



HP Modular Smart Arrays

Competitive advantages of the HP MSA family

October 2004*

“As we strategized about our production environment storage, we looked at the price, performance, configurability, scalability, and availability of different storage solutions. Other major storage vendors’ solutions were considered, but we weren’t looking to spend \$1 million to enhance the core database. The MSA1000 technology fit our current requirements [and] budget, and allowed for scalability in the coming months and year.”

Joey Merz
Vice President of Systems
Match.com

The HP advantage

HP Modular Smart Array (MSA) solutions deliver superior performance and investment protection. These scalable, cluster-ready shared storage systems provide simple, reliable, and affordable external storage for servers and networks.

- Developed to take specific advantage of design features in HP servers and other products—so that they all work better together
- Uses the same HP Smart Array technology as HP ProLiant servers, which automatically recognizes the configuration of your data, minimizing downtime during migration
- Customers can migrate at their own speed with the HP MSA family; start with simple external storage, then move to a full SAN when you are ready
- Development and support of a complete storage solution from one reliable vendor
- Supports Intel® Pentium®, Xeon™, Itanium®, PA-RISC, and Alpha as well as AMD Opteron™ servers
- Protect your customers’ investment by reusing their existing SCSI drives from their servers in their new HP Modular Smart Array
- The HP MSA family uses the same management tools as existing HP ProLiant systems, reducing training time and costs

- Advanced Data Guarding (ADG) technology lets you safely deploy large-capacity disk drives and create large storage volumes

HP Network Storage Services

HP Network Storage Services help organizations become more efficient and agile by standardizing the network storage infrastructure and improving access to critical business information. For more information, log on to www.hp.com/hps/storage.

HP Financial Services

HP Financial Services offers a complete array of leasing and financial life cycle management services around the world. To find out more, contact your HP Financial Services representative at 1-888-215-8868 or visit us online at www.hp.com/hpfinancialservices.

For more information

To learn more about the advantages of Modular Smart Arrays, ProLiant servers, and other industry-leading HP products and services, please visit the following websites:

- www.hp.com
- www.hp.com/go/msa
- www.hp.com/go/servers

*Competitors’ product information was obtained from their respective websites and published material, and is accurate as of September 1, 2004.

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HP MSA20



	HP MSA20	Dell PowerVault 220s
Redundant controllers	No	No
Total drive count	12	14
Maximum storage	3 TB	2 TB
Maximum cache	N/A	N/A
Drive interface	SATA	Ultra320 SCSI
Host interface	Ultra320 SCSI	SCSI
RAID levels supported	0, 1+0, 5, ADG	0, 1, 5, 10, 50
Form factor	2U	3U
Operating system support	Microsoft® Windows® 2000 Server, Microsoft Windows Server™ 2003, Novell NetWare, Linux	Microsoft Windows 2000 Server, Microsoft Windows Server 2003, Novell NetWare, Linux
ADG	Yes	No
DAS to SAN (D1S)	Yes	No

HP MSA30



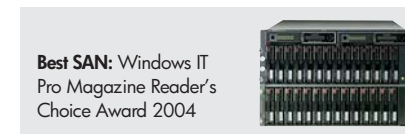
	HP MSA30	Dell PowerVault 220s
Redundant controllers	No	No
Total drive count	14	14
Maximum storage	4 TB	2 TB
Maximum cache	N/A	N/A
Drive interface	Ultra320 SCSI	Ultra320 SCSI
Host interface	Ultra320 SCSI	SCSI
RAID levels supported	0, 1+0, 5, ADG	0, 1, 5, 10, 50
Form factor	3U	3U
Operating system support	Microsoft Windows NT®, Microsoft Windows 2000 Server, Microsoft Windows Server 2003, Novell NetWare, Linux, Tru64 UNIX®, OpenVMS, HP-UX	Microsoft Windows 2000 Server, Microsoft Windows Server 2003, Novell NetWare, Linux
ADG	Yes	No
DAS to SAN (D1S)	Yes	No

HP MSA500 G2



	HP MSA500 G2	Dell/EMC AX100
Redundant controllers	Yes (optional)	Yes
Total drive count	14	12
Maximum storage	4 TB	3 TB
Maximum cache	512 MB	512 MB
Drive interface	Ultra320 SCSI	SATA
Host interface	Ultra320 SCSI	FC
RAID levels supported	0, 1+0, 5, ADG	5 only
Form factor	4U	2U
Operating system support	Microsoft Windows 2000 Server, Microsoft Windows Server 2003, Novell NetWare, Linux	Microsoft Windows 2000 Server, Microsoft Windows Server 2003, Novell NetWare, Linux
ADG	Yes	No
DAS to SAN (D1S)	Yes	No

HP MSA1000



	HP MSA1000	Dell/EMC CX300	IBM DS400
Redundant controllers	Yes (optional)	Yes	Single or dual active
Total drive count	14 (42 with 2 MSA30s)	60	40
Maximum storage	12 TB	13.4 TB (ATA) or 8.8 TB (FC)	5.8 TB
Maximum cache	512 MB	2 GB	1 GB (dual controller)
Drive interface	Ultra160 SCSI	FC-AL/ATA	Ultra320 SCSI
Host interface	2 Gb FC	2 Gb FC	2 Gb FC
RAID levels supported	0, 1, 1+0, 5, ADG	0, 1+0, 3, 5	0, 1, 5, 10, 50
Form factor	4U	3U	3U
Operating system support	Microsoft Windows NT, Microsoft Windows 2000 Server, Microsoft Windows Server 2003, Novell NetWare, Linux, Tru64 UNIX, OpenVMS, HP-UX	Microsoft Windows, Sun Solaris, HP-UX, IBM AIX, Novell NetWare, Linux, IRIX, Tru64 UNIX	Microsoft Windows 2000, Microsoft Windows 2000 Advanced Server, Microsoft Windows Server 2003, Linux, Novell on supported IBM xSeries and BladeCenter servers
ADG	Yes	No	No
DAS to SAN (D1S)	Yes	No	Yes
Battery backed cache	Yes	No	Yes

HP MSA1500 cs



	HP MSA1500 cs	Dell/EMC CX300	IBM DS4100 (FastT100)	IBM DS4300 (FastT600)
Redundant controllers	Yes	Yes	Dual active	Single, dual active, turbo
Total drive count	0 (96 with 8 MSA20s or 56 with 4 MSA30s)	60	112 SATA	14 FC (single controller), 56 FC or 112 SATA (dual/turbo)
Maximum storage	16 TB (SCSI) or 24 TB (SATA)	13.4 TB (ATA) or 8.8 TB (FC)	28 TB	2 TB (single controller), 6.1 TB (FC), 28 TB (SATA) (on dual/turbo, FC and SATA can be mixed)
Maximum cache	512 MB	2 GB	512 MB	256 MB (single controller), 512 MB (dual controller), 2 GB (turbo)
Drive interface	Ultra160 SCSI	FC-AL/ATA	2 Gb FC	2 Gb FC
Host interface	2 Gb FC	2 Gb FC	2 Gb FC	2 Gb FC
RAID levels supported	0, 1, 1+0, 5, ADG	0, 1+0, 3, 5	0, 1, 5, 10	0, 1, 5, 10
Form factor	2U	3U	3U	3U
Operating system support	Microsoft Windows 2000 Server, Microsoft Windows Server 2003, Linux	Microsoft Windows, Sun Solaris, HP-UX, IBM AIX, Novell NetWare, Linux, IRIX, Tru64 UNIX	Microsoft Windows Server 2003, Microsoft Windows 2000 Server and Advanced Server, Novell NetWare, Linux, VMWare, AIX, HP-UX, Sun Solaris	Microsoft Windows Server 2003, Microsoft Windows 2000 Server and Advanced Server, Novell NetWare, Linux, VMWare, AIX, HP-UX, Sun Solaris
ADG	Yes	No	No	No
DAS to SAN (D1S)	Yes	No	Yes	Yes
Battery backed cache	Yes	No	Yes	Yes