



HP StoreVirtual Compatibility Matrix

for HP StoreVirtual VSA Software and HP StoreVirtual 4000 Storage

[Table of contents](#)

1. Getting Started	3
2. iSCSI Initiators	4
2.1 Microsoft	4
2.2 VMware	8
2.3 Red Hat	10
2.4 Novell	11
2.5 Fedora	12
2.6 Ubuntu	13
2.6 Debian	13
2.7 HP	13
2.8 IBM	14
2.9 SUN	14
2.10 Citrix	14
2.11 Apple	15
2.12 Oracle	15
3. Fibre Channel Initiators	16
3.1 Microsoft	16
3.2 VMware	19
3.3 Oracle	20
4 OpenStack	21
5 HP StoreVirtual Centralized Management Console	21
6 HP StoreVirtual Failover Manager	22
7 HP StoreVirtual VSA (formerly LeftHand VSA)	22

- 8 HP Insight Control..... 23**
 - 8.1 Insight Remote Support 23*
 - 8.2 Systems Insight Manager 23*
 - 8.3 Insight Control for vCenter/OneView for vCenter..... 23*

- 9 HP CloudSystem Matrix and HP Matrix Operating Environment 23**

- 10 HP Storage Management Pack for MS SCOM 24**

- 11 HP Storage UI Add-in for MS SCVMM 24**

- 12 Supported Hardware Platforms 25**

- 13 Management Group Interoperability 26**

- 14 For more information 27**

1. Getting Started

About this document

The HP StoreVirtual Compatibility Matrix outlines the host OS and iSCSI Initiator support for HP StoreVirtual. The most recent version of this document can be found at hp.com/go/storevirtualcompatibility and HP SPOCK.

For detailed component level compatibility information on HP P4000 G2 and HP StoreVirtual, please review the firmware compatibility matrices on HP SPOCK.

New branding

HP StoreVirtual Storage is the new name for HP LeftHand Storage and HP P4000 SAN Solutions. LeftHand Operating System (LeftHand OS) is the new name for SAN/iQ.

Active/Inactive LeftHand OS Versions

Inactive versions

Customers with current support contracts will receive basic support, but support escalations and advanced troubleshooting will not occur for customers until they upgrade to an "Active" version of LeftHand OS.

Active versions

Customers with current support contracts will receive full support, including escalations as needed.

More specific information related to the definition of Active / Inactive can be found at: [Software Support Policy for HP StoreVirtual](#)

iSCSI/Fibre Channel: Direct attach or direct connect

HP StoreVirtual does not support direct attach configurations for iSCSI or Fibre Channel connectivity.

iSCSI: Network interfaces and host bus adapters

When using iSCSI to access volumes on HP StoreVirtual, a host utilizes an iSCSI initiator; typically that means either an iSCSI Software Initiator or an iSCSI host bus adapter. The HP StoreVirtual Compatibility Matrix lists the supported configurations of LeftHand OS version, host OS and iSCSI initiator:

- When using iSCSI Software Initiators, the combination of host OS and the iSCSI Software Initiator must be listed in this document. In this case, the network adapters used for iSCSI must be supported by the server and host OS but are not explicitly listed in this matrix.
- When using iSCSI host bus adapters, the combination of host OS and iSCSI host bus adapter must be listed in this document.

2. iSCSI Initiators

2.1 Microsoft

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2012 R2									
Versions	Server – all editions					√	√	√	√
	Server Core					√	√	√	√
	Hyper-V Server					√	√	√	√
	Storage Server					√	√	√	√
Software Initiators	Microsoft iSCSI Initiator version 6.1					√	√	√	√
HBAs/ CNAs	HP NC553i/NC553m 10Gb 2-port FlexFabric CNA ¹					√	√	√	√
	HP FlexFabric 10Gb 2-port 554M Adapter (647590-B21) ²					√	√	√	√
	HP FlexFabric 10Gb 2-port 554FLB Adapter (647586-B21) ³					√	√	√	√
	HP NC523SFP 10Gb 2-port Server Adapter (Offloading)								√
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter (Offloading)								√
Storage Extensions	HP StoreVirtual VSS Provider ⁴					√	√	√	√
	HP StoreVirtual DSM for MPIO ⁵					√	√	√	√
	Microsoft DSM for MPIO ⁶					√	√	√	√
Cluster Software	Windows Failover Cluster					√	√	√	√
Certifications	Windows Server Catalog of Tested Products					√	√	√	√

1. Firmware 4.2.401.6; driver 2.74.009.001; boot from SAN supported. LOM used in BL460c G7 and BL490c G7 for boot from SAN
2. Firmware 4.1.459.16; boot from SAN supported;
3. Firmware 4.1.459.16; boot from SAN supported;
4. Requires Microsoft software initiator; iSCSI HBAs are not supported
5. Supports multiple network interfaces; iSCSI HBAs or Windows' built-in NIC Teaming (LBFO) are not supported
6. Supports multiple network interfaces; boot from SAN with supported HBA

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2012									
Versions	Server – all editions			√	√	√	√	√	√
	Server Core			√	√	√	√	√	√
	Hyper-V Server			√	√	√	√	√	√
	Storage Server			√	√	√	√	√	√
Software Initiators	Microsoft iSCSI Initiator version 6.1			√	√	√	√	√	√
HBAs/ CNAs	QLogic QLE4060C/ QLE4062C iSCSI HBA			√	√	√			
	QLogic QLA4052C iSCSI HBA			√	√	√			
	HP NC553i/NC553m 10Gb 2-port FlexFabric CNA ¹			√	√	√	√	√	√
	HP FlexFabric 10Gb 2-port 554M Adapter (647590-B21) ²						√	√	√

	HP FlexFabric 10Gb 2-port 554FLB Adapter (647586-B21) ³						√	√	√
	HP FlexFabric 10Gb 2-port 554 FLR Adapter (including iSCSI boot)								√
	HP NC523SFP 10Gb 2-port Server Adapter (Offloading)								√
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter (Offloading)								√
Storage Extensions	HP StoreVirtual VSS Provider ⁴			√	√	√	√	√	√
	HP StoreVirtual DSM for MPIO ⁵			√	√	√	√	√	√
	Microsoft DSM for MPIO ⁶			√	√	√	√	√	√
Cluster Software	Windows Failover Cluster			√	√	√	√	√	√
Certifications	Windows Server Catalog of Tested Products			√	√	√	√	√	√

1. Firmware 4.2.401.6; driver 2.74.009.001; boot from SAN supported.
LOM used in BL460c G7 and BL490c G7 for boot from SAN
2. Firmware 4.1.459.16; boot from SAN supported;
3. Firmware 4.1.459.16; boot from SAN supported;
4. Requires Microsoft software initiator; iSCSI HBAs are not supported
5. Supports multiple network interfaces; iSCSI HBAs or Windows' built-in NIC Teaming (LBFO) are not supported
6. Supports multiple network interfaces; boot from SAN with supported HBA

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2008 R2									
Versions	Server – all editions	√	√	√	√	√	√	√	√
	Server Core	√	√	√	√	√	√	√	√
	Hyper-V Server	√	√	√	√	√	√	√	√
	Storage Server	√	√	√	√	√	√	√	√
Software Initiators	Microsoft iSCSI Initiator version 6.1	√	√	√	√	√	√	√	√
HBAs/ CNAs	QLogic QLE4060C/ QLE4062C iSCSI HBA	√	√	√	√	√			
	QLogic QMH4062 1GbE iSCSI Adapter for c-Class BladeSystem ¹	√	√	√	√	√			
	HP NC553i/ NC553m 10Gb 2-port FlexFabric CNA ²		√	√	√	√	√	√	√
	HP NC373i/ NC373m Integrated Multifunction Gigabit Server Adapter ³			√	√	√			
	HP FlexFabric 10Gb 2-port 554M Adapter (647590-B21) ⁴			√	√	√	√	√	√
	HP FlexFabric 10Gb 2-port 554FLB Adapter (647586-B21) ⁵			√	√	√	√	√	√
	HP FlexFabric 10Gb 2-port 554 FLR Adapter (including iSCSI boot)								√
	HP NC523SFP 10Gb 2-port Server Adapter (Offloading)								√
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter (Offloading)								√
	HP StoreVirtual VSS Provider ⁶	√	√	√	√	√	√	√	√

Storage Extensions	HP StoreVirtual DSM for MPIO ⁷	√	√	√	√	√	√	√	√
	Microsoft DSM for MPIO ⁸		√	√	√	√	√	√	√
	Symantec Backup Exec 12	√	√	√	√	√			√
	Symantec Backup Exec 2010	√	√	√	√	√			√
Cluster Software	Microsoft Failover Clustering	√	√	√	√	√	√	√	√
Certifications	Windows Server Catalog of Tested Products	√	√	√	√	√	√	√	√
Service Packs	Service Pack 1	√	√	√	√	√	√	√	√

1. BIOS 1.14, iSCSI Firmware 3.0.1.49; boot from SAN supported per [QLogic configuration guide](#)
2. Firmware 4.0.360-15; boot code 2.0.8.768; driver 2.102.485.4; boot from SAN supported. LOM (iLO) used in BL460c G7 and BL490c G7 for boot from SAN
3. Boot from SAN not supported
4. Firmware 4.1.450.16; boot from SAN supported; supported on BL460c G8 on Win2K8R2 x64 SP1
5. Firmware 4.1.450.16; boot from SAN supported; supported on BL460c G8 on Win2K8R2 x64 SP1
6. Requires Microsoft iSCSI Initiator; iSCSI HBAs are not supported
7. Supports multiple network interfaces; iSCSI HBAs are not supported
8. Supports multiple network interfaces; boot from SAN with supported HBA

LeftHand OS Version

		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2008									
Versions	Server – all editions	√	√	√	√	√	√	√	√
	Server Core	√	√	√	√	√	√	√	√
	Hyper-V Server	√	√	√	√	√	√	√	√
	Storage Server	√	√	√	√	√	√	√	√
Software Initiators	Microsoft iSCSI Initiator version 6.0	√	√	√	√	√	√	√	√
HBAs/ CNAs	QLogic QLE4060C/ QLE4062C iSCSI HBA	√	√	√	√	√			
	QLogic QMH4062 1GbE iSCSI Adapter for c-Class BladeSystem ¹	√	√	√	√	√			
	HP NC553i/ NC553m 10Gb 2-port FlexFabric CNA ²		√	√	√	√	√	√	√
	HP NC373i/ NC373m Integrated Multifunction Gigabit Server Adapter ³			√	√	√			
	HP FlexFabric 10Gb 2-port 554M Adapter (647590-B21) ⁴			√	√	√	√	√	√
	HP FlexFabric 10Gb 2-port 554FLB Adapter (647586-B21) ⁵			√	√	√	√	√	√
	HP FlexFabric 10Gb 2-port 554 FLR Adapter (including iSCSI boot)								√
	HP NC523SFP 10Gb 2-port Server Adapter (Offloading)								√
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter (Offloading)								√
Storage Extensions	HP StoreVirtual VSS Provider ⁶	√	√	√	√	√	√	√	√
Storage Extensions Cluster Software	HP StoreVirtual DSM for MPIO ⁷	√	√	√	√	√	√	√	√
	Microsoft DSM for MPIO ⁸		√	√	√	√	√	√	√
	Symantec Backup Exec 12	√	√	√			√	√	
	Symantec Backup Exec 2010	√	√	√			√	√	
	Microsoft Failover Clustering	√	√	√	√	√	√	√	√

Certifications	Windows Server Catalog of Tested Products	√	√	√	√	√	√	√	√
Service Packs	Service Pack 1	√	√	√	√	√			
	Service Pack 2	√	√	√	√	√	√	√	√

1. BIOS 1.14, iSCSI Firmware 3.0.1.49; boot from SAN supported per [QLogic configuration guide](#)
2. Firmware 4.0.360-15; boot code 2.0.8.768; driver 2.102.485.4; boot from SAN supported. LOM (iLO) used in BL460c G7 and BL490c G7 for boot from SAN
3. Boot from SAN not supported
4. Firmware 4.1.450.16; boot from SAN supported; supported on BL460c G8 on Win2K8 x64 SP2 only
5. Firmware 4.1.450.16; boot from SAN supported; supported on BL460c G8 on Win2K8 x64 SP2 only
6. Requires Microsoft software initiator; iSCSI HBAs are not supported
7. Supports multiple network interfaces; iSCSI HBAs are not supported
8. Supports multiple network interfaces; boot from SAN with supported HBA

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Versions	Standard Server/Web/Small Business/R2	√	√	√	√	√			
	Enterprise Server/R2	√	√	√	√	√			
	Datacenter	√	√	√					
Software Initiators	Microsoft iSCSI Initiator 2.06	√							
	Microsoft iSCSI Initiator 2.07	√	√						
	Microsoft iSCSI Initiator 2.08	√	√	√	√	√			
HBAs/ CNAs	Alacritech SEN2000 ¹	√		√	√	√			
	QLogic QLA4050C/QLA4052C ²	√			√	√			
	QLogic QLE4060C/ QLE4062C iSCSI HBA	√	√	√	√	√			
	QLogic QMH4062 1GbE iSCSI Adapter for c-Class BladeSystem ³	√	√	√					
	HP NC553i/NC553m 10Gb 2-port FlexFabric CNA ⁴		√	√					
Storage Extensions	HP StoreVirtual VSS Provider ⁵	√	√	√	√	√			
	HP StoreVirtual DSM for MPIO ⁶	√	√	√	√	√			
	Symantec Backup Exec 11 ⁷	√							
	Symantec Backup Exec 12	√	√	√					
Cluster Software	Microsoft Clustering Services	√	√	√	√	√			
	Certifications	Designed for Windows	√	√	√		√		
Service Packs	Windows Server Catalog of Tested Products	√	√	√	√	√			
	Service Pack 2	√	√	√	√	√			

1. Driver 9.0.0.129 & 7.3.0.1r3. Qualified with emBoot WinBoot/i 1.5
2. BIOS 1.04, iSCSI Firmware 2.0.0.7
3. BIOS 1.14, iSCSI Firmware 3.0.1.49; boot from SAN supported per [QLogic configuration guide](#)
4. Firmware 4.0.360-15; boot code 2.0.8.768; driver 2.102.485.4; boot from SAN supported. LOM (iLO) used in BL460c G7 and BL490c G7 for boot from SAN
5. Requires Microsoft software initiators; iSCSI HBAs are not supported
6. Supports multiple network interfaces; iSCSI HBAs are not supported
7. Requires Symantec Backup Exec 11d (11.1) for Windows Servers Hotfix 14 32bit or 64bit

2.2 VMware

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
VMware vSphere 5									
Versions	vSphere 5.0 / 5.1 (incl. updates: 5.0 U2, U3, 5.1 U1, U2)		√	√	√	√	√	√	√
	vSphere 5.5 (incl. updates 5.5 U1, U2)					√	√	√	√
Software Initiators	VMware Software iSCSI Initiator		√	√	√	√	√	√	√
Certifications	Storage/SAN Compatibility Guide for vSphere 5.5		√	√	√	√	√	√	√
	VMWare PSA (pluggable storage architecture)								√
	Storage Replication Adapter (SRA) for VMware Site Recovery Manager 5.1 (Update 1 and higher)			√	√	√	√	√	√
	Storage Replication Adapter (SRA) for VMware Site Recovery Manager 5.5 (Including Update 1 and higher)					√	√	√	√
	Certified for vMSC 5.0/5.1								√
	Certified for vMSC 5.5								√
HBAs	QLogic QLE4060C/ QLE4062C iSCSI HBA		√	√	√	√			
	QLogic QMH4062 1GbE iSCSI Adapter for c-Class BladeSystem ¹		√	√	√	√			
	HP NC373i/ NC373m Integrated Multifunction Gigabit Server Adapter ²			√					
	HP FlexFabric 10Gb 2-port 554M Adapter (647590-B21) ³			√	√	√	√	√	√
	HP FlexFabric 10Gb 2-port 554FLB Adapter (647586-B21) ³			√	√	√	√	√	√
	HP FlexFabric 10Gb 2-port 554 FLR Adapter (including iSCSI boot)								√
	HP NC523SFP 10Gb 2-port Server Adapter (Offloading)								√
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter (Offloading)								√
Storage	VMware NMP for MPIO								√
	HP StoreVirtual Application Aware Snapshot Manager								√

1. BIOS 1.14, iSCSI Firmware 3.0.1.49; boot from SAN support
2. Boot from SAN not supported
3. Firmware 4.1.450.16; boot from SAN supported; supported on BL460c G8 on ESXi 5.0 Build 469512 and ESXi 5.0 U1 Build 623860

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Versions	VMware vSphere 4; ESX/ESXi Server 4.0/ 4.0 U1/ 4.0 U2	√	√						
	VMware vSphere 4; ESX/ESXi Server 4.0 U3/ 4.0 U4		√	√	√	√			
	VMware vSphere 4.1; ESX/ESXi Server 4.1/ 4.1 U1/ 4.1 U2/ 4.1 U3		√	√	√	√	√		
Software Initiators	VMware Software iSCSI Initiator	√	√	√	√	√	√		
Certifications	Storage/SAN Compatibility Guide ESX/ESXi 4.x	√	√	√	√	√	√		
	Storage Replication Adapter (SRA) for vSphere 4		√	√					
HBAs	QLogic QLE4060C/ QLE4062C iSCSI HBA	√	√	√	√	√			
	QLogic QMH4062 1GbE iSCSI Adapter for c-Class BladeSystem ¹	√	√	√	√	√			
	HP NC373i/ NC373m Integrated Multifunction Gigabit Server Adapter ²			√					
	HP FlexFabric 10Gb 2-port 554M Adapter (647590-B21) ³			√			√		
	HP FlexFabric 10Gb 2-port 554FLB Adapter (647586-B21) ³			√			√		

1. BIOS 1.14, iSCSI Firmware 3.0.1.49; boot from SAN support
2. Boot from SAN not supported
3. Firmware 4.1.450.16; boot from SAN supported; supported on BL460c G8 on ESXi 4.1 U2 Build 502767

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Versions	VMware Infrastructure 3; ESX Server 3.0.2	√							
	VMware Infrastructure 3.5 ESX/ESXi Server 3.5 (U1/U2/U3/ U4/U5)	√							
Software Initiators	VMware iSCSI Initiator v. 3.4.2-27701	√							
	VMware iSCSI Initiator v. 3.5.0-110268	√							
Certifications	Storage/SAN Compatibility Guide ESX/ESXi 3.x	√							
	Storage Replication Adapter (SRA)	√							

2.3 Red Hat

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Red Hat Enterprise Virtualization									
Versions	Red Hat Enterprise Virtualization 3 ¹			√	√	√	√	√	
Software Initiators	iSCSI-initiator-utils-6.2.0.872			√	√	√	√	√	

1. RHEV 3.0 is supported on Red Hat Enterprise Virtualization Hypervisor 6

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Red Hat Enterprise Linux 7									
Versions	Red Hat Enterprise Linux 7.0		√	√	√	√	√		√
Software Initiators	iSCSI-initiator-utils-7.0.		√	√	√				√
Services	GFS		√	√	√	√	√	√	√
	Device Mapping MPIO ¹		√	√	√	√	√	√	√
	RedHat Enterprise Virtualization								√
Cluster Software	Red Hat Cluster Suite		√	√	√	√	√	√	√

1. Refer to [Red Hat DM Multipath](#) documentation for configuration details

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Red Hat Enterprise Linux 6									
Versions	Red Hat Enterprise Linux 6.1		√	√	√	√	√		√
	Red Hat Enterprise Linux 6.2			√	√	√	√		√
	Red Hat Enterprise Linux 6.3			√	√	√	√		√
	Red Hat Enterprise Linux 6.4			√	√	√	√	√	√
	Red Hat Enterprise Linux 6.5					√	√	√	√
	Red Hat Enterprise Linux 6.6							√	√
Software Initiators	iSCSI-initiator-utils-6.2.0.872		√	√	√				√
	iSCSI-initiator-utils-6.2.0.873					√	√	√	
Services	GFS		√	√	√	√	√	√	√
	Device Mapping MPIO ¹		√	√	√	√	√	√	√
	RedHat Enterprise Virtualization								√
Cluster Software	Red Hat Cluster Suite		√	√	√	√	√	√	√

2. Refer to [Red Hat DM Multipath](#) documentation for configuration details

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Red Hat Enterprise Linux 5									
Versions	Red Hat Enterprise Linux 5.0	√							
	Red Hat Enterprise Linux 5.1	√							
	Red Hat Enterprise Linux 5.2	√							
	Red Hat Enterprise Linux 5.3	√							
	Red Hat Enterprise Linux 5.4	√	√	√					
	Red Hat Enterprise Linux 5.5	√	√	√	√	√			
	Red Hat Enterprise Linux 5.6	√	√	√	√	√			
	Red Hat Enterprise Linux 5.7			√	√	√	√		
Red Hat Enterprise Linux 5.8			√	√	√	√	√		

	Red Hat Enterprise Linux 5.9			√		√	√		
	Red Hat Enterprise Linux 5.10			√		√	√	√	
Software Initiators	iSCSI-initiator-utils-6.2.0.742	√							
	iSCSI-initiator-utils-6.2.0.865	√							
	iSCSI-initiator-utils-6.2.0.868	√	√	√	√	√			
	iSCSI-initiator-utils-6.2.0.871	√	√	√	√	√	√		
	iSCSI-initiator-utils-6.2.0.872							√	
HBAs	QLogic QLE4060C/ QLE4062C iSCSI HBA	√	√	√	√	√			
	QLogic QMH4062 1GbE iSCSI Adapter for c-Class BladeSystem ¹	√	√	√	√	√			
Services	GFS	√	√	√	√	√	√	√	
	Device Mapping MPIO ²	√	√	√	√	√	√	√	
Cluster Software	Red Hat Cluster Suite	√	√	√	√	√	√	√	
	Veritas Storage foundation ³ 5.0/ 5.0MP1/ 5.0MP2/ 5.0MP3/ 5.0MP4			√					

1. BIOS 1.14, iSCSI Firmware 3.0.1.49; boot from SAN and multi-path IO supported with HBA port failure/restore
2. Refer to [Red Hat DM Multipath](#) documentation for configuration details
3. Veritas Storage Foundation 5.0 (including maintenance packs) is supported on RHEL5.4, 5.5 and 5.6 only

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Red Hat Enterprise Linux 4									
Versions	Red Hat Enterprise Linux AS 4.6	√							
	Red Hat Enterprise Linux AS 4.7	√	√						
	Red Hat Enterprise Linux AS 4.8	√	√	√					
Software Initiators	iSCSI -initiator-utils-v4.0.3.0-7	√	√	√					

2.4 Novell

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
NetWare									
Versions	NetWare 6.5	√							
Software Initiators	NetWare iSCSI Initiator ¹	√							
Cluster software	Novell Cluster Services 1.8	√							
Certifications	Certified	√							
Service Packs	SP6, SP6a	√							
	SP7	√							
	SP8	√							

1. VIP load balancing not supported. Unselect "enable load balancing" when registering servers in the StoreVirtual CMC

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
SUSE Linux									
Versions	SUSE Linux Enterprise Server 9	√							
	SUSE Linux Enterprise Server 10/10 SP3/ 10.1/10.2	√	√	√					

	SUSE Linux Enterprise Server 11/11 SP1	√	√	√	√	√	√	√	
	SUSE Linux Enterprise Server 11 SP2/SP3			√	√	√	√	√	√
	SUSE Linux Enterprise Server 12 x86/x64 Architecture	√	√	√					√
Software Initiators	linux-iscsi v. 4.0.1-88 (SLES9)	√							
	open-iscsi-0.5.545 (SLES9)	√	√	√					
	open-iscsi-2.0.707-0.19 (SLES10)	√							
	open-iscsi-2.0.707-0.44 (SLES10)	√							
	open-iscsi-2.0.868.-0 (SLES10)	√	√	√					
	open-iscsi-2.0.870.-0 (SLES11)	√	√	√	√	√			
	open-iscsi-2.0.871.-0 (SLES11 SP1)		√	√	√	√	√		
	open-iscsi-2.0.872.-0 (SLES11 SP1)							√	
	open-iscsi-2.0.873 (SLES11 SP3/SLES 12)								√
HBAs/ CNAs	QLogic QLE4060C/ QLE4062C iSCSI HBA	√	√	√	√	√			
	QLogic QMH4062 1GbE iSCSI Adapter for c-Class BladeSystem ¹	√	√	√	√	√			
Cluster Software	SuSE Cluster Services	√	√	√					√
Certifications	Certified	√	√	√					√
Storage Extensions	Device Mapper MPIO								√

1. BIOS 1.13, iSCSI Firmware 3.0.1.24

2.5 Fedora

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Fedora	Versions								
	Fedora 8	√							
	Fedora 9	√							
	Fedora 10	√							
	Fedora 11	√	√						
	Fedora 12	√	√	√					
Fedora 13		√	√						
Software Initiators	iscsi-initiator-utils-6.2.0.865-0.2.fc8	√							
	iscsi-initiator-utils-6.2.0.868-0.7.fc9	√	√						
	iscsi-initiator-utils-6.2.0.870-0.1.fc10	√	√						
	iscsi-initiator-utils-6.2.0.870-8.fc11	√	√	√					
	iscsi-initiator-utils-6.2.0.870-10.fc12	√	√	√					
	iscsi-initiator-utils-6.2.0.870-13.fc13		√	√					

2.6 Ubuntu

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Versions	Ubuntu Server Edition 9.04	√	√	√					
	Ubuntu Server Edition 10.04 LTS		√	√			√	√	√
	Ubuntu Server Edition 10.10			√	√	√			
	Ubuntu Server Edition 11.04			√	√	√			
	Ubuntu Server Edition 11.10				√	√			
	Ubuntu Server Edition 12.04 LTS				√	√	√	√	√
	Ubuntu Server Edition 12.10					√	√	√	
	Ubuntu Server Edition 13.10						√	√	
	Ubuntu Server Edition 14.04 LTS								√
Software Initiators	open-iscsi_2.0.870.1	√	√	√					
	open-iscsi_2.0.871			√	√	√	√	√	
	open-iscsi_2.0.873							√	
Clustering	Corosync and Pacemaker								√
Storage Extensions	Device Mapper MPIO								√

2.6 Debian

		9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (inactive) Feb 2013	11.0 (active) Sep 2013	11.5 (dev) Feb 2014	12.0 (dev) Sep 2014
Versions	Debian 6.0					√	
	Debian 7.0				√	√	√
Software Initiators	open-iscsi-2.0.871					√	
	open-iscsi-2.0.873					√	√
Storage Extensions	Device Mapper MPIO				√	√	√

2.7 HP

		8.5 (inactive) Mar 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (inactive) Feb 2013	11.0 (active) Sep 2013	11.5 (dev) Feb 2014	12.0 (dev) Sep 2014
Versions	Cloud OS (hLinux)							√
Software Initiators	open-iscsi-2.0.873							√
Storage Extensions	Device Mapper MPIO							√

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Versions	HP-UX 11i v1 (PA-RISC 11.11)	√							
	HP-UX 11i v2 (IA64/PA-RISC 11.23)	√	√	√					
	HP-UX 11i v3 (IA64/PA-RISC 11.31)	√	√	√	√	√	√	√	
Software Initiators	iSCSI Initiator B.11.11.03a	√	√	√					
	iSCSI Initiator B.11.11.03f	√	√	√					
	iSCSI Initiator B.11.23.03a	√	√	√					
	iSCSI Initiator B.11.23.03f	√	√	√					

iSCSI Initiator B.11.31.03b	√	√	√	√	√	√	√	√	
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2.8 IBM

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
IBM AIX Versions	IBM AIX 5L Version 5.3 ML2	√							
	IBM AIX 6.1	√	√	√	√	√			
	IBM AIX 7.1					√	√	√	
Software Initiators	AIX iSCSI Initiator ¹	√	√	√	√	√	√	√	

1. VIP load balancing not supported. Unselect "enable load balancing" when registering servers in the StoreVirtual CMC

2.9 SUN

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Solaris Enterprise System Versions	Solaris 11 (x86)			√	√	√	√	√	
	Solaris 11 (SPARC)				√	√	√	√	
	Solaris 10 (SPARC)	√	√	√	√	√	√	√	
	Solaris 10 (x86)	√	√	√	√	√	√	√	
Software Initiators	iSCSI Initiator (i386) 11.10.0 rev 2005.01.04.14.30	√	√	√	√	√	√	√	
	iSCSI Initiator 11.10.0 rev 2005.01.04.14.31	√	√	√			√	√	

2.10 Citrix

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Citrix XenServer Versions	Citrix XenServer 5.0 ¹	√	√	√					
	Citrix XenServer 5.5 ¹	√	√	√					
	Citrix XenServer 5.6 ¹ / 5.6 FP1 ¹	√	√	√	√	√			
	Citrix XenServer 5.6 SP2 ¹				√	√			
	Citrix XenServer 6.0 ¹			√	√	√			√
	Citrix XenServer 6.0.2 ¹					√	√		√
	Citrix XenServer 6.1.x ¹					√	√	√	√
Software Initiators	Citrix XenServer 6.2.x ¹					√	√	√	√
	open-iscsi-2.0.865.13-361	√	√	√					
	open-iscsi-2.0.870			√		√	√	√	
	open-iscsi-2.0.871			√	√	√	√	√	√
Storage Extensions	open-iscsi-2.0.872			√	√	√	√	√	√
	Multi-pathing								√
Certifications	Hardware Compatibility List Category 1	√	√	√	√	√	√	√	√

1. MPIO configuration not supported

2.11 Apple

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Apple OS X Leopard Versions	OS X Leopard 10.5.4	√							
	OS X Leopard 10.5.5	√							
	OS X Leopard 10.5.6	√	√	√					
	OS X Leopard 10.5.7	√	√	√					
	OS X Leopard 10.5.8			√	√	√			
Software Initiators	GlobalSAN iSCSI Initiator 3.3.0.43 ¹	√	√	√	√	√			

1. VIP load balancing not supported. Unselect "enable load balancing" when registering servers in the StoreVirtual CMC

2.12 Oracle

Oracle Database 10g, 11g

Oracle specifies supported versions of Operating Systems with Oracle Application Software. Refer to the Oracle web site *My Oracle Support* at <http://support.oracle.com>. Specifics of OS and Oracle versions supported together are available under the Certifications tab. A Customer Support Identifier (CSI) number is required to access this information. For details please refer the note: [Third Party Application Interoperability Considerations with HP arrays](#)

		<u>LeftHand OS Version</u>							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Oracle VM Versions	Oracle VM 2.2 ¹	√	√	√					
	Oracle VM 3.2.2						√	√	√
	Oracle VM 3.2.8						√	√	√

1. VIP load balancing not supported. Unselect "enable load balancing" when registering servers in the StoreVirtual CMC

3. Fibre Channel Initiators

3.1 Microsoft

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2012 R2									
Versions	Server – all editions					√	√	√	√
	Server Core					√	√	√	√
	Hyper-V Server					√	√	√	√
	Storage Server					√	√	√	√
HBAs/ CNAs	82E PCIe FC HBA (LPe12002 - 82e (AJ763A)) ¹					√	√	√	√
	82Q PCIe FC HBA (QLE2562 - 82q (AJ764A)) ²					√	√	√	√
	HP FC2242SR 4Gb PCIe Dual Channel FC HBA (LPE11002 - FC2242SR (A8003A)) ³					√	√	√	√
	HP FC1242SR 4Gb PCIe Dual Channel FC HBA (QLE2462 - FC1242SR (AE312A)) ⁴					√	√	√	√
FC Switches	HP StorageWorks 8/24 SAN Switch (AM868A) ⁵					√	√	√	√
	HP StorageWorks 4/16 SAN Switch (A7985A) ⁶					√	√	√	√
	HP StorageWorks SAN Switch 4/32 Base (A7537A) ⁷					√	√	√	√
	HP StorageWorks 8/20q Fibre Channel Switch (AK242A) ⁸					√	√	√	√
Cluster software	Microsoft Failover Clustering					√	√	√	√
Storage Extensions	Microsoft DSM for MPIO								√
	HP StoreVirtual Application Aware Snapshot Manager								√
Certifications	Windows Server Catalog of Tested Products					√	√	√	√

1. Firmware 2.00a4; driver 2.74.009.001; boot from SAN supported
2. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
3. Firmware 2.82x4; driver 2.74.009.001; boot from SAN not supported
4. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
5. Firmware 7.0.2a
6. Firmware 6.2.2f
7. Firmware 6.4.3b
8. Firmware 8.0.14.03.00

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2012									
Versions	Server – all editions				√	√	√	√	√
	Server Core				√	√	√	√	√
	Hyper-V Server				√	√	√	√	√
	Storage Server				√	√	√	√	√
HBAs/ CNAs	82E PCIe FC HBA (LPe12002 - 82e (AJ763A)) ¹				√	√	√	√	√
	82Q PCIe FC HBA (QLE2562 - 82q (AJ764A)) ²				√	√	√	√	√

	HP FC2242SR 4Gb PCIe Dual Channel FC HBA (LPE11002 - FC2242SR (A8003A)) ³				√	√	√	√	√
	HP FC1242SR 4Gb PCIe Dual Channel FC HBA (QLE2462 - FC1242SR (AE312A)) ⁴				√	√	√	√	√
FC Switches	HP StorageWorks 8/24 SAN Switch (AM868A) ⁵				√	√	√	√	√
	HP StorageWorks 4/16 SAN Switch (A7985A) ⁶				√	√	√	√	√
	HP StorageWorks SAN Switch 4/32 Base (A7537A) ⁷				√	√	√	√	√
	HP StorageWorks 8/20q Fibre Channel Switch (AK242A) ⁸				√	√	√	√	√
Cluster software	Microsoft Failover Clustering				√	√	√	√	√
Storage Extensions	Microsoft DSM for MPIO								√
	HP StoreVirtual Application Aware Snapshot Manager								√
Certifications	Windows Server Catalog of Tested Products				√	√	√	√	√

1. Firmware 2.00a4; driver 2.74.009.001; boot from SAN supported
2. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
3. Firmware 2.82x4; driver 2.74.009.001; boot from SAN not supported
4. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
5. Firmware 7.0.2a
6. Firmware 6.2.2f
7. Firmware 6.4.3b
8. Firmware 8.0.14.03.00

LeftHand OS Version

		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2008 R2									
Versions	Server – all editions				√	√	√	√	√
	Server Core				√	√	√	√	√
	Hyper-V Server				√	√	√	√	√
	Storage Server				√	√	√	√	√
HBAs/ CNAs	82E PCIe FC HBA (LPe12002 - 82e (AJ763A)) ¹				√	√	√	√	√
	82Q PCIe FC HBA (QLE2562 - 82q (AJ764A)) ²				√	√	√	√	√
	HP FC2242SR 4Gb PCIe Dual Channel FC HBA (LPE11002 - FC2242SR (A8003A)) ³				√	√	√	√	√
	HP FC1242SR 4Gb PCIe Dual Channel FC HBA (QLE2462 - FC1242SR (AE312A)) ⁴				√	√	√	√	√
FC Switches	HP StorageWorks 8/24 SAN Switch (AM868A) ⁵				√	√	√	√	√
	HP StorageWorks 4/16 SAN Switch (A7985A) ⁶				√	√	√	√	√
	HP StorageWorks SAN Switch 4/32 Base (A7537A) ⁷				√	√	√	√	√
	HP StorageWorks 8/20q Fibre Channel Switch (AK242A) ⁸				√	√	√	√	√
Cluster software	Microsoft Failover Clustering				√	√	√	√	√

Certifications	Windows Server Catalog of Tested Products				√	√	√	√	√
Storage Extensions	HP StoreVirtual Application Aware Snapshot Manager								√
	Windows Server Catalog of Tested Products								√
Service Packs	Service Pack 1				√	√	√	√	√

1. Firmware 2.00a4; driver 2.74.009.001; boot from SAN supported
2. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
3. Firmware 2.82x4; driver 2.74.009.001; boot from SAN not supported
4. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
5. Firmware 7.0.2a
6. Firmware 6.2.2f
7. Firmware 6.4.3b
8. Firmware 8.0.14.03.00

LeftHand OS Version

		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Windows Server 2008									
Versions	Server – all editions				√	√	√	√	√
	Server Core				√	√	√	√	√
	Hyper-V Server				√	√	√	√	√
	Storage Server				√	√	√	√	√
HBAs/ CNAs	82E PCIe FC HBA (LPe12002 - 82e (AJ763A)) ¹				√	√	√	√	√
	82Q PCIe FC HBA (QLE2562 - 82q (AJ764A)) ²				√	√	√	√	√
	HP FC2242SR 4Gb PCIe Dual Channel FC HBA (LPE11002 - FC2242SR (A8003A)) ³				√	√	√	√	√
	HP FC1242SR 4Gb PCIe Dual Channel FC HBA (QLE2462 - FC1242SR (AE312A)) ⁴				√	√	√	√	√
FC Switches	HP StorageWorks 8/24 SAN Switch (AM868A) ⁵				√	√	√	√	√
	HP StorageWorks 4/16 SAN Switch (A7985A) ⁶				√	√	√	√	√
	HP StorageWorks SAN Switch 4/32 Base (A7537A) ⁷				√	√	√	√	√
	HP StorageWorks 8/20q Fibre Channel Switch (AK242A) ⁸				√	√	√	√	√
Cluster software	Microsoft Failover Clustering				√	√	√	√	√
Storage Extension	Microsoft DSM for MPIO								√
	HP StoreVirtual Application Aware Snapshot Manager								√
Certifications	Windows Server Catalog of Tested Products				√	√	√	√	√
Service Packs	Service Pack 1				√	√			
	Service Pack 2				√	√	√	√	√

1. Firmware 2.00a4; driver 2.74.009.001; boot from SAN supported
2. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
3. Firmware 2.82x4; driver 2.74.009.001; boot from SAN not supported
4. Firmware loaded by driver; driver 9.1.9.49; boot from SAN not supported
5. Firmware 7.0.2a
6. Firmware 6.2.2f
7. Firmware 6.4.3b
8. Firmware 8.0.14.03.00

3.2 VMware

LeftHand OS Version

8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
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VMware vSphere 5

8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Versions	vSphere 5.0 / 5.1 (incl. updates: 5.0 U2, U3, 5.1 U1, U2)			√	√	√	√
	vSphere 5.5 (incl. updates 5.5 U1, U2)				√	√	√
HBAs/ CNAs	82E PCIe FC HBA (LPe12002 – 82e (AJ763A)) ¹			√	√	√	√
	82Q PCIe FC HBA (QLE2562 – 82q (AJ764A)) ²			√	√	√	√
	HP FC2242SR 4Gb PCIe Dual Channel FC HBA (LPE11002 - FC2242SR (A8003A)) ³			√	√	√	√
	HP FC1242SR 4Gb PCIe Dual Channel FC HBA (QLE2462 - FC1242SR (AE312A)) ⁴			√	√	√	√
FC Switches	HP StorageWorks 8/24 SAN Switch (AM868A) ⁵			√	√	√	√
	HP StorageWorks 4/16 SAN Switch (A7985A) ⁶			√	√	√	√
	HP StorageWorks SAN Switch 4/32 Base (A7537A) ⁷			√	√	√	√
	HP StorageWorks 8/20q Fibre Channel Switch (AK242A) ⁸			√	√	√	√
Storage Extensions	VMware NMP for MPIO			√	√	√	√
	HP StoreVirtual Application Aware Snapshot Manager					√	√

1. Firmware 2.00a4; driver 8.2.3.1-127vmw; boot from SAN supported
2. Firmware loaded by driver; driver 902.k1.1-9vmw; boot from SAN not supported
3. Firmware 2.82x4; driver 8.2.3.1-127vmw; boot from SAN not supported
4. Firmware loaded by driver; driver 902.k1.1-9vmw; boot from SAN not supported
5. Firmware 7.0.2a
6. Firmware 6.2.2f
7. Firmware 6.4.3b
8. Firmware 8.0.14.03.00

LeftHand OS Version

8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
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VMware vSphere 4

8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Versions	VMware vSphere 4.1; ESX/ESXi Server 4.1 U2/ 4.1 U3			√	√	√	
HBAs/ CNAs	82E PCIe FC HBA (LPe12002 – 82e (AJ763A)) ¹			√	√	√	
	82Q PCIe FC HBA (QLE2562 – 82q (AJ764A)) ²			√	√	√	
	HP FC2242SR 4Gb PCIe Dual Channel FC HBA (LPE11002 - FC2242SR (A8003A)) ³			√	√	√	
	HP FC1242SR 4Gb PCIe Dual Channel FC HBA (QLE2462 - FC1242SR (AE312A)) ⁴			√	√	√	

FC Switches	HP StorageWorks 8/24 SAN Switch (AM868A) ⁵				√	√	√		
	HP StorageWorks 4/16 SAN Switch (A7985A) ⁶				√	√	√		
	HP StorageWorks SAN Switch 4/32 Base (A7537A) ⁷				√	√	√		
	HP StorageWorks 8/20q Fibre Channel Switch (AK242A) ⁸				√	√	√		
Storage Extensions	VMware NMP for MPIO				√	√	√		

1. Firmware 2.00a4; driver 8.2.1.30.54vmw; boot from SAN supported
2. Firmware loaded by driver; driver 841.k1.28.1-1vmw; boot from SAN not supported
3. Firmware 2.82x4; driver 8.2.1.30.54vmw; boot from SAN not supported
4. Firmware loaded by driver; driver 841.k1.28.1-1vmw; boot from SAN not supported
5. Firmware 7.0.2a
6. Firmware 6.2.2f
7. Firmware 6.4.3b
8. Firmware 8.0.14.03.00

3.3 Oracle

Oracle Database 11g

Oracle specifies supported versions of Operating Systems with Oracle Application Software. Refer to the Oracle web site *My Oracle Support* at <http://support.oracle.com> . Specifics of OS and Oracle versions supported together are available under the Certifications tab. A Customer Support Identifier (CSI) number is required to access this information. For details please refer the note: [Third Party Application Interoperability Considerations with HP arrays](#)

4 OpenStack

Use this table to identify the LeftHand OS versions and capabilities supported by OpenStack's built-in Cinder driver for HP StoreVirtual.

OpenStack-managed hosts initiating iSCSI sessions to StoreVirtual need to be listed as supported in this document.

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
OpenStack Versions	Diablo ¹ (Sep 2011, EOL)			√	√	√			
	Essex ¹ (Apr 2012, EOL)			√	√	√			
	Folsom ¹ (Sep 2012, EOL)				√	√	√		
	Grizzly ^{1,2} (Apr 2013, EOL)					√	√		
	Havana ^{1,2,3} (Oct 2013, Security-supported)					√	√	√	√
	Icehouse ^{1,2,3,4} (Apr 2014)					√	√	√	√

1. supports to create, delete, attach, detach volumes
2. supports to create image from volume and vice versa
3. supports to extend volume, create, delete and list snapshots, and create a volume from snapshot and host assisted volume migration
4. supports volume creation from volume (clone)

5 HP StoreVirtual Centralized Management Console

		LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Supported Operating Systems Microsoft ¹	Windows XP	√	√	√	√	√			
	Windows Vista	√	√	√	√	√			
	Windows 7	√	√	√	√	√	√	√	√
	Windows 8							√	√
	Windows Server 2003	√	√	√	√	√			
	Windows Server 2008	√	√	√	√	√	√	√	√
	Windows Server 2008 R2	√	√	√	√	√	√	√	√
	Windows Server 2012			√	√	√	√	√	√
	Windows Server 2012 R2					√	√	√	√
Novell	SUSE Linux Enterprise 10	√	√	√	√	√			
	SUSE Linux Enterprise 11	√	√	√	√	√	√	√	√
	SUSE Linux Enterprise 12								√
Red Hat	Red Hat Enterprise Linux 4	√	√	√					
	Red Hat Enterprise Linux 5/ 5.1/ 5.2/ 5.3/ 5.4	√	√	√					
	Red Hat Enterprise Linux 5.5	√	√	√	√	√			
	Red Hat Enterprise Linux 5.6		√	√	√	√			
	Red Hat Enterprise Linux 5.9								√
	Red Hat Enterprise Linux 5.10			√		√	√	√	√
	Red Hat Enterprise Linux 6.1		√	√	√	√	√ ²		√
	Red Hat Enterprise Linux 6.2			√	√	√	√ ²		√
	Red Hat Enterprise Linux 6.3			√	√	√	√ ²		√
Red Hat Enterprise Linux 6.4			√	√	√	√ ²	√ ²	√	

	Red Hat Enterprise Linux 6.5					√	√ ²	√ ²	√
	Red Hat Enterprise Linux 7							√	√
Fedora	Fedora 8	√							
	Fedora 9	√							
	Fedora 10	√							
	Fedora 11	√	√	√					
	Fedora 12		√	√					
	Fedora 13		√	√					
HP	HP-UX 11i v1 (11.11)	√							
	HP-UX 11i v2 (11.23)	√	√	√					
	HP-UX 11i v3 (11.31)	√	√	√	√	√			

1. All Service Packs are supported for the Win OS versions, wherever applicable
2. CMC comes bundled with Java Runtime Environment 1.7.0_11-b21 (32-bit), HP supports the equivalent 64-bit version.

6 HP StoreVirtual Failover Manager

Virtualization Platform	Operating System	LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
VMware Server 2.x	Windows Server 2003	√	√	√	√	√			
	Windows Server 2008	√	√	√	√	√			
VMware Player	3								√
VMware vSphere	VMware ESX/ESXi 4.0/ 4.0 U1/ 4.0 U2	√	√						
	VMware ESX/ESXi 4.0 U3/ 4.0 U4		√	√					
	vSphere 4.1 (all updates) ^{1,2}		√	√	√	√	√		
	vSphere 5.0 (all updates) ¹		√	√	√	√	√	√	√
	vSphere 5.1 (all updates) ¹		√	√	√	√	√	√	√
	vSphere 5.5 (all updates) ¹					√	√	√	√
Microsoft Hyper-V	Windows Server 2008	√	√	√		√			
	Windows Server 2008 R2	√	√	√	√	√	√	√	√
	Windows Server 2012				√	√	√	√	√
	Windows Server 2012 R2					√	√	√	√

1. For versions that come as ESX or ESXi (vSphere Hypervisor), both editions are supported.
2. Failover Manager on vSphere 4.1 cannot be installed with the HP StoreVirtual VSA for vSphere Installer

7 HP StoreVirtual VSA (formerly LeftHand VSA)

Virtualization Platform	Operating System	LeftHand OS Version							
		8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
VMware ESX/ESXi	VMware ESX/ESXi 4.0/ 4.0 U1/ 4.0 U2	√	√						
	VMware ESX/ESXi 4.0 U3/ 4.0 U4		√	√					
	vSphere 4.1 (all updates) ^{1,2}		√	√	√	√	√		
	vSphere 5.0 (all updates) ¹		√	√	√	√	√	√	√
	vSphere 5.1 (all updates) ¹		√	√	√	√	√	√	√
	vSphere 5.5 (all updates) ¹					√	√	√	√
Microsoft Hyper-V	Windows Server 2008	√	√	√					
	Windows Server 2008 R2	√	√	√	√	√	√	√	√
	Windows Server 2012				√	√	√	√	√
	Windows Server 2012 R2					√	√	√	√

1. For versions that come as ESX or ESXi (vSphere Hypervisor), both editions are supported.
2. VSA on vSphere 4.1 cannot be installed with the HP StoreVirtual VSA for vSphere Installer.

Note: HP supports LeftHand VSA/StoreVirtual VSA on all block storage arrays which are on the vSphere and Windows Hardware Compatibility Lists.

8 HP Insight Control

8.1 Insight Remote Support

	LeftHand OS Version							
	8.5 (inactive)	9.0 (inactive)	9.5 (active)	10.0 (inactive)	10.5 (active)	11.0 (active)	11.5 (active)	12.0 (active)
	Mar 2010	Nov 2010	Sep 2011	Nov 2012	Feb 2013	Sep 2013	June 2014	Feb 2015
Insight Remote Support								
HP Insight Remote Support Standard ¹ A.05.60	√	√	√					
HP Insight Remote Support Standard ¹ A.05.70	√	√	√	√				
HP Insight Remote Support Advanced ² A.05.60	√	√	√					
HP Insight Remote Support Advanced ² A.05.70	√	√	√	√				
HP Insight Remote Support Advanced ² A.05.80	√	√	√	√	√			√
HP Insight Remote Support 7.0.5	√	√	√	√	√			√
HP Insight Remote Support 7.0.8	√	√	√	√	√	√	√	√
HP Insight Remote Support 7.0.9	√	√	√	√	√	√	√	√

1. Refer to the [HP Insight Remote Support Standard](#) for more details
2. Refer to the [HP Insight Remote Support Advanced](#) for more details

8.2 Systems Insight Manager

	LeftHand OS Version							
	8.5 (inactive)	9.0 (inactive)	9.5 (active)	10.0 (inactive)	10.5 (active)	11.0 (active)	11.5 (active)	12.0 (active)
	Mar 2010	Nov 2010	Sep 2011	Nov 2012	Feb 2013	Sep 2013	June 2014	Feb 2015
Systems Insight Manager								
HP Systems Insight Manager 6.3	√	√	√					
HP Systems Insight Manager 7.0 ¹	√	√	√	√	√			
HP Systems Insight Manager 7.1/ 7.1.1/ 7.1.2 ²	√	√	√	√	√	√	√	
HP Systems Insight Manager 7.2/ 7.2.1			√	√	√	√	√	√
HP Systems Insight Manager 7.3.x						√	√	√

1. [HP SIM 7.0 HotFix Kit](#) needs to be applied to resolve LeftHand discovery issues
2. [HP SIM 7.1 HotFix Kit](#) needs to be applied to resolve LeftHand discovery issues

8.3 Insight Control for vCenter/OneView for vCenter

	LeftHand OS Version							
	8.5 (inactive)	9.0 (inactive)	9.5 (active)	10.0 (inactive)	10.5 (active)	11.0 (active)	11.5 (active)	12.0 (active)
	Mar 2010	Nov 2010	Sep 2011	Nov 2012	Feb 2013	Sep 2013	June 2014	Feb 2015
Insight Control for vCenter¹								
HP Insight Control for vCenter 7.0.x ²	√	√	√	√	√			
HP Insight Control for vCenter 7.1.x ²	√	√	√	√	√			
HP Insight Control for vCenter 7.2.x			√ ²	√	√	√ ³	√ ³	
HP Insight Control for vCenter 7.3								√
HP OneView for vCenter 7.4.x							√	√

1. Refer to the [HP Insight Control](#) Support Matrix for more details
2. iSCSI transport only
3. Requires HP Insight Control for vCenter 7.2.3 or higher

9 HP CloudSystem Matrix and HP Matrix Operating Environment

iSCSI connectivity on HP StoreVirtual 4000 Storage and HP StoreVirtual VSA Software can be used in conjunction with Matrix Operating Environment as backing store for virtual machines.

For more information, please consult the [HP Insight Control and Matrix Operating Environment documentation](#).

10 HP Storage Management Pack for MS SCOM

	LeftHand OS Version								
	8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015	
Management Pack for Microsoft System Center¹									
HP Storage Management Pack for SCOM 2.1.2 ²		√	√						
HP Storage Management Pack for SCOM 3.0			√	√					
HP Storage Management Pack for SCOM 3.1			√	√	√	√	√		
HP Storage Management Pack for SCOM 4.0			√	√	√	√	√		
HP Storage Management Pack for SCOM 4.1					√	√	√	√	

1. Refer to the [HP Storage Management Pack for Microsoft System Center](#) for more details
2. Refer to the [HP Storage Management Pack for Microsoft System Center 2.1.2](#) for more details

11 HP Storage UI Add-in for MS SCVMM

	LeftHand OS Version								
	8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (active) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (active) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015	
HP Storage UI Add-in for Microsoft System Center Virtual Machine Manager¹									
HP Storage UI Add-in for Microsoft System Center Virtual Machine Manager 2.1							√	√	

1. Refer to the [HP StoreFront Manager for Microsoft \(HP Storage Management integration with MS System Center\)](#) for more details

12 Supported Hardware Platforms

Storage Systems

	End of sale	End of LeftHand OS Upgrades	End of support	Inactive LeftHand OS Versions	Active LeftHand OS Versions
LeftHand NSM260	January 2007	January 2009	January 2012	7.0, 8.0, 8.1, 8.5	N/A
LeftHand NSM160	April 2007	April 2009	April 2012	7.0, 8.0, 8.1, 8.5	N/A
HP DL380 G4	January 2008	January 2010	January 2013	7.0, 8.0, 8.1, 8.5	N/A
LeftHand NSM2120	December 2008	December 2010	December 2013	7.0, 8.0, 8.1, 8.5, 9.0	9.5
LeftHand NSM4150	December 2008	December 2010	December 2013	7.0, 8.0, 8.1, 8.5, 9.0	N/A
LeftHand NSM2060	February 2009	February 2011	February 2014	7.0, 8.0, 8.1, 8.5, 9.0	N/A
Dell PowerEdge 2950	April 2009	April 2011	April 2014	7.0, 8.0, 8.1, 8.5, 9.0	N/A
HP DL320S	April 2009	April 2011	April 2014	7.0, 8.0, 8.1, 8.5, 9.0	9.5
IBM System x3650	April 2009	April 2011	April 2014	7.0, 8.0, 8.1, 8.5, 9.0	N/A
LeftHand NSM2060 G2	April 2009	April 2011	April 2014	7.0, 8.0, 8.1, 8.5, 9.0	9.5
LeftHand NSM2120 G2	April 2009	April 2011	April 2014	7.0, 8.0, 8.1, 8.5, 9.0	9.5
LeftHand VSA ¹	June 2014	June 2015	June 2017	7.0, 8.0, 8.1, 8.5, 9.0, 10.0	9.5, 10.5, 11.0, 11.5, 12.0
HP P4300	March 2010	March 2012	December 2015	8.1, 8.5, 9.0	9.5
HP P4500	March 2010	March 2012	December 2015	8.1, 8.5, 9.0	9.5
HP P4000 VSA ¹	June 2014	June 2015	June 2017	8.1, 8.5, 9.0, 10.0	9.5, 10.5, 11.0, 11.5, 12.0
HP P4300 G2	May 2013	May 2015	April 2018	8.1, 8.5, 9.0, 10.0	9.5, 10.5, 11.0, 11.5, 12.0
HP P4500 G2	May 2013	May 2015	April 2018	8.1, 8.5, 9.0, 10.0	9.5, 10.5, 11.0, 11.5, 12.0
HP P4800 G2	August 2013	August 2015	May 2018	8.5, 9.0, 10.0	9.5, 10.5, 11.0, 11.5, 12.0
HP P4900 G2	November 2013	November 2015	July 2018	10.0	9.5, 10.5, 11.0, 11.5, 12.0
HP StoreVirtual 4130				10.0	10.5, 11.0, 11.5, 12.0
HP StoreVirtual 4330				10.0	10.5, 11.0, 11.5, 12.0
HP StoreVirtual 4330 FC				10.0	10.5, 11.0, 11.5, 12.0
HP StoreVirtual 4530				N/A	10.5, 11.0, 11.5, 12.0
HP StoreVirtual 4630				N/A	10.5, 11.0, 11.5, 12.0
HP StoreVirtual 4730				N/A	10.5, 11.0, 11.5, 12.0
HP StoreVirtual 4730 FC				N/A	10.5, 11.0, 11.5, 12.0
HP StoreVirtual VSA ¹	June 2014	June 2015	June 2017	10.0	10.5, 11.0, 11.5, 12.0
HP StoreVirtual VSA 2014 ¹				N/A	11.0, 11.5, 12.0
HP StoreVirtual 4335 Hybrid				N/A	11.0, 11.5, 12.0

1. Refer to the [HP StoreVirtual VSA Quick Specs](#) for system requirements

Unified Gateway

	End of Sale	End of Service Life	Inactive Windows Storage Server Versions	Active Windows Storage Server Versions
P4000 Unified NAS Gateway (1 & 2 node)	June 2011	March 2016	N/A	2008 2008 R2
P4000 G2 Unified NAS Gateway (1 & 2 node)	December 2012		N/A	2008 R2
HP StoreEasy 3830 Gateway			N/A	2012

13 Management Group Interoperability

Storage systems with a new version of LeftHand OS can join management groups running an earlier version. The table outlines the interoperability between LeftHand OS and management group versions. Running management groups and clusters with mixed versions of LeftHand OS is fully supported. The number of different versions in the management group should be kept to a minimum whenever possible. HP recommends upgrading storage systems to the latest applicable version of LeftHand OS.

Management Group version	LeftHand OS Version							
	8.5 (inactive) Mar 2010	9.0 (inactive) Nov 2010	9.5 (inactive) Sep 2011	10.0 (inactive) Nov 2012	10.5 (active) Feb 2013	11.0 (inactive) Sep 2013	11.5 (active) June 2014	12.0 (active) Feb 2015
Management Group version 8.5	√	√	√					
Management Group version 9.0		√	√	√	√			
Management Group version 9.5			√	√	√	√		
Management Group version 10.0				√	√	√	√	
Management Group version 10.5					√	√	√	√
Management Group version 11.0						√	√	√
Management Group version 11.5							√	√
Management Group version 12.0								√

Example: A storage system running LeftHand OS 10.5 can join management group versions 9.0, 9.5, 10.0 or 10.5.

Some features may not be available until all storage systems have been updated to the newer version of LeftHand OS. Once all storage systems are upgraded to a newer version of LeftHand OS, the management group version is typically updated automatically to that newer version. As a result, storage nodes with an earlier version of LeftHand OS will no longer be able to join the management group.

For more information on how to identify the software version running on storage systems and the management group, please consult the HP StoreVirtual user guide.

14 For more information

hp.com/storage/spock

HP Storage Single Point of Connectivity Knowledge (SPOCK) is the primary portal used to obtain detailed information about supported products and configurations.

hp.com/go/storevirtualcompatibility

The newest version of the compatibility matrix for HP StoreVirtual.

Sign up for updates

hp.com/go/getupdated

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