

# HP StorageWorks arrays

Family guide



# Table of contents

- HP StorageWorks arrays: bridging the gap . . . . . 3
- HP StorageWorks All-in-One Storage Systems . . . . . 5
- HP StorageWorks Modular Smart Arrays . . . . . 6
- HP StorageWorks Enterprise Virtual Arrays . . . . . 9
- HP StorageWorks XP Disk Arrays . . . . . 11
- HP StorageWorks arrays . . . . . 12
- HP related offerings: HP software . . . . . 13
- HP related offerings: HP services . . . . . 14
- HP Services . . . . . 14
- Factory Express . . . . . 14
- Customer technical training . . . . . 14
- HP Financial Services . . . . . 15
- HP server portfolios . . . . . 15
- You make HP storage products better . . . . . 15
- For more information . . . . . 15

## HP StorageWorks arrays: bridging the gap between data explosion and storage infrastructure

Regardless of the size of your organization, it's likely that you are facing daunting challenges regarding data storage. You not only require immediate access to exploding volumes of data, but government regulations and corporate governance are dictating what must be kept, for how long, and when you need to gain access to it. Therefore, it is critical that you invest in a cost-effective, long-term solution that can support your business now and well into the future, and that all of the different components and options are compatible with one another.

HP StorageWorks' family of disk arrays reduces the complexity of your storage environment and helps to lower costs because they are easy to install, easy to manage, and easy to support. All of your storage needs are addressed—whether it's an entry-level modular array, an enterprise-class disk array, or intelligent management software. Our simplified array and user interface designs mean that you'll spend less time installing, configuring, and managing your storage management tasks.

The HP StorageWorks disk array portfolio includes:

- **All-in-One (AiO) Storage Systems**—providing simple, affordable networked storage; specifically, network-attached storage (NAS) and Internet small computer system interface (iSCSI), with integrated data protection features and simplified management
- **Modular Smart Arrays (MSAs)**—enabling low-cost, scalable, high-performance storage consolidation through SANs to meet entry-level to midrange requirements
- **Enterprise Virtual Arrays (EVAs)**—an ideal storage solution for midrange to enterprise-class environments that require high performance, high capacity, and high availability
- **XP Disk Arrays**—The HP StorageWorks XP24000/XP20000 Disk Arrays are large enterprise-class storage systems designed for organizations that simply cannot afford any downtime or tolerate any data loss.

Plus, we offer a range of complementary offerings to help you tackle the most basic to the most complex storage challenges. These include everything from a single tape drive to an automated tape library as well as enterprise-wide SANs with arrays flexible enough to manage gigabytes to petabytes of storage.

Our server portfolio consists of the HP Integrity and HP ProLiant server families as well as HP BladeSystem. When you combine HP StorageWorks solutions with HP servers, the advantages multiply even further: hardware and software integrate seamlessly, systems are easy to manage, change is simplified, and you're prepared for future challenges. You can learn more about our server portfolio on page 12.



Why should you choose HP storage with your HP server? There are many reasons why HP StorageWorks is your best storage option with your HP server. Here are just a few:

- Do you need a single interface to monitor, automate, and control your complex IT environment? Is pooling and sharing of resources important for increasing your IT utilization? Do you need to reduce business risk from unplanned downtime?

Our software allows you to manage, virtualize, and protect IT resources to simplify and optimize your infrastructure. For example, HP Systems Insight Manager can lower costs and simplify with common storage and server management.

- How efficiently do your storage and servers work together?

We spend hundreds of hours rigorously testing our storage and servers together so you can deploy our solutions with confidence.

- Do you need to save time when deploying storage and servers?

Accelerate deployment with solutions that are ready to run. With Factory Express you can choose how your solution is built, tested, integrated, shipped, and deployed, which means you know your solutions will work from Day One.

- How important is it that your service partner provides a single point of ownership and accountability? Do they meet your service needs across your enterprise? Have you reached the mission-critical reliability you require to meet your business needs?

From training and basic product support to selective outsourcing, our services help you realize the full potential of your technology to meet your business requirements.

- Do you have everything you need to meet your infrastructure needs?

Our server and storage options—including memory, disk drives, processors, racks, operating system software, array-based software, power, and cooling—help optimize your solution by enhancing system performance and functionality.

Storage matters more than ever, and the demands on your storage and server infrastructure will only continue to grow. Over the next several pages, you'll see how HP StorageWorks solutions have been designed to answer your unique needs and requirements—and promote greater business outcomes—now and into the future.

# HP StorageWorks All-in-One Storage Systems

Unified solutions combining shared iSCSI storage and customized NAS file serving with integrated data protection, designed to be deployed and managed by IT generalists with no storage expertise.

Entry-level



**HP StorageWorks 400t All-in-One Storage System (AiO400t)**

**HP StorageWorks 400r All-in-One Storage System (AiO400r)**

**HP StorageWorks 600 All-in-One Storage System (AiO600)**

**HP StorageWorks 1200r All-in-One Storage System (AiO1200r)**

	HP StorageWorks 400t All-in-One Storage System (AiO400t)	HP StorageWorks 400r All-in-One Storage System (AiO400r)	HP StorageWorks 600 All-in-One Storage System (AiO600)	HP StorageWorks 1200r All-in-One Storage System (AiO1200r)
<b>Description</b>	Four-drive entry-level tower All-in-One network storage for smaller environments	Four-drive entry-level rackmount All-in-One network storage for smaller environments	Six-drive All-in-One network storage with hardware redundancy and easy expandability	Twelve-drive All-in-One network storage with high performance and high internal capacity
<b>Number of processors</b>	1	1 (supports 2)	1 (supports 2)	1 (supports 2)
<b>Processor</b>	Dual-Core Intel® Pentium® E2160 1.8 GHz with 1 x 1 MB L2 cache	Quad-Core Intel® Xeon® E5405 2.00 GHz, 80W, 1333 MHz FSB)	Dual-Core Intel Xeon 2.67 GHz/1333 MHz FSB with 4 MB L2 cache	Quad-Core AMD Opteron™ Model 2354 2.2 GHz with 4 x 512 KB L2 cache and 2 MB shared L3 cache
<b>iSCSI initiator support</b>	Interoperable with standards-compliant iSCSI initiators including those from Windows® 2000, Windows Server 2003, Windows Server 2008, VMware ESX Server 3, SUSE Linux Enterprise Server 10, Red Hat Enterprise Linux 5, and QLogic 40xx series iSCSI hardware HBAs.			
<b>File serving support</b>	Heterogeneous file serving with support for SMB/CIFS, NFS, AppleTalk, Novell, HTTP, FTP			
<b>Memory</b>	2 GB (4 GB maximum)	2 GB (4 GB maximum)	1 GB (4 GB maximum)	2 GB or 4 GB (4 GB maximum)
<b>Remote management</b>	Optional Lights-Out 100c	Lights-Out 100i	Integrated Lights-Out 2 (iLO2)	Lights-Out 100i
<b>External storage expansion (via Smart Array controller)</b>	None	MSA50, 60, 70	MSA20, 30, 50, 60, 70	MSA50, 60, 70
<b>Expansion slots</b>	Full-height, half-length 32-bit/33 MHz PCI slot Full-height, half-length PCIe x1 slot Full-height, full-length PCIe x1 slot (x8 connector) Full-height, full-length PCIe x8 slot Lights-Out 100c slot	Full-length, full-height PCI Express (PCIe) x16 slot (occupied) Low-profile PCIe x4 slot (x8 connector)	(3) x4 PCI Express (x8 connectors) (1) 64-bit, 133 MHz 3.3 V PCI-X (2) 64-bit, 100 MHz 3.3 V PCI-X	(2) x8 full-length, full-height PCI Express (one slot occupied by Smart Array P800/512 MB controller)
<b>Internal storage</b>	1 TB SATA (4 x 250 GB) 584 GB SAS (4 x 146 GB)	1 TB SATA (4 x 250 GB) 2 TB SATA (4 x 500 GB) 1.2 TB SAS (4 x 300 GB)	1.5 TB SATA (6 x 250 GB) 3.0 TB SATA (6 x 500 GB) 876 GB SAS (6 x 146 GB) 1.8 TB SAS (6 x 300 GB)	3.0 TB SATA (12 x 250 GB) 6.0 TB SATA (8 x 750 GB) 9.0 TB SATA (12 x 750 GB) 12.0 TB SATA (12 x 1 TB) 2.4 TB SAS (8 x 300 GB) 3.6 GB SAS (12 x 300 GB)
<b>Rack height (form factor)</b>	Micro tower	1U (rack)	5U (tower or rack)	2U (rack)
<b>Warranty</b>	1 year parts, 1 year labor, 1 year on-site support	1 year parts, 1 year labor, 1 year on-site support	3 years parts, 3 years labor, 3 years on-site support	1 year parts, 1 year labor, 1 year on-site support
<b>HP related offerings</b>				
<b>Recommended services</b>				
	3 years Support Plus 24 Hardware Installation	3 years Support Plus 24 Hardware Installation	3 years Support Plus 24 Hardware Installation	3 years Support Plus 24 Hardware Installation
<b>Software</b>	HP StorageWorks Storage Mirroring to replicate iSCSI array and file data to another system HP StorageWorks Data Protector Express Options to protect servers connected to the AiO			
<b>Tape</b>				
	SCSI Ultrium tape drives 1/8 G2 Autoloader with Ultrium 448 Tape Drive(s)	SCSI Ultrium tape drives 1/8 G2 Autoloader with Ultrium 448 Tape Drive(s)	1/8 G2 Autoloader with Ultrium 920 Tape Drive(s) SCSI Ultrium tape drives	1/8 G2 Autoloader with Ultrium 920 Tape Drive(s) MSL2024 Tape Library with Ultrium 920 and Ultrium 960 Tape Drive(s)

# HP StorageWorks Modular Smart Arrays

The HP StorageWorks Modular Smart Array (MSA) family is ideal for organizations looking for entry-level/midrange SANs and low-cost DAS solutions.

Entry-level



**HP StorageWorks 20 Modular Smart Array (MSA20)**  
SATA drive enclosure; capacity for direct attach

**HP StorageWorks 50 Modular Smart Array (MSA50)**  
SAS storage enclosure supporting SAS and SATA

<b>Maximum storage</b>	Up to 12 TB with SATA drives	Up to 1.44 TB with SAS drives Up to 1.2 TB with SATA drives
<b>Host interface</b>	Ultra320 SCSI	SAS
<b>Maximum number of drives</b>	Up to 12 SATA Large Form Factor (LFF) drives	Up to 10 SAS and/or SATA Small Form Factor (SFF) drives
<b>Hard drives supported</b>	1 TB 3G 7.2K 3.5 inch SATA 750 GB 3G 7.2K 3.5 inch SATA 500 GB 3G 7.2K 3.5 inch SATA 250 GB 3G 7.2K 3.5 inch SATA Note: 3G drives only function at 1.5G	146 GB 3G 10K 2.5 inch Single Port SAS 72 GB 3G 10K 2.5 inch Single Port SAS 36 GB 3G 10K 2.5 inch Single Port SAS 72 GB 3G 15K 2.5 inch Single Port SAS 36 GB 3G 15K 2.5 inch Single Port SAS 120 GB 1.5G 5.4K 2.5 inch SATA 60 GB 1.5G 5.4K 2.5 inch SATA
<b>Operating systems supported</b>	Microsoft® Windows® Server 2003 Microsoft Windows Server 2000 Microsoft Windows Storage Server 2003 Novell NetWare 6.5 Red Hat Enterprise Linux 2.1 Red Hat Enterprise Linux SUSE Linux Enterprise 9 (SLES9) SCO OpenServer 6.0.0 SCO UnixWare 7.1.3 SCO UnixWare 7.1.4 VMware	Microsoft Windows Server 2000 Microsoft Windows Server 2003 Microsoft Windows Storage Server 2003 Microsoft Windows 2008 Novell Open Enterprise Server Novell NetWare 6.5 SPS SCO OpenServer 5.0.7, 6 SCO UnixWare 7.1.3, 7.1.4 Red Hat Enterprise Linux Solaris 10 SUSE Linux Enterprise Server 9, 10 VMware ESX 3.5
<b>Rack height</b>	2U	1U
<b>Warranty</b>	3 years parts	3 years parts
<b>HP related offerings</b>		
<b>Recommended services</b>	3 years Support Plus 24 On-site Hardware Support Service	3 years Support Plus 24 On-site Hardware Support Service
<b>Software</b>	HP Systems Insight Manager (SIM) HP Array Configuration Utility (ACU)	HP Systems Insight Manager (SIM) HP Array Configuration Utility (ACU)

For additional information on related software for these products, see page 13.

## HP StorageWorks Modular Smart Arrays (continued)

The HP StorageWorks Modular Smart Array (MSA) family is ideal for organizations looking for entry-level/midrange SANs and low-cost DAS solutions.

### Entry-level



**HP StorageWorks 60 Modular Smart Array (MSA60)**  
SAS/SATA drive enclosure for direct attach

**HP StorageWorks 70 Modular Smart Array (MSA70)**  
SAS/SATA drive enclosure for direct attach

<b>Maximum storage</b>	Up to 5.4 TB with SAS drives Up to 12 TB with SATA drives Up to 12 TB with SAS Dual Port Midline (MDL) drives	Up to 3.6 TB with SAS drives Up to 3.0 TB with SATA drives
<b>Host interface</b>	SAS	SAS
<b>Maximum number of drives</b>	Up to 12 SATA and/or SAS LFF drives	Up to 25 SAS or SATA SFF drives
<b>Hard drives supported</b>	450 GB 3G 15K 3.5 inch Dual Port SAS 300 GB 3G 15K 3.5 inch Dual Port SAS 146 GB 3G 15K 3.5 inch Dual Port SAS 72 GB 3G 15K 3.5 inch Dual Port SAS 300 GB 3G 15K 3.5 inch Single Port SAS 146 GB 3G 15K 3.5 inch Single Port SAS 72 GB 3G 15K 3.5 inch Single Port SAS 1 TB 3G 15K 3.5 inch Dual Port MDL SAS 750 G 3G 15K 3.5 inch Dual Port MDL SAS 1 TB 3G 7.2K 3.5 inch SATA 750 GB 3G 7.2K 3.5 inch SATA 500 GB 3G 7.2K 3.5 inch SATA 250 GB 3G 7.2K 3.5 inch SATA	72 GB 3G 15K 2.5 inch Dual Port SAS 36 GB 3G 15K 2.5 inch Dual Port SAS 72 GB 3G 15K 2.5 inch Single Port SAS 36 GB 3G 15K 2.5 inch Single Port SAS 146 GB 3G 10K 2.5 inch Dual Port SAS 72 GB 3G 10K 2.5 inch Dual Port SAS 146 GB 3G 10K 2.5 inch Single Port SAS 72 GB 3G 10K 2.5 inch Single Port SAS 120 GB 1.5G 5.4K 2.5 inch SATA 60 GB 1.5G 5.4K 2.5 inch SATA
<b>Operating systems supported</b>	Microsoft Windows 2003 Microsoft Windows 2008 HP-UX 11i v2, 11i v3 HP OpenVMS 8.31H Novell Open Enterprise Server Novell NetWare 6.5 SPS SCO OpenServer 5.0.7, 6 SCO UnixWare 7.1.3, 7.1.4 Red Hat Enterprise Linux 3, 4, 5 SUSE Linux Enterprise Server 9, 10 Solaris 10 VMware ESX 3.5	Microsoft Windows 2003 Microsoft Windows 2008 HP-UX 11i v2, 11i v3 HP OpenVMS 8.31H Novell Open Enterprise Server Novell NetWare 6.5 SPS SCO OpenServer 5.0.7, 6 SCO UnixWare 7.1.3, 7.1.4 Red Hat Enterprise Linux 3, 4, 5 SUSE Linux Enterprise Server 9, 10 Solaris 10 VMware ESX 3.5
<b>Rack height</b>	2U	2U
<b>Warranty</b>	3 years parts only	3 years parts only
<b>HP related offerings</b>		
<b>Recommended services</b>	3 years Support Plus 24 On-site Hardware Support Service	3 years Support Plus 24 On-site Hardware Support Service
<b>Software</b>	HP Systems Insight Manager (SIM) HP Array Configuration Utility (ACU)	HP Systems Insight Manager (SIM) HP Array Configuration Utility (ACU)

For additional information on related software for these products, see page 13.

## HP StorageWorks Modular Smart Arrays (continued)

The HP StorageWorks Modular Smart Array (MSA) family is ideal for organizations looking for entry-level departmental or remote SAN solutions.

Entry-level

New



**HP StorageWorks 2000fc Modular Smart Array (MSA2000fc)** 4 Gb Fibre Channel connected, 2U storage area network (SAN) solution designed for small to medium-size deployments or remote locations

New



**HP StorageWorks 2000i Modular Smart Array (MSA2000i)** iSCSI connected, 2U storage area network (SAN) solution designed for small to medium-size deployments or remote locations

New



**HP StorageWorks 2000sa Modular Smart Array (MSA2000sa)** Modular, reliable, affordable, and easy-to-manage shared storage array solution

<b>Maximum storage</b>	48 TB	48 TB	48 TB
<b>Host interface</b>	4 Gb Fibre Channel	1 Gb Ethernet iSCSI	3 Gb/sec SAS
<b>Number of hosts supported</b>	64	16	4
<b>Maximum number of drives</b>	1–48	1–48	1–48
<b>Hard drives supported</b>	146 GB 3G 15K 3.5 inch Dual Port SAS 300 GB 3G 15K 3.5 inch Dual Port SAS 500 GB 3G 7.2K 3.5 inch SATA 750 GB 3G 7.2K 3.5 inch SATA 1 TB 3G 7.2K 3.5 inch SATA	146 GB 3G 15K 3.5 inch Dual Port SAS 300 GB 3G 15K 3.5 inch Dual Port SAS 500 GB 3G 7.2K 3.5 inch SATA 750 GB 3G 7.2K 3.5 inch SATA 1 TB 3G 7.2K 3.5 inch SATA	146 GB 3G 15K 3.5 inch Dual Port SAS 300 GB 3G 15K 3.5 inch Dual Port SAS 500 GB 3G 7.2K 3.5 inch SATA 750 GB 3G 7.2K 3.5 inch SATA 1 TB 3G 7.2K 3.5 inch SATA
<b>Operating systems supported</b>	Microsoft Windows 2008 IA32 version Microsoft Windows 2008 x64 Microsoft Windows 2003 R2 Microsoft Windows 2003 x64 Red Hat Enterprise Linux 4, 5 SUSE Linux Enterprise Server 9, 10 VMware ESX 3.0.1, 3.0.2, 3.5	Microsoft Windows 2003 R2 Microsoft Windows 2003 x64 Red Hat Enterprise Linux 4, 5 SUSE Linux Enterprise Server 9, 10 VMware ESX 3.0.1, 3.0.2, 3.5	Microsoft Windows 2008 IA32 version Microsoft Windows 2008 x64 Microsoft Windows 2003 R2 Microsoft Windows 2003 x64 Red Hat Enterprise Linux 5 SUSE Linux Enterprise Server 10 VMware ESX 3.5
<b>Rack height</b>	2U	2U	2U
<b>Warranty</b>	3 years parts	3 years parts	3 years parts
<b>HP related offerings</b>			
<b>Recommended services</b>	3 years Support Plus 24 Disk Array SAN Solution Service	3 years Support Plus 24 Disk Array SAN Solution Service	3 years Support Plus 24 Disk Array SAN Solution Service
<b>Software</b>	HP StorageWorks MSA2000 Snapshot and Volume Copy Software HP StorageWorks Storage Mirroring	HP StorageWorks MSA2000 Snapshot and Volume Copy Software HP StorageWorks Storage Mirroring	HP StorageWorks MSA2000 Snapshot and Volume Copy Software HP StorageWorks Storage Mirroring

For additional information on related software for these products, see page 13.



# HP StorageWorks Enterprise Virtual Arrays

HP StorageWorks Enterprise Virtual Arrays (EVAs) provide outstanding TCO to support business-critical processes.

Midrange



**HP StorageWorks 4400 Enterprise Virtual Array (EVA4400)**

Easy to deploy and affordable enterprise-class storage array functionality for the midsize customer

<b>Maximum storage</b>	96 TB
<b>Number of controllers</b>	2
<b>Hard drives supported</b>	146 GB 15K rpm 300 GB 15K rpm 450 GB 15K rpm 400 GB 10K rpm 1 TB FATA
<b>Maximum number of drives per enclosure</b>	12
<b>Cache (per controller pair)</b>	4 GB
<b>Operating systems supported</b>	Microsoft Windows Server 2003 Microsoft Windows Server 2008 HP-UX HP OpenVMS Linux Sun Solaris Novell NetWare IBM AIX VMware Apple Mac OS X
<b>Warranty</b>	2 years parts, 2 years labor, 2 years on-site support
<b>HP related offerings</b>	
<b>Recommended services</b>	SAN Solution Service Backup and Recovery Solution Service
<b>Software</b>	HP StorageWorks Business Copy EVA HP StorageWorks Continuous Access EVA

For additional information on related software for these products, see page 13.  
Or visit [www.hp.com/storage/evasoftware](http://www.hp.com/storage/evasoftware).

# HP StorageWorks Enterprise Virtual Arrays (continued)

HP StorageWorks Enterprise Virtual Arrays (EVAs) provide outstanding TCO to support business-critical processes.

Midrange



**HP StorageWorks 6100 Enterprise Virtual Array (EVA6100)**  
Simple to deploy, strong performance with higher capacity than EVA4100 or EVA4400



**HP StorageWorks 8100 Enterprise Virtual Array (EVA8100)**  
Simple to deploy, highest performance and highest capacity EVA

<b>Maximum storage</b>	112 TB	240 TB
<b>Number of controllers</b>	2	2
<b>Hard drives supported</b>	450 GB 15K rpm 300 GB 15K rpm 146 GB 15K rpm 300 GB 10K rpm 1 TB FATA	450 GB 15K rpm 300 GB 15K rpm 146 GB 15K rpm 300 GB 10K rpm 1 TB FATA
<b>Maximum number of drives per enclosure</b>	14	14
<b>Cache (per controller pair)</b>	4 GB	8 GB
<b>Operating systems supported</b>	Microsoft Windows Server 2000 Microsoft Windows Server 2003 Microsoft Windows Server 2008 HP-UX HP OpenVMS HP Tru64 UNIX Sun Solaris Linux IBM AIX Novell NetWare VMware Apple Mac OS X	Microsoft Windows Server 2000 Microsoft Windows Server 2003 Microsoft Windows Server 2008 HP-UX HP OpenVMS HP Tru64 UNIX Sun Solaris Linux IBM AIX Novell NetWare VMware Apple Mac OS X
<b>Warranty</b>	2 years parts, 2 years labor, 2 years on-site support	2 years parts, 2 years labor, 2 years on-site support
<b>HP related offerings</b>		
<b>Recommended services</b>	Backup and Recovery Solution Service SAN Solution Service	Backup and Recovery Solution Service SAN Solution Service
<b>Software</b>	HP StorageWorks Business Copy EVA HP StorageWorks Continuous Access EVA	HP StorageWorks Business Copy EVA HP StorageWorks Continuous Access EVA

For additional information on related software for these products, see page 13.  
Or visit [www.hp.com/storage/evasoftware](http://www.hp.com/storage/evasoftware).

# HP StorageWorks XP Disk Arrays

The HP StorageWorks XP Disk Array family provides outstanding reliability, availability, performance, and capacity to address your mission-critical applications.

High-end

New



### HP StorageWorks XP20000 Disk Array

Bulletproof storage solution for entry-level enterprise environment requiring constant access to mission-critical data



### HP StorageWorks XP24000 Disk Array

Bulletproof storage solution for large enterprises requiring constant access to mission-critical data

<b>Maximum storage</b>	0 GB–236 TB (raw) 0 GB–177 TB (usable)	576 GB–1.13 PB (raw) 288 GB–851 TB (usable)
<b>Maximum number of drives</b>	0–240 in one to two racks (120 drives per rack)	9–1,152 in one to five cabinets
<b>Hard drives supported</b>	All drives are dual-port FC-AL 73 GB FC 15K rpm 146 GB FC 15K rpm 300 GB FC 15K rpm 400 GB FC 10K rpm 750 GB SATA 7.2K rpm 1 TB SATA 7.2K rpm	All drives are dual-port FC-AL 73 GB FC 15K rpm 146 GB FC 15K rpm 300 GB FC 15K rpm 400 GB FC 10K rpm 750 GB SATA 7.2K rpm 1 TB SATA 7.2K rpm
<b>Cache</b>	Up to 128 GB	Up to 512 GB
<b>Shared memory</b>	1–14 GB	1–24 GB
<b>Operating systems supported</b>	HP-UX HP Tru64 UNIX® HP OpenVMS HP NonStop Sun Solaris IBM AIX Microsoft Windows Linux Mainframe VMware	HP-UX HP Tru64 UNIX HP OpenVMS HP NonStop Sun Solaris IBM AIX Microsoft Windows Linux Mainframe VMware
<b>Rack height</b>	75.6 inches	75.6 inches
<b>Warranty</b>	2 years parts, 2 years labor, 2 years on-site support	2 years parts, 2 years labor, 2 years on-site support
<b>HP related offerings</b>		
<b>Recommended services</b>	Proactive 24 Service Critical Service	
<b>Software</b>	HP StorageWorks XP Thin Provisioning HP StorageWorks XP External Storage	

For additional information on related software for these products, see page 13.  
Or visit [www.hp.com/storage/xpsoftware](http://www.hp.com/storage/xpsoftware).

# HP StorageWorks arrays

## Supported and recommended HP servers

		Entry-level					Midrange			High-end		
		MSA50	MSA60	MSA70	MSA2000sa	MSA2000i	MSA2000c	EVA4400	EVA6100	EVA8100	XP20000 Disk Array	XP24000 Disk Array
<b>HP ProLiant servers</b>												
Entry-class	DL120 G5	•	•	•				x	x	x	x	x
	DL320 G5p	•	•	•	x	x	x	x	x	x	x	x
	DL320 G5P	•	•	•		•	•	x	x	x	x	x
	DL320S	•	•	•		x	x	x	x	x	x	x
	ML110 G5							x	x	x	x	x
	ML115 G5							x	x	x	x	x
	ML150 G5							x	x	x	x	x
	ML310 G5	•	•	•	x			x	x	x	x	x
Midrange	DL160 G5	•	•	•		x	x	x	x	x	x	x
	DL165 G5	•	•	•		x	x	x	x	x	x	x
	DL180 G5	•	•	•		x	x	x	x	x	x	x
	DL185 G5	•	•	•		x	x	x	x	x	x	x
	DL360 G5	•	•	•	•	•	•	x	x	x	x	x
	DL365 G5	•	•	•	x	•	•	x	x	x	x	x
	DL380 G5	•	•	•	•	x	x	x	x	x	x	x
	DL385 G5	•	•	•	x	x	x	x	x	x	x	x
	ML350 G5	•	•	•	x	x	x	x	x	x	x	x
	ML370 G5	•	•	•	x	x	x	x	x	x	x	x
High-end	DL580 G5	•	•	•	x	x	x	x	x	x	x	x
	DL585 G5	•	•	•		x	x	x	x	x	x	x
	DL785 G5	•	•	•		x	x	•	x	x	x	x
p-Class	BL20p G4							•	•	•	x	x
	BL25p G2							•	•	•	x	x
	BL45p G2							•	•	•	x	x
c-Class	BL260c G5							•	•	•	x	x
	BL460c G1					•	•	•	•	•	x	x
	BL465c G5					•	•	•	•	•	x	x
	BL480c G1					•	•	•	•	•	x	x
	BL680c G5					x	x	•	•	•	x	x
	BL685c G5					x	x	•	•	•	x	x
	BL2x220c G5					x	x	•	•	•	x	x
<b>HP Integrity servers</b>												
c-Class	BL860c							•	•	x	x	x
Entry-class	rx2660		•	•				•	•	x	x	x
	rx3600		•	•				•	•	x	x	x
	rx6600		•	•				•	•	x	x	x
Midrange	rx7640		•	•				x	•	•	•	x
	rx8640		•	•				x	•	•	•	•
High-end	Superdome							x	x	•	•	•
<b>HP Integrity NonStop servers</b>												
Entry-class	NS1000										•	•
High-end	NS14000										•	•
	NS16000										•	•

Key: • = recommended starting point x = supported

# HP related offerings

To gain the fullest value from your array investment, you can benefit from intelligent software and expert services across the IT lifecycle.

## HP software

HP provides software that allows you to align IT with business needs, automate error-prone processes, and fine-tune your infrastructure.

Storage resource management	
Storage Essentials Enterprise Edition	HP Storage Essentials suite delivers integrated heterogeneous functionality for network (DAS, SAN, NAS) management, storage resource management, provisioning, backup reporting, and application infrastructure monitoring. The suite consists of HP Storage Essentials Enterprise Edition and features a portfolio of value-added plug-ins.
Storage Essentials Standard Edition Storage Resource Management (SRM) Software	HP Storage Essentials Standard Edition helps midsize business with limited IT staff see the big picture, reduce complexity, and gain control of their SAN infrastructure inventory for small to medium HP storage-based SANs—consisting of HP EVA, HP MSA, and HP NAS; HP EML E-series Tape; HBAs and switches—and affordably enjoy the benefits of storage resource management software.
Systems Insight Manager	HP Systems Insight Manager (SIM), our unified server-storage management tool, helps increase IT staff efficiency and hardware platform availability for small and large server deployments alike. It is designed for end-user setup, and its modular architecture enables systems administrators to plug in additional functionality as needed.
Command View EVA	HP StorageWorks Command View EVA is a comprehensive software suite designed to simplify array provisioning and management of the high-performance HP StorageWorks Enterprise Virtual Array (EVA) family of storage array products. For managing EVA with heterogeneous networked SAN devices, including servers and infrastructure, you can use HP Systems Insight Manager to do the job.
EVA Dynamic Capacity Management Software	HP StorageWorks EVA Dynamic Capacity Management Software is a comprehensive software solution that automates storage provisioning and improves capacity utilization on the HP StorageWorks Enterprise Virtual Array (EVA) family. Designed for the enterprise market, EVA Dynamic Capacity Management Software uses advanced automation to automatically “right-size” the file system and storage volumes to provide the highest levels of capacity utilization while reducing ongoing storage administration needs.
XP Command View Advanced Edition	HP StorageWorks XP Command View Advanced Edition Software provides centralized, Web-based management for multiple XP Disk Arrays. It reduces the total cost of XP array ownership by increasing the efficiency of storage administrators and saves time in the management of external storage.
XP Thin Provisioning	HP StorageWorks XP Thin Provisioning Software reduces the cost, accelerates return on investment, and reduces environmental impact of your HP StorageWorks XP24000 and XP20000 Disk Arrays. Allocate anticipated future storage capacity needs from a pool of virtual disk storage and reduce the physical disk capacity initially required. As utilization of disk space increases over time, purchase more disk capacity as it is needed, and install it without affecting your applications. Accelerate return on investment by using the virtualized storage pool to quickly deploy more applications and servers per storage system. And because you are more efficiently using your storage resources, you enjoy the green effect of reduced floor space, power, and cooling requirements, and also a reduced carbon footprint.
XP Array Manager	HP StorageWorks XP Array Manager Software improves efficiency and data security by allowing you to manage volumes, allocate disk array resources, control access to the data, and protect the data on HP StorageWorks XP24000 and XP20000 Disk Arrays. Configure and manage data volumes for most effective use of the XP Disk Array. Partition array resources to isolate applications and reserve cache memory for the most frequently accessed data. Configure security to prevent unauthorized servers from accessing the data. Create read-only volumes for archiving and data retention, and then securely delete the data when it is no longer needed.
Remote replication software	
Continuous Access EVA	HP StorageWorks Continuous Access EVA Software is an array-based application that utilizes a powerfully simple graphical user interface (GUI) to create, manage, and configure remote replication on the entire EVA product family.
XP Continuous Access	HP StorageWorks XP Continuous Access Software products are high-availability remote replication and disaster recovery solutions that deliver host-independent, real-time remote data replication between HP StorageWorks XP Disk Arrays. With seamless integration into a full spectrum of remote replication-based solutions, HP XP Continuous Access Software can be deployed in solutions ranging from data migration to high-availability server clustering.
Storage Mirroring	HP StorageWorks Storage Mirroring provides host-based, real-time, nearly continuous replication for small and midsize business customers seeking a low-cost alternative to expensive fabric or array-based solutions. Patented replication and failover technology continuously captures byte-level changes as they happen and replicates those changes to one or more target servers at any location without geographic limitations.
Local replication software	
Business Copy EVA	HP StorageWorks Business Copy EVA Software is an array-based application that utilizes a powerfully simple HP StorageWorks Replication Solutions Manager user interface to create, manage, and configure local replication on the full EVA product family to meet business continuity and regulatory requirements.
XP Business Copy	HP StorageWorks XP Business Copy Software creates local copies of data for businesses that are concerned about business continuity, and that need to reduce the cost of backups, accelerate recovery from failures, and simplify development and testing.
Data protection and recovery software	
Data Protector	HP Data Protector Software automates high-performance backup and recovery, from disk or tape, over unlimited distances, to enable 24x7 business continuity and increase IT resource utilization. Data Protector simplifies the use of complex backup and recovery procedures with fast installation, automated routine tasks, and easy-to-use features.
Data Protector Express	HP Data Protector Express Software provides a simple and reliable backup and recovery solution for file servers, application servers, and desktops that is suitable for organizations without dedicated IT staff.
Business continuity software	
Fast Recovery Solutions	HP StorageWorks Fast Recovery Solutions (FRS) enables the instant recovery of Microsoft Exchange 2003 databases. Ideal for environments that require the highest level of availability, FRS is designed to allow application administrators to utilize the automated disaster recovery technologies built into HP StorageWorks Disk Array systems, without extensive storage training.
Cluster Extension EVA and XP	HP StorageWorks Cluster Extension EVA and XP Software continues your critical applications within minutes or seconds after an event. It offers disaster tolerance against application downtime from fault, failure, or site disaster by extending clusters between data centers. It works seamlessly with your open-system clustering software and XP storage systems to automate fail-over and fail-back between sites.
Storage device management software	
XP External Storage	HP StorageWorks XP External Storage Software decreases the stress and reduces the cost of owning heterogeneous data storage by simplifying and centralizing common SAN management tasks through storage virtualization. In addition, it simplifies movement of data between dissimilar arrays. HP XP External Storage Software provides these benefits by giving you the ability to access, monitor, and manage data residing on a variety of different disk arrays as if all of the data were residing on an HP StorageWorks XP Disk Array.
XP Disk/Cache Partition	This software can reduce storage costs by dividing a large HP StorageWorks XP Disk Array into smaller segments suitable for departmental usage, while retaining superb performance and high availability.

# HP related offerings

## HP services

HP offers the world's broadest storage and server portfolio, backed by focused innovation and world-class partners, and integrated with best-in-class software and services to form outstanding customer solutions. HP Services provides nearly continuous care and support expertise with committed response times designed to meet your IT and business needs. To fully capitalize on your HP StorageWorks array capabilities requires a service partner who thoroughly understands your storage and server technologies as well as your systems environment. HP Services, an industry leader in the provision of multivendor support solutions, provides a range of services designed to meet the varying needs of your demanding business.

Support services	
Support Plus Service	Improves system performance and uptime
Support Plus 24 Service	Increases availability of your IT infrastructure with comprehensive 24x7 hardware and software services
Mission critical services	
Proactive 24 Service	Improves uptime with responsive hardware and software services available 24x7
Critical Service	Reduces impact of unplanned downtime and improves IT operational efficiency
Deployment services	
HP StorageWorks Disk Array Installation and Startup Service	Proper installation of your storage hardware is crucial to help realize improved return on investment (ROI)
Backup and Recovery Solution Service	Scalable solution provides fast restore with reduced cost and reduced risk
Data Replication Solution Service	Enables an optimal environment, which keeps your mission-critical data safe, secure, and highly available
SAN Solution Service	End technology services make the most of your investment
Storage Essentials Solution Service	Increases revenues, improves business operational efficiency, and controls enterprise-wide cost
Other services	
Data Migration Service	Migrating your data "online" to align to your specific cost, availability, and business needs while your business operation continues
Data Sanitization Service	Protects your business from the risk of important information being retrieved from retired hard disk media by unauthorized parties
HP Assessment for SANs Service	Optimizes availability levels and ongoing management of your storage and SAN environment
HP Performance Analysis for the StorageWorks XP/EVA Disk Arrays	Increases performance, stability, and availability by identifying potential bottlenecks

## HP Services: scalable, flexible, and reliable—like your storage

Your technology infrastructure has become the business infrastructure—where delivering successful business outcomes is the key goal. No other company in the industry matches HP's portfolio of service breadth and depth, resources, and commitment to optimize storage support in a heterogeneous infrastructure. HP's integrated end-to-end storage solutions are intentionally designed to help businesses address today's tough technology challenges associated with the explosion of rich digital content, mobility, and security requirements as well as the need for efficient storage of data and access to real-time information when and where they need it.

To fully capitalize on your HP storage solution, you need a service partner who thoroughly understands your storage technology and systems environment. With HP Services you gain the advantage of established methodologies and one of the industry's broadest portfolios of integrated storage solutions for enhanced information management and optimization—services that scale to enhance availability, performance, deployment, and support.

For more information about HP services and support, contact your HP sales representative or HP-authorized Channel Partner. Or, visit [www.hp.com/hps/storage](http://www.hp.com/hps/storage).

## Factory Express

HP Factory Express is designed to help you get a better return from your IT investment by providing customization, integration, and deployment services along with your storage and server purchases. It provides predictable, trusted, and tested IT solutions tailored to your business needs. We allow you to customize hardware to your exact specifications in the factory—helping to speed up deployment and free up internal resources. [www.hp.com/go/factoryexpress](http://www.hp.com/go/factoryexpress)

## Customer technical training

Consider education as an integral part of your strategy to get the best return on investment for your HP storage solution. HP offers a variety of training courses on storage software, networking, archiving, and disk storage systems. Our classes are available in the form that suits you best—from traditional instructor-led courses at one of our 80 training centers worldwide to on-site training customized to your needs, or online classes. [www.hp.com/learn/storage](http://www.hp.com/learn/storage)

## HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information on these services, please contact your HP representative or visit [www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices).

## HP server portfolios

What kind of server best fits your needs? What level of high availability and performance do you require? How many users will be supported? What operating system will you be using? Whether it's a departmental server, an enterprise data center, or anything in between, HP is committed to meeting your exact needs. This commitment has resulted in more customers choosing HP servers than any other vendor's servers.\*

Our portfolio:

- **HP ProLiant server family**—ProLiant servers offer a superior platform for your mainstream 32-bit and emerging 64-bit x86 applications and are the world's top-selling x86 industry-standard servers since 3Q 1996\*.
- **HP Integrity systems family**—the most trusted brand for mission-critical applications. A multi-OS ecosystem running on HP-UX 11i, OpenVMS, Microsoft Windows Server 2003, Linux, and NonStop, Integrity systems provide a unique combination of scalability, virtualization, and availability, enabling you to optimize your business outcomes while decreasing costs and reducing risk.
- **HP Integrity NonStop servers**—real-time, all-the-time business solutions for the enterprise

What can you do to simplify a growing, multi-server environment? How do you integrate all the moving parts and deliver business solutions on time and under budget?

- **HP BladeSystem**—a simple, modular infrastructure that is consolidated up-front to save you more time, energy, and money—regardless of what you put inside. In one consolidated box, an HP BladeSystem supports ProLiant and Integrity server blades, StorageWorks storage offerings, and a variety of virtual desktop and workstation solutions. With the essential IT elements built-in—compute, network,

storage, management, and power and cooling—the BladeSystem is a more efficient way to deliver reliable, cost-effective services to your business. For more information on the HP BladeSystem, visit [www.hp.com/go/bladesystem](http://www.hp.com/go/bladesystem).

## You make HP storage products better

Throughout the development of HP StorageWorks arrays, end-user customers and channel partners participate in usability reviews that influence hardware and software design. Over the past few years, such feedback has helped HP StorageWorks reduce array design complexity. Users now spend less time managing their storage due to the simplification of storage management tasks and easy-to-understand user interface designs. Array installation, configuration, and repairs also take less time due to the use of more intuitive actions.

For more information about our User Centered Design program, visit: [www.hp.com/storage/ucd](http://www.hp.com/storage/ucd).

## For more information

To learn more about HP StorageWorks arrays, contact your local HP representative or your authorized HP reseller, or visit [www.hp.com/go/arrays](http://www.hp.com/go/arrays).

To learn more about HP server portfolios, contact your local HP representative or your authorized HP reseller, or visit:

- [www.hp.com/go/proliant](http://www.hp.com/go/proliant)
- [www.hp.com/go/integrity](http://www.hp.com/go/integrity)
- [www.hp.com/go/nonstop](http://www.hp.com/go/nonstop)

You can also visit our other related server family guides:

- Integrity—  
[www.hp.com/go/integrityserverfamilyguide](http://www.hp.com/go/integrityserverfamilyguide)
- BladeSystem—  
[www.hp.com/go/bladesystem/familyguide](http://www.hp.com/go/bladesystem/familyguide)
- ProLiant—  
[www.hp.com/go/proliant/familyguide](http://www.hp.com/go/proliant/familyguide)

To quickly find the HP storage products that fit your specific needs, visit [www.hp.com/go/product-selector](http://www.hp.com/go/product-selector).

\*Source: IDC Worldwide Quarterly Server Tracker, May 2008.

To learn more, visit [www.hp.com/go/storageworks](http://www.hp.com/go/storageworks)

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