

# HP Universal CMDB

For the Windows, Red Hat Enterprise Linux, and Oracle Enterprise Linux operating systems

Software Version: 10.01

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## Support Matrix

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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 CPUs</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	<b>Windows:</b> <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> <b>Linux:</b> <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> <b>Note:</b> <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 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.x	Enterprise/Advanced 64-bit	Yes	
x86-64	Red Hat Enterprise Linux Server 6.2 and 6.3	64-bit	Yes	
x86-64	Oracle Enterprise Linux with Red Hat Compatible Kernel v6.3	Enterprise/Advanced 64-bit	Yes	

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Oracle Enterprise Linux with Unbreakable Enterprise Kernel v6.3	Enterprise/Advanced 64-bit	Yes	
x86-64	Windows 2003		No	
x86	Windows 2008		No	64-bit required
Any	SUSE Linux 9, 10, 11	Enterprise	No	
Sun SPARC	Solaris 8, 9, or 10		No	
Any	Red Hat Linux 3, 4	Enterprise	No	
Itanium 64	Windows 2008		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.
- Windows 2003 is no longer supported in UCMDB 10.01.
- 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, 5.0 update 1	<ul style="list-style-type: none"> <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.x Enterprise/Advanced, 64-bit</li> <li>• Red Hat Enterprise Linux Server 6.2 and 6.3, 64-bit</li> </ul>	Yes	<ul style="list-style-type: none"> <li>• Small</li> <li>• Standard</li> <li>• Enterprise</li> </ul>	Yes



Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
VMware ESX 4.0, 4.1	<ul style="list-style-type: none"> <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.x Enterprise/Advanced, 64-bit</li> <li>Red Hat Enterprise Linux Server 6.2 and 6.3, 64-bit</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Small</li> <li>Standard</li> </ul>	
Microsoft Hyper-V Server 2008 R2 SP1	<ul style="list-style-type: none"> <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.x Enterprise/Advanced, 64-bit</li> <li>Red Hat Enterprise Linux Server 6.2 and 6.3, 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 ESX version 3.5 or earlier	Any	No		
VMware ESXi 4.x or earlier	Any	No		

## HP Universal CMDB on Virtual Environments

The following general limitations and recommendations are applicable to a UCMDB server installation on virtual environments:

- 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 page 8.

For complete list of virtual environments supported by the Data Flow Probe, see ["Data Flow Probe Requirements"](#) on page 12.

## 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 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	Supported Products
Oracle 10.2.0.4 or higher	<ul style="list-style-type: none"><li>• Enterprise</li></ul>	64-bit	<ul style="list-style-type: none"><li>• UCMDB</li><li>• Configuration Manager</li></ul>
Oracle 10.2.0.4	<ul style="list-style-type: none"><li>• RAC Enterprise</li></ul>	64-bit	<ul style="list-style-type: none"><li>• UCMDB</li><li>• Configuration Manager</li></ul>
Oracle 11.2 (11g R2)	<ul style="list-style-type: none"><li>• Standard</li><li>• Enterprise</li><li>• RAC Enterprise</li></ul>	64-bit	<ul style="list-style-type: none"><li>• UCMDB</li><li>• Configuration Manager</li></ul>

### 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.
- 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 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

## Microsoft SQL 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	Supported Products
Microsoft SQL Server 2008	<ul style="list-style-type: none"> <li>• Standard</li> <li>• Enterprise</li> </ul>	32-bit or 64-bit	SP3	<ul style="list-style-type: none"> <li>• UCMDB</li> <li>• Configuration Manager</li> </ul>
Microsoft SQL Server 2008	<ul style="list-style-type: none"> <li>• Standard</li> <li>• Enterprise</li> </ul>	64-bit	R2 SP1, R2 SP2	<ul style="list-style-type: none"> <li>• UCMDB</li> <li>• Configuration Manager</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>• SP3</li> <li>• R2 SP1</li> <li>• R2 SP2</li> </ul>	<ul style="list-style-type: none"> <li>• UCMDB</li> <li>• Configuration Manager</li> </ul>

### Note:

- Only supported service packs should be installed, with latest patches.
- Consult the Microsoft documentation for supported platforms.
- SQL Server 2008 Service Pack 2 is no longer supported.

- 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)

## Data Flow Probe Requirements

### Hardware Requirements

Computer/processor	<b>Recommended:</b> The latest generation of Intel/AMD processors (Intel Xeon CPUs or compatible) and the fastest possible processor speed  <b>Standard:</b> 4 Cores  <b>Enterprise:</b> 8 Cores
Memory	<b>Standard:</b> 4 GB RAM  <b>Enterprise:</b> 8 GB RAM
Memory swap file	<b>Windows:</b> <ul style="list-style-type: none"><li>• <b>Standard:</b> 6 GB RAM</li><li>• <b>Enterprise:</b> 12 GB RAM</li></ul> <b>Linux:</b> <ul style="list-style-type: none"><li>• <b>Standard:</b> 4 GB RAM</li><li>• <b>Enterprise:</b> 8 GB RAM</li></ul> <b>Note:</b> <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	<b>Standard:</b> 100 GB ( <b>Note:</b> 75 out of 100 GB disk space is required for scan files) <b>Enterprise:</b> 200 GB ( <b>Note:</b> 150 out of 200 GB disk space is required for scan files)
Display	<b>Windows/Linux:</b> Color palette setting of at least 256 colors (32,000 colors recommended)

### Note:

- A Standard deployment supports a biweekly scanner-based inventory of 25000 nodes or a daily discovery of 5000 nodes for application dependency mapping.
- An Enterprise deployment supports a biweekly scanner-based inventory of 50000 nodes or a daily discovery of 10000 nodes for application dependency mapping.
- Other combinations of scanner-based inventory nodes and application dependency mapping discovery nodes are also supported, according to the following formula: [The number of Inventory Discovery nodes] + 5 times [the number of application dependency mapping nodes] is less than or equal to 25000 (for Standard deployments) or 50000 (for Enterprise deployments). For example, 15000 inventory discovery nodes and 2000 application dependency mapping nodes, in a Standard deployment, would be supported.

## Software Requirements

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows 2008	SP2, Standard/Enterprise editions, 64-bit	Yes	
x86-64	Windows 2008	R2 and R2 SP1, Standard/Enterprise editions, 64-bit	Yes	Yes
x86-64	Red Hat Linux 5.x	Enterprise/Advanced, 64 bit	Yes	
x86-64	Red Hat Enterprise Linux Server 6.2 and 6.3	64-bit	Yes	
x86-64	Oracle Enterprise Linux with Red Hat Compatible Kernel v6.3	Enterprise/Advanced 64-bit	Yes	
x86-64	Oracle Enterprise Linux with Unbreakable Enterprise Kernel v6.3	Enterprise/Advanced 64-bit	Yes	

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
	Windows 2008	SP2, Standard/Enterprise editions, 32-bit	No	
	Windows 2003	SP2 and R2 SP2, Standard/Enterprise editions, 32-bit or 64-bit	No	
	Windows 7	Professional/Enterprise	No	
	Windows 2000		No	

**Note:**

- Windows 2003 is no longer supported in UCMDB 10.00.
- As of UCMDB 10.00, the Data Flow Probe only supports 64-bit platforms.
- For Linux platforms, only integrations are supported, not discovery. For details, see [Module/Job-Based Discovery Workflow](#) in the *HP Universal CMDB Data Flow Management Guide*.

## Supported Databases

Database	Version and Edition	Recommended	Comments
MySQL	5.5.27	Yes	This database comes bundled with the Probe installation.
MySQL Driver	5.1.16	Yes	This driver comes bundled with the Probe installation.

## Virtual Environment Requirements

Platform	OS Version and Edition	Supported	Recommended
VMware ESXi 5.0, 5.0 update 1	<ul style="list-style-type: none"> <li>• Windows 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit</li> <li>• Red Hat Linux 5.x Enterprise/Advanced, 64-bit</li> <li>• Red Hat Enterprise Linux Server 6.2 and 6.3, 64-bit</li> </ul>	Yes	Yes

Platform	OS Version and Edition	Supported	Recommended
VMware ESX 4.0, 4.1	<ul style="list-style-type: none"> <li>Windows 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit</li> <li>Red Hat Linux 5.x Enterprise/Advanced, 64-bit</li> <li>Red Hat Enterprise Linux Server 6.2 and 6.3, 64-bit</li> </ul>	Yes	
Microsoft Hyper-V Server 2008 R2 SP1	<ul style="list-style-type: none"> <li>Windows 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit</li> <li>Red Hat Linux 5.x Enterprise/Advanced, 64-bit</li> <li>Red Hat Enterprise Linux Server 6.2 and 6.3, 64-bit</li> </ul>	Yes	
VMware ESX 3.5 or earlier	All platforms	No	
VMware ESXi 4.1 and earlier	All platforms	No	
Xen Hypervisor 3.x	All platforms	No	

### Passive Discovery Integration

HP Real User Monitor (HP RUM) version 9.20 or later must be installed on a separate server, and must be running and configured to integrate with a Data Flow Probe to run passive Just-In-Time discovery.

The HP RUM Installation can be downloaded from the HP Software Support Online Portal (<http://support.openview.hp.com/selfsolve/patches>). Search for **Real User Monitor** under **Application Performance Management (BAC)**.

## 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.
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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 1.7u05, 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	<p>UCMDB applets support applet tag deployment only.</p> <p>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.</p>
Adobe Flash Player (to view charts in reports)	Versions 10.x and 11
Microsoft Excel (to view exported data)	Versions 2007 and 2010
Adobe Reader (to view exported data)	Versions 9 and 10



## Client Browser Requirements

Browser	OS Version and Edition	Supported	Recommended
Windows Internet Explorer 7	Consult the Microsoft documentation for supported platforms.	Yes	
Windows Internet Explorer 8	Consult the Microsoft documentation for supported platforms.	Yes	
Windows Internet Explorer 9	Consult the Microsoft documentation for supported platforms.	Yes	Yes
Google Chrome	Supported only for Microsoft Windows. Consult the Google Chrome documentation for supported platforms.	Yes	
Firefox 10 and higher	<ul style="list-style-type: none"><li>• Microsoft Windows</li><li>• Red Hat Enterprise Linux versions 5 and 6, 32/64-bit</li></ul>	Yes	
Safari 4.x	Windows	No	
Internet Explorer 6	Windows	No	
Firefox 3.5, 4, 5, 6, 7, 8, 9	Any	No	

## Universal Discovery Client Inventory Tools Software Requirements

The following table displays the software requirements for the Universal Discovery Client Inventory tools:

- SAI editor
- Viewer
- Analysis Workbench

Hardware Platform	OS Type	OS Version and Edition	Supported
x86 or x86-64	Windows XP	any	Yes
x86 or x86-64	Windows Server 2003	any	Yes
x86 or x86-64	Windows Server 2003 R2	any	Yes
x86 or x86-64	Windows Server 2008	any	Yes
x86-64	Windows Server 2008 R2	any	Yes
x86 or x86-64	Windows Vista	any	Yes
x86 or x86-64	Windows 7	any	Yes

**Note:**

- It is not recommended to install the Inventory tools on the same computer that is running the Data Flow Probe due to potential file locking issues.
- When installing the Inventory Tools on a separate machine, the hardware requirements are a dual core CPU with a minimum speed of 1.5 Ghz and 4 GB of RAM

## 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.

