

# HP CloudSystem Matrix 7.1 Update 1 Compatibility Chart v7.1.1.5

## Abstract

This document provides lists or provides references to information for the minimum hardware, firmware, and software requirements for HP CloudSystem Matrix.



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# 1 Overview

## Matrix versioning

HP CloudSystem Matrix versions are indicated by major.minor.update.revision. For example, version 7.1.1.4 is Matrix 7.1 Update 1 Revision 4. Revisions are only for firmware, driver, and/or agent changes to the CloudSystem Matrix recipe. Your current Insight Management DVD continues to support this new CloudSystem Matrix revision.

This document specifies the HP CloudSystem Matrix 7.1 Update 1 definition of hardware, firmware, and software. The hardware components, the firmware versions, and the software versions listed in this document have been tested as a solution set, and are fully supported by HP. For HP CloudSystem Matrix support, HP cannot support the use of hardware or versions of firmware or software that are not part of this definition.

**CAUTION:** The specific firmware and software versions listed in this document provide support for HP CloudSystem Matrix 7.1 Update 1 and must be used together to ensure complete solution component compatibility and full functionality, since these have been tested as a set. Using other version levels, including later revisions of individual components, might result in operational issues. Always see the latest version of this document at <http://www.hp.com/go/matrixcompatibility>.

**IMPORTANT:** Before applying 2013.09.0(B), all physically managed servers and hypervisor hosts (i.e. Linux or Windows) must conform to the current operating system versions listed in the “ProLiant managed node operating system support” (page 25) table and the “ProLiant hypervisor and guest operating system support” (page 27) table. If VMware ESXi support is required, do not update to HP CloudSystem Matrix v7.1.1.5. Either stay with your current version or update the environment to at least HP CloudSystem Matrix v7.1.2.4.

## Release history

Published	Changes	Document version
December 2013	<b>HP CloudSystem Matrix 7.1 revision v7.1.1.5</b> <ul style="list-style-type: none"><li>• Upgrade to SPP 2013.09.0(B)</li><li>• Upgrade OA to 4.01 for ProLiant and Integrity enclosures</li><li>• Upgrade VC to 4.10</li><li>• Remove ESXi 5.1</li><li>• Removes ProLiant FW support exceptions</li><li>• Add note that if ESXi support needed to upgrade to 7.1.2.4.</li><li>• Updates firmware revisions found in the HP SUM Integrity CloudSystem Matrix bundle 7.2.2.0.</li><li>• Removes RHEL 5.7, 6.1, 6.2 and SLES 10 SP3, 10 SP4, 11 SP1 ProLiant OS support</li></ul>	754829–001
April 2013	<b>HP CloudSystem Matrix 7.1 revision v7.1.1.4</b> <ul style="list-style-type: none"><li>• Updates firmware revisions found in the HP SUM Integrity CloudSystem Matrix bundle 7.2.0.1</li><li>• Upgrades to SPP 2013.02.0</li><li>• Upgrades OA to 3.71 for ProLiant enclosures only</li><li>• Upgrades VC to 3.75</li><li>• Upgrades HP Firmware Flash for Emulex Fibre Channel Host Bus and Converged Network Adapters</li></ul>	723606–002

Published	Changes	Document version
January 2013	<p><b>HP CloudSystem Matrix 7.1 Update 1 v7.1.1.3</b></p> <ul style="list-style-type: none"> <li>• Adds support for HP Integrity BL860c i4, BL870c i4, and BL890c i4 server blades</li> <li>• Upgrades firmware revisions found in the HP SUM Integrity CloudSystem Matrix bundle 7.1.1.3</li> <li>• Requires HP Onboard Administrator 3.60 for enclosures containing Integrity server blades or a mix of ProLiant and Integrity server blades</li> <li>• Upgrades Smart Array P410i firmware</li> <li>• Upgrades Integrity firmware for various NIC cards</li> </ul>	723606-001
November 2012	<p><b>HP CloudSystem Matrix 7.1 Update 1 v7.1.1.2</b></p> <ul style="list-style-type: none"> <li>• Upgrades HP Onboard Administrator to 3.70</li> <li>• Upgrades firmware revisions found in SPP 2012.10.0</li> <li>• Upgrades firmware revisions found in the HP SUM Integrity CloudSystem Matrix bundle 7.1.2.1</li> <li>• Recommends manual update of Emulex Fibre Channel Host Bus and Converged Network Adapter firmware to 4.1.450.16</li> </ul>	714623-001
September 2012	<p><b>HP CloudSystem Matrix 7.1 Update 1 v7.1.1.1</b></p> <ul style="list-style-type: none"> <li>• Adds hypervisor VMware ESXi 5.1</li> <li>• Upgrades Integrity i2 server blade firmware to 26.34</li> <li>• Upgrades system ROMs Gen8 server blades</li> </ul>	712624-001
September 2012	<p><b>HP CloudSystem Matrix 7.1 Update 1 v7.1.1.0</b></p> <ul style="list-style-type: none"> <li>• Adds HP ProLiant BL660c Gen8 server blade</li> <li>• Adds HP Virtual Connect Flex-10/10D Module</li> <li>• Upgrades HP Onboard Administrator to 3.60</li> <li>• Upgrades HP Virtual Connect to 3.70</li> <li>• Upgrades NC551m and NC553m adapter firmware for Integrity</li> </ul>	704307-001
August 2012	<p><b>HP CloudSystem Matrix 7.1 revisions</b></p> <ul style="list-style-type: none"> <li>• Upgrades Integrity i2 server blade firmware to 26.33</li> <li>• Upgrades system ROMs for BL620c G7, BL680c G7, and BL465c Gen8 server blades</li> <li>• Upgrades HP Firmware Flash for Emulex Fibre Channel Host Bus and Converged Network Adapters</li> <li>• Upgrades HP management agents and drivers for VMware ESX/ESXi</li> </ul>	698998-002
June 2012	<p><b>HP CloudSystem Matrix 7.1 release</b></p> <ul style="list-style-type: none"> <li>• Adds HP ProLiant BL420c Gen8 and BL465c Gen8 server blades</li> <li>• Adds HP Emulex LPe1205a-hp 8Gb FC HBA for HP c-Class BladeSystem</li> <li>• Adds Onboard Administrator 3.56</li> <li>• Upgrades HP Virtual Connect to 3.60</li> <li>• Adds EVA P6350/P6550 storage systems</li> <li>• Upgrades NC532m and NC551 adapter firmware for Integrity</li> <li>• Changes support for HP Integrity BL860c and BL870c server blades to Extended infrastructure when running HP Integrity Virtual Machines</li> <li>• Removes MSA2000fc G2 and MSA2000i</li> </ul>	698998-001

Published	Changes	Document version
	<ul style="list-style-type: none"><li data-bbox="459 163 1070 195">• Removes HP P6000 EVA Command View Software v9.3</li><li data-bbox="459 205 1091 237">• Removes ESX/ESXi 4.0U2, 4.0U3, 4.0U4, 4.1, and 4.1U1</li></ul>	

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## 2 Enclosure and server hardware

This chapter defines the supported enclosures and options as well as server blades and options for HP CloudSystem Matrix.

### HP CloudSystem Matrix starter and expansion kit

#### Standard components

All starter and expansion kits contain:

- HP BladeSystem c7000 Enclosure with 6 power supplies, 10 fans
- HP BladeSystem c7000 Onboard Administrator (OA) with KVM option, redundant pair
- HP CloudSystem Matrix documentation CD
- HP CloudSystem Matrix label attached to 10000 series rack door handle

#### Interconnect modules

HP CloudSystem Matrix offers a choice of FlexFabric or Flex-10 interconnect modules to be selected with the starter and expansion kits. FlexFabric supports Fibre Channel over Ethernet (FCoE) technology.

In addition to the standard components, the Flex-10 HP CloudSystem Matrix starter and expansion kits contain:

- A redundant pair of HP Virtual Connect Flex-10 Ethernet interconnect modules, either:
  - HP Virtual Connect Flex-10 10Gb Ethernet modules **or**
  - HP Virtual Connect Flex-10/10D 10Gb modules

Mixing of Flex-10 and Flex 10/10D interconnect modules in the same enclosure is not supported in the CloudSystem Matrix environment.

- A redundant pair of HP Virtual Connect 8Gb 24-Port FC interconnect modules

Alternatively, the HP CloudSystem Matrix FlexFabric Starter and Expansion Kit contains:

- A redundant pair of HP Virtual Connect FlexFabric 10Gb 24-Port modules

Additional interconnect modules can be purchased as needed and should be configured in redundant pairs per best practices. Interconnect bays 5 through 8 are available for additional interconnects in all HP CloudSystem Matrix starter and expansion kits. Interconnect bays 3 and 4 are also available for additional VC FlexFabric modules in HP CloudSystem Matrix FlexFabric starter and expansion kits.

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**NOTE:** The HP Virtual Connect 8Gb 20-Port Fibre Channel Module for c-Class BladeSystem is supported in a field Matrix conversion but cannot be ordered as part of a new configuration.

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- ⓘ **IMPORTANT:** Mixing FlexFabric and non-FlexFabric VC modules within the same enclosure is not permitted. Blades without connectivity to all SAN fabrics in the enclosure are not permitted for automated provisioning.
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### HP c-Class server blades

The following table indicates which server blades can be used in each of the three Matrix Starter and Expansion kits.

Server blades	Matrix FlexFabric Starter and Expansion Kit	Matrix Flex-10 <sup>1</sup>	
		Matrix Flex-10 Starter and Expansion Kit	Matrix with HP-UX Starter and Expansion Kit
HP Integrity BL860c i2 HP Integrity BL870c i2 HP Integrity BL890c i2	✓ <sup>2, 3</sup>	✓	✓
HP Integrity BL860c i4 HP Integrity BL870c i4 HP Integrity BL890c i4	✓ <sup>3, 4</sup>	✓	✓
HP ProLiant BL460c G5 HP ProLiant BL465c G5 HP ProLiant BL495c G5 HP ProLiant BL680c G5 HP ProLiant BL685c G5		✓	✓
HP ProLiant BL280c G6 HP ProLiant BL460c G6 HP ProLiant BL465c G6 HP ProLiant BL490c G6 HP ProLiant BL495c G6 HP ProLiant BL685c G6	✓ <sup>2</sup>	✓	✓
HP ProLiant BL460c G7 HP ProLiant BL465c G7 (AMD Opteron 6100) <sup>5</sup> HP ProLiant BL465c G7 (AMD Opteron 6200) <sup>6</sup> HP ProLiant BL490c G7 HP ProLiant BL620c G7 HP ProLiant BL680c G7 HP ProLiant BL685c G7 (AMD Opteron 6100) <sup>5</sup> HP ProLiant BL685c G7 (AMD Opteron 6200) <sup>6</sup>	✓ <sup>7</sup>	✓	✓
HP ProLiant BL420c Gen8 HP ProLiant BL460c Gen8 HP ProLiant BL465c Gen8 HP ProLiant BL660c Gen8	✓ <sup>8, 9</sup>	✓ <sup>9, 10</sup>	✓ <sup>9, 10</sup>

<sup>1</sup> All server blades with a Flex-10 kit require a VC FC mezzanine adapter. See “FC HBA mezzanine adapters” (page 9).

<sup>2</sup> When HP CloudSystem Matrix enclosures are configured with G6 or i2 server blades, a minimum of one FlexFabric mezzanine adapter placed in Mezz slot 1 is required in each blade. If only one pair of FlexFabric modules is used, the pair must be installed in interconnect bays 3 and 4.

<sup>3</sup> When i2 blades are mixed with i4 blades, FlexFabric modules must be installed in both interconnect bays 1 and 2 (for FlexFabric LOMs integrated on i4 blades) and interconnect bays 3 and 4 (for the FlexFabric mezzanine adapter in i2 Mezz slot 1).

<sup>4</sup> When HP CloudSystem Matrix enclosures are configured with Integrity i4 blades, FlexFabric modules must be installed in interconnect bays 1 and 2 (for FlexFabric LOMs integrated on i4 blades).

<sup>5</sup> Red Hat Enterprise Linux 5.5 is the minimum version supported on this server.

<sup>6</sup> Red Hat Enterprise Linux 5.7 is the minimum version supported on this server.



- <sup>7</sup> When HP CloudSystem Matrix enclosures are configured with ProLiant G7 blades, FlexFabric modules are placed in interconnect bays 1 and 2. In this configuration, the FlexFabric LAN on motherboard (LOM)s provided with ProLiant G7 blades enable the full functionality provided by FlexFabric; hence, no mezzanine adapters are required.
- <sup>8</sup> When HP CloudSystem Matrix enclosures are configured with ProLiant Gen8 blades, FlexFabric modules are placed in interconnect bays 1 and 2. HP FlexFabric 10Gb 2-port 554FLB Adapter is required in each blade.
- <sup>9</sup> Gen8 blades can only mix with ProLiant G7 or Integrity i4 blades in the same enclosure; they cannot mix with G5, G6, or Integrity i2 blades.
- <sup>10</sup> One of the following FlexibleLOMs are required in each ProLiant Gen8 blade: HP Flex-10 10Gb 2-port 530FLB Adapter or HP FlexFabric 10Gb 2-port 554FLB Adapter. HP recommends using the HP Flex-10 10Gb 2-port 530FLB Adapter. The same FlexibleLOM type must be used in each blade.

## HP mezzanine adapter options

This section defines supported mezzanine adapters for server blades.

### FC HBA mezzanine adapters

Mezzanine adapters	ProLiant G5 server blades	ProLiant G6 and G7 server blades	ProLiant Gen8 server blades	Integrity i2 server blades	Integrity i4 server blades
HP BLc QLogic QMH2562 8Gb FC HBA for HP c-Class BladeSystem HP BLc Emulex LPe1205 8Gb FC HBA for HP c-Class BladeSystem		✓ <sup>1</sup>		✓	✓
HP BLc QLogic QMH2462 4Gb FC HBA for HP c-Class BladeSystem HP BLc Emulex LPe1105-hp 4Gb FC HBA for HP c-Class BladeSystem	✓	✓			
HP BLc QLogic QMH2572 8Gb FC HBA for HP c-Class BladeSystem HP Emulex LPe1205a-hp 8Gb FC HBA for HP c-Class BladeSystem			✓		

<sup>1</sup> Not supported on the ProLiant BL465c G6 and BL495c G6 server blades

### NIC/CNA and FlexibleLOM mezzanine adapters

Adapters	ProLiant G5 server blades	ProLiant G6 and G7 server blades	ProLiant Gen8 server blades	Integrity i2 server blades	Integrity i4 server blades
NC325m PCI Express Quad Port Gigabit Server Adapter	✓	✓			
NC326m PCI Express Dual Port Gigabit Server Adapter	✓	✓ <sup>1</sup>			
NC360m Dual Port 1GbE BL-c Adapter				✓	✓
NC364m Quad Port 1GbE BL-c Adapter				✓	✓
NC382m PCI Express Dual Port Multifunction Gigabit Server Adapter	✓	✓			
NC532m Dual Port 10GbE Multifunction BL-c Adapter	✓	✓		✓	✓

Adapters	ProLiant G5 server blades	ProLiant G6 and G7 server blades	ProLiant Gen8 server blades	Integrity i2 server blades	Integrity i4 server blades
NC542m Dual Port Flex-10 10GbE BL-c Adapter		✓			
NC550m 10Gb 2-port PCIe x8 Flex-10 Ethernet Adapter	✓ <sup>2</sup>	✓			
NC551m Dual Port FlexFabric 10Gb Converged Network Adapter		✓ <sup>3</sup>		✓	✓
NC552m 10Gb 2-Port Flex-10 Ethernet Adapter		✓			✓
NC553m 10Gb 2-Port FlexFabric Converged Network Adapter		✓		✓ <sup>4</sup>	✓ <sup>4</sup>
HP Flex-10 10Gb 2-port 530M Adapter			✓		
HP Flex-10 10Gb 2-port 552M Adapter			✓		
HP FlexFabric 10Gb 2-port 554M Adapter			✓		
HP Flex-10 10Gb 2-port 530FLB Adapter			✓		
HP FlexFabric 10Gb 2-port 554FLB Adapter			✓		

<sup>1</sup> Not supported on HP ProLiant G7 server blades.

<sup>2</sup> Not supported on the ProLiant BL460c G5, BL465c G5, and BL685c G5 server blades.

<sup>3</sup> Not supported on the ProLiant BL460c G7, BL490c G7, BL620c G7, and BL680c G7 server blades.

<sup>4</sup> Requires HP-UX 11.31.

## Extended infrastructure

HP CloudSystem Matrix includes a capability called extended infrastructure which manages any supported virtual machine (VM) host, including third-party servers, from an HP CloudSystem Matrix Central Management Server (CMS). Extended infrastructure provides provisioning of VM guests, capacity planning, and disaster recovery.

Firmware version requirements for the VM hosts are determined by the hypervisor and system vendor.

## Supported HP servers

Extended infrastructure includes the following hardware in addition to the server blades listed in the [HP c-Class Blade Servers \(page 7\)](#) table.

- HP DL-series servers are supported, based on the hypervisor vendor, when running as an HP VM host:
  - For Microsoft Windows Server 2008 Hyper-V and Hyper-V R2: <http://h18004.www1.hp.com/products/servers/windows/index.html>
  - For VMware ESX: <http://h18004.www1.hp.com/products/servers/vmware/supportmatrix/hpvmware.html>
- HP Integrity servers are supported when running as an HP Integrity VM host:
  - Integrity BL860c
  - Integrity BL870c
  - Integrity rx2660

- Integrity rx3600
- Integrity rx6600
- Integrity rx7640
- Integrity rx8640
- Integrity rx2800 i2
- Superdome
- Superdome 2

## Supported third-party servers

The supported third-party servers are listed in the [HP Insight Management 7.1 Update 1 Support Matrix](#) at: <http://www.hp.com/go/matrixoe/docs>. Click on **HP Support Center** to access the manuals.

## HP ProLiant CMS options

HP offers a choice of rack-mounted ProLiant server (DL or ML) or ProLiant server blade (BL) as CMS host for HP CloudSystem Matrix. HP recommends a rack-mounted ProLiant server as the CMS host so customers can use all available and licensed enclosure blade bays for managed target blades and workloads.

The CloudSystem Matrix server blade firmware recipe described in “[Enclosure and server blade firmware](#)” (page 12) pertains to a blade hosting a CMS. For an HP ProLiant rack-mounted server hosting a CMS, firmware updates are not required. Consult your HP sales representative for specifications for an appropriate rack-mounted server to host the CMS.

## 3 Enclosure and server blade firmware

This chapter provides enclosure and server firmware information for both ProLiant and Integrity server blades. The HP CloudSystem Matrix firmware definition consists of:

- ProLiant firmware from the HP Service Pack for ProLiant (SPP) 2013.09.0(B) located at <http://www.hp.com/go/spp/download>. Unless otherwise indicated, all versions are in the HP 2013.09.0(B) SPP.

For a list of SPP release contents for ProLiant:

1. Go to <http://www.hp.com/go/spp>.
  2. Under Related Information, select **SPP Documentation**.
  3. Click the PDF under the Contents Report column for **Service Pack for ProLiant 2013.09.0(B)**.
- Integrity firmware from the [HP SUM Integrity CloudSystem Matrix](#) bundle, version 7.2.2.0. This bundle will work for all Integrity blades. It includes OA, VC, and I/O firmware for network mezzanines and HBAs. However, the embedded SAS firmware for the BL8x0c i4 server blades must be downloaded separately from <http://www.hp.com/go/hpsc>.

### Enclosure firmware

#### Enclosure components

Component	Version
HP BladeSystem c7000 Enclosure Onboard Administrator	4.01 <sup>1</sup>
HP Blade System c-Class Virtual Connect Firmware, Flex-10 10Gb Ethernet, 8Gb 20-port and 8Gb 24-port FC, and FlexFabric 10Gb/24-port Interconnect Modules <sup>2</sup>	4.10

<sup>1</sup> OA 4.01 is supported on both ProLiant and Integrity server blades.

<sup>2</sup> The VC firmware package contains the specific firmware images for the various Interconnect modules and automatically updates the firmware on these modules when flashed. For Interconnect module specific firmware version information, see the VC firmware release notes at <http://www.hp.com/go/vcdocs>.

## HP ProLiant server blade firmware

Supported ProLiant server blade firmware versions are listed in the 2013.09.0(B) SPP.

The following tables cross-reference adapter names and the smart component name found in the SPP.

### Network mezzanine adapters

Adapters	Smart component name in SPP
NC325m PCI Express Quad Port Gigabit Server Adapter NC326m PCI Express Dual Port Gigabit Server Adapter NC382m PCI Express Dual Port Multifunction Gigabit Server Adapter NC532m Dual Port 10GbE Multifunction BL-c Adapter Flex-10 10Gb 2-port 530M Adapter <sup>1</sup>	HP NC-Series Broadcom Online Firmware Upgrade Utility
NC542m Dual Port Flex-10 10GbE BL-c Adapter	HP NC-Series Mellanox Online Firmware Upgrade Utility
NC550m 10GbE 2-port PCIe x8 Flex-10 Ethernet Adapter NC551m Dual Port FlexFabric 10Gb Converged Network Adapter NC552m 10Gb 2-Port Flex-10 Ethernet Adapter NC553m 10Gb 2-Port FlexFabric Converged Network Adapter Flex-10 10Gb 2-port 552M Adapter <sup>1</sup> FlexFabric 10Gb 2-port 554M Adapter <sup>1</sup>	HP Firmware Flash for Emulex Fibre Channel Host Bus and Converged Network Adapters

<sup>1</sup> The 552M, 554M, and 530M are only supported on Gen8 server blades listed in “[HP c-Class server blades](#)” (page 7).

### FC HBA mezzanine adapters

Adapters	Smart component name in SPP
HP BLc QLogic QMH2462 4Gb FC HBA HP BLc QLogic QMH2562 8Gb FC HBA HP BLc QLogic QMH2572 8Gb FC HBA	HP Firmware Flash for QLogic Fibre Channel Host Bus Adapters
HP BLc Emulex LPe1105-hp 4Gb FC HBA	HP Firmware Flash for Emulex Fibre Channel Host Bus and Converged Network Adapters
HP BLc Emulex LPe1205 8Gb FC HBA HP Emulex LPe1205a-hp 8Gb FC HBA	HP Firmware Flash for Emulex Fibre Channel Host Bus and Converged Network Adapters - Linux

## Ethernet integrated adapters and FlexibleLOMs

Server blades	Adapters	Smart component name in SPP
HP ProLiant BL280c G6	NC362i Integrated Dual Port BL-c Gigabit Server Adapter	N/A, included in system ROM
HP ProLiant BL680c G5 HP ProLiant BL685c G5	NC326i Integrated Dual Port PCI Express Gigabit Server Adapter	HP NC-Series Broadcom Online Firmware Upgrade Utility
HP ProLiant BL465c G5 HP ProLiant BL465c G6	NC370i Multifunction Network Adapter	
HP ProLiant BL460c G5 HP ProLiant BL680c G5 HP ProLiant BL685c G5	NC373i Integrated Multifunction Gigabit Server Adapter	
HP ProLiant BL495c G5 HP ProLiant BL460c G6 HP ProLiant BL490c G6 HP ProLiant BL495c G6 HP ProLiant BL685c G6	NC532i Dual Port Flex-10 10GbE Multifunction Server Adapter	
HP ProLiant BL460c G7 HP ProLiant BL465c G7 HP ProLiant BL490c G7 HP ProLiant BL620c G7 HP ProLiant BL680c G7 HP ProLiant BL685c G7	NC551i Dual Port FlexFabric 10Gb Converged Network Adapter <sup>1</sup> NC553i Dual Port FlexFabric 10Gb Converged Network Adapter <sup>1</sup>	HP Firmware Flash for Emulex Fibre Channel Host Bus and Converged Network Adapters
HP ProLiant BL420c Gen8 HP ProLiant BL460c Gen8 HP ProLiant BL465c Gen8 HP ProLiant BL660c Gen8	HP Flex-10 10Gb 2-port 530FLB Adapter	HP NC-Series Broadcom Online Firmware Upgrade Utility
	HP FlexFabric 10Gb 2-port 554FLB Adapter	HP Firmware Flash for Emulex Fibre Channel Host Bus and Converged Network Adapters

<sup>1</sup> This adapter is compatible with FlexFabric and Flex-10. FC over Ethernet capability requires the HP CloudSystem Matrix FlexFabric starter and expansion kit.

## HP Integrity server blade firmware

Integrity firmware can be obtained from the [HP SUM Integrity CloudSystem Matrix](#) bundle, version 7.2.2.0. It includes OA, VC, and I/O firmware for network mezzanines and HBAs. However, the embedded SAS firmware for the BL8x0c i4 server blades must be downloaded separately from <http://www.hp.com/go/hpsc>. See the Release Notes for this bundle for version information.

### Server blade firmware

Server blade model	Smart component name in bundle
HP Integrity BL860c i4 Server Blade HP Integrity BL870c i4 Server Blade HP Integrity BL890c i4 Server Blade	CloudSystem Matrix Firmware Bundle for HP Integrity BL860c/BL870c/BL890c i2 and i4 Servers
HP Integrity BL860c i2 Server Blade HP Integrity BL870c i2 Server Blade HP Integrity BL890c i2 Server Blade	

### Integrated network adapters

Server blade model	Component	Smart component name in bundle
HP Integrity BL860c i2 Server Blade HP Integrity BL870c i2 Server Blade HP Integrity BL890c i2 Server Blade	NC532i Dual Part Flex-10 10GbE Multifunction Server Adapter	HP Firmware Flash for Intel and Broadcom Adapters for HP Integrity servers if IEXGBE-DRV revision is lower than B.11.31.1303.  HP Firmware Flash Component for BL8x0c i2 LOM – HP-UX if IEXGBE-DRV revision is B.11.31.1303 or greater.
HP Integrity BL869c i4 Server Blade HP Integrity BL870c i4 Server Blade HP Integrity BL890c i4 Server Blade	HP NC553i 10Gb 2-part FlexFabric Converged Network Adapter	Firmware Flash component for BL8x0c i4 iocxgbe

## Integrated serial attached storage (SAS) controllers

Component	Server blade model	Version/Smart component name
Smart Array P410i	HP Integrity BL860c i4 Server Blade HP Integrity BL870c i4 Server Blade HP Integrity BL890c i4 Server Blade	Firmware Flash Component for BL8x0c i4 p410i. <ul style="list-style-type: none"> <li>If the existing version is 5.84 or greater, the latest firmware is available on the HP SUM Integrity CloudSystem Matrix bundle.</li> <li>If the existing version is 5.82 or earlier, use the following versions: EFI: 3.54 Firmware: 6.22<sup>1</sup></li> </ul>
	HP Integrity BL860c i2 Server Blade HP Integrity BL870c i2 Server Blade HP Integrity BL890c i2 Server Blade	Firmware Flash Component for BL8x0c i2 p410i

<sup>1</sup> This version is not on the HP SUM Integrity CloudSystem Matrix bundle. See the *HP CloudSystem Matrix Release Notes* for installation instructions.

## Network mezzanine adapters

Component	Smart component name in bundle
NC360m Dual Port 1GbE BL-c Adapter	Firmware Flash Component for Intel and Broadcom Adapters Firmware for HP Integrity servers
NC364m Quad Port 1GbE BL-c Adapter	Firmware Flash Component for Intel and Broadcom Adapters Firmware for HP Integrity servers
NC532m Dual Port 10GbE Multifunction BL-c Adapter	HP Firmware Flash Component for Intel and Broadcom Adapters for HP Integrity servers if IEXGBE-DRV revision is lower than B.11.31.1303. HP Firmware Flash Component for Broadcom NIC for HP Integrity servers – HP-UX if IEXGBE-DRV revision is B.11.31.1303 or greater.
NC551m Dual Port FlexFabric 10Gb Converged Network Adapter	HP Firmware Flash Component for Emulex Adapters Firmware for HP Integrity servers
NC552m 10Gb 2-Port Flex-10 Ethernet Adapter	HP Firmware Flash Component for Emulex Adapters Firmware for HP Integrity servers
NC553m Dual Port FlexFabric 10Gb Converged Network Adapter <sup>1</sup>	HP Firmware Flash Component for Emulex Adapters Firmware for HP Integrity servers

<sup>1</sup> Supported on Integrity server blade with HP-UX 11.31

## FC HBA mezzanine adapters

Component	Smart component name in bundle
QLogic QMH2562 8Gb FC HBA for HP c-Class BladeSystem	Firmware Flash Component for Qlogic Fibre Channel Host Bus Adapters Firmware for HP Integrity servers
Emulex LPe1205-hp 8Gb FC HBA for HP c-Class BladeSystem	Firmware Flash Component for Emulex Adapters Firmware for HP Integrity servers



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## 4 Storage support

HP CloudSystem Matrix supports the use of virtual and physical logical servers. Physical logical servers use storage provisioned from the SAN for flexible movement. Local disk boot for physical servers through HP Matrix Operating Environment infrastructure orchestration is supported, but boot-from-SAN is recommended for maximum flexibility.

### Server blade deployments

To realize the benefits of VC logical servers, including the ability to move logical servers and to easily repurpose server blades associated with inactive logical servers, any local disks must be removed or disabled.

HP recommends FC SAN with boot from SAN capability for physical server blade deployments. Boot and data volumes can be:

- pre-provisioned LUNs (logical unit number identified storage volumes) or
- on-demand provisioned through integration with the HP Storage Provisioning Manager (SPM), including automated zoning in a Brocade SAN environment with suitable SMI-S instrumentation

Whether pre-provisioned or on-demand provisioned, the storage is managed through logical server storage pool entries. These storage pool entries can be manually created or can be auto-generated by Matrix based on the storage definitions in the infrastructure orchestration service templates.

### Storage and switch recommendations

#### FC SAN

To utilize FC storage, the customer must provide connectivity to a compatible FC SAN array. End-to-end support for a FC storage device is generally certified by the storage vendor. Please see the vendors' support documentation for details. The FC SAN array must meet the following minimum requirements:

- The storage device must be certified by the storage vendor to work with the HP VC modules and HBAs (or CNAs), as well as the operating systems and hypervisors, that will be used in HP CloudSystem Matrix.
- The storage device must support boot from SAN.
- The storage device must support N\_Port ID Virtualization (NPIV).
- The storage device must be able to present LUNs on the storage fabric without requiring visibility to the HBA initiator.

Customer-supplied FC switches to an external SAN must support boot from SAN and NPIV functionality.

For more information on HP storage or third-party FC SAN arrays certified for HP BladeSystem c-Class servers, see <http://h18004.www1.hp.com/products/blades/components/c-class-sans.html>.

For more information on support for FC switches and storage devices that are supported by VC, see <http://www.hp.com/storage/spock>. Simple registration is required. Following login, navigate to **Other Hardware**→**Virtual Connect**→**HP VC 8Gb 24-Port Module**.

## HP storage software requirements

HP storage solutions	Version and other requirements
HP 3PAR StoreServ Systems <sup>1</sup>	3PAR OS version 3.1.1 MU1 or MU2
HP EVA P6000 Storage System (all EVA models)	HP P6000 Command View Software <sup>2</sup> <ul style="list-style-type: none"> <li>• 9.4</li> <li>• 10.0</li> <li>• 10.1</li> </ul>
HP XP P9000 Storage System <sup>3, 4</sup> (all XP models)	For XP24000, SPM requires firmware version 60-08-06 or later.
HP MSA P2000 Storage System (all MSA models)	SMI-S provider version 1.1.2 or later for storage validation

<sup>1</sup> SPM supports 3PAR StoreServ FC, but does not support some 3PAR StoreServ features such as autonomic groups, virtual domains, and peer motion. For more information, see [HP Storage Provisioning Manager \(SPM\) User Guide](http://www.hp.com/go/matrixoe/docs) at <http://www.hp.com/go/matrixoe/docs>.

<sup>2</sup> P6350/P6550 requires 10.1.

<sup>3</sup> XPs managed by SPM must have both FC and network connectivity to the CMS.

<sup>4</sup> SPM supports automated import and presentation adjustment for XP volumes, but does not support on-demand provisioning.

## HP Fibre Channel storage support

HP storage solution	Pre-provisioned FC storage	Storage validation	On-demand provisioning via SPM	Matrix recovery management <sup>1</sup>
HP 3PAR StoreServ <ul style="list-style-type: none"> <li>• F-Class</li> <li>• T-Class</li> <li>• StoreServ 10000</li> </ul>	√		√ <sup>2</sup>	√ <sup>3</sup>
EVA/P6000 <ul style="list-style-type: none"> <li>• 4x00/6x00/8x00</li> <li>• P6300/P6500</li> <li>• P6350/P6550</li> </ul>	√	√	√ <sup>2</sup>	√ <sup>4</sup>
XP/P9000 <ul style="list-style-type: none"> <li>• XP10000</li> <li>• XP12000</li> <li>• XP20000</li> <li>• XP24000</li> <li>• P9500</li> </ul>	√			√ <sup>5</sup>
MSA/P2000 <ul style="list-style-type: none"> <li>• P2000 G3 MSA</li> </ul>	√	√		

<sup>1</sup> Requires an array per site, in conjunction with HP Continuous Access replication software.

<sup>2</sup> Include automated zoning of Brocade SAN environments via SMI-S provider. Brocade fabric with HP B-series SAN Network Advisor 11.1.3 or later, or Brocade Network Advisor 11.1.3 or later is required.

<sup>3</sup> Remote Copy Synchronous or Asynchronous replication required. HP 3PAR Cluster Extension Software version 2.0 or later is required. See <http://www.hp.com/go/clx>.

<sup>4</sup> Continuous Access Synchronous or Asynchronous Replication software required.

<sup>5</sup> Continuous Access Synchronous and Asynchronous Replication required. HP P9000 Cluster Extension Software version 3.01 or later is required. See <http://www.hp.com/go/clx>.

## iSCSI SAN

iSCSI is supported only as a virtual backing store (not a physical server booting from iSCSI or a virtual machine directly accessing raw iSCSI LUNs). To utilize iSCSI, the customer must provide connectivity to a compatible iSCSI SAN. As with FC storage, end-to-end support for an iSCSI storage device is generally certified by the storage vendor.

The following iSCSI initiators are supported with HP CloudSystem Matrix, provided the versions of operating systems, hypervisors, physical servers and associated IO cards, and firmware are listed in this *HP CloudSystem Matrix Compatibility Chart*:

- VMware iSCSI software initiator included with the VMware ESX hypervisor
- Microsoft iSCSI software initiator included with the Microsoft Hyper-V hypervisor
- Only iSCSI storage devices certified by the storage vendor, from the OS/hypervisor through the initiator (or HBA) to the iSCSI target. Please see the iSCSI storage vendor's documentation.

**NOTE:** VMware and Microsoft independently certify third-party devices with their respective operating systems, hypervisors, and iSCSI initiators. Confirmation of device support by the hypervisor vendor is a prerequisite to support in HP CloudSystem Matrix.

### iSCSI targets as backing storage

HP recommends the following iSCSI targets as backing storage for VM guests:

iSCSI targets	Reference
HP 3PAR StoreServ iSCSI	<a href="http://www.hp.com/go/3par">http://www.hp.com/go/3par</a>
HP LeftHand P4300 G2, P4500 G2, and P4800 G2 SAN Solutions	<a href="http://www.hp.com/go/p4000">http://www.hp.com/go/p4000</a>
HP P6300/P6500 iSCSI EVA Systems	<a href="http://www.hp.com/go/p6000">http://www.hp.com/go/p6000</a>

Other iSCSI targets certified and supported by the storage vendor and Microsoft Hyper-V and VMware ESX/ESXi can also be used. See storage vendor's documentation for details.

For more information on support for HP iSCSI devices, please see <http://www.hp.com/storage/spock>.

For more information on Windows and ESX support for iSCSI devices, please see:

- Windows: <http://www.windowsservercatalog.com/>
- VMware: <http://www.vmware.com/resources/compatibility/search.php>

Other iSCSI targets certified and supported by the storage vendor and Microsoft Hyper-V and VMware ESX/ESXi can also be used.

### iSCSI LAN/VLAN switches

HP recommends dedicated iSCSI LAN/VLANs for iSCSI implementations.

- HP ProCurve 6600 series (models with 10 Gb option)
- HP ProCurve 8200zl series
- HP ProCurve 5400zl series

**NOTE:** For security and performance purposes, HP recommends a dedicated network for iSCSI traffic.

## VM guest storage

HP CloudSystem Matrix supports managing VM guests as logical servers using storage from various technologies as supported by the hypervisor.

HP CloudSystem Matrix automatically provisions logical servers to VMs backed by files in the hypervisor file systems. Supported storage for hypervisors includes FC, iSCSI, local disk, and, for VMware only, NFS. Hypervisors can be provisioned independently from Matrix, or Matrix can be used to provision a logical server as the hypervisor. When iSCSI or NFS are used for VM backing store, the storage volume must be manually created and presented to the hypervisor. FC storage pool entries can be automatically associated to the hypervisor logical server by Matrix infrastructure orchestration.

### VM guest storage options

Storage type	VMware VM			Microsoft Hyper-V VM	Integrity VM <sup>1</sup>	
	VM File System (VMFS) <sup>2</sup>	Raw Disk Mapping (RDM)	Network File System (NFS)	NTFS <sup>2</sup>	SLVM with SG	SAN-based (or NPIV-based)
FC	√	√ <sup>3</sup>		√	√	√ <sup>4, 5</sup>
iSCSI	√ <sup>6, 7, 8</sup>		√ <sup>7</sup>			
DAS	√ <sup>9</sup>			√ <sup>9</sup>		
SAS	√ <sup>9</sup>			√ <sup>9</sup>		
Network Attached Storage (NAS)			√ <sup>9</sup>			

<sup>1</sup> Integrity VM guest must have an HP-UX operating system type. Windows and Linux guests are not supported.

<sup>2</sup> All virtual disks of a given VM must reside on the same datastore as the VM itself.

<sup>3</sup> Not supported by Matrix infrastructure orchestration.

<sup>4</sup> SAN-based (or NPIV-based) storage is not supported by Matrix infrastructure orchestration for Integrity VM.

<sup>5</sup> QLogic 8Gb FC HBA only.

<sup>6</sup> Matrix recovery management supports only 3PAR StoreServ iSCSI storage systems as VM backing store.

<sup>7</sup> Customer must provide connectivity to a compatible iSCSI SAN. End-to-end support for iSCSI storage use by the hypervisor is generally certified by the storage vendor.

<sup>8</sup> Supported for VMware ESXi 5.1 and later.

<sup>9</sup> Not supported by Matrix recovery management.

For Integrity VM environments, HP CloudSystem Matrix supports the use of Shared Logical Volume Manager (SLVM) volumes with SG or whole LUNs. Storage pool entries cannot be associated with Integrity VM based logical servers using either storage option. Only HP-UX VM guests are supported.

### Integrity VM logical server operations for storage types

Logical server operations	Whole LUNs (not supported by Matrix infrastructure orchestration)	SLVM with SG
Import	√	√
Online move	√	√
Unmanage	√	√
Power on/off	√	√
Create		√

Logical server operations	Whole LUNs (not supported by Matrix infrastructure orchestration)	SLVM with SG
Modify		√
Activate		√
Deactivate		√
Delete		√

## 5 CMS software

HP Insight Management is not supported on a VM guest in an HP CloudSystem Matrix production environment.

### CMS operating system

Operating system <sup>1, 2</sup>	Version
Windows Server 2008 R2, Enterprise Edition	SP1 Initial release
Windows Server 2008, Enterprise Edition	SP2: x64
Windows Server 2008 R2, Standard Edition	SP1 Initial release
Windows Server 2008, Standard Edition	SP2: x64

<sup>1</sup> CMS clustering requires Windows Server 2008 R2 Enterprise Edition. Version SP1 is recommended. For information on setting up a Failover Cluster environment for the CMS, see the [Installing and Upgrading HP Insight Management 7.1 on Windows Server 2008 R2 Failover Clusters](http://www.hp.com/go/matrixoe/docs) located at <http://www.hp.com/go/matrixoe/docs>.

<sup>2</sup> For optimal performance and scalability, HP recommends Windows Server 2008 R2 Enterprise Edition SP1.

### HP Insight Management DVD

The HP Insight Management DVD contains the Insight Management 7.1 software. Download Insight Management 7.1 Update 1 from <http://www.hp.com/go/insightupdates> and install it after 7.1 has been installed. The IM DVD can also be used to install IRSA A.05.70.

### Additional prerequisite software

Software product and version	Notes
.NET Framework 2.0 SP1	If .NET 2.0 SP1 is not already installed, the HP Insight Management Installer installs it. This is a requirement of the Insight Management Installer and of Matrix infrastructure orchestration.
.NET Framework 3.5 SP1 <sup>1</sup>	This is required when using the Microsoft SQL Server 2008 R2 Express SP1 database server from the Installation DVD. This is a requirement of HP Matrix Operating Environment.
.NET Framework 4.0 <sup>1, 2</sup>	This is a requirement of Insight Control server deployment and SPM.
ASP.Net service	This is a requirement of HP Insight Control server deployment.
Adobe Acrobat Reader	You must have Adobe Acrobat Reader installed to view PDF files. This free reader is available at <a href="http://get.adobe.com/reader">http://get.adobe.com/reader</a> .
Adobe Flash Player Version	Insight Management requires Adobe Flash Player. Adobe Flash Player is included with Systems Insight Manager on the Insight Management 7.1 DVD. All Flash players are for x86 browsers only. You can run an x86 browser on an x64 OS.
Microsoft Silverlight 4.0 <sup>3</sup>	Silverlight application framework is a requirement of SPM.
Microsoft iSCSI software initiator	This is a requirement of Insight Control server migration.
TCP/IP with DNS installed	Installed system names must resolve to an IP address and IP addresses must resolve to system names.

Software product and version	Notes
Windows Automated Installation KIT (WAIK) Version 1.1	<p>If you are installing Insight Control server deployment, you are prompted for the location of the WAIK files only if WAIK 1.1 is not already installed.</p> <p>WAIK is the Automated Installation Kit for Microsoft Windows Server 2008, available from Microsoft.</p> <p>Installing Insight Control server deployment on Windows OSs localized in Italian or Spanish requires the English Microsoft WAIK. The localized Italian or Spanish Microsoft WAIK does not support for WinPE IA-64, which is required to install Insight Control server deployment.</p>
Windows Installer 4.5 or later	This is requirement for the installation or upgrade of the database packaged in the DVD. This is a requirement of Microsoft SQL Server 2008 R2 Express SP1.

<sup>1</sup> This version is not available on the Insight Management DVD. It must be installed separately.

<sup>2</sup> This version can be installed and present on the CMS, but it cannot be set as the default.

<sup>3</sup> Microsoft Silverlight does not support the Firefox browser on a Windows Server 2008 R2 operating system.

## Supported browsers

Browser	Version
Microsoft Internet Explorer	9.0 <sup>1</sup>
	8.0 <sup>2</sup>
Mozilla Firefox <sup>1, 3</sup>	10.0.x ESR 9.x

<sup>1</sup> This browser is not supported for Insight Control server deployment.

<sup>2</sup> For Insight Control power management to operate properly, you must install the SSL certificate.

<sup>3</sup> HP SPM requires a Windows-based browser.

## Screen resolution

HP CloudSystem Matrix management software supports a minimum screen resolution of 800 x 600. HP recommends 1280 x 1024.

## Supported databases

Insight Management requires a supported database for the CMS. If the CMS does not currently have a supported database installed on it or does not have access to a remote database, you must install a database before you begin installing Insight Management. For your convenience, Microsoft SQL Server 2008 R2 Express SP1 (32-bit) is bundled with HP Insight Management DVD #1 if you need to install a database.

- ⓘ **IMPORTANT:** Insight Management requires the Microsoft SQL Server database to be configured in non-binary collation mode; binary collation mode is not supported. See the [HP Insight Management Installation and Configuration Guide](http://www.hp.com/go/insightmanagement/docs) at <http://www.hp.com/go/insightmanagement/docs> for information about how to change the collation mode if it is set to binary mode.

## Supported databases

Database name and version <sup>1</sup>	Local Database	Remote Database
Microsoft SQL Server 2008 R2 Standard and Enterprise SP1 <sup>2</sup>	√	√
Microsoft SQL Server 2008 R2 Standard and Enterprise <sup>2</sup>	√	√

Database name and version <sup>1</sup>	Local Database	Remote Database
Microsoft SQL Server 2008 Standard and Enterprise SP3 <sup>2</sup>	✓	✓
Microsoft SQL Server 2008 Standard and Enterprise SP2 <sup>2</sup>	✓	✓
Microsoft SQL Server 2008 R2 Express SP1 <sup>3</sup>	✓	
Microsoft SQL Server 2008 R2 Express (32-bit) <sup>3</sup>	✓	

<sup>1</sup> A clustered CMS requires a clustered instance of Microsoft SQL Server 2008 R2, Enterprise edition. The instance may run in the CMS cluster or in another cluster that is a member of the same domain as the CMS cluster.

<sup>2</sup> SQL Server 2008 supports up to 5,000 systems and 50,000 events.

<sup>3</sup> SQL Server 2008 Express supports up to 500 systems and 5,000 events.

## Supported deployment services

HP CloudSystem Matrix integrates with several deployment services to enable seamless application provisioning and lifecycle management. The Insight Management CMS installation process allows the use of up to two deployment services provided one of the services is HP Ignite-UX. Consult the documentation for each deployment service for supported deployment environments. Chapter 6 of this document includes the environments supported by Insight Control server deployment software.

## Supported deployment services

Deployment services	Version
HP Cloud Service Automation (CSA)	2.01
HP Cloud Service Automation for Matrix (including HP Server Automation (SA) and SiteScope)	Feb 2012
HP SA	9.1 Satellite 9.13 9.12 9.11 9.10 9.06 9.05
HP Ignite-UX	C.7.15.254 for 1209 C.7.14.264 for 1203 C.7.13.240 for 1109
Insight Control server deployment (included within HP CloudSystem Matrix)	7.1 Update 1



## 6 Managed system software

In general, HP CloudSystem Matrix supports the same managed node operating environments supported by HP Matrix Operating Environment; see the [HP Insight Management Support Matrix](http://www.hp.com/go/insightmanagement/docs) available at <http://www.hp.com/go/insightmanagement/docs>.

### HP ProLiant managed systems

HP recommends using the 2013.09.0(B) SPP. If using the 2013.09.0(B) SPP, it must be used for the CMS and all managed nodes.

#### HP management agents and drivers for VMware ESX/ESXi

The SPP can deploy firmware to a system running a supported VMware operating system in an offline mode. For a list of the supported VMware operating systems and drivers, see the SPP Release Notes at [http://h18004.www1.hp.com/products/servers/service\\_packs/documentation/index.html](http://h18004.www1.hp.com/products/servers/service_packs/documentation/index.html). Since the VMware drivers are not part of the SPP, HP recommends obtaining the drivers as part of an HP-custom VMware OS image. The drivers can also be obtained individually from the VMware website, except for G7 and Gen8 server blades using the HP FlexFabric FlexibleLOM which must use the custom image. Both the custom images and VMware components are available at <http://h18004.www1.hp.com/products/servers/software/vmware/esxi-image.html>.

**NOTE:** If VMware ESXi support is required, do not update to HP CloudSystem Matrix v7.1.1.5. Either stay with your current version or update your environment to at least HP CloudSystem Matrix v7.1.2.4.

#### ProLiant managed node operating system support

Operating system	Version	Insight Control server deployment <sup>1</sup>
<b>Microsoft Windows Standard Editions</b>		
Windows Server 2008, Standard Edition	SP2	√
Windows Server 2008 R2, Standard Edition	Initial release	√
	SP1	√
<b>Microsoft Windows Datacenter Editions</b>		
Windows Server 2008, Datacenter Edition	SP2	√
Windows Server 2008 R2, Datacenter Edition	Initial release	√
	SP1	√
<b>Microsoft Windows Enterprise Editions</b>		
Windows Server 2008, Enterprise Edition	SP2	√
Windows Server 2008 R2, Enterprise Edition	Initial release	√
	SP1	√
<b>Microsoft Windows Web Editions</b>		
Windows Server 2008 R2, Web Edition	Initial release	√
	SP1	√
Windows Server 2008, Web Edition	SP2	√

Operating system	Version	Insight Control server deployment <sup>1</sup>
<b>Red Hat Enterprise Linux (RHEL)</b>		
Red Hat Enterprise Linux 5	5.8 <sup>2</sup>	√
Red Hat Enterprise Linux 6	6.3	√
<b>SUSE Linux Enterprise Server (SLES)</b>		
SUSE Linux Enterprise Server 11	SP2	√

<sup>1</sup> Insight Control server deployment supports only PXE-based deployments.

<sup>2</sup> RHEL 5.8 or later is required to support AMD Opteron 6200 series processors (in ProLiant server blades BL465c G7 and BL685c G7).

## Proliant hypervisor and guest operating system support

Hypervisor	Supported guest OS	Insight Control server deployment of the hypervisor <sup>1</sup>
Microsoft Windows Server 2008 SP2 with Hyper-V Microsoft Windows Server 2008 R2 with Hyper-V	Microsoft OSs listed among managed system operating systems above plus Microsoft Windows 2003 SP2 and R2 SP2 for Standard, Enterprise, Datacenter, and Web editions. Only the following Linux operating systems: <sup>2, 3</sup> <ul style="list-style-type: none"> <li>• RHEL 5.5, 5.6, 5.7, 6.0, 6.1, and 6.2</li> <li>• SLES 10 SP4</li> <li>• SLES 11 SP1 and SP2</li> </ul>	√ <sup>4</sup>
Microsoft Windows Server 2008 R2 SP1 Server Core with Hyper-V	Microsoft OSs listed among managed system operating systems above plus Microsoft Windows 2003 SP2 and R2 SP2 for Standard, Enterprise, Datacenter, and Web editions. Only the following Linux operating systems: <sup>2, 3</sup> <ul style="list-style-type: none"> <li>• RHEL 5.5, 5.6, 5.7, 6.0, 6.1, and 6.2</li> <li>• SLES 10 SP4</li> <li>• SLES 11 SP1 and SP2</li> </ul>	
Microsoft Windows Server 2008 R2 Hyper-V Microsoft Windows Server 2008 R2 Hyper-V SP1	Microsoft OSs listed among managed system operating systems above plus Microsoft Windows 2003 SP2 and R2 SP2 for Standard, Enterprise, Datacenter, and Web editions. Only the following Linux operating systems: <sup>2, 3</sup> <ul style="list-style-type: none"> <li>• RHEL 5.5, 5.6, 5.7, 6.0, 6.1, and 6.2</li> <li>• SLES 10 SP4</li> <li>• SLES 11 SP1 and SP2</li> </ul>	√ <sup>4</sup>
Microsoft Hyper-V Server 2008 SP2	Microsoft OSs listed among managed system operating systems above plus Microsoft Windows 2003 SP2 and R2 SP2 for Standard, Enterprise, Datacenter, and Web editions. Only the following Linux operating systems: <sup>2, 3</sup> <ul style="list-style-type: none"> <li>• RHEL 5.5, 5.6, 5.7, 6.0, 6.1, and 6.2</li> <li>• SLES 10 SP4</li> <li>• SLES 11 SP1 and SP2</li> </ul>	√ <sup>4</sup>
Microsoft Hyper-V Server 2008 R2 Microsoft Hyper-V Server 2008 R2 SP1	Microsoft OSs listed among managed system operating systems above plus Microsoft Windows 2003 SP2 and R2 SP2 for Standard, Enterprise, Datacenter, and Web editions. Only the following Linux operating systems: <sup>2, 3</sup> <ul style="list-style-type: none"> <li>• RHEL 5.5, 5.6, 5.7, 6.0, 6.1, and 6.2</li> <li>• SLES 10 SP4</li> <li>• SLES 11 SP1 and SP2</li> </ul>	

<sup>1</sup> Insight Control server deployment supports only PXE-based deployments.

<sup>2</sup> Red Hat Enterprise Linux 5.5 cannot be installed in VM guest on any ESX/ESXi host on server blades BL465c G7 and BL685c G7.

<sup>3</sup> RHEL and SLES VM guests on Hyper-V are not supported by Matrix infrastructure orchestration.

<sup>4</sup> RHEL 5.5, 5.6, and 6.0 are only supported when upgrading from a previous release of HP CloudSystem Matrix. Additionally, this operating system may only be deployed to servers that were supported by Insight Control server deployment for that release.

HP Matrix Operating Environment infrastructure orchestration enables VMware vDS (vNetwork Distributed Switch) virtual switches in an ESX data center to be used without any limitation. See the [HP Matrix Operating Environment Infrastructure Orchestration User Guide](http://www.hp.com/go/matrixoe/docs) at <http://www.hp.com/go/matrixoe/docs> for more information.

## Virtualization Management Environment software

Software	Version
Microsoft System Center Virtual Machine Manager 2012 <sup>1, 2</sup>	Initial release
Microsoft System Center Virtual Machine Manager 2008 R2 <sup>1, 2</sup>	SP1
VMware vCenter 5.1	Initial release

<sup>1</sup> If SCVMM is integrated with Insight Control, then Insight Control virtual machine management will manage template deployment through SCVMM.

<sup>2</sup> Matrix infrastructure orchestration supports VM provisioning using SCVMM Hyper-V VM templates. For more information, see *HP Matrix Operating Environment Infrastructure Orchestration User Guide*.

# HP Integrity managed systems

## Integrity managed node licenses

Licenses for managing HP CloudSystem Integrity c-Class server blades are purchased separately. Select either the HP-UX Virtual Server OE (VSE-OE) or the larger HP-UX Data Center OE (DC-OE) operating environment to obtain the necessary Integrity management software licenses to use with HP CloudSystem Matrix. For HP-UX information, see <http://www.hp.com/go/hpux>.

## Patches

Patches for HP-UX, HP Integrity VMs (host and guest) can be downloaded from <http://www.hp.com/go/hpsc>. Log on with an HP Passport. From the Download options list, select **Patch management** and enter the patch number in the search box. Click **Search**.

## Integrity managed node operating system support

Operating system	Version/Patch
HP-UX 11i v3	HPUX 11i v3 1209 HPUX 11i v3 1203 HP-UX 11i v3 1109 / PHKL_41967, PHKL_42464

## HP Integrity Virtual Machines

Software	Version
HP Integrity Virtual Machines	6.1.5 6.1 <sup>1</sup> 4.3 PK2 (January 2012)

<sup>1</sup> Only VMs (shared guests) are supported. vPars 6.1 is not supported.

HP Integrity Virtual Machines require the installation of the following patches.

## Patches

Host/Guest	Patch
11i v3 VM Host for Integrity VM 6.1.5	<p>On the VM host:</p> <ul style="list-style-type: none"> <li>• PHCO_42915</li> <li>• PHKL_42889</li> <li>• PHKL_42906</li> <li>• PHSS_43248 1.0 HPVM B.06.10.05 CORE PATCH</li> <li>• PHSS_43249 1.0 HPVM B.06.10.05 AVIO-HVSD</li> </ul> <p>On each VM:</p> <ul style="list-style-type: none"> <li>• PHKL_42890</li> <li>• PHKL_42891</li> </ul>
11i v3 VM Host for Integrity VM 6.1	PHSS_43030
11i v3 VM Host for Integrity VM 4.3 PK2	PHSS_42542 PHSS_42543 PHSS_42544 PHSS_42545 PHSS_42547 PHKL_41967 Host storage AVIO drivers B.11.31.1201 <sup>1</sup> SG A.11.20 <sup>2</sup>
11i v3 guests for Integrity VM 4.3 PK2	PHSS_42545 PHKL_42464 Guest storage AVIO drivers B.11.31.1201
11i v2 guests for Integrity VM 4.3 PK2	PHSS_42546 Guest storage AVIO drivers B.11.31.1201

<sup>1</sup> AVIO drivers can be downloaded from: <https://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=AVIO>

<sup>2</sup> SLVM with SG is currently the only storage solution supported by Matrix infrastructure orchestration for Integrity VM.

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# 7 Support and other resources

## Contacting HP

### Information to collect before contacting HP

Be sure to have the following information available before you contact HP:

- HP CloudSystem Matrix Starter Kit or Expansion Kit c7000 enclosure serial number and/or SAID (Service Agreement Identifier) if applicable
- Software product name
- Hardware product model number
- Operating system type and version
- Applicable error message
- Third-party hardware or software
- Technical support registration number (if applicable)

- 
- ❗ **IMPORTANT:** Be sure to mention that this is a HP CloudSystem Matrix configuration when you call for support. Each HP CloudSystem Matrix Starter Kit or Expansion Kit c7000 serial number identifies it as a HP CloudSystem Matrix installation.
- 

### How to contact HP

Use the following methods to contact HP technical support:

- See the Contact HP Worldwide website for contact options:  
<http://www.hp.com/go/assistance>
- Use the Contact hp link on the HP Support Center website:  
<http://www.hp.com/go/hpsc>
- In the United States, call 1-800-334-5144 to contact HP by telephone. This service is available 24 hours a day, 7 days a week. For continuous quality improvement, conversations might be recorded or monitored.

### Registering for software technical support and update service

HP CloudSystem Matrix includes as standard, three or one year of 24 x 7 HP Software Technical Support and Update Service and 24 x 7 four hour response HP Hardware Support Service. This service provides access to HP technical resources for assistance in resolving software implementation or operations problems.

The service also provides access to software updates and reference manuals in electronic form as they are made available from HP. Customers who purchase an electronic license are eligible for electronic updates.

With this service, Insight Management software customers benefit from expedited problem resolution as well as proactive notification and delivery of software updates. For more information about this service, see the following website:

<http://www.hp.com/services/insight>

Registration for this service takes place following online redemption of the license certificate.

## How to use your software technical support and update service

As HP releases updates to software, the latest versions of the software and documentation are made available to you. The Software Updates and Licensing portal gives you access to software, documentation and license updates for products on your HP software support agreement.

You can access this portal from the HP Support Center:

<http://www.hp.com/go/hpsc>

After creating your profile and linking your support agreements to your profile, see the Software Updates and Licensing portal at <http://www.hp.com/go/hpsoftwareupdatesupport> to obtain software, documentation, and license updates.

## Warranty information

HP will replace defective delivery media for a period of 90 days from the date of purchase. This warranty applies to all Insight Management software products.

## HP authorized resellers

For the name of the nearest HP authorized reseller, see the following sources:

- In the United States, see the HP U.S. service locator web site:  
[http://www.hp.com/service\\_locator](http://www.hp.com/service_locator)
- In other locations, see the Contact HP worldwide web site:  
<http://welcome.hp.com/country/us/en/wwcontact.html>

## Related information

The latest versions of manuals (only the HP CloudSystem Matrix Compatibility Chart and HP CloudSystem Matrix Release Notes are available) and white papers for HP CloudSystem Matrix and related products can be downloaded from the web at [www.hp.com/go/cloudsystem-matrix7docs](http://www.hp.com/go/cloudsystem-matrix7docs).

HP CloudSystem Matrix documentation refers to Matrix Operating Environment documents, HP Server Automation (SA), HP Cloud Service Automation (CSA), and HP Cloud Service Automation for Matrix.

Other related documentation includes:

For Matrix Operating Environment documents, see the Insight Management documentation: <http://www.hp.com/go/insightmanagement/docs>.

For HP Server Automation (SA), HP Cloud Service Automation (CSA), and HP Cloud Service Automation for Matrix, search the SSO portal to retrieve relevant documentation:

1. Navigate to the SSO portal (<http://support.openview.hp.com/selfsolve/manuals>).
2. Login to HP Passport, if necessary. If you do not already have an HP Passport account, you will need to create one.
3. In the Product menu, select **Server Automation**, **Cloud Service Automation**, or **CSA for Matrix**.
4. In the Product version menu, select the most current version.
5. In the Operating system menu, select the relevant operating system.
6. Click **Search**.

## Typographic conventions

This document uses the following typographical conventions:

<i>Book title</i>	The title of a book. On the web, this can be a hyperlink to the book itself.
Command	A command name or command phrase, for example <code>ls -a</code> .



Filename	The name of a file or the path to a file location.
Computer output	Information displayed by the computer.
<b>Ctrl-x</b>	A key sequence that indicates you must hold down the keyboard key labeled <b>Ctrl</b> while you press the letter <i>x</i> .
ENVIRONMENT VARIABLE	The name of an environment variable, for example, <i>PATH</i> .
<b>Key</b>	The name of a keyboard key. <b>Return</b> and <b>Enter</b> both refer to the same key.
<b>Term</b>	A term or phrase that is defined in the body text of the document, not in a glossary.
<b>User input</b>	Indicates commands and text that you type exactly as shown.
<i>&lt;Replaceable&gt;</i>	The name of a placeholder that you replace with an actual value.
[ ]	In command syntax statements, these characters enclose optional content.
{ }	In command syntax statements, these characters enclose required content.
	The character that separates items in a linear list of choices.
...	Indicates that the preceding element can be repeated one or more times.
WARNING	An alert that calls attention to important information that, if not understood or followed, results in personal injury.
CAUTION	An alert that calls attention to important information that, if not understood or followed, results in data loss, data corruption, or damage to hardware or software.
IMPORTANT	An alert that calls attention to essential information.
NOTE	An alert that contains additional or supplementary information.
TIP	An alert that provides helpful information.

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## 8 Documentation feedback

HP is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback ([docsfeedback@hp.com](mailto:docsfeedback@hp.com)). Include the document title and part number, version number, or the URL when submitting your feedback.