

# HP Universal CMDB

For the Windows and Red Hat Enterprise Linux operating systems

Software Version: 9.05

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## Support Matrix

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This product includes the XPP3 XMLPull parser included in the distribution and used throughout JiBX, from Extreme! Lab, Indiana University.

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## Documentation Updates

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

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## Server Hardware Requirements

Component	Requirement
Computer/processor	<p><b>Windows/Linux:</b></p> <p>To fulfill the CPU requirements, you must have one of the following:</p> <ul style="list-style-type: none"><li>• Intel Dual Core Xeon Processor 2.4 GHz or later</li><li>• AMD Opteron Dual Core Processor 2.4 GHz or later</li></ul> <p>In addition to the above requirements, you must have the following number of CPU Cores, depending on your deployment configuration:</p> <ul style="list-style-type: none"><li>• Small deployment: 1 CPU</li><li>• Standard deployment: 4 CPU</li><li>• Enterprise deployment: 8 CPUs</li></ul> <p><b>Note:</b> As HP Universal CMDB performance is dependent upon processor speed, to ensure proper HP Universal CMDB performance, it is recommended that you use the fastest possible processor speed.</p>
Memory	<p><b>Windows/Linux:</b></p> <ul style="list-style-type: none"><li>• Small deployment: 4 GB RAM</li><li>• Standard deployment: 8 GB RAM</li><li>• Enterprise deployment: 16 GB RAM</li></ul>

Component	Requirement
Memory swap file	<p><b>Windows:</b></p> <ul style="list-style-type: none"> <li>• Small deployment: 6 GB (Supported)</li> <li>• Standard deployment: 12 GB</li> <li>• Enterprise deployment: 24 GB</li> </ul> <p><b>Linux:</b></p> <ul style="list-style-type: none"> <li>• Small deployment: 4 GB (Supported)</li> <li>• Standard deployment: 8 GB</li> <li>• Enterprise deployment: 16 GB</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• The virtual memory for Windows should be at least 1.5 times the size of the physical memory.</li> <li>• The Linux swap file size should be equal in size to the physical memory.</li> </ul>
Free hard disk space	Minimum 30 GB (for logs, memory dumps, and so on)
Display	<b>Windows:</b> Color palette setting of at least 256 colors (recommended: 32,000 colors)

## Server Software Requirements

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows 2003	Enterprise SP2 and R2 SP2 64-bit	Yes	
x86-64	Windows 2008	Enterprise SP2, R2, and R2 SP1 64-bit	Yes	Yes
x86-64	Windows 2008	Standard R2 and R2 SP1 64-bit	Yes	
x86-64	Red Hat Linux 5	Enterprise/Advanced 64-bit	Yes	
Any	SUSE Linux 9, 10, 11	Enterprise	No	
x86	Windows 2000, 2003/2008		No	64-bit required
Sun SPARC	Solaris 8, 9, or 10		No	
Any	Red Hat Linux 3, 4	Enterprise	No	
Itanium 64	Red Hat Linux 5	Enterprise/Advanced	No	



**Note:**

- Unsupported configurations are listed to ensure that there is no ambiguity on the scope of the Support Matrix.
- It is recommended that Dr. Watson be enabled and configured in automatic mode (after running Dr. Watson, Drwtsn32.exe, at least once). To set up automatic mode, search for **\\HKEY\_LOCAL\_MACHINE\\Software\\Microsoft\\Windows NT\\CurrentVersion\\AeDebug** in the Windows Registry and set the value of the Auto parameter to 1.
- Installation of HP Universal CMDB is not supported on 32-bit machines.

## Server Supported Virtual Environments

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
VMware ESXi 5.0	<ul style="list-style-type: none"> <li>Windows 2003 Enterprise SP2 and R2 SP2, 64-bit</li> <li>Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit</li> <li>Windows 2008 Standard R2 and R2 SP1 64-bit</li> <li>Red Hat Linux 5 Enterprise/Advanced, 64-bit</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Small</li> <li>Standard</li> <li>Enterprise</li> </ul>	
VMware ESX 4.0, 4.1	<ul style="list-style-type: none"> <li>Windows 2003 Enterprise SP2 and R2 SP2, 64-bit</li> <li>Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit</li> <li>Windows 2008 Standard R2 and R2 SP1 64-bit</li> <li>Red Hat Linux 5 Enterprise/Advanced, 64-bit</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Small</li> <li>Standard</li> </ul>	Yes
VMware ESX version 3.5 or version 3.x	<ul style="list-style-type: none"> <li>Windows 2003 Enterprise SP2 and R2 SP2 64-bit</li> <li>Windows 2008 Enterprise SP2, R2, and R2 SP1, 64-bit</li> <li>Windows 2008 Standard R2 and R2 SP1 64-bit</li> <li>Red Hat Linux 5 Enterprise/Advanced, 64-bit</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Small</li> <li>Standard</li> </ul>	Older ESX 3.x versions may not provide adequate performance and may not be supported on all OS versions.

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
Microsoft Hyper-V Server 2008 R2 SP1	<ul style="list-style-type: none"> <li>Windows 2003 Enterprise SP2 and R2 SP2, 64-bit</li> <li>Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit</li> <li>Windows 2008 Standard R2 and R2 SP1 64-bit</li> <li>Red Hat Linux 5 Enterprise/Advanced, 64-bit</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Small</li> <li>Standard</li> </ul>	
Xen Hypervisor 3.x	Any	No		
VMware ESXi 4.x or earlier	Any	No		

## HP Universal CMDB on Virtual Environments

If you are deploying HP Universal CMDB on a virtual environment such as the VMware ESX or Microsoft Hyper-V platform, the sizing guidelines for a regular installation are not applicable. The following general limitations and recommendations are applicable to a UCMDB server installation on virtual environments:

- Performance of HP Universal CMDB on virtual environments can be expected to be slower than with a regular installation. Some virtual environments are therefore not recommended for an enterprise deployment of HP Universal CMDB and are supported only for standard deployments. For UCMDB deployments types supported on the different virtual platforms, see ["Server Supported Virtual Environments" on previous page](#). For deployment requirements, see ["Server Hardware Requirements" on page 7](#).
- HP Universal CMDB capacities and performance vary according to the various server resources, such as CPU, memory, and network bandwidth, allocated to HP Universal CMDB components.
- A Gigabit network card should be used.
- It is strongly recommended that you do not run a database server containing HP Universal CMDB databases on virtual environments if the database files reside on a virtual environment's virtual disk.

For a complete list of virtualization platforms supported by the UCMDB server, see ["Server Supported Virtual Environments" on previous page](#).

For complete list of virtual environments supported by the Data Flow Probe, see ["Data Flow Probe Requirements" on page 14](#).

## Server Database Requirements

This section describes the database servers supported for working with HP Universal CMDB.

This section includes the following topics:

- ["Oracle System Requirements" below](#)
- ["Microsoft SQL Server System Requirements" on next page](#)

### Oracle System Requirements

The following table lists the Oracle Servers supported for working with HP Universal CMDB. A supported option means that HP quality assurance personnel have successfully performed basic tests on that option.

Database Version	Edition	System Type
Oracle 10.2*	<ul style="list-style-type: none"><li>• Enterprise</li><li>• RAC Enterprise</li></ul>	64-bit
Oracle 11.1.0.7	<ul style="list-style-type: none"><li>• Enterprise</li></ul>	64-bit
Oracle 11.2 (11g R2)	<ul style="list-style-type: none"><li>• Standard</li><li>• Enterprise</li><li>• RAC Enterprise</li></ul>	64-bit

(\*) 10.2.0.4 or later in the 10.2.0.X versions.

**Note:**

- It is strongly recommended to apply the latest critical Oracle patches per your operating system. For details, consult the Oracle documentation.
- Consult the Oracle documentation for supported platforms.
- The Standard Edition of Oracle Server is supported by the HP Universal CMDB server when the latter is deployed without the UCMDB Configuration Manager component.
- When the HP Universal CMDB server is deployed in combination with the UCMDB Configuration Manager component, the Enterprise Edition of Oracle and the Oracle Partitioning option are required.
- It is strongly recommended that the UCMDB server(s) be located in the same LAN with the database servers (without a proxy and firewalls between them). Otherwise, your system's performance may be impacted.
- If you previously deployed the HP Universal CMDB server with the Standard Edition of Oracle 11.2, and you intend to add the UCMDB Configuration Manager component to your installation, you must first convert your Standard Edition database to an Enterprise Edition database with the Partitioning option enabled.
- If you are using an Oracle version prior to 10.2.0.5, you must apply the Oracle patch that fixes Oracle defect # 5866410. For more details, see the Oracle website for information related to this defect number.

## Examples of Tested Deployments

The following table details the deployment environments that have been rigorously tested by HP quality assurance personnel.

Database Release		Operating System	
Version	Edition	System Type	
Oracle 11.2 (11g R2)	Enterprise	64-bit	Red Hat Enterprise Linux 5
Oracle 11.2 (11g R2)	RAC Enterprise	64-bit	Red Hat Enterprise Linux 5
Oracle 10.2.0.4	Enterprise	64-bit	Red Hat Enterprise Linux 5
Oracle 11.2 (11g R2)	Enterprise	64-bit	Solaris 10

## Microsoft SQL Server System Requirements

The following table lists the Microsoft SQL Servers supported for working with HP Universal CMDB. A supported option means that HP quality assurance personnel have successfully performed basic tests on that option.

Database Version	Edition	System Type	Service Packs
Microsoft SQL Server 2005	<ul style="list-style-type: none"> <li>Enterprise</li> </ul>	32-bit or 64-bit	SP4
Microsoft SQL Server 2008	<ul style="list-style-type: none"> <li>Standard</li> <li>Enterprise</li> </ul>	32-bit or 64-bit	<ul style="list-style-type: none"> <li>SP2, SP3</li> <li>R2 SP1</li> </ul>
Microsoft SQL Server 2008 Failover Cluster	<ul style="list-style-type: none"> <li>Enterprise</li> </ul>	64-bit	<ul style="list-style-type: none"> <li>SP2</li> <li>SP3</li> <li>R2 SP1</li> </ul>

**Note:**

- Only supported service packs should be installed, with latest patches.
- Consult the Microsoft documentation for supported platforms.
- Microsoft SQL Server 2008 Failover Cluster supports small or standard UCMDB deployments only.

## Examples of Tested Deployments

The following table details the deployment environments that have been rigorously tested by HP quality assurance personnel.

Database Release				Operating System
Version	Edition	System Type	Service Packs	
Microsoft SQL Server 2008	Enterprise	64-bit	SP3	Windows 2008 Enterprise Edition Service Pack 2 (64-bit)
Microsoft SQL Server 2005	Enterprise	64-bit	SP4	Windows 2008 Enterprise Edition Service Pack 2 (64-bit)

## Data Flow Probe Requirements

### Hardware Requirements

Computer/processor	<b>Windows/Linux</b> Pentium IV 2.4 GHz or later processor <b>Recommended:</b> Dual Core
Memory	<b>Windows/Linux:</b> Minimum 1 GB RAM (Recommended: 2 GB RAM)

## Support Matrix

Memory swap file	<p><b>Windows:</b> Minimum: 2 GB RAM</p> <p><b>Linux:</b> Minimum: 1 GM RAM</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>The virtual memory for Windows should be at least double size of the physical memory.</li> <li>The Linux swap file size should be equal in size to the physical memory.</li> </ul>
Free hard disk space	<b>Windows/Linux:</b> Minimum 4 GB (at least 4 GB for database software and data files) (Recommended: 20 GB hard disk)
Display	<b>Windows/Linux:</b> Color palette setting of at least 256 colors (32,000 colors recommended)

## Software Requirements

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86	Windows 2008	SP2, Standard/Enterprise editions, 32-bit	Yes	
x86-64	Windows 2008	SP2, Standard/Enterprise editions, 64-bit	Yes	Yes
x86-64	Windows 2008	R2 and R2 SP1, Standard/Enterprise editions, 64-bit	Yes	
x86	Windows 2003	SP2 and R2 SP2, Standard/Enterprise editions, 32-bit	Yes	
x86-64	Windows 2003	SP2 and R2 SP2, Standard/Enterprise editions, 64-bit	Yes	
x86-64	Red Hat Linux 5	Enterprise/Advanced, 64 bit	Yes	
	Windows 7	Professional/Enterprise	No	
	Windows 2000		No	

## Supported Databases

Database	Version and Edition	Recommended	Comments
MySQL	5.1.46	Yes	This database comes bundled with the Probe installation.

## Virtual Environment Requirements

Platform	OS Version and Edition	Supported	Recommended
VMware ESXi 5.0	<ul style="list-style-type: none"> <li>Windows 2003 Standard/Enterprise editions SP2 and R2 SP2, 32/64-bit</li> <li>Windows 2008 Standard/Enterprise SP2, 32/64-bit and R2, 64-bit</li> <li>Red Hat Linux 5 Enterprise/Advanced, 64-bit</li> </ul>	Yes	
VMware ESX 4.0, 4.1	<ul style="list-style-type: none"> <li>Windows 2003 Standard/Enterprise editions SP2 and R2 SP2, 32/64-bit</li> <li>Windows 2008 Standard/Enterprise SP2, 32/64-bit and R2, 64-bit</li> <li>Red Hat Linux 5 Enterprise/Advanced, 64-bit</li> </ul>	Yes	Yes
VMware ESX 3.x	<ul style="list-style-type: none"> <li>Windows 2003 Standard/Enterprise editions SP2 and R2 SP2, 32/64-bit</li> <li>Windows 2008 Standard/Enterprise SP2, 32/64-bit and R2, 64-bit</li> <li>Red Hat Linux 5 Enterprise/Advanced, 64-bit</li> </ul>	Yes	
Microsoft Hyper-V Server 2008 R2 SP1	<ul style="list-style-type: none"> <li>Windows 2003 Standard/Enterprise editions SP2 and R2 SP2, 32/64-bit</li> <li>Windows 2008 Standard/Enterprise SP2, 32/64-bit and R2, 64-bit</li> </ul>	Yes	
Pre ESX 3.5 (like 3.0.x versions)	<ul style="list-style-type: none"> <li>May not provide adequate performance</li> <li>Does not support Windows 2008 or Windows 7</li> </ul>	No	
VMware ESXi 4.1 and earlier	All platforms	No	
Xen Hypervisor 3.x	All platforms	No	



## Client Software Requirements

Screen resolution	Minimal resolution: 1024x768. It is recommended that you use 1280x1024. For wide screens (for example, for 15.4" laptops) the best resolution is 1600x1050.
Java Runtime Environment (for applet viewing)	<ul style="list-style-type: none"> <li>• <b>1.6 family</b>. Version 6u10 or later. 6u19 is not recommended because on every applet load a pop-up appears with a message that the applet contains a mix of signed and unsigned code.</li> <li>• <b>7 family</b></li> </ul> <p><b>Note:</b> The recommended JRE version is 1.7u02, which is also included on the UCMDB Server itself for local network download.</p> <p><b>To change the locally available JRE:</b></p> <ol style="list-style-type: none"> <li>1. Place a new JRE deployment executable file in: <b>C:\hp\UCMDB\UCMDBServer\deploy\ucmdb-ui\static\JRE</b></li> <li>2. Restart the server.</li> </ol> <p>If you are using Microsoft Internet Explorer, you can download the Sun JRE from the Java Web site (<a href="http://java.com/">http://java.com/</a>).</p> <p>After installation, verify that the browser is using the correct Java version. Click the <b>Tools &gt; Internet Options &gt; Advanced</b> tab, and select the <b>Java (Sun)</b> check box. Click <b>OK</b>, then close the browser and reopen it.</p>
Java caching	Enable Java caching on the client machine: <b>Control Panel &gt; Java &gt; General tab &gt; Temporary Internet Files &gt; Settings &gt; Keep temporary files on my computer.</b>
Applet tag support	UCMDB applets support applet tag deployment only.  To verify that the client machine supports applet tags, open the Java Control Panel. Click the <b>Advanced</b> tab and open <b>Default Java for browsers</b> . Verify that Microsoft Internet Explorer is selected.
Adobe Flash Player (to view charts in reports)	Version 8 or later.
Microsoft Excel (to view exported data)	Versions 2003, 2007, and 2010
Adobe Reader (to view exported data)	Versions 9 and 10

## Client Browser Requirements

Browser	OS Version and Edition	Supported	Recommended
Internet Explorer 7	<ul style="list-style-type: none"> <li>Windows XP 32-bit or 64-bit</li> <li>Windows Vista 32-bit or 64-bit</li> <li>Windows 7 32-bit or 64-bit</li> <li>Windows 2003 32-bit or 64-bit</li> <li>Windows 2008 32-bit or 64-bit</li> </ul>	Yes	
Internet Explorer 8	<ul style="list-style-type: none"> <li>Windows XP 32-bit or 64-bit</li> <li>Windows Vista 32-bit or 64-bit</li> <li>Windows 7 32-bit or 64-bit</li> <li>Windows 2003 32-bit or 64-bit</li> <li>Windows 2008 32-bit or 64-bit</li> </ul>	Yes	Yes
Internet Explorer 9	<ul style="list-style-type: none"> <li>Windows Vista 32-bit or 64-bit SP2 or later</li> <li>Windows 7 32-bit or 64-bit RTM or later</li> <li>Windows Server 2008 32-bit or 64-bit SP2 or later</li> <li>Windows Server 2008 R2 64-bit</li> </ul>	Yes	Yes
Google Chrome	<ul style="list-style-type: none"> <li>Windows XP</li> <li>Windows Vista</li> <li>Windows 7</li> </ul>	Yes	
Firefox 3.5, 4, 5, 6, 7, 8, 9, 10	<ul style="list-style-type: none"> <li>Windows XP</li> <li>Windows Vista</li> <li>Windows 7</li> <li>Windows 2003</li> <li>Linux</li> </ul>	Yes	
Safari 4.x	Windows	No	
Internet Explorer 6	Windows	No	

When using Internet Explorer, to achieve optimal viewing and performance IE 9 is recommended.

## Managed Node and Node-Related CIs

When planning capacity, among other issues, you should consider the ratio of managed nodes in your CMDB to node-related CIs. Node-related CIs include all CIs of types which are subclasses of Application Resource, Node Element, or Running Software.

The following table lists the number of node-related CIs you can discover for each managed node in your environment. This number depends on the size of your deployment and the number of managed nodes—the more managed nodes you maintain in the CMDB, the fewer node-related CIs you can discover for each managed node.

For example, in an Enterprise deployment if you are running 89,600 managed nodes, you can discover 160 node-related CIs for each managed node. If you are running only 28,000 managed nodes, you can discover 500 resource CIs for each managed node.

Deployment	Number of Managed Nodes/Node-Related CIs
Enterprise	89600/160 - 28800/500
Standard	9000/160 – 3000/500
Small	4500/160 – 1000/500

**Note:** The numbers in the table include only CIs and not relationships.

