



HP Universal CMDB

Software Version: 10.20

Support Matrix

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Document Changes

Publication Date	Summary of Changes
March 2015 (10.20, 2nd Edition)	<ul style="list-style-type: none">• Clarified that Configuration Manager is not supported for Oracle 12c and Microsoft SQL Server• Replaced "Lightweight Data Flow Probe" with "UCMDB Integration Service", as the former is not an official term• Added the "Transparent Technology and Virtualization Support" section
October 2015 (10.20, 3rd Edition)	Added clarification that Internet Explorer 11 is supported for UCMDB UI and UCMDB Browser only

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Requirements

This section provides information about the supported hardware and software that you must have to successfully install and run Universal CMDB 10.20.

Hardware

HP Universal CMDB 10.20 is supported on the following hardware:

Component	Requirement
Computer/processor	<p>Windows/Linux:</p> <p>To fulfill the CPU requirements, you must have one of the following:</p> <ul style="list-style-type: none">• Intel Dual Core Xeon Processor 2.4 GHz or later• AMD Opteron Dual Core Processor 2.4 GHz or later <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">• Small deployment: 1 CPU• Standard deployment: 4 CPUs• Enterprise deployment: 8 CPUs <p>Note: 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>Windows/Linux:</p> <ul style="list-style-type: none">• Small deployment: 4 GB RAM• Standard deployment: 8 GB RAM• Enterprise deployment:<ul style="list-style-type: none">◦ 16 GB RAM◦ 32 GB RAM (for more than 40 million CIs and relationships)
Memory Swap File	<p>Windows:</p> <ul style="list-style-type: none">• Small deployment: 6 GB (Supported)

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

Note: The hardware requirements for HP Universal CMDB Configuration Manager are the same as those for Universal CMDB.

Operating System

Universal CMDB 10.20 runs on the following operating systems:

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows Server 2012 R2	Datacenter and Standard	Yes	Yes
x86-64	Windows Server 2012	Datacenter and Standard	Yes	Yes
x86-64	Windows Server 2008	Enterprise SP2, R2, and R2 SP1 64-bit	Yes	
x86-64	Windows Server 2008	Standard R2 and R2 SP1 64-bit	Yes	

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Red Hat Linux Server 5.x	Enterprise/Advanced 64-bit	Yes	
x86-64	Red Hat Enterprise Linux Server 6.2, 6.3, 6.4, and 6.5	64-bit	Yes	
x86-64	Oracle Enterprise Linux Server with Red Hat Compatible Kernel v6.3, v6.4, and v6.5	Enterprise/Advanced 64-bit	Yes	
x86-64	Oracle Enterprise Linux Server with Unbreakable Enterprise Kernel v6.3, v6.4, and v6.5	Enterprise/Advanced 64-bit	Yes	
x86-64	Windows Server 2003		No	
x86	Windows Server 2008		No	
Any	SUSE Linux Server 9, 10, 11	Enterprise	No	
Sun SPARC	Solaris 8, 9, or 10		No	
Any	Red Hat Linux Server 3, 4	Enterprise	No	
Itanium 64	Windows Server 2008		No	
Itanium 64	Red Hat Linux Server 5	Enterprise/Advanced	No	

Note:

- All operating systems supported for Universal CMDB are also supported for HP Universal CMDB Configuration Manager.
- Unsupported configurations are listed to ensure that there is no ambiguity on the scope of the Support Matrix.
- To start the HP Universal CMDB Configuration Manager installer on Windows 2012, you must use one of the following methods:

- Open a command prompt window and run the command `HP_CM.10.20.exe -i GUI`.
- Right-click the installer and select **Properties**. Open the Compatibility tab and select **Run this program in compatibility mode for Windows 7**.
- Windows Server 2003 is no longer supported as of UCMDB 10.01.
- Installation of HP Universal CMDB is not supported on 32-bit machines.

Databases

One of the following supported databases is required to run Universal CMDB 10.20:

- Oracle Server
- Microsoft SQL Server
- PostgreSQL Server

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 12c	<ul style="list-style-type: none"> • Standard • Enterprise • RAC Enterprise 	64-bit	<ul style="list-style-type: none"> • UCMDB • Lightweight Data Flow Probe <div style="border: 1px solid gray; background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p>Note: Oracle 12c must be installed without container database (CDB). UCMDB does not support Oracle 12c with CDB.</p> </div>
Oracle 11.2 (11g R2)	<ul style="list-style-type: none"> • Standard • Enterprise • RAC Enterprise 	64-bit	<ul style="list-style-type: none"> • UCMDB • Configuration Manager

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 UCMDb server(s) should 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.

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 11.2.0.1.0	Enterprise	64-bit	Windows Server 2012 Datacenter Edition (64-bit)
Oracle 11.2.0.1.0	Enterprise	64-bit	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Oracle 11.2.0.1.0	Enterprise	64-bit	Red Hat Enterprise Linux Server 6.4
Oracle 11.2 RAC	Enterprise	64-bit	Oracle Enterprise Linux with Unbreakable Enterprise Kernel v6.3

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 2014	<ul style="list-style-type: none"> • Standard • Enterprise 	64-bit		<ul style="list-style-type: none"> • UCMDb • Configuration Manager

Database Version	Edition	System Type	Service Packs	Supported Products
				<ul style="list-style-type: none"> Lightweight Data Flow Probe
Microsoft SQL Server 2012	<ul style="list-style-type: none"> Standard Enterprise 	64-bit	SP1	<ul style="list-style-type: none"> UCMDB Configuration Manager
Microsoft SQL Server 2008	<ul style="list-style-type: none"> Standard Enterprise 	32-bit or 64-bit	SP3	<ul style="list-style-type: none"> UCMDB Configuration Manager
Microsoft SQL Server 2008	<ul style="list-style-type: none"> Standard Enterprise 	64-bit	R2 SP1, R2 SP2	<ul style="list-style-type: none"> UCMDB Configuration Manager
Microsoft SQL Server 2012 Failover Cluster	<ul style="list-style-type: none"> Enterprise 	64-bit	SP1	<ul style="list-style-type: none"> UCMDB Configuration Manager
Microsoft SQL Server 2008 Failover Cluster	<ul style="list-style-type: none"> Enterprise 	64-bit	<ul style="list-style-type: none"> SP3 R2 SP1 R2 SP2 	<ul style="list-style-type: none"> UCMDB Configuration Manager

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.
- The UCMDB server(s) should 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.

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 2012	Enterprise	64-bit	SP1	Windows Server 2012 Standard Edition (64-bit)
Microsoft SQL Server 2012	Enterprise	64-bit	SP1	Windows Server 2012 Datacenter Edition (64-bit)
Microsoft SQL Server 2012	Enterprise	64-bit	SP1	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2012	Standard	64-bit	SP1	Oracle Enterprise Linux Server 6.3
Microsoft SQL Server 2012	Standard	64-bit	SP1	Windows Server 2012 Datacenter Edition (64-bit)
Microsoft SQL Server 2012	Standard	64-bit	SP1	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2012 Cluster	Enterprise	64-bit	SP1	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2012 Cluster	Enterprise	64-bit	SP1	Windows Server 2008 R2 Standard Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2008	Enterprise	64-bit	SP3	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2008 R2 Cluster	Enterprise	64-bit	SP2	Windows Server 2012 Standard Edition (64-bit)

PostgreSQL System Requirements

The following table lists the PostgreSQL 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
PostgreSQL Server 9.22	Enterprise	64-bit	<ul style="list-style-type: none"> UCMDB Configuration Manager

Note:

- Only supported service packs should be installed, with latest patches
- The UCMDB server(s) should 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.
- Embedded PostgreSQL is not supported on Enterprise deployments of UCMDB.
- PostgreSQL is not supported on Linux systems.

Examples of Tested Deployments

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

Database Release Version	Deployment	System Type	Operating System
PostgreSQL Server 9.22	External	64-bit	Windows Server 2008 R2 Enterprise Edition Service Pack 1
PostgreSQL Server 9.22	Embedded	64-bit	Windows Server 2008 R2 Enterprise Edition Service Pack 1
PostgreSQL Server 9.22	Embedded	64-bit	Red Hat Enterprise Linux Server 6.2
PostgreSQL Server 9.22	Embedded	64-bit	Red Hat Enterprise Linux Server 6.3

Application Servers

Universal CMDB 10.20 does not use an application server.

The following supported application server is required to run HP Universal CMDB Configuration Manager:

- Apache Tomcat, version 7.0.19

Note: The required application server is included in the HP Universal CMDB Configuration Manager installation.

Web Servers

The following supported web server is required to run Universal CMDB and Universal Discovery 10.20:

- Jetty, version 7.6.0

Note: The required web server is included in the HP Universal CMDB installation.

Web Browsers and Plug-ins

One of the following supported web browsers is required to run Universal CMDB 10.20:

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 When using Internet Explorer, it is recommended to use version 9.0 to achieve optimal viewing and application performance
Windows Internet Explorer 10	Consult the Microsoft documentation for supported platforms.	Yes	
Windows Internet Explorer 11	Consult the Microsoft	Yes (for UCMDB UI and	

Browser	OS Version and Edition	Supported	Recommended
	documentation for supported platforms.	UCMDB Browser only)	
Google Chrome	Microsoft Windows	Yes	
Firefox 10 and higher	Microsoft Windows	Yes	Firefox 31 ESR
Firefox 10 and higher	Red Hat Enterprise Linux versions 5 and 6, 32/64-bit	No	
Safari	<ul style="list-style-type: none"> Windows Mac OS X (for UCMDB UI and UCMDB Browser only) 	Yes	
Internet Explorer 6	Windows	No	
Firefox 3.5, 4, 5, 6, 7, 8, 9	Any	No	

The following supported plug-ins are required to run Universal CMDB 10.20:

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"> 1.6 family. 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. 7 family <p>Note: The recommended JRE version is 1.7u65, which is also included on the UCMDB Server itself for local network download.</p> <p>To change the locally available JRE:</p> <ol style="list-style-type: none"> Place a new JRE deployment executable file in: C:\hp\UCMDB\UCMDBServer\deploy\ucmdb-ui\static\JRE Restart the server. <p>If you are using Microsoft Internet Explorer, you can download the Sun JRE from the Java website (http://java.com/).</p> <p>After installation, verify that the browser is using the correct Java version. Click the Tools > Internet Options > Advanced tab, and select the Java (Sun) check</p>

	<p>box. Click OK, then close the browser and reopen it.</p> <p>Note: A 32-bit version of JRE must be installed to run UCMDB on a 32-bit web browser.</p>
Java caching	Enable Java caching on the client machine: Control Panel > Java > General tab > Temporary Internet Files > Settings > Keep temporary files on my computer.
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 Advanced tab and open Default Java for browsers. Verify that Microsoft Internet Explorer is selected.</p>
Adobe Flash Player (to view charts in reports)	Versions 10.x and later, up to v15
Microsoft Excel (to view exported data)	Versions 2010 and 2013
Adobe Reader (to view exported data)	Versions X and XI

Additional Requirements

Data Flow Probe Requirements

Hardware Requirements

Computer/processor	<p>Recommended:The latest generation of Intel/AMD processors (Intel Xeon CPUs or compatible) and the fastest possible processor speed</p> <p>Small/Standard: 4 Cores</p> <p>Enterprise: 8 Cores</p>
Memory	<p>Windows:</p> <ul style="list-style-type: none"> Small: 4 GB RAM

	<ul style="list-style-type: none"> • Standard: 8 GB RAM • Enterprise: 12 GB RAM <p>Linux:</p> <ul style="list-style-type: none"> • Small/Standard: 4 GB RAM • Enterprise: 8 GB RAM
Memory swap file	<p>Windows:</p> <ul style="list-style-type: none"> • Small: 6 GB • Standard: 12 GB • Enterprise: 18 GB <p>Linux:</p> <ul style="list-style-type: none"> • Small/Standard: 4 GB • Enterprise: 8 GB <p>Note:</p> <ul style="list-style-type: none"> • The virtual memory for Windows should be at least 1.5 times the size of the physical memory. • The Linux swap file size should be equal in size to the physical memory.
Free hard disk space	<p>Small/Standard: 100 GB (Note: 75 out of 100 GB disk space is required for scan files)</p> <p>Enterprise: 300 GB (Note: 225 out of 300 GB disk space is required for scan files)</p>
Display	<p>Windows/Linux: Color palette setting of at least 256 colors (32,000 colors recommended)</p>

Note:

- A Small deployment supports a biweekly scanner-based inventory of 7500 nodes or a daily discovery of 5000 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 7500.
- A Standard deployment supports a biweekly scanner-based inventory of 25000 nodes or a daily discovery of 5000 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.

- An Enterprise deployment supports a biweekly scanner-based inventory of 75000 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] + 7.5 times [the number of application dependency mapping nodes] is less than or equal to 75000.
- For example, 15000 inventory discovery nodes and 2000 application dependency mapping nodes, in a Standard deployment, would be supported.
- The XML Enricher must be configured to match the deployment mode of the probe. For details, see the *How to Configure XML Enricher to Suit the Probe Deployment Mode* section in the *HP Universal CMDB Data Flow Management Guide*.

Software Requirements

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows Server 2012 R2	Standard/Datacenter editions, 64-bit	Yes	
x86-64	Windows Server 2012	Standard/Datacenter editions, 64-bit	Yes	
x86-64	Windows Server 2008	SP2, Standard/Enterprise editions, 64-bit	Yes	
x86-64	Windows Server 2008	R2 and R2 SP1, Standard/Enterprise editions, 64-bit	Yes	Yes
x86-64	Red Hat Linux Server 5.x	Enterprise/Advanced, 64 bit	Yes	
x86-64	Red Hat Enterprise Linux Server 6.2, 6.3, 6.4, and 6.5	64-bit	Yes	
x86-64	Oracle Enterprise Linux with Red Hat Compatible Kernel	Enterprise/Advanced 64-bit	Yes	

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
	v6.3, v6.4, and v6.5			
x86-64	Oracle Enterprise Linux with Oracle Unbreakable Enterprise Kernel v6.3, v6.4, and v6.5	Enterprise/Advanced 64-bit	Yes	
	Windows Server 2008	SP2, Standard/Enterprise editions, 32-bit	No	
	Windows Server 2003	SP2 and R2 SP2, Standard/Enterprise editions, 32-bit or 64-bit	No	
	Windows 7	Professional/Enterprise	No	
	Windows 2000		No	

Note:

- Windows Server 2003 is no longer supported as of 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 the *How to Run Module/Job-based Discovery* section in the *HP Universal CMDB Data Flow Management Guide*.

Supported Databases

Database	Version and Edition	Recommended	Comments
Oracle	<ul style="list-style-type: none"> • 11.2 (11g R2), Standard/Enterprise/RAC Enterprise • 12c, Standard/Enterprise/RAC Enterprise 		
PostgreSQL	<ul style="list-style-type: none"> • 9.2.2, Enterprise 		This database comes bundled with the Probe installation

Database	Version and Edition	Recommended	Comments
Microsoft SQL Server	<ul style="list-style-type: none"> • 2014, Standard/Enterprise • 2012, SP1, Standard/Enterprise • 2012 Failover Cluster with SP1, Enterprise 		

Virtual Environment Requirements

Platform	OS Version and Edition	Supported	Recommended
VMware ESXi 5.5	<ul style="list-style-type: none"> • Windows Server 2012 Standard/DataCenter R2, 64-bit 	Yes	Yes
VMware ESXi 5.0, 5.0 update 1, 5.1	<ul style="list-style-type: none"> • Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit • Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	Yes
VMware ESX 4.0, 4.1	<ul style="list-style-type: none"> • Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit • Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	
Microsoft Hyper-V Server 2012, 2012 R2	<ul style="list-style-type: none"> • Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit • Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	
Microsoft Hyper-V	<ul style="list-style-type: none"> • Windows Server 2008 	Yes	

Platform	OS Version and Edition	Supported	Recommended
Server 2008 R2 SP1	Standard/Enterprise SP2, R2, and R2 SP1, 64-bit <ul style="list-style-type: none"> • Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 		
Oracle VM 3.2	See Oracle VM 3.2 Release Notes		
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)**.

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 Server 2012	any	Yes
x86 or x86-64	Windows Vista	any	Yes
x86 or x86-64	Windows 7	any	Yes
x86 or x86-64	Windows 8	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

Store and Forward Server Support

The Store and Forward server is supported on the following operating systems and platforms:

Windows

Operating System	Version	Platform
Server	2008	x64
Server	2008 R2	
Server	2012	

Linux

Operating System	Version	Platform
Red Hat Enterprise Linux Server/Desktop	5	x86-64
Red Hat Enterprise Linux Server/Workstation	6	
Oracle Linux	4,5,6	

Compatibility

This section provides information about software and configurations that are not required, but which are compatible with Universal CMDB 10.20.

Languages

Universal CMDB 10.20 runs on systems with any of the following languages:

- German
- French
- Spanish
- Brazilian Portuguese
- Italian
- Dutch
- Russian
- Japanese
- Korean
- Simplified Chinese

Universal CMDB 10.20 is localized in the following languages

- German
- French
- Spanish
- Brazilian Portuguese
- Italian

- Dutch
- Russian
- Japanese
- Korean
- Simplified Chinese

Internationalization Variances

Universal CMDB 10.20 runs on all locales described in this document. There are no known variances.

Virtualization Products

Universal CMDB and Universal Discovery 10.20 can be used with the following virtualization products:

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
VMware ESXi 5.5	<ul style="list-style-type: none"> • Windows 2012 Standard/DataCenter R2, 64-bit • Red Hat Linux 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	<ul style="list-style-type: none"> • Small • Standard • Enterprise 	Yes
VMware ESXi 5.1	<ul style="list-style-type: none"> • Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit • Windows 2008 Standard R2 and R2 SP1 64-bit • Red Hat Linux 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	<ul style="list-style-type: none"> • Small • Standard • Enterprise 	Yes
VMware ESXi 5.0, 5.0 update 1	<ul style="list-style-type: none"> • Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit 	Yes	<ul style="list-style-type: none"> • Small • Standard 	

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
	<ul style="list-style-type: none"> • Windows 2008 Standard R2 and R2 SP1 64-bit • Red Hat Linux 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 		<ul style="list-style-type: none"> • Enterprise 	
VMware ESX 4.0, 4.1	<ul style="list-style-type: none"> • Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit • Windows 2008 Standard R2 and R2 SP1 64-bit • Red Hat Linux 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	<ul style="list-style-type: none"> • Small • Standard 	
Microsoft Hyper-V Server 2012 R2	<ul style="list-style-type: none"> • Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit • Windows 2008 Standard R2 and R2 SP1 64-bit • Red Hat Linux 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	<ul style="list-style-type: none"> • Small • Standard • Enterprise 	
Microsoft Hyper-V Server 2012	<ul style="list-style-type: none"> • Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit • Windows 2008 Standard R2 and R2 SP1 64-bit • Red Hat Linux 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	<ul style="list-style-type: none"> • Small • Standard • Enterprise 	
Microsoft Hyper-V Server 2008 R2 SP1	<ul style="list-style-type: none"> • Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit 	Yes	<ul style="list-style-type: none"> • Small • Standard 	

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
	<ul style="list-style-type: none"> Windows 2008 Standard R2 and R2 SP1 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 		<ul style="list-style-type: none"> Enterprise 	
Oracle VM 3.2	See Oracle VM 3.2 Release Notes	Yes		
Xen Hypervisor 3.x	Any	No		
VMware ESX version 3.5 or earlier	Any	No		
VMware ESXi 4.x or earlier	Any	No		

The following product has been tested to perform live migration of VMware ESXi virtual machines:

- VMware vSphere 5.5 vMotion

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.

High-Availability Products

Universal CMDB 10.20 is compatible with the following high-availability products:

- The **F5 BIG-IP version 10.x** load balancer. (F5 BIG-IP version 11.x is also supported.)

For details on configuring the load balancer, refer to the High Availability section in the interactive *HP Universal CMDB Deployment Guide*.

If you are using a different load balancer, the configuration should be performed by a network administrator who has a wide knowledge about how to configure your load balancer, and similar principles should be applied.

Note: The load balancer used for High Availability must have the ability to insert cookies and must be able to do health checks ("keepalive").

HP Software Integrations

Information about HP software that integrates with Universal CMDB 10.20 can be found at the HP Software Support site. See <http://support.openview.hp.com/sc/solutions/index.jsp#tab=tab3>.

HP Software Coexistence

No coexistence information for Universal CMDB 10.20 is available.

Other Software Coexistence

No coexistence information for Universal CMDB 10.20 is available.

Server / Client Compatibility

No compatibility information for older versions of Universal CMDB 10.20 clients or servers is available.

Performance and Sizing

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 134,400 managed nodes, you can discover 160 node-related CIs for each managed node. If you are running only 43,200 managed nodes, you can discover 500 resource CIs for each managed node.

Deployment	Number of Managed Nodes/Node-Related CIs
Enterprise	134400/160 – 43200/500
Standard	9000/160 – 3000/500
Small	4500/160 – 1000/500

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

Transparent Technology and Virtualization Support

In recent years, a number of “transparent” hardware and software technologies and virtualization solutions (such as Citrix, Microsoft Cluster Software, and VMware) have become increasingly prevalent. These solutions operate in the technology layers adjacent to the operating systems or, in some cases, as extensions of the operating systems. Similarly, database solutions offer transparent components as supported elements.

HP supports Universal CMDB running on operating systems and databases on particular platforms as described in the matrix above, not specific hardware and software configurations. HP will support Universal CMDB customers who run HP software products on supported operating systems and databases, irrespective of whether they are running transparent or virtualization solutions in their environment. HP does not support these transparent or virtualization technologies directly. Since the providers of these technologies support a set of certified operating systems and hardware, the customer and the providers of these technologies will be responsible for any interactions or issues that arise at the hardware or operating system layer as a result of their use.

HP will not require customers to re-create and troubleshoot every issue in a non-transparent environment; however, HP does reserve the right to request that its customers diagnose certain issues in a native certified operating system environment without the transparent technology. HP will only make this request when there is reason to believe that the environment is a contributing factor to the reported issue.

While Universal CMDB is expected to function properly with these transparent technologies in place, there may be performance implications, which can invalidate HP’s typical sizing and recommendations. Analysis must be performed within the context of the specific application to be hosted in a virtual environment to minimize potential resource overload, which can have significant impact on performance and scalability, particularly under peak load.

Obsolescence Plans

As of October 2015, there are no plans to end support for any currently supported version of Universal CMDB.

Change Log

The table below lists the changes to this document since the release of UCMDB version 10.01.

Document Date (product version)	Change
Jan 2015 (10.20)	<p>Operating Systems:</p> <ul style="list-style-type: none"> • Added support for Oracle Enterprise Linux with Red Hat Compatible Kernel v6.4, v6.5 • Added support for Oracle Enterprise Linux with Oracle Unbreakable Kernel v6.4, v6.5 <p>Virtualization:</p> <ul style="list-style-type: none"> • Added support for Microsoft Hyper-V Server 2012 R2 • Added support for Oracle VM 3.2 <p>Databases:</p> <ul style="list-style-type: none"> • Added support for Oracle 12c, Standard/Enterprise Editions • Added support for Oracle 12c RAC, Enterprise Edition • Added support for Microsoft SQL Server 2014, Standard/Enterprise Editions <p>Web Browsers:</p> <ul style="list-style-type: none"> • Added support for Safari on Windows for UCMDB UI, CM UI, and UCMDB Browser; on Mac OS X for UCMDB UI and UCMDB Browser • Added support for Firefox 31 ESR <p>Plug-ins:</p> <ul style="list-style-type: none"> • Added support for Adobe Flash Player versions up to v15 • Added support for Adobe Reader X and XI
Jun 2014 (10.11)	<p>Operating Systems:</p> <ul style="list-style-type: none"> • Added support for Windows Server 2012 R2, Datacenter and Standard Editions, for UCMDB and the Data Flow Probe • Added support for Red Hat Enterprise Linux Server 6.5, for UCMDB and the Data Flow Probe

Document Date (product version)	Change
	<p>Virtualization:</p> <ul style="list-style-type: none"> • Added support for VMware ESXi 5.5 • Added support for VMware vSphere 5.5 vMotion to perform live migration of VMware ESXi virtual machines <p>Web Browsers:</p> <ul style="list-style-type: none"> • Added support for Windows Internet Explorer 11, for UCMDB UI • Added support for Firefox ESR 24, for UCMDB UI
November 2012 (10.01)	<p>Hardware:</p> <ul style="list-style-type: none"> • For Enterprise deployments of UCMDB with more than 40 million CIs and relationships, the required memory is 32 GB RAM <p>Operating Systems:</p> <ul style="list-style-type: none"> • Added support for Windows 2012, Datacenter and Standard Editions, for UCMDB and the Data Flow Probe • Added support for Red Hat Enterprise Linux Server 6.4, for UCMDB and the Data Flow Probe <p>Databases:</p> <ul style="list-style-type: none"> • Discontinued support for Oracle Database 10.2.0.4 • Added support for Microsoft SQL Server Database 2012 SP1, Standard/Enterprise Editions, 64-bit • Added support for Microsoft SQL Server Database 2012 Failover Cluster SP1, Enterprise Edition, 64-bit • Added support for PostgreSQL Server Database 9.2.2, Enterprise Edition, 64-bit in the following modes: <ul style="list-style-type: none"> ◦ Embedded mode (for Small and Standard UCMDB deployments only) ◦ External mode (for Small, Standard and Enterprise UCMDB deployments) <p>Web Browsers:</p> <ul style="list-style-type: none"> • Added support for Windows Internet Explorer 10 • Discontinued support for Firefox 10 and higher using Red Hat Enterprise Linux, versions 5 and 6, 32/64-bit

Document Date (product version)	Change										
	<p>Plug-ins:</p> <ul style="list-style-type: none"> • The recommended JRE version was changed from 1.7u05 to 1.7u25 • Added support for Adobe Flash Player 11.5 • Added support for Microsoft Excel 2013 <p>Data Flow Probe:</p> <ul style="list-style-type: none"> • Introduced a Small deployment for the Data Flow Probe (in addition to the Standard and Enterprise deployments) • The Memory requirements for the Data Flow Probe deployment using Windows changed as follows: <table border="1" data-bbox="500 819 1377 940"> <tr> <td data-bbox="500 819 836 940">UCMDB 10.01</td> <td data-bbox="836 819 1377 940"> <ul style="list-style-type: none"> • Standard: 4 GB RAM • Enterprise: 8 GB RAM </td> </tr> </table> <table border="1" data-bbox="500 940 1377 1125"> <tr> <td data-bbox="500 940 836 1125">UCMDB 10.10</td> <td data-bbox="836 940 1377 1125"> <ul style="list-style-type: none"> • Small: 4 GB RAM • Standard: 8 GB RAM • Enterprise: 12 GB RAM </td> </tr> </table> <ul style="list-style-type: none"> • The Memory Swap File requirements for the Data Flow Probe deployment using Windows changed as follows: <table border="1" data-bbox="500 1255 1377 1377"> <tr> <td data-bbox="500 1255 836 1377">UCMDB 10.01</td> <td data-bbox="836 1255 1377 1377"> <ul style="list-style-type: none"> • Standard: 6 GB RAM • Enterprise: 12 GB RAM </td> </tr> </table> <table border="1" data-bbox="500 1377 1377 1562"> <tr> <td data-bbox="500 1377 836 1562">UCMDB 10.10</td> <td data-bbox="836 1377 1377 1562"> <ul style="list-style-type: none"> • Small: 6 GB RAM • Standard: 12 GB RAM • Enterprise: 18 GB RAM </td> </tr> </table> <ul style="list-style-type: none"> • The free hard disk space requirements for Enterprise deployments of the Data Flow Probe changed as follows: <table border="1" data-bbox="500 1692 1377 1806"> <tr> <td data-bbox="500 1692 836 1806">UCMDB 10.01</td> <td data-bbox="836 1692 1377 1806"> 200 GB Note: 150 out of 200 GB disk space is required </td> </tr> </table>	UCMDB 10.01	<ul style="list-style-type: none"> • Standard: 4 GB RAM • Enterprise: 8 GB RAM 	UCMDB 10.10	<ul style="list-style-type: none"> • Small: 4 GB RAM • Standard: 8 GB RAM • Enterprise: 12 GB RAM 	UCMDB 10.01	<ul style="list-style-type: none"> • Standard: 6 GB RAM • Enterprise: 12 GB RAM 	UCMDB 10.10	<ul style="list-style-type: none"> • Small: 6 GB RAM • Standard: 12 GB RAM • Enterprise: 18 GB RAM 	UCMDB 10.01	200 GB Note: 150 out of 200 GB disk space is required
UCMDB 10.01	<ul style="list-style-type: none"> • Standard: 4 GB RAM • Enterprise: 8 GB RAM 										
UCMDB 10.10	<ul style="list-style-type: none"> • Small: 4 GB RAM • Standard: 8 GB RAM • Enterprise: 12 GB RAM 										
UCMDB 10.01	<ul style="list-style-type: none"> • Standard: 6 GB RAM • Enterprise: 12 GB RAM 										
UCMDB 10.10	<ul style="list-style-type: none"> • Small: 6 GB RAM • Standard: 12 GB RAM • Enterprise: 18 GB RAM 										
UCMDB 10.01	200 GB Note: 150 out of 200 GB disk space is required										

Document Date (product version)	Change	
		for scan files
	UCMDB 10.10	300 GB Note: 225 out of 300 GB disk space is required for scan files
	<ul style="list-style-type: none"> • Discontinued support for MySQL and MySQL Driver for the Data Flow Probe • Added support for PostgreSQL Server Database 9.2.2 for the Data Flow Probe <p>Virtualization:</p> <ul style="list-style-type: none"> • Added support for VMware ESXi 5.1 • Added support for Microsoft Hyper-V Server 2012 • Added support for Microsoft Hyper-V Server 2008 R2 SP1 for Enterprise deployments of UCMDB 	

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