for HP Deployment Management Extension for Oracle E-Business Suite version 9.10.</p>					

File and Table Space Requirements

The following table lists the file and table space requirements for HP Object Migrator. The table space sizings may vary widely depending on your database version, configuration, and the number of entities you have under version control.

HP Object Migrator file and table space requirements

Item	Required Space	Recommended Space
Install bundle	30 MB (temporary)	35 MB (temporary)
Install scripts	5 MB	
Programs (.rdf files)	1.5 MB per program 30 MB total	
Interface tables	30 MB	60 MB
Indexes on interface tables	20 MB	30 MB
Archive tables and indexes	30 MB See " Archive Tables " below.	60 MB

Archive Tables

When saving an object to the object archive, HP Object Migrator takes the entire definition of the entity and stores it in special archive tables. The growth of these archive tables directly corresponds to the number of objects and the number of versions put into these tables. For some objects, complexity and size may also be a factor.

If you plan to periodically store versions of entire groups of objects rather than only objects that change, then more table space will be required than the recommended 30 MB. HP recommends starting with a 30 MB allocation and then adding table space as needed.

HP Deployment Management Extension for Oracle E-Business Suite

This version of PPM Center used with HP Deployment Management Extension for Oracle E-Business Suite supports the following Oracle E-Business Suite releases:

- 11.5.7
 - Application Object Library: FND.E
 - Applications DBA: AD.F
 - Common Modules: AK.D
 - Financials Suite: Family Pack A

- 11.5.8
 - Application Object Library: FND.F
 - Applications DBA: AD.G
 - Common Modules: AK.E
 - Financials Suite: Family Pack C

- 11.5.9
 - Application Object Library: FND.G
 - Applications DBA: AD.H
 - Common Modules: AK.F
 - Financials Suite: Family Pack D

- 11.5.10
 - Application Object Library: FND.H
 - Applications DBA:AD.I
 - Common Modules: AK.G
 - Financials Suite: Family Pack F

- 11.5.10.2 (CU2)
 - Application Object Library: FND.H
 - Applications DBA: AD.I.6
 - Common Modules: AK.G
 - Financials Suite: Family Pack F

- Release 12.0.0–12.1.3
 - Applications Technology:
R12.ATG_PF.A through R12.ATG_PF.B.DELTA.3

 - Applications DBA: R12.A through R12.AD.B.DELTA.3

Note:

- 11.5.8 with the FND.G Mini Pack is functionally equivalent to 11.5.9.
- 11.5.8-11.5.9 with the FND.H Mini Pack is functionally equivalent to 11.5.10 (for Object Migrator).
- 11.5.8-11.5.9 with the Financial Family Pack is functionally equivalent to 11.5.10 (for GL Migrator).

HP Deployment Management Extension for Oracle Technology

This version of PPM Center used with HP Deployment Management Extension for Oracle Technology supports:

- Versions of Oracle tools that support Oracle database 9i, 10g, 11, or 12
- Oracle Developer 2000, Developer 6i, or Developer 10g

HP Deployment Management Extension for SAP Solutions

This version of PPM Center used with HP Deployment Management Extension for SAP Solutions supports the following:

- Basis 4.6B/4.6C
 - SAP R/3 4.6B/4.6C
- Basis 4.6D
 - APO 3.10
- Web Application Server 6.20
 - R/3 4.7
- NetWeaver 6.40
 - ECC 5.0.0
 - BW 3.50
 - CRM 4.0.0
 - EP 6.0
- NetWeaver 7.00
 - ECC 6.0.0

Note: BC Sets and patching are supported on the NetWeaver 6.40 (or later) platform only. All other functionality is supported on all platforms.

Chapter 5: Using PPM Center with HP Software and Other Software

PPM Center supports integration with the following HP products and versions:

PPM Center integration solutions compatibility matrix (PPM Center as leading center)

Integration Solution	Integrates with	Supported Version
Application Lifecycle Management Change Request to RFC (PPM Center - SM)	HP Service Manager	Service Manager: <ul style="list-style-type: none"> • 7.10, 7.11 • 9.20, 9.21 • 9.30, 9.31, 9.32 <p>Note: For this integration, HP supports integrating one PPM Center instance with multiple Service Manager instances at the same version.</p>
Create RFC from work plan (PPM Center - SM)	HP Service Manager	Service Manager: <ul style="list-style-type: none"> • 7.10, 7.11 • 9.20, 9.21 • 9.30, 9.31, 9.32
Request to Requirement / Defect (PPM Center - QC/ALM)	HP Quality Center / HP Application Lifecycle Management	HP Quality Center: <ul style="list-style-type: none"> • 10.00 ^a HP Application Lifecycle Management: <ul style="list-style-type: none"> • 11.00, 11.20, 11.50, 11.52
View Project Quality (PPM Center - ALM)	HP Application Lifecycle Management	HP Application Lifecycle Management: <ul style="list-style-type: none"> • 11.00, 11.20, 11.50, 11.52
Agile Integration Solution (PPM Center - HP Agile Manager)	HP Agile Manager	HP Agile Manager: <ul style="list-style-type: none"> • 1.00 • 1.10

Integration Solution	Integrates with	Supported Version
Select CI (PPM Center - UCMDB)	Universal CMDB	Universal CMDB: <ul style="list-style-type: none"> • 8.00~8.07 • 9.00~9.05 • 10.x
Retrieve Service List (PPM Center - UCMDB)	Universal CMDB	Universal CMDB: <ul style="list-style-type: none"> • 8.00~8.07 • 9.00~9.05 • 10.x
Center Management for Quality Center (PPM Center - QC/ALM)	HP Quality Center / HP Application Lifecycle Management	HP Quality Center: <ul style="list-style-type: none"> • 10.00 HP Application Lifecycle Management: <ul style="list-style-type: none"> • 11.00

a. PPM Center-Quality Center Integration Tool version 1.7.<xxx> is required to integrate PPM Center with Quality Center version 10.00. This tool is not used to integrate PPM Center with HP ALM version 11.00 or later. The integration tool is provided with PPM Center software.

The computer on which the integration tool runs must support Microsoft .NET Framework version 3.5 Service Pack 1.

PPM Center integration solutions compatibility matrix
 (PPM Center as non-leading center)

Integration Solution	Integrates with	Supported Version
RC CCM-PPM (RC - PPM Center)	Release Control	Release Control: <ul style="list-style-type: none"> • 9.13 • 9.20
Service Catalog to Project Proposal (SM - PPM Center)	HP Service Manager	Service Manager: <ul style="list-style-type: none"> • 7.10, 7.11 • 9.20, 9.21 • 9.31
Extract, transform, and load Cost, Budget, Business data (FPA - PPM Center)	Financial Planning and Analysis	Financial Planning and Analysis: <ul style="list-style-type: none"> • 9.10, 9.11 • 9.20, 9.21
Investment Project Cost Tracking (AM - PPM Center)	Asset Manager, Connect-It	Asset Manager: <ul style="list-style-type: none"> • 9.30 • 9.31

Integration Solution	Integrates with	Supported Version
Executive Scorecard import project and financial data from PPM (XS - PPM Center)	IT Executive Scorecard	IT Executive Scorecard: <ul style="list-style-type: none"><li data-bbox="976 344 1117 373">• 9.00~9.03<li data-bbox="976 378 1052 407">• 9.30

For detailed information about the integration solutions with PPM Center as the leading product, see the *HP Solution Integrations Guide*.

For detailed information about the Center Management for Quality Center integration solution, see *HP Center Management for Quality Center Guide*.

For detailed information about the integration solutions with other products as the leading product, see documentation for the corresponding product.

Chapter 6: Desupported Platforms and Products

The following products are no longer used with this version of PPM Center.

This information is relevant to customers upgrading to this version from version 9.10. You will need to plan your upgrade such that replacements for any of these desupported platforms or products is completed prior to performing your PPM Center upgrade.

If you are upgrading from a version prior to version 9.10, incremental upgrades are necessary (for example: version 7.5 to 8.00, followed by 8.00 to 9.10, then 9.10 to 9.20, and finally 9.20 to 9.22). These interim upgrades potentially include their own collection of desupported platforms or products; therefore, consult the system requirements documents for these versions to ensure the best result for your overall upgrade process.

Server Environment

Desupported components of the PPM Server are listed in the following sections.

Platforms

The following platforms are no longer supported:

- Microsoft Windows Server 2003 SP1, Standard and Enterprise Edition (64-bit)
- Microsoft Windows 2008 SP2 Enterprise Edition on Hyper-V (32-bit)
- HP-UX 11i v1
- HP-UX 11i v2 (B.11.23) (PA-RISC)
- Oracle Solaris 9, Updates 1 through 7 (Sparc)
- IBM AIX 5L version 5.3 (POWER4 / POWER5)
- Red Hat Enterprise Linux AS 4.0, Updates 1 through 8 (both 32- and 64-bit)
- Red Hat Enterprise Linux AS 4.0, Updates 1 through 8 (Hyper-V) (64-bit)
- SUSE Linux Enterprise Server 9, SPs1 through 4 (both 32- and 64-bit)

Databases

The following databases are no longer supported (or may never have been supported). Only the versions specified in "[Server-Side Products and Environments](#)" on page 15 are supported in this version.

- Oracle version 11.2.0.1 or earlier, Standard/Enterprise Edition (RAC and Non-RAC)
- Oracle versions 11.1.0.7, 11.2.0.1, and 11.2.0.2 for Documentum
- Oracle versions 11.1.0.7 and 11.2.0.1 for Operation Reporting

JDK Software

The following versions of JDK are no longer supported:

- Java Platform Standard Edition 6 Development Kit (JDK) 1.6.0_07 (6.0 Update 7) or later (32-bit)
- HP-UX Java Development Kit (JDK) for the Java 2 Platform Standard Edition 6 (Java SE 6) (32-bit) (available from HP)
 - Version 6.0.02 (6.0 Update 2) or later
 - Version 6.0.03 (6.0 Update 3) or later
- Java(TM) SE Runtime Environment (build pap3260sr7-20091215_02(SR7)) IBM J9 VM (build 2.4, JRE 1.6.0 IBM J9 2.4 AIX ppc-32 jvmap3260sr7-20091214_49398)

Web Servers

The following Web servers are no longer supported on the specified platforms:

- Sun Java System Web Server 5 on Solaris platforms
- IBM HTTP Server (IHS) version 2.0.47.1 for AIX platforms
- VMware ESX Server 2.5, 3.0, 3.5, 4.0 on Microsoft, Red Hat, and SUSE platforms
- Microsoft IIS 6.0 (both 32- and 64-bit)
- Apache HTTP 2.0 (32-bit)

Microsoft Exchange Server

The following version of Microsoft Exchange Server is no longer supported:

- Microsoft Exchange Server 2003

SSH Software

The following versions of secure shell software are no longer supported on the specified platforms:

- OpenSSH version 4.2 and 4.3p2 for Microsoft platforms
- OpenSSH version 4.1p1 and 4.3p2 for Sun platforms
- OpenSSH version 4.1p1 for HP platforms
- OpenSSH version 4.1p1 on Red Hat AS4 platforms
- OpenSSH version 4.3p1 on Red Hat AS5 platforms
- OpenSSH version 4.1p1 for SUSE 9 platforms

Document Management

The following document management product are no longer supported:

- Documentum Foundation Classes, versions 6.5, 6.5 SP1, 6.5 SP2
- Documentum Content Server 6.5
- Documentum Index Server 6.5

Operational Reporting

The following version of BOE software is no longer supported:

- BusinessObjects Enterprise XI 3.1 with Service Pack 2 (BO XI 3.1 SP2)

Client Environment

Desupported products for the client environment are listed in the following sections.

Platforms

The following platforms are no longer supported:

- Microsoft® Windows® XP Professional SP2 (64-bit)
- Microsoft® Windows® XP Professional SP3 (both 32- and 64-bit)
- Microsoft® Vista Business and Enterprise Edition SP0
- Microsoft® Vista Business and Enterprise Edition SP1

Browsers

The following browsers are no longer supported:

- Mozilla Firefox 2.2
- Mozilla Firefox 3.0, 3.5, and 3.6
- Microsoft Internet Explorer 6.0

Java™ Plug-In

The following versions of Java™ plug-in are no longer supported:

- 1.6.0_07 (6.0 update 7) or later (32-bit)
- 1.6.0_19 (6.0 update 19) or later (32-bit) for Mozilla FireFox 3.6

Microsoft Project

The following Microsoft Project products are no longer supported:

- Microsoft Project Professional 2003 SP3
(single-user or connected to Microsoft Office Project Server 2003)
- Microsoft Office Project Standard 2007 SP1
- Microsoft Office Project Professional 2007 SP1
(single-user or connected to Microsoft Office Project Server 2007)

Microsoft Office Primary Interop Assemblies for Microsoft Project

The following Microsoft Office Primary Interop Assemblies product is no longer supported:

- Version 2003 for Microsoft Project 2003

Microsoft Excel

The following Microsoft Excel product is no longer supported:

- Microsoft Office Excel 2003 SP3

Other Products

The following products are no longer supported:

- CA SiteMinder 5.5
- Kintana GL*Migrator version 2.0
- For use with HP Deployment Management Extension for Oracle E-Business Suite, with any version of Object Migrator, or with any version of GL Migrator, the following Oracle E-Business Suite releases, which Oracle no longer supports:
 - Release 11
 - Releases 11.5.1 through 11.5.6 (which are early releases of 11i)

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Feedback on System Requirements and Compatibility Matrix (Project and Portfolio Management Center 9.22)

Just add your feedback to the email and click send.

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