MSA1000/1500 Active/Active VMware ESX Server 3.5x, 3i

Released Date: Fri, 30 Jan 2009 00:00:00 GMT
PDF Generated Date: Fri, 13 Mar 2009 07:26:34 GMT

Overview

This document contains information regarding compatibility and interoperability for a "configuration set" of Storage Area Network (SAN) components. A configuration set is a collection of components that are compatible in a particular context. For example, configuration sets of type "array-os" contain components that are compatible from an array-os perspective. An example of an array-os config set is the "EVA4400 Microsoft Windows Server 2008 IA64" config set. It describes the components that are currently supported for the EVA4400 array in a Windows 2008 IA64 environment.

It is very important that you note the details of the components listed in these tables, as they describe the specific attributes of supported component versions. It is also very important to examine the notes in each section, because they may further limit or clarify supported configurations.

Legal Notice

1. The information contained herein is subject to change without notice.
2. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

For more information see: http://spock.corp.hp.com(HP Employees) http://www.hp.com/storage/spock(HP Customers and Partners)

General notes about this configuration set

For specific configuration guidelines and coexistence information, refer to the SAN Design Reference Guide at http://h18000.www1.hp.com/products/storageworks/san/documentation.html.
Fiber Channel Switch Notes

1). See Switch stream on SPOCK web site under Other Hardware > FC Switches for firmware and software details.
2). For additional information on configurations and coexistence, visit the SAN Design Guide at http://h18000.www1.hp.com/products/storageworks/san/documentation.html.
3). The only M-series switches supported for the BL30/35p server are the StorageWorks Edge Switch 2/12, 2/24, Sphereon 4400,4700, and the McData 4Gb SAN Switch for HP p-Class Blade System.

© Copyright 2009 Hewlett-Packard Development Company, L.P.

MSA1000/1500 Active/Active VMware ESX Server 3.5x, 3i

General notes about this configuration set----2
Disk Array (4)----4
Operating System (10)----4
Guest OS (1)----5
Cluster Management-High Availability (2)----6
Infrastructure Features (8)---- 6
Server (4)----7
Host Bus Adapter (HBA) (37)---- 7
Fibre Channel Switch (93)---- 11
Router (3)----17
Path Management (1)---- 18
Storage Management Software (6)---- 18

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Disk Array (4)

Name	Vendor	Family	Firmware	Host Mode	Notes
HP StorageWorks 1000 Modular Smart Array Active/Active	HP	MSA	7	Linux	1
HP StorageWorks 1000 Modular Smart Array Active/Active	HP	MSA	7.10	Linux	2
HP StorageWorks 1500 Modular Smart Array Active/Active	HP	MSA	7.10	Linux	3
HP StorageWorks 1500 Modular Smart Array Active/Active	HP	MSA	6.86	Linux	4

Notes:

1. **HP StorageWorks 1000 Modular Smart Array Active/Active Notes:** Minimum firmware.
2. **HP StorageWorks 1000 Modular Smart Array Active/Active Notes:** Minimum firmware.
3. **HP StorageWorks 1000 Modular Smart Array Active/Active Notes:** Recommended firmware.
4. **HP StorageWorks 1000 Modular Smart Array Active/Active Notes:** Recommended firmware.
5. **HP StorageWorks 1500 Modular Smart Array Active/Active Notes:**
   1). Recommended firmware.
   2). MSA20 SATA Disk Enclosure: 2.02.
6. **HP StorageWorks 1500 Modular Smart Array Active/Active Notes:**
   1). Recommended firmware.
   2). MSA20 SATA Disk Enclosure: 2.02.
7. **HP StorageWorks 1500 Modular Smart Array Active/Active Notes:**
   1). Minimum firmware.
   2). MSA20 SATA Disk Enclosure: 2.02.
8. **HP StorageWorks 1500 Modular Smart Array Active/Active Notes:**
   1). Minimum firmware.
   2). MSA20 SATA Disk Enclosure: 2.02.

Operating System (10)

Name	Vendor	OS Family	Architecture	OS Version	Service Pack
VMware ESX Server 3.5.0 IA32	EMC	VMware ESX Server	IA32	3.5.0	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	OS Family	Architecture	OS Version	Service Pack
Vmware ESX Server 3.5.0 U1 IA32	EMC	VMware ESX Server	IA32	3.5.0	U1
VMware ESX Server 3.5.0 U1 x64	EMC	VMware ESX Server	x64	3.5.0	U1
Vmware ESX Server 3.5.0 U2 IA32	EMC	VMware ESX Server	IA32	3.5.0	U2
Vmware ESX Server 3.5.0 U2 x64	EMC	VMware ESX Server	x64	3.5.0	U2
Vmware ESX Server 3.5.0 U3 IA32	VMware	VMware ESX Server	IA32	3.5.0	U3
Vmware ESX Server 3.5.0 U3 x64	VMware	VMware ESX Server	x64	3.5.0	U3
VMware ESX Server 3.5.0 x64	EMC	VMware ESX Server	x64	3.5.0	
VMware ESX Server 3i IA32	EMC	VMware ESX Server	IA32	3i	
VMware ESX Server 3i x64	EMC	VMware ESX Server	x64	3i	

Notes:

General Operating System (10) Notes:
The latest ESX patch updates are recommended.

Guest OS (1)

Name	Vendor
As specified in VMware Guest Operating System Installation Guide except as noted	All

Notes:

General Guest OS (1) Notes:
1). RHEL 2.1, RHEL 3 and SLES 8 support requires using the "vmxlsilogic" as the SCSI Emulation driver.
2). RHEL 4 up to update 5 support requires updated buslogic SCSI Emulation driver and VMware-tools.

© Copyright 2009 Hewlett-Packard Development Company, L.P.

3). RHEL 4 update 5 and later require ISilogic SCSI Emulation driver and VMware-tools.
4). No cluster support with desktop Guest OS. (Windows [Vista, XP, ME, 98, 95], Red Hat Linux [non-enterprise], SuSE Linux [non-enterprise], Mandriva Linux, Mandrake Linux).
5). No server side application support with desktop Guest OS (Windows [Vista, XP, ME, 98, 95], Red Hat Linux [non-enterprise], SuSE Linux [non-enterprise], Mandriva Linux, Mandrake Linux).
6). Turbo Linux, Ubuntu Linux, and Free BSD Guest OS not supported.

Cluster Management-High Availability (2)

Name	Software Version	Vendor	Notes
HP Serviceguard for Linux		HP	1
Microsoft Cluster Server(MSCS)		Microsoft	2

Notes:
1. HP Serviceguard for Linux Notes: For the whitepaper describing using Serviceguard for Linux on a VMware virtual machine refer to http://docs.hp.com/en/12122/SGLX-VMware.pdf. Supported distributions and errata are those listed in the Certification Matrix available at http://www.hp.com/info/sglx.
2. HP Serviceguard for Linux Notes: For the whitepaper describing using Serviceguard for Linux on a VMware virtual machine refer to http://docs.hp.com/en/12122/SGLX-VMware.pdf. Supported distributions and errata are those listed in the Certification Matrix available at http://www.hp.com/info/sglx.
3. Microsoft Cluster Server(MSCS) Notes: Please refer to KB article 2021 (http://www.vmware.com/support/kb/enduser/std_adp.php?p_faqid=2021) for the latest information on MSCS support with Windows 2003 SP1, R2, and SP2.
4. Microsoft Cluster Server(MSCS) Notes: Please refer to KB article 2021 (http://www.vmware.com/support/kb/enduser/std_adp.php?p_faqid=2021) for the latest information on MSCS support with Windows 2003 SP1, R2, and SP2.

General Cluster Management-High Availability (2) Notes:
MSCS cluster support with ESX 3.5.0 U1 and later.

Infrastructure Features (8)

Name	Vendor	Features Version
VMware Consolidated Backup	VMware	
VMware Dynamic Resource Scheduling (DRS)	VMware	
VMware High Availability (HA)	VMware	
VMware Site Recovery Manager (SRM)	VMware	
VMware Storage VMotion	VMware	
VMware Update Manager	VMware	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Features Version
VMware Virtual Desktop Infrastructure	VMware	Latest - see VMware website
VMware VMotion	VMware	

Server (4)

Name	Vendor	Architecture	Notes
PRIMERGY (BX6X0, RX, TX)	Fujitsu Siemens	Enterprise	1
ProLiant AMD64	HP	ProLiant	
ProLiant EM64T	HP	ProLiant	
ProLiant x86 Servers	HP	ProLiant	

Notes:
1. **PRIMERGY (BX6X0, RX, TX) Notes:** Fujitsu-Siemens Primergy Blade Servers only supported with Fujitsu-Siemens embedded HBAs.
2. **PRIMERGY (BX6X0, RX, TX) Notes:** Fujitsu-Siemens Primergy Blade Servers only supported with Fujitsu-Siemens embedded HBAs.

General Server (4) Notes:
For list of supported server models refer to VMware System Compatibilty Guide.

Host Bus Adapter (HBA) (37)

Name	Vendor	Bus	Speed	HP Part Number	Old HP Part Number	Vendor Part Number	Firmware Version	BIOS	Boot Image	Driver Version	Boot Support	Direct Connect Support	Notes
403619-B21	QLogic	PCIe	4Gb	403619-B21		QMH2462	Loaded from driver	1.26	1.64	Loaded by ESX	Y	N	
403621-B21	Emulex	PCIe	4Gb	403621-B21		LPe1105	2.70a5	3.00a4	6.00a2	Loaded by ESX	Y	N	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Bus	Speed	HP Part Number	Old HP Part Number	Vendor Part Number	Firmware Version	BIOS	Boot Image	Driver Version	Boot Support	Direct Connect Support	Notes
81e	Emulex	PCIe	8Gb	AJ762A		LPe12000	1.00a9	2.01a2	5.03a0	Loaded by ESX	Y	N	
81Q	QLogic	PCIe	8Gb	AK344A		QLE2560	Loaded from driver	2.02		Loaded by ESX	Y	N	
82e	Emulex	PCIe	8Gb	AJ763A		LPe12002	1.00a9	2.01a2	5.03a0	Loaded by ESX	Y	N	
82Q	QLogic	PCIe	8Gb	AJ764A		QLE2562	Loaded from driver	2.02		Loaded by ESX	Y	N	
A7387A	Emulex	PCI-X	2Gb	A7387A		LP1050DC	1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
A7388A	Emulex	PCI-X	2Gb	A7388A		LP1050	1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
BL20p G2 (FC Mezzanine Card)	QLogic	PCI-X	2Gb	300874-B21			Loaded from driver	1.45		Loaded by ESX	Y	N	
BL20p G4 (E-FC Mezzanine Card)	Emulex	PCI-X	2Gb	394757-B21			1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
BL20p G4 (E-FC Mezzanine Card)	Emulex	PCI-X	2Gb				1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
BL25p (E-FC Balcony Card)	Emulex	PCI-X	2Gb				1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
BL25p (HPBALCF 105)	QLogic	PCI-X	2Gb				Loaded from driver	1.48		Loaded by ESX	Y	N	
BL30p (E-FC Balcony Card)	Emulex	PCI-X	2Gb				1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Bus	Speed	HP Part Number	Old HP Part Number	Vendor Part Number	Firmware Version	BIOS	Boot Image	Driver Version	Boot Support	Direct Connect Support	Notes
BL30p (FC Balcony Card)	QLogic	PCI-X	2Gb				Loaded from driver	1.45		Loaded by ESX	Y	N	
BL35p (E-FC Balcony Card)	Emulex	PCI-X	2Gb				1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
BL35p (FC Balcony Card)	QLogic	PCI-X	2Gb	354054-B21			Loaded from driver	1.45		Loaded by ESX	Y	N	
BL45p (E-FC Balcony Card)	Emulex	PCI-X	2Gb				1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
BL45p (HPBALCF105)	QLogic	PCI-X	2Gb	381881-B21			Loaded from driver	1.48		Loaded by ESX	Y	N	
BL45p G2 (E-FC Balcony Card)	Emulex	PCI-X	2Gb				1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
BL45p G2 (E-FC Balcony Card)	Emulex	PCI-X	2Gb				1.91a5	1.71a0		Loaded by ESX	Y	N	
BL45p G2 (FC Adapter Card)	QLogic	PCI-X	2Gb				Loaded from driver	1.48		Loaded by ESX	Y	N	
FC1142SR	QLogic	PCIe	4Gb	AE311A		QLE2460	Loaded from driver	2.02		Loaded by ESX	Y	N	
FC1143	QLogic	PCI-X 2.0	4Gb	AB429A		QLA2460	Loaded from driver	2.02		Loaded by ESX	Y	N	1
FC1242SR	QLogic	PCIe	4Gb	AE312A		QLE2462	Loaded from driver	2.02		Loaded by ESX	Y	N	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Bus	Speed	HP Part Number	Old HP Part Number	Vendor Part Number	Firmware Version	BIOS	Boot Image	Driver Version	Boot Support	Direct Connect Support	Notes
FC1243	QLogic	PCI-X 2.0	4Gb	AE369A		QLA2462	Loaded from driver	2.02		Loaded by ESX	Y	N	2
FC2142	Emulex	PCIe	4Gb	A8002A		LPe1150	2.72a2	2.01a2	5.03a0	Loaded by ESX	Y	N	
FC2143	Emulex	PCI-X 2.0	4Gb	AD167A		LP1150	2.72a2	2.01a2	5.03a0	Loaded by ESX	Y	N	
FC2242	Emulex	PCIe	4Gb	A8003A		LPe11002	2.72a2	2.01a2	5.03a0	Loaded by ESX	Y	N	
FC2243	Emulex	PCI-X 2.0	4Gb	AD168A		LP11002	2.72a2	2.01a2	5.03a0	Loaded by ESX	Y	N	
FCA2210	QLogic	PCI-X	2Gb	281540-B21		QLA2340	Loaded from driver	1.45		Loaded by ESX	Y	N	
FCA2214	QLogic	PCI-X	2Gb	281541-B21		QLA2340	Loaded from driver	1.45		Loaded by ESX	Y	N	
FCA2214DC	QLogic	PCI-X	2Gb	321835-B21		QLA2342	Loaded from driver	1.45		Loaded by ESX	Y	N	
FCA2404	Emulex	PCI-X	2Gb	305573-B21		LP9802	1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
FCA2404DC	Emulex	PCI-X	2Gb	323264-B21		LP9802DC	1.91a5	1.71a0	5.02a1	Loaded by ESX	Y	N	
FCA2684	Emulex	PCI-X	2Gb	358692-B21	DS-A5132-AA	LP10000	1.91a1	1.70a3		Loaded by ESX	Y	N	
FCA2684DC	Emulex	PCI-X	2Gb	358692-B21	DS-A5134-AA	LP10000DC	1.91a1	1.70a3		Loaded by ESX	Y	N	

Notes:

1. FC1143 Notes: The PCI-X 2.0 Generic versions of the QLogic 4Gb cards (QLA2460 and QLA2462) are not supported. Only the HP versions of these cards (FC1143 and FC1243) are supported by HP.

2. FC1143 Notes: The PCI-X 2.0 Generic versions of the QLogic 4Gb cards (QLA2460 and QLA2462) are not supported. Only the HP versions of these cards (FC1143 and FC1243) are supported by HP.

3. FC1243 Notes: The PCI-X 2.0 Generic versions of the QLogic 4Gb cards (QLA2460 and QLA2462) are not supported. Only the HP versions of these cards (FC1143 and FC1243) are supported by HP.

4. FC1243 Notes: The PCI-X 2.0 Generic versions of the QLogic 4Gb cards (QLA2460 and QLA2462) are not supported. Only the HP versions of these cards (FC1143 and FC1243) are supported by

© Copyright 2009 Hewlett-Packard Development Company, L.P.

HP.

General Host Bus Adapter (HBA) (37) Notes:
8Gb HBA's only supported with ESX 3.5 U2.

Fibre Channel Switch (93)

Name	Vendor	Class	Bandwidth	Port Count	Notes
Brocade 4Gb SAN Switch for HP c-Class BladeSystem, Brocade 4/12 SAN Switch	Brocade	Embedded Switch	4Gb/s	8 internal, 4 external	
Brocade 4Gb SAN Switch for HP c-Class BladeSystem, Brocade 4/24 SAN Switch	Brocade	Embedded Switch	4Gb/s	16 internal, 8 external	
Brocade 4Gb SAN Switch for HP c-Class BladeSystem, Brocade 4/24 SAN Switch Power Pack	Brocade	Embedded Switch	4Gb/s	16 internal, 8 external	
Brocade 4Gb SAN Switch for HP p-Class BladeSystem, Base	Brocade	Embedded Switch	4Gb/s	8 internal, 4 external	
Brocade 4Gb SAN Switch for HP p-Class BladeSystem, Full Fabric	Brocade	Embedded Switch	4Gb/s	8 internal, 4 external	
Brocade 4Gb SAN Switch for HP p-Class BladeSystem, Power Pack	Brocade	Embedded Switch	4Gb/s	8 internal, 4 external	
Cisco MDS 9020 Fabric Switch	Cisco	Edge	4Gb/s	20	
Cisco MDS 9120 Fabric Switch	Cisco	Edge	2Gb/s	20	
Cisco MDS 9124 Fabric Switch	Cisco	Edge	4Gb/s	24	
Cisco MDS 9124e Fabric Switch for c-Class BladeSystem	Cisco	Embedded Switch	4Gb/s	8 internal, 4 external	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Class	Bandwidth	Port Count	Notes
Cisco MDS 9140 Fabric Switch	Cisco	Edge	2Gb/s	40	
Cisco MDS 9216 Multilayer Fabric Switch	Cisco	Edge	2Gb/s	48	
Cisco MDS 9216A Multilayer Fabric Switch	Cisco	Edge	2Gb/s	64	
Cisco MDS 9216i Multilayer Fabric Switch	Cisco	Edge	2Gb/s	62	
Cisco MDS 9506 Multilayer Director Switch	Cisco	Director	4Gb/s	192	
Cisco MDS 9509 Multilayer Director Switch	Cisco	Director	4Gb/s	336	
Cisco MDS 9513 Multilayer Director Switch	Cisco	Director	4Gb/s	528	
CPQ StorageWorks SAN Switch 16	Brocade	Edge	1Gb/s	16	
CPQ StorageWorks SAN Switch 16-EL	Brocade	Edge	1Gb/s	16	
CPQ StorageWorks SAN Switch 2/16	Brocade	Edge	2Gb/s	16	
CPQ StorageWorks SAN Switch 2/16	Brocade	Edge	2Gb/s	16	
CPQ StorageWorks SAN Switch 2/16-EL	Brocade	Edge	2Gb/s	16	
CPQ StorageWorks SAN Switch 2/16-EL	Brocade	Edge	2Gb/s	16	
CPQ StorageWorks SAN Switch 2/8-EL	Brocade	Edge	2Gb/s	8	
CPQ StorageWorks SAN Switch 2/8-EL	Brocade	Edge	2Gb/s	8	
CPQ StorageWorks SAN Switch 8	Brocade	Edge	1Gb/s	8	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Class	Bandwidth	Port Count	Notes
CPQ StorageWorks SAN Switch 8-EL	Brocade	Edge	1Gb/s	8	
CPQ StorageWorks SAN Switch Integrated/32	Brocade	Director	1Gb/s	32	
CPQ StorageWorks SAN Switch Integrated/64	Brocade	Director	1Gb/s	64	
HP Brocade 2400	Brocade	Edge	1Gb/s	8	
HP Brocade 2800	Brocade	Edge	1Gb/s	16	
HP StorageWorks 4/16 SAN Switch	Brocade	Edge	4Gb/s	16	
HP StorageWorks 4/16 SAN Switch Performance Pack	Brocade	Edge	4Gb/s	16	
HP StorageWorks 4/256 SAN Director	Brocade	Director	4Gb/s	16 to 384	
HP StorageWorks 4/256 SAN Director Power Pack	Brocade	Director	4Gb/s	16 to 384	
HP StorageWorks 4/8 SAN Switch	Brocade	Edge	4Gb/s	8	
HP StorageWorks 4/8 SAN Switch Performance Pack	Brocade	Edge	4Gb/s	8	
HP StorageWorks 8/24 SAN Switch	Brocade	Edge	8Gb/s	24	1
HP StorageWorks 8/40 Power Pack	Brocade	Edge	8Gb/s	40	2
HP StorageWorks 8/40 SAN Switch	Brocade	Edge	8Gb/s	40	3
HP StorageWorks 8/8 Base SAN Switch	Brocade	Edge	8Gb/s	8	4
HP StorageWorks 8/8 SAN Switch	Brocade	Edge	8Gb/s	8	5

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Class	Bandwidth	Port Count	Notes
HP StorageWorks 8/80 Power Pack	Brocade	Edge	8Gb/s	80	6
HP StorageWorks 8/80 SAN Switch	Brocade	Edge	8Gb/s	80	7
HP StorageWorks Core Switch 2/64	Brocade	Director	2Gb/s	64	
HP StorageWorks Core Switch 2/64 Power Pack	Brocade	Director	2Gb/s	64	
HP StorageWorks DC04 Power Pack+ SAN Director Switch	Brocade	Director	8Gb/s	16 to 192	8
HP StorageWorks DC04 SAN Director Switch	Brocade	Director	8Gb/s	16 to 192	9
HP StorageWorks Director 2/140	McDATA	Director	2Gb/s	32 to 140	
HP StorageWorks Director 2/64	McDATA	Director	2Gb/s	32 to 64	
HP StorageWorks Director 2/64	McDATA	Director	2Gb/s	32 to 64	
HP StorageWorks Edge Switch 2/12	McDATA	Edge	2Gb/s	12	
HP StorageWorks Edge Switch 2/16	McDATA	Edge	2Gb/s	16	
HP StorageWorks Edge Switch 2/24	McDATA	Edge	2Gb/s	24	
HP StorageWorks Edge Switch 2/32	McDATA	Edge	2Gb/s	32	
HP StorageWorks GSA/TAA SAN Switch 2/16N FF	Brocade	Edge	2Gb/s	16	
HP StorageWorks GSA/TAA SAN Switch 2/16N Power Pack	Brocade	Edge	2Gb/s	16	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Class	Bandwidth	Port Count	Notes
HP StorageWorks GSA/TAA SAN Switch 2/16V	Brocade	Edge	2Gb/s	16	
HP StorageWorks GSA/TAA SAN Switch 2/8V	Brocade	Edge	2Gb/s	8	
HP StorageWorks GSA/TAA SAN Switch 2/8V Power Pack	Brocade	Edge	2Gb/s	8	
HP StorageWorks MSA SAN Switch 2/8	Brocade	Module	2Gb/s	8	
HP StorageWorks SAN Director 2/128	Brocade	Director	2Gb/s	128	
HP StorageWorks SAN Director 2/128 Power Pack	Brocade	Director	2Gb/s	128	
HP StorageWorks SAN Switch 2/16	Brocade	Edge	2Gb/s	16	
HP StorageWorks SAN Switch 2/16 Power Pack	Brocade	Edge	2Gb/s	16	
HP StorageWorks SAN Switch 2/16-EL	Brocade	Edge	2Gb/s	16	
HP StorageWorks SAN Switch 2/16N FF	Brocade	Edge	2Gb/s	16	
HP StorageWorks SAN Switch 2/16N Power Pack	Brocade	Edge	2Gb/s	16	
HP StorageWorks SAN Switch 2/16V	Brocade	Edge	2Gb/s	16	
HP StorageWorks SAN Switch 2/32	Brocade	Edge	2Gb/s	32	
HP StorageWorks SAN Switch 2/32 Power Pack	Brocade	Edge	2Gb/s	32	
HP StorageWorks SAN Switch 2/8 EL	Brocade	Edge	2Gb/s	8	
HP StorageWorks SAN Switch 2/8 Power Pack	Brocade	Edge	2Gb/s	8	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Class	Bandwidth	Port Count	Notes
HP StorageWorks SAN Switch 2/8V	Brocade	Edge	2Gb/s	8	
HP StorageWorks SAN Switch 2/8V Power Pack	Brocade	Edge	2Gb/s	8	
HP StorageWorks SAN Switch 4/32 Base	Brocade	Edge	4Gb/s	16/32	
HP StorageWorks SAN Switch 4/32 Base Full	Brocade	Edge	4Gb/s	16/32	
HP StorageWorks SAN Switch 4/32 Power Pack	Brocade	Edge	4Gb/s	32	
HP StorageWorks SAN Switch 4/32B Base	Brocade	Edge	4Gb/s	32	
HP StorageWorks SAN Switch 4/32B Base Full	Brocade	Edge	4Gb/s	32	
HP StorageWorks SAN Switch 4/32B Power Pack	Brocade	Edge	4Gb/s	32	
HP StorageWorks SAN Switch 4/64 Base	Brocade	Edge	4Gb/s	64	
HP Surestore Director FC-64	McDATA	Director	1Gb/s	64	
HP Surestore FC 1Gb/2Gb Entry Switch 8B	Brocade	Edge	2Gb/s	8	
HP Surestore FC 1Gb/2Gb Switch 16B	Brocade	Edge	2Gb/s	16	
HP Surestore FC 1Gb/2Gb Switch 8B	Brocade	Edge	2Gb/s	8	
HP Surestore FC Switch 6164	Brocade	Director	1Gb/s	32/64	
McDATA 4Gb SAN Switch for HP p-Class BladeSystem	McDATA	Blade	4Gb/s	8 internal, 2 external	
McDATA ED-5000	McDATA	Director	1Gb/s	32	
McDATA ES-3016 (HP reseller)	McDATA	Edge	1Gb/s	16	

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Name	Vendor	Class	Bandwidth	Port Count	Notes
McDATA ES-3032 (HP reseller)	McDATA	Edge	1Gb/s	32	
McDATA Sphereon 4400	McDATA	Edge	4Gb/s	4 to 16	
McDATA Sphereon 4700	McDATA	Edge	4Gb/s	8 to 32	

Notes:

1. **HP StorageWorks 8/24 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
2. **HP StorageWorks 8/24 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
3. **HP StorageWorks 8/40 Power Pack Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
4. **HP StorageWorks 8/40 Power Pack Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
5. **HP StorageWorks 8/40 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
6. **HP StorageWorks 8/40 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
7. **HP StorageWorks 8/8 Base SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
8. **HP StorageWorks 8/8 Base SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
9. **HP StorageWorks 8/8 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
10. **HP StorageWorks 8/8 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
11. **HP StorageWorks 8/80 Power Pack Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
12. **HP StorageWorks 8/80 Power Pack Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
13. **HP StorageWorks 8/80 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
14. **HP StorageWorks 8/80 SAN Switch Notes:** Brocade 3200, 3600 and 3800 2Gb switches are not supported directly connected via ISL to any of these 8Gb switches.
15. **HP StorageWorks DC04 Power Pack+ SAN Director Switch Notes:** Only supported with ESX3.5 U2 or later.
16. **HP StorageWorks DC04 Power Pack+ SAN Director Switch Notes:** Only supported with ESX3.5 U2 or later.
17. **HP StorageWorks DC04 SAN Director Switch Notes:** Only supported with ESX3.5 U2 or later.
18. **HP StorageWorks DC04 SAN Director Switch Notes:** Only supported with ESX3.5 U2 or later.

Router (3)

Name	Vendor	Class	Port Speed	Port Count	Port Type	Ethernet Port Speed	Ethernet Port Count
HP StorageWorks 400 Multi-protocol Router 7500	HP	Router-Gateway	4Gbit	16	FC/FCR/FCIP	1Gbit	2
HP StorageWorks Multi-protocol Router AP7420	HP	Router-Gateway	2Gbit	16	FCR/FCIP/iSCSI	1Gbit	2
HP StorageWorks Multi-protocol RouterBlade FR4-18i	HP	Router-Gateway	4Gbit	16	FC/FCR/FCIP	1Gbit	2

© Copyright 2009 Hewlett-Packard Development Company, L.P.

Notes:

General Router (3) Notes:
See Router information on SPOCK web site under Other Hardware -> FC Routing/FCIP/iSCSI for firmware and software details.
Supported multi-protocol Router config rules

Path Management (1)

Name	Category	Software Version	Vendor
VMware Embedded Multi-path	Multipath	VMware Embedded Multi-path	VMware

Storage Management Software (6)

Name	Vendor	Category	Notes
ACU	HP	Device Management	1
ACU-XE	HP	Device Management	2
Array Diagnostic Utility	HP	Array Features	
HP Enterprise Backup Solution	HP	Backup	3
HP OpenView Storage Area Manager (OVSAM)	HP	SAN Management	4
HP StorageWorks Storage Mirroring Software	HP	Data Replication	

Notes:
1. **ACU Notes:** ACU-XE and ACU are not supported within a virtual machine.
2. **ACU Notes:** ACU-XE and ACU are not supported within a virtual machine.
3. **ACU-XE Notes:** ACU-XE and ACU are not supported within a virtual machine.
4. **ACU-XE Notes:** ACU-XE and ACU are not supported within a virtual machine.
5. **HP Enterprise Backup Solution Notes:** For details see EBS document on SPOCK under "Data Protection Solutions"
http://www.hp.com/go/ebs
6. **HP Enterprise Backup Solution Notes:** For details see EBS document on SPOCK under

© Copyright 2009 Hewlett-Packard Development Company, L.P.

"Data Protection Solutions"
http://www.hp.com/go/ebs

7. **HP OpenView Storage Area Manager (OVSAM)** **Notes:** Refer to documentation on SPOCK web site: Software -> OpenView SAM.
8. **HP OpenView Storage Area Manager (OVSAM)** **Notes:** Refer to documentation on SPOCK web site: Software -> OpenView SAM.

© Copyright 2009 Hewlett-Packard Development Company, L.P.