



## HP StorageWorks 2000 Modular Smart Array

Family Data sheet



The latest in efficient, consolidated storage array technology for entry-level customers with 4 Gb Fibre Channel and iSCSI solutions matched with the newest SAS and SATA drives.

The HP StorageWorks 2000 Modular Smart Array family of SAN devices features the very latest in functionality and technology at affordable prices. There are two host interfaces available—the Fibre Channel MSA2000fc and the iSCSI MSA2000i—allowing for the perfect solution to be selected depending on the user's individual needs. There is also the choice of enterprise-class SAS drives and archival-class SATA drives. Optional controller-based snapshot/clone functionality is supported by all models. Customers of the MSA2000 family are those needing to consolidate their storage including smaller companies with tight budgets and limited IT expertise, and larger companies with smaller departments or remote locations where an entry level Fibre Channel or iSCSI SAN is most appropriate.

### MSA2000 family key features and benefits

- **High availability for business continuity:** Reduce risk of IT failure with active-active controllers, dual-ported drives, redundant hardware components.
- **Improve productivity and prevent data loss:** RAID 0, 1, 3, 5, 6, 10, 50. Redundant hardware with automatic failover resulting in less downtime.
- **Easy to service:** Supports customer replaceable hot plug components such as drives, controllers, fans and power supplies.
- **Easy to manage and configure providing investment protection:** Reduced time to operation with easy and more secure deployment. Reduced risk from operator errors, resulting in less downtime and data loss, while increasing customer satisfaction.
- **Space-efficient design:** The array unit itself only occupies 2U of rack space and includes 12 drive bays. There is no requirement for a special UPS that takes additional space to protect the cache because the protection comes standard within the unit. Each additional drive enclosure also only occupies 2U of rack space.
- **Room to grow:** The MSA2000 array family can support up to 3 drive enclosures and 48 drives.

**HP StorageWorks MSA2000 Snapshot Software**

HP MSA2000 Snapshot Software enables increased data protection by creating recovery points for your data, a snapshot takes a 'picture' of what your data was at the time of the snapshot. The snapshots are maintained even as data continues to change. In the event of a failure, you can recover data to any previous snapshot. Snapshots are a great complement to your tape or disk backup strategy.

HP MSA2000 Snapshot Software functionality is controller based meaning no host resources are used and they are space-efficient and provide copy-on-write capability with no server performance impact.

<http://hp.com/go/msa2000>

**HP StorageWorks MSA2000 Volume Copy Software**

HP MSA2000 Volume Copy software is similar to the snapshot software but with one important difference—the Volume Copy Software makes a physical copy of the data (instead of a 'picture' of the data) to another set of disks within the same array. One of the additional benefits of snapshot and volume copy software is the ability to mount a snap or volume copy to another server for backup, application testing, or data mining.

HP MSA2000 Volume Copy Software is controller based, meaning no host resources are used. It provides a physical copy of data from one LUN to another with no server performance impact.

<http://hp.com/go/msa2000>

## HP StorageWorks 2000fc Modular Smart Array

The HP StorageWorks 2000fc Modular Smart Array selection of SAN devices features the very latest in efficient consolidation, functionality, and technology at very affordable prices. The ideal customers needing to consolidate their storage include smaller companies with tight budgets and limited IT expertise, or larger companies that have perhaps hundreds of smaller departments and remote locations. The MSA2000fc features a high-performance 4 Gb Fibre Channel connected array. It allows customers to grow their storage as demands increase up to 14.4 TB SAS or 36 TB SATA, supporting up to 64 hosts for Fibre Channel attach. All models support the optional HP StorageWorks 2000 Modular Smart Array Snapshot Software which offers controller-based snapshot and cloning functionality. Planning for future growth is easy by starting with the basic modular pieces and adding capacity as needs arise.

### Key features and benefits

- **New generation SAN implementations using Fibre Channel effectively manages greater data growth:** The HP StorageWorks 2000fc Modular Smart Array manages growing storage requirements across multiple HP ProLiant servers for customers who need a centralized dedicated storage solution for applications. SANs allow for controlled, cost-effective growth and increased protection of the data.
- **Excellent price-performance:** The MSA2000fc arrays offer a choice of drives, high performance enterprise class SAS drives and low cost, high capacity archival class SATA.
- **Latest Fibre Channel technology:** Significant performance benefits with two 4 Gb Fibre Channel ports per controller.

## HP StorageWorks 2000i Modular Smart Array

The HP StorageWorks 2000i Modular Smart Array selection of SAN devices features the very latest in efficient consolidation, functionality and technology at very affordable prices. The ideal customers needing to consolidate their storage include smaller companies with tight budgets and limited IT expertise, or larger companies that have perhaps hundreds of smaller departments and remote locations. The MSA2000i features a 1 Gb Ethernet (1GbE) iSCSI connected array. It allows customers to grow their storage as demands increase up to 14.4 TB SAS or 36 TB SATA, supporting up to 16 hosts for iSCSI attach. All models support the optional HP StorageWorks 2000 Modular Smart Array Snapshot Software which offers controller-based snapshot and cloning functionality. Planning for future growth is easy by starting with the basic modular pieces and adding capacity as needs arise.

### Key features and benefits

- **New generation iSCSI SANs manage data growth more cost effectively:** The HP StorageWorks 2000i Modular Smart Array manages growing storage requirements across multiple HP ProLiant servers for customers who need a centralized dedicated storage solution for applications. iSCSI SANs promote cost-effective growth and increased protection of the data in a familiar Ethernet environment.
- **Excellent price-performance with the flexibility to focus on your needs:** The MSA2000i arrays offer a choice of drives, high performance enterprise class SAS drives and low cost, high capacity archival class SATA.
- **Dual iSCSI ports per controller:** Significant performance benefits with two 1 GbE iSCSI ports per controller.

## MSA2000fc



## MSA2000i



<b>Customer Profile</b>	Large companies that have multiple smaller departments and/or remote locations, and smaller companies whose storage needs demand shared resources	
<b>Total Drive Count</b>	1–48	1–48
<b>Maximum Storage</b>	36 TB	36 TB
<b>Expansion Options</b>	MSA2000 3.5" disk enclosure (single or dual IO)	MSA2000 3.5" disk enclosure (single or dual IO)
<b>Host Interface</b>	4 Gb Fibre Channel	iSCSI Gigabit Ethernet
<b>Disk Drives Supported</b>	146 GB 15K RPM 3.5" SAS 300 GB 15K RPM 3.5" SAS 500 GB 7.2K RPM 3.5" SATA 750 GB 7.2K RPM 3.5" SATA	146 GB 15K RPM 3.5" SAS 300 GB 15K RPM 3.5" SAS 500 GB 7.2K RPM 3.5" SATA 750 GB 7.2K RPM 3.5" SATA
<b>Clustering Support</b>	Yes, Windows, Linux	Yes, Windows, Linux
<b>Operating Systems Supported</b>	Microsoft Windows 2003 R2 Microsoft Windows 2003 X64 Red Hat Linux 5 SUSE Linux 10 VMware 3.5	Microsoft Windows 2003 R2 Microsoft Windows 2003 X64 Red Hat Linux 5 SUSE Linux 10 VMware 3.5
<b>Form Factor</b>	2U	2U
<b>Warranty</b>	3/0/0, 3 year parts	3/0/0, 3 year parts

Visit QuickSpecs at: [http://h18000.www1.hp.com/products/quickspecs/12991\\_div/12991\\_div.pdf](http://h18000.www1.hp.com/products/quickspecs/12991_div/12991_div.pdf)

## Warranty

- Three years limited warranty
- Three years parts exchange
- Next Business day delivery

Enclosures, Hard drives, and Options for the MSA2000fc carry their own warranty. Refer to HP Limited Warranty Statement for more information.

The MSA2000fc has been designed with customer self-repairable parts to minimize repair time and provide greater flexibility in performing defective parts replacement. Please refer to HP Limited Warranty Statement and parts replacement instructions for further details.

HP warrants only the software media will be free of physical defects for a period of ninety (90) days from delivery. For more information about HP Global Limited Warranty and Technical Support, visit: [www.hp.com/products/storageworks/warranty](http://www.hp.com/products/storageworks/warranty)

## HP Care Pack services

Customers can optimize technology operations, minimize risk, and drive business outcomes with easy-to-buy, easy-to-use scalable support packages for servers, storage, networking, desktops, mobile computing, printing and imaging, and software.

HP Care Pack services: scalable, flexible & reliable. Like your storage.

HP Care Pack services help you make the most of your hardware and software investments. They extend and expand your standard product warranty and let you choose the support levels that meet your business requirements, from basic to mission-critical, while helping you to contain total cost of ownership. HP Care Pack warranty extension can be purchased along with HP products to cost-effectively upgrade or extend your warranty. For many products, post-warranty HP Care Pack services are available when your original warranty has expired.

For more information on Storage Care Pack services, visit [www.hp.com/services/storage\\_carepacks](http://www.hp.com/services/storage_carepacks)

## Additional HP support services for Storage

HP Services provides a broad spectrum of services to commercial and enterprise customers, including performance and availability services such as proactive mission-critical services. We also provide support management services for deployment of the entire IT infrastructure, including HP and multi-vendor environments.

For more information on these additional HP support services, visit [www.hp.com/hps/storage](http://www.hp.com/hps/storage)

## Proactive and remote support services

Access the support tools and expertise you need—anytime, anywhere.

As your information technology environment becomes closely aligned with your business strategies—optimizing your IT infrastructure investments, improving overall system availability and utilization become central to your success in the marketplace. HP Services provide a full spectrum of Web-based resources that deliver efficient problem-solving and fast answers. Tools to help you manage the lifecycle of your products—remote monitoring, and support solutions for your servers, storage devices and networks—and proactive and preventative tools to help you manage your IT

environment. All with a consistent and completely satisfying service experience, whether you are an IT professional or a business end-user.

## HP Factory Express

HP Factory Express is a comprehensive, flexible portfolio of pre-defined, pre-priced and pre-configured solutions that are customized, and integrated with factory solutions and deployment services. This portfolio includes more than 50 HP factory-based services for Personal Computing, Server, Storage and Imaging and Printing product lines, supporting HP commercial products from the desktop to the data center with Microsoft® Windows®, Linux, and HP-UX.

For more information on HP Factory Express, visit [www.hp.com/go/factory-express](http://www.hp.com/go/factory-express)

## Financial services

HP Financial Services provides innovative financing and financial asset management programs to help customers cost-effectively acquire, manage and ultimately retire their HP solutions.

For more information on Financial services, visit [www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices)

© Copyright 2007, 2008 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. 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 an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Microsoft and Windows are trademarks of Microsoft Corporation in the United States and/or other countries. Intel, Xeon, and Pentium are registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. UNIX is a registered trademark of The Open Group.

Technology for better business outcomes

To learn more, visit [www.hp.com/go/MSA2000](http://www.hp.com/go/MSA2000)

4AA1-8074ENW, February 2008

