

General Notes:

The following platform/OS combinations are supported:

- x86 platform and 32 bit OS
- x64 platform and 32 bit OS
- x64 platform and 64 bit OS
- IA64 platform and (IA)64 bit OS <HP only>

CIM Extension Minimum Requirements:

- 2GB physical memory
- 512MB disk space

OS	Release	Filesystem	Comments
Red Hat Advanced Server/Enterprise Server	RHEL AS/ES 5.0 U1, U2, U3, U4, U5, U6, U7, U8, U9 (x86, x64, IA64) RHEL AS/ES 6.0 U1, U2, U3, U4 (x86, x64)	ext2,ext3, reiserfs	No support for Compaq Array Raid controllers fully /dev/ida/c0d0p0 Redhat software Raid (raidtab) is not supported Cluster awareness/visualization limited support. CIM/CXWS agents can coexist on clustered hosts. Auto-discovery of Oracle CRS Cluster on RHEL 4 U5 x64 is supported. See Cluster Section below for more details. Remote agent deploy to AS 4.0 qualified using SSH: SSH-1.99-OpenSSH_3.6.1p2 & SSH-1.99-OpenSSH_3.9p1 To properly receive host serial number and vendor information, Linux IA64 hosts running CIM extensions will need kernel-utils-2.4-13.1.99.ia64.rpm or above IPv6 Support: RHEL 5.x and 6.x host configured with IPv6 address is supported.

HBA

HBAs were tested with recent firmware and drivers, as of this writing. Contact your management server software representative for additional firmware and driver details.

HBA drivers used must be SNIA HBA API compliant.

We do not support multiple OEMs of HBAs in the same server.

Dual-ported HBAs differ in how they appear to the management server software and is dependent on how the vendor implements their API. Some dual-ported HBAs appear as two separate adapters.

Depending on the HBA Firmware and the api versions that are used to retrieve the information, SE may report the HBA type differently from what it actually is on the HBA.

HBA	Driver	Platform	Comments
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Emulex	<p>8.1.10.12, 8.2.0.39, 8.2.0.63</p> <p>Inbox Drivers</p> <p>8.1.10.3 8.1.10.9 8.2.0.22 8.2.0.33.3p 8.2.0.48.2p 8.2.0.71 8.2.0.87.1p 8.2.0.96.2p 8.2.0.108.4p 8.3.5.17 8.3.5.30.1p 8.3.5.45.4p 8.3.5.68.5p 8.3.5.86.1p</p>	<p>RHEL AS/ES 5.0 U1, U2, U3, U4 (x86, x64, IA64)</p> <p>RHEL AS/ES 5.0 RHEL AS/ES 5.0 U1 RHEL AS/ES 5.0 U2 RHEL AS/ES 5.0 U3 RHEL AS/ES 5.0 U4 RHEL AS/ES 5.0 U5 RHEL AS/ES 5.0 U6 RHEL AS/ES 5.0 U7 RHEL AS/ES 5.0 U8 RHEL AS/ES 6.0 RHEL AS/ES 6 U1 RHEL AS/ES 6 U2 RHEL AS/ES 6 U3 RHEL AS/ES 6 U4</p>	<p>Emulex HBA Families</p> <p>2g PCI - LP9002, LP9002DC, LP9002L, LP952L 2g PCI-X (1.0) - LP9802, LP9802DC, LP982, LP9402DC, LP1050, LP1050Ex, LP1050DC, LP10000, LP10000DC, LP10000ExDC, LP9000, LP101, LP1005DC-CM2 4g PCI-X (2.0) - LP1150, LP11002, LP11000 2/4g PCI Express - LPe11002, LPe11004, LPe11000, LPe1150 8g PCIe - LPe12000, LPe12002, LPe12004, LPe1250</p> <p>OneCommandManager is required with all Drivers to provide the SNIA API.</p> <p>For x64 Hosts, the 32bit libnl rpm package is required for HBA\SAN discovery. Refer to the OS media to install this RPM.</p> <p>*NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions.</p>
QLogic	<p>8.02.08, 8.02.14, 8.02.14.01, 8.02.23</p> <p>Inbox Drivers</p> <p>8.01.07-d4 8.02.09-d0 8.01.07-k1 8.01.07-k7 8.02.00-k5 8.02.00.06.05.03-k 8.02.23 8.03.00.10.05.04-k 8.03.01.05.05.06-k 8.03.07.03.05.07-k 8.03.07.09.05.08-k 8.03.01.05.06.0-k8 8.04.00.04.06.3-k v.8.04.00.08.06.4-k</p>	<p>RHEL AS/ES 5.0 U1, U2, U3 (x86, x64, IA64)</p> <p>RHEL AS/ES 5.0 RHEL AS/ES 5.0 U1 RHEL AS/ES 5.0 U2 RHEL AS/ES 5.0 U3 RHEL AS/ES 5.0 U4 RHEL AS/ES 5.0 U5 RHEL AS/ES 5.0 U6 RHEL AS/ES 5.0 U7 RHEL AS/ES 5.0 U8 RHEL AS/ES 6.0 RHEL AS/ES 6.0 U3 RHEL AS/ES 6 U4</p>	<p>QLogic HBA Families</p> <p>2g PCI-X (1.0) QLA2300,QLA2300F,QLA2302F,QLA2310,QLA2310F,QLA2310FL, QLA2340,QLA2340L,QLA2342,QLA2342L,QLA2350,QLA2352, QLA2344 4g PCI-X (2.0) QLA2460,QLA2462 2/4g PCI Express - QLE2460, QLE2462 8g PCIe - QLE2560, QLE2562, QLE2564</p> <p>*NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions.</p> <p>** The inbox drivers are only supported with the SNIA API that is downloadable from Qlogic's website. Follow the readme file from Qlogic on how to extract and install the API.</p>

HP - (Emulex Branded)	8.1.10.11, 8.2.0.22_p1, 8.2.0.22_p4 Inbox Drivers 8.2.0.33.3p ** 8.2.0.87.1p 8.2.0.96.2p 8.2.0.108.4p 8.3.5.17 8.3.5.30.1p 8.3.5.45.4p 8.3.5.86.1p	RHEL AS/ES 5.0 U1, U2 (x86,x64,IA64) RHEL AS/ES 5.0 U3, U5 RHEL AS/ES 5.0 U6 RHEL AS/ES 5.0 U7 RHEL AS/ES 5.0 U8 RHEL AS/ES 6.0 RHEL AS/ES 6 U1 RHEL AS/ES 6 U2 RHEL AS/ES 6 U4	4g PCI-X (2.0) - FC2143, FC2243 2/4g PCI Express - FC2242SR, FC2142SR 8g PCI Express - 81E (AJ762A), 82E (AJ763A) P-Class Blades - Emulex-based Fibre Channel Mezzanine HBA for HP p-Class BladeSystem C-Class Blades - Emulex LPe1105-HP 4gb FC HBA for HP c-Class BladeSystem, Emulex LPe1205-HP 8Gb FC HBA for HP c-Class BladeSystem For x64 Hosts, the 32bit libnl rpm package is required for HBA\SAN discovery. Refer to the OS media to install this RPM. *NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions. ** The RH 5 U3 inbox driver is only supported using the SNIA API from Emulex. The SNIA API can be installed using the supported OneCommand Manager application from www.emulex.com.
HP - (Qlogic Branded)	8.01.07.25_02, 8.02.03, 8.02.11 Inbox Drivers 8.02.00.06.05.03-k 8.02.23 8.03.00.10.05.04-k 8.03.01.05.05.06-k 8.03.07.03.05.07-k 8.03.07.09.05.08-k 8.03.01.05.06.0-k8 8.03.07.03.06.1-k 8.03.07.05.06.2-k v.8.04.00.08.06.4-k	RHEL AS/ES 5.0 U1, U2 (x86, x64, IA64) RHEL AS/ES 5.0 U3 RHEL AS/ES 5.0 U4 RHEL AS/ES 5.0 U5 RHEL AS/ES 5.0 U6 RHEL AS/ES 5.0 U7 RHEL AS/ES 5.0 U8 RHEL AS/ES 6.0 RHEL AS/ES 6 U1 RHEL AS/ES 6 U2 RHEL AS/ES 6.0 U4	2g PCI-X (1.0) - FCA2214, FCA2214DC, A6826A 4g PCI-X (2.0) - FC1143, FC1243, AB379A 4g PCI Express - FC1142SR, FC1242SR 8g PCI Express - 81Q (AK344A), 82Q (AJ764A) P-Class Blades - QLogic-based Fibre Channel Mezzanine HBA for HP p-Class BladeSystem C-Class Blades - HP QLogic QMH2462 4Gb FC HBA for HP c-Class BladeSystem *NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions. ** The inbox drivers are only supported with the SNIA API that can be installed with the HP Fibre Channel Enablement Kit. This kit can be found at hp.com.
Multipathing, Volume Manager, File Systems	Version	Platform	Comments
HDLM	5.9.0, 5.9.1, 5.9.2, 5.9.3, 5.9.4, 6.0, 6.1		HDS arrays only Refer to HDLM's support matrix for version support on each OS When using HGLAM 5.6 and HDLM 6.0 on unix based clients, the load balancing at lun level option is not supported. The UI does not show the multipathing path status properly.
SDD	1.6.2.0-1.1 1.6.3.0-2		
Veritas DMP	4.1, 5.0, 5.0 MP3 5.1 SP1 PR2 6.0 6.3		Veritas DMP v4.1 supported with RH 4 U4, U5 Veritas DMP v5.0 Supported with RH 4 U4, U5, U6, U7 and RH 5 U1 Veritas DMP v5.0 MP3 supported with RH 5 U6, U7 Veritas DMP v5.1 SP1 PR2 supported with RHEL-6 Veritas DMP v6.0 supported with RHEL-6 U1 Refer to vendor's release notes to determine which MP versions are supported by each OS.

VxFS	4.1, 5.0, 5.0 MP3 5.1 SP1 PR2 6.0		
Qlogic Failover	3.0 3.0.0 build 2	RHEL 5 (x86, x64, IA64)	Active/Active and Active/Passive supported Note: 'Type of Multipath' and 'Status' information will not be shown
Linux Device Mapper	Native OS version	RH 5, RH 5 U1, U2, U3, U4, U5, U6, U7 RH 6, RH 6 U1, U2, U3,U4	
EMC PowerPath	5.0 5.1 5.1 SP2 5.6.0	RH 5 RH 6	Note: See Vendor's support matrix for software's supported OS and platform versions.
VxVM	5.0, 5.0 MP3 5.1 SP1 PR2 6.0	x64	note: the version of VxVM reported internally may differ from the marketing/sold version Veritas VxVM v4.1 supported with RH 4 U4, U5 Veritas VxVM v5.0 Supported with RH 4 U4, U5, U6, U7 and RH 5 U1, U2, U3 Veritas VxVM v5.0 MP3 supported with RH 5 U6, U7 Veritas VxVM v5.1 SP1 PR2 supported with RHEL-6 Veritas VxVM v6.0 supported with RHEL-6 U1 Veritas VxVM v6.0.100.000 supported with RHEL-6 U3 Plex details will not be discovered or displayed. Refer to vendor's release notes to determine which MP versions are supported by each OS.
LVM	Native OS version	x86, x64, IA64 RH 5, RH 5 U1, U2, U3, U4, U5, U6, U7 RH 6, RH 6 U1, U2, U3 (x86, x64), U4 (x86, x64)	

Clusters

Application Cluster Support

The product is cluster safe.

It is "cluster aware" with the use of the Cluster Builder capability in which the user manually assigns a cluster node to a cluster name or cluster virtual IP address.

Where noted below, product supports "clustering" in which the product provides automatic agent-based cluster discovery.

There are 2 ways of supporting clusters:

1. "Cluster Builder" - with the use of the Cluster Builder capability , the user can manually assign a cluster node to a cluster (host) name or cluster virtual IP address. This is "Cluster Aware."
2. "Automatic Cluster Discovery" - by installing a CIM extension on a host, the product supports automatic cluster discovery (see table below for supported environments).

In both cases, cluster topology, capacity, properties, and events are represented.

Clusters	Version	Platform	Comment
MC Service Guard			MC Service Guard is Cluster Aware. Automatic discovery of cluster is not supported, Cluster Builder must be used.
HP StorageWorks Cluster Extension			HP StorageWorks Cluster Extension EVA Software only. Supported configurations are - MC Service Guard Linux Cluster
Oracle Clusterware	10.2.0.4, 11.2.0.1	RHEL 5 U3 (x64)	Automatic discovery of cluster is supported. Oracle RAC is supported on this cluster. Oracle Autoscan should be enabled or Oracle RAC configurations details should be entered in Application Setup page before running GAED on the cluster nodes for automatic discovery to complete. Refer to User Guides for more details.

General Notes for Discovery of Hosts WITHOUT CIM Extension:

The following platform/OS combinations are supported:

- x86 platform and 32 bit OS
- x64 platform and 32 bit OS
- x64 platform and 64 bit OS

IA64 platform is NOT supported.

No cluster support for agentless host discovery. Both host cluster auto-discovery and Cluster builder are not supported.

Pls refer the HP Storage Essentials User guide for pre-requisites for AGENTLESS discovery of Windows hosts.

1. Following information is not available for a non root user account:

- Information related to DMP devices is not displayed, as the command vxdisk, required for collecting the information needs root privileges.
- Serial number and manufacturer of the system is not displayed.
- Information related to disk drives and disk partitions is not displayed.

2. Vendor, Serial Number and hardware version information is not displayed for HBAs.

3. Performance data for Disk Read, Disk Total, Disk Utilization, Disk Write and Processor utilization metrics is not displayed in the management server.

4. Binding page is not updated when some paths to the LUNs are disabled.

5. Target mapping data on the Binding page does not match with CIME.

6. For RHEL 4 hosts, HBAs will not be listed and End to end topology will not be shown.

Note: All the above mentioned limitations can be overcome by installing CIM extension on the Linux host.

Only Password authentication method in SSH is supported.

IPv6 Support: RHEL 5.5 (x64) configured with IPv6 address is supported.

OS	Release and Kernel	Filesystem	Comments
Red Hat Advanced Server/Enterprise Server	RHEL AS/ES 5.0 U5 (x86, x64)	ext2,ext3, reiserfs	No support for Compaq Array Raid controllers fully /dev/ida/c0d0p0 Redhat software Raid (raidtab) is not supported

HBA
HBAs were tested with recent firmware and drivers, as of this writing. Contact your management server software representative for additional firmware and driver details. We do not support multiple OEMs of HBAs in the same server. Dual-ported HBAs differ in how they appear to the management server software. Dual-port HBAs appear as two separate adapters.

HBA	Driver	Platform	Comments
Emulex	Inbox Drivers 8.2.0.63.3p	RHEL AS/ES 5.0 U5	Emulex HBA Families 2g PCI - LP9002, LP9002DC, LP9002L, LP952L 2g PCI-X (1.0) - LP9802, LP9802DC, LP982, LP9402DC, LP1050, LP1050Ex, LP1050DC, LP10000, LP10000DC, LP10000ExDC, LP9000, LP101, LP1005DC-CM2 4g PCI-X (2.0) - LP1150, LP11002, LP11000 2/4g PCI Express - LPe11002, LPe11004, LPe11000, LPe1150 8g PCIe - LPe12000, LPe12002, LPe12004, LPe1250 *NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions.

QLogic	Inbox Drivers 8.02.10.01.04.09-d 8.03.01.04.05.05-k	RHEL AS/ES 5.0 U5	QLogic HBA Families 2g PCI-X (1.0) QLA2300,QLA2300F,QLA2302F,QLA2310,QLA2310F,QLA2310FL, QLA2340,QLA2340L,QLA2342,QLA2342L,QLA2350,QLA2352, QLA2344 4g PCI-X (2.0) QLA2460,QLA2462 2/4g PCI Express - QLE2460, QLE2462 8g PCIe - QLE2560, QLE2562, QLE2564 *NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions.
HP - (Emulex Branded)	Inbox Drivers 8.2.0.63.3p	RHEL AS/ES 5.0 U5	4g PCI-X (2.0) - FC2143, FC2243 2/4g PCI Express - FC2242SR, FC2142SR 8g PCI Express - 81E (AJ762A), 82E (AJ763A) P-Class Blades - Emulex-based Fibre Channel Mezzanine HBA for HP p-Class BladeSystem C-Class Blades - Emulex LPe1105-HP 4gb FC HBA for HP c-Class BladeSystem *NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions.
HP - (Qlogic Branded)	Inbox Drivers 8.02.10.01.04.09-d 8.03.01.04.05.05-k	RHEL AS/ES 5.0 U5	2g PCI-X (1.0) - FCA2214, FCA2214DC, A6826A 4g PCI-X (2.0) - FC1143, FC1243, AB379A 4g PCI Express - FC1142SR, FC1242SR 8g PCI Express - 81Q (AK344A), 82Q (AJ764A) P-Class Blades - QLogic-based Fibre Channel Mezzanine HBA for HP p-Class BladeSystem C-Class Blades - HP QLogic QMH2462 4Gb FC HBA for HP c-Class BladeSystem *NOTE: Refer to the Vendor's Release Notes to determine which HBAs and Drivers are supported by which OS versions.
Multipathing, Volume Manager, File Systems	Version	Platform	Comments
Veritas DMP	4.1, 5.0		Veritas DMP v4.1 supported with RH 4 U8,U9
VxFS	4.1, 5.0		Veritas DMP v4.1 MP4 supported with RH 5 U5 Veritas DMP v5.0 MP3 supported with RH 5 U5 Refer to vendor's release notes to determine which MP versions are supported by each OS.
Linux Device Mapper	Native OS version	RH 5 U5	
VxVM	4.1 MP4	RH5 U5	
	5.0 MP3	RH5 U5 (x64)	
LVM	Native OS version	RH5 U5	