MSA1500 web site http://www.hp.com /go/msa1500cs	**W2003 64-bit** ▼	**W2003 32-bit** ▼	**Windows 2000 32-bit ONLY** ▼	**Novell NetWare** ▼	**RED HAT LINUX (32-bit)** ▼	**RED HAT LINUX (64-bit)** ▼	**SuSE 8 & SuSE 9 (32- & 64-bit))** ▼
GUIDE AS OF February 2005	CONTROLLER FIRMWARE VERSION 4.82 or higher ONLY				TESTED AND SUPPORTED CONFIGURATIONS		
Operating Sytem Details	Windows Server 2003 64-bit Enterprise Edition & Datacenter	Windows Server 2003 Enterprise Edition	W2000 SP3, SP4	NetWare 5.1 SP7 (no SATA support on 5.1) NetWare 6 SP5 NetWare 6.5 SP2	Red Hat Enterprise 2.1 2.4.9-e49, -e49smp ___ RH EL 3 U3 (AS,ES,WS) 2.4.21-20EL 2.4.21-20ELSMP	RH AS 2.1 QU4 (AS, ES) 2.4.19-e47, -e47smp ___ RH EL 3 U3 (AS,ES,WS) 2.4.21-20EL, 2.4.21-20ELSMP	SLES 8 32-bit 2.4.21-241smp SLES 9 32-bit 2.6.5-7.111 smp ___ SLES 8 64-bit 2.4.21-241smp SLES 9 64-bit 2.6.5-7.111 smp
HETEROGENEITY concurrent access by different OSs - SCSI ONLY *check path failover rules	W2003, W2K, NetWare 6 & 6.5 Linux: Red Hat & SuSE			W2K, W2003 Linux: Red Hat & SuSE NetWare 6,6.5	W2003, W2K Linux: Red Hat & SuSE	W2003, W2K Linux: Red Hat & SuSE	W2003, W2K Linux: Red Hat & SuSE
MAX NUMBER OF ATTACHED NODES [1]	8 (SCSI & SATA)	20 (SCSI & SATA)	20 (SCSI & SATA)	6, 6.5 = 20 (SCSI & SATA) 5.1 = 20 (SCSI only)	20 (SCSI & SATA)	20 (SCSI & SATA)	20 (SCSI & SATA)
# OF NODES IN A CLUSTER *-SINGLE PATH-*	8 [2] (SCSI & SATA)	8 [2] (SCSI & SATA)	2 [2] (SCSI & SATA)	6, 6.5=12 (SCSI & SATA) 5.1=6 (SCSI only)	6 (SCSI only)	6 (SCSI only)	6 (SCSI only)
# OF NODES IN A CLUSTER *W/ SECURE PATH failover*	8 [2] (SCSI & SATA)	8 [2] (SCSI & SATA)	2 [2] (SCSI & SATA)	6, 6.5=12 (SCSI & SATA) 5.1=6 (SCSI only)	6 (SCSI only)	6 (SCSI only)	6 (SCSI only)
# OF NODES IN A CLUSTER *W/ Microsoft MPIO failover*	4 [2] (SCSI & SATA)	4 [6] (SCSI & SATA)	2 [2] (SCSI & SATA)				
# OF NODES IN A CLUSTER *W/ Qlogic Failover*					6 (SCSI only)	6 (SCSI only)	6 (SCSI only)
# OF CLUSTERS refer to fail-over limitations if applicable NOT TO EXCEED 20-NODE TOTAL	one 8-node or four 2-node (SCSI & SATA)	four clusters (assorted size) or five 2-node [4] (SCSI & SATA)	five 2-node (see note) [4] (SCSI & SATA)	one 12-node or two 6-node or three 4-node (SCSI only)	up to three 6-node clusters (SCSI only)	up to three 6-node clusters (SCSI only)	up to three 6-node clusters (SCSI only)
MIXING SINGLE PATH AND DUAL PATH SERVERS[3]	YES w/ restrictions. See footnote			NO	NO	NO	NO
MIXED DUAL PATH (Secure Path, MS MPIO, Qlogic failover)	MPIO & Windows Secure Path (auto failback must be disabled)	MPIO & Windows Secure Path (auto failback must be disabled)	MPIO & Windows Secure Path (auto failback must be disabled)	NO mixing of path failover	NO mixing of path failover	NO mixing of path failover	NO mixing of path failover

1 Performance can be substantially impacted by number of users and type of application

2 Concurrent cluster support with SCSI & SATA drives/enclosures in Windows only

3 If a single path Windows server is attached to an MSA that also has dual-path servers with any path failover, the single path servers will lose access to the MSA should the primary controller become inactive. If a Linux or NetWare server has path failover, all servers attached also must employ the same.

4 Up to 20 nodes in a SAN – Windows includes but not limited to the following configurations: an 8-node, a 4-node, and two 2-nodes OR five 2-node clusters attached to one MSA1500. Five 2-node clusters can be attached only if nothing else is attached to the MSA1500, otherwise four 2-node clusters are supported, up to ten (10) total MSA1500s per SAN. Clustered nodes can attach to up to two (2) MSA1500s, single server nodes can attach to up to four MSA1500s

 Direct Connect is supported on these Operating Systems

IMPORTANT: Check the High Availability website for complete Clustering details at: http://h18004.www1.hp.com/solutions/enterprise/highavailability/index.html

MSA1500 web site http://www.hp.com/go/msa1500cs	W2003 64-bit ▼	W2003 32-bit ▼	Windows 2000 32-bit ONLY ▼	Novell NetWare ▼	RED HAT LINUX (32-bit) ▼	RED HAT LINUX (64-bit) ▼	SuSE 8 & SuSE 9 (32- & 64-bit)) ▼
HOST BUS ADAPTERS							
refer to http://www.hp.com/go/SAN for complete Host Bus Adapter information							
FCA2101 **245299-B21** **32-bit** **(discontinued)**		driver 5-5.10a10	driver 5-5.10a10				
		Firmware: 3.92a2 BooT BIOS 1.70a1	Firmware: 3.92a2 BooT BIOS 1.70a2				
FCA2214 **281541-B21** **32-bit**		driver 9.0.0.13	driver 9.0.0.13	driver 6.80f	driver 7.01.01		driver 7.01.01 SuSE 8 driver 8.00.00 SuSE 9
		FW 1.34	FW 1.34	FW 1.45	FW 1.34		FW 1.45
FCA2214DC **321835-B21** **32-bit**		driver 9.0.0.13	driver 9.0.0.13		driver 7.01.01		driver 7.01.01 SuSE 8 driver 8.00.00 SuSE 9
		FW 1.34	FW 1.34		FW 1.34		FW 1.45
FCA2404 **305573-B21** **32-bit**		driver 5-5.10a10	driver 5-5.10a10				
		FW: 1.90a4 Boot BIOS: 1.70a1	FW: 1.90a4 Boot BIOS: 1.70a1				
FCA2404DC **323264-B21** **32-bit**		driver 5-5.10a10	driver 5-5.10a10				
		FW: 1.90a4 Boot BIOS: 1.70a1	FW: 1.90a4 Boot BIOS: 1.70a1				
A7387A - 32-bit **AB466A - 64-bit** **dual channel**	driver 6-5.10a10,	driver 5-5.10a10	driver 5-5.10a10				
	FW: 1.81a3 Boot BIOS: 1.70a1	FW: 1.81a3 Boot BIOS: 1.70a1	FW: 1.81a3 Boot BIOS: 1.70a1				
A7388A 32-bit **AB467A 64-bit** **single channel**	driver 6-5.10a10	driver 5-5.10a10	driver 5-5.10a10				
	FW: 1.81a3 Boot BIOS: 1.70a1	FW: 1.81a3 Boot BIOS: 1.70a1	FW: 1.81a3 Boot BIOS: 1.70a1				
1Gb HBA (discontinued) **64-Bit/33MHz PC/FC** **176479-B21 32-bit**		driver 5-5.10a10	driver 5-5.10a10				
		Firmware: 3.92a2 BooT BIOS 1.70a1	Firmware: 3.92a2 BooT BIOS 1.70a2				
A6826A **Red Hat & SuSE 64-bit**						driver 7.01.01	driver 7.01.01 SuSE 8 driver 8.00.00 SuSE 9
						firmware v3.02.168 EFI driver v1.30	firmware v3.02.168 EFI driver v1.30
FCA2210 **281540-B21** **NetWare** (discontinued)				driver 6.80f			
				FW **1.45**			
AB232A **Windows 64-bit**	driver 6-5.10a10						◉ Return to top
	FW: 1.81a2						
32-bit **FC Mezzanine Card for BL20P**		driver 9.0.0.13 FW 1.34	driver 9.0.0.13 FW 1.34		driver 7.01.01 FW 1.34		driver 7.01.01 SuSE 8 driver 8.00.00 SuSE 9 FW 1.45
32-bit **FC Balcony Card for BL30P**		driver 9.0.0.14 FW 1.43	driver 9.0.0.14 FW 1.43		driver 7.01.01 FW 1.34		driver 7.01.01 SuSE 8 driver 8.00.00 SuSE 9 FW 1.45
Boot from SAN support	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**	**yes**

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INTERCONNECTS							
refer to http://www.hp.com/go/SAN for complete Fibre Channel switch information							
"B" SERIES SWITCHES	✔	✔	✔	✔	✔	✔	✔
"C" SERIES SWITCHES	✔	✔	✔	✔	✔	✔	✔
"M" SERIES SWITCHES	✔	✔	✔	✔	✔	✔	✔
RELATED SOFTWARE			**HP StorageWorks Secure Path Web Site**				
Secure Path Workgroup Edition version	**v4.0C SP1.1**			**v3.0C SP2.1**	**v3.0C**	**v3.0C**	**v3.0C** for SLES 8 only
HP MPIO Failover	**HP Array Multi-Path Options Web Site**						
Qlogic Failover					**HP Array Multi-Path Options Web Site**		
HP ProLiant Cluster Kit with OpenView Mirroring	**364025-B21**	**364025-B21**					
LifeKeeper version SCSI only					**4.61**	**4.61**	**4.61**
Service Guard					**NO**	**NO**	**NO**
HP OpenView Storage Virtual Replicator®		**HP OpenView Storage Virtual Replicator Web Site**					
HP OpenView Storage Mirroring®	**HP OpenView Storage Mirroring Web Site**						
SUPPORTED SERVERS						◉ Return to top	
IMPORTANT: user must refer to http://welcome.hp.com/country/us/eng/prodserv/servers.html to confirm latest support of server models and operating systems							
PA-RISC, INTEL and Opteron-Based SERVERS	**BL20p G2 & G3, BL30p, BL40p (no NetWare support on BL models), DL145, DL320, DL320 G2, DL360 G2, DL360 G3, DL360 G2, DL360 G3, DL 360 G4, DL380 G2, DL380 G3, DL380 G4, DL560, DL580, DL580 G2, DL570, DL585, DL740, DL750, DL760, DL760 G2, ML350 G3, ML350 G4, ML370 G2, ML370 G3, ML370 G4, ML530, ML530 G2, ML570, ML570 G2, ML750, rx1600, rx2600, rx4640, rx5670, rx7620, rx8620, zx6000, Integrity Superdome. Additional models added as testing is completed. Note: A variety of Industry-standard servers (including IBM, Dell, Fujitsu, and others) are supported in standalone and designated cluster configurations. Must use HP Branded server interface (Host Bus Adapter). Refer to MSA1500 Support CD for drivers and documentation.**							