



HPE MSA 1040 Storage



More affordable MSA arrays using the latest shared storage technologies delivering entry-level features to small and midsize customers—simple to deploy and simple to manage.

Entry consolidation and virtualization initiatives are now well within your budgetary reach. HPE MSA 1040 Storage offers many of the MSA 2040 features but at lower entry price points. ProLiant and BladeSystems administrators as well as IT generalists will find storage management tasks simple and intuitive with MSA.

The MSA 1040 arrays leverage a new fourth-generation controller architecture with a new processor, 2-host ports and 4 GB data (read/write) cache and 2 GB of system memory per controller. Take advantage of the latest hard drive and solid state drive advances by selecting the HDD form factor and technology which best meet your application and budget requirements. Unlike many competing arrays, the MSA 1040 ships standard with intuitive management tools and powerful data services such as snapshots for increased data protection.

Key features and benefits

Simple: Flexible architecture. Easy to setup. Easy to manage.

- The integrated setup and management Web-based interface (WBI) makes MSA easy to manage for ProLiant/BladeSystems administrators and IT generalists.
- Leverage the latest Large and/or Small Form Factor hard disk drives—choice of high-performance enterprise-class SAS or high-capacity SAS Midline drives based on application, performance, and budget requirements.
- On-board management tools: augment OS and hypervisor views, navigate firmware upgrades, and monitor array performance with ease, locally or remotely.

Affordable: Popular configurations starting at \$6,500 USD¹

- Dual controller configurations are standard and available at single controller price points.
- More capacity/performance within your budget.
- Latest MSA technology for 25 percent lower cost when compared to MSA P2000 G3.

Fast: The MSA 1040 delivers up to 50 percent more performance compared to P2000 G3

- The MSA 1040 leverages the fourth-generation MSA technology, 2-port controllers with 4 GB data (read/write) cache and 2 GB of system memory on each controller, faster processor and a performance optimized I/O engine.
- Increased performance translates into better application response times and facilitates entry consolidation and virtualization initiatives.
- SSD support² helps improve application performance and helps customers to reduce their operating costs by reducing foot prints and power consumption.

Future-proof: Built-in expandability along with an MSA 2040 upgrade option

- Add Disk Enclosures as needed to boost capacity and spindle count. Most low-cost entry arrays don't allow expansion.
- MSA Unique Data-in-Place upgrades eliminate time-consuming and risky data migrations during generational upgrades within the MSA family.
- MSA 1040 allows a simple controller swap to flagship MSA 2040. Other value-priced arrays force you to compromise.

¹ U.S. List Price (MSA 1040 base unit, dual 1GbE iSCSI controllers, no HDDs)

² SSD support available with GL220 or later firmware

Virtualization features

Fourth-generation MSA arrays support a powerful set of data services enabled with a new virtualized array system architecture. MSA 1040 customers have access to a number of these new features via a firmware upgrade and paid license feature.³

- Thin Provisioning. This feature allows storage allocation of physical storage resources only once they are consumed by an application.
- Automated Tiering⁴. Utilizing a real-time I/O engine to intelligently position data on the most appropriate “tier” of storage. Customers leveraging the MSA 1040’s Tiering functionality will be able to better utilize storage resources through the ability to move data which has not been accessed for long periods of time off to more cost effective Midline SAS HDDs.
- Virtualized Snapshot services. Created specifically for MSA’s virtualized storage architecture, the MSA 2040 will be able to utilize Redirect-on-Write technology to provide better snapshot performance and the ability to create more complex snapshots with simplified snapshot management.
- New Web User Interface. The new virtualized array architecture also comes with a powerful, embedded Storage Management Utility which will make setup and management of the MSA 2040 and these new features a breeze. Users familiar with MSA’s previous Web UI will have the option to continue on or take advantage of the new UI.
- Wide Striping. By leveraging virtualized storage “pools”, MSA 2040 users can leverage wide striping technology to simplify volume expansion and to facilitate full utilization of all resources allocated to a specific volume.

The MSA 2040 supports these same features as well as SSD Reach Cache and a Performance Tiering function. Upgrading an MSA 1040 to an MSA 2040 through the use of Data-in-Place upgrade and a controller swap would bring the MSA 2040’s full suite of virtualized features to a MSA 1040 customer. For more information on the virtualization features and the MSA 2040 platform please refer to QuickSpecs or visit hp.com/go/msa.

³ Paid Option

⁴ Automated Performance Tiering requires Performance Auto Tiering License and available with GL220 firmware or later. Pre-GL220 firmware allows only archive tiering

Technical specifications



HPE MSA 1040 STORAGE

Drive description	Up to 99 SFF SAS/MDL SAS or 48 LFF SAS/MDL SAS Maximum including expansion, depending on model
Drive type	Please refer to MSA 1040 QuickSpecs for detailed hard drives information on supported hard drives: h18000.www1.hp.com/products/quickspecs/14884_na/14884_na.pdf
Capacity	384 TB maximum including expansion, depending on model
Storage expansion options	HPE MSA 2040 3.5-inch LFF disk enclosure or D2700 2.5-inch SFF disk enclosure MSA 1040 supports up to 3 disk enclosures
Host interface	8Gb Fibre Channel 1GbE iSCSI 10GbE iSCSI 6Gb/12 GB SAS (autoswitching)
Storage controllers	MSA 1040 2-port FC Controller MSA 1040 2-port 1GbE iSCSI Controller MSA 1040 2-port 10GbE iSCSI Controller MSA 1040 2-port 12 Gb SAS Controller (with additional Fanout Cable support)
SAN Backup support	Yes
Systems Insight Manager support	Yes
Compatible operating systems	Microsoft® Windows Server® 2012 Microsoft Windows® 2008 Microsoft Windows Hyper-V Red Hat® Linux SUSE Linux VMware® ESXi 5.x VMware ESXi 6.x Detailed information available at hp.com/storage/spock
Clustering support	Windows, Linux®
Form factor	2U base array, 2U LFF or SFF disk enclosures
Warranty (parts-labor-onsite)	3-0-0

MSA Software and Data Services

MSA 1040 Advanced Virtualization Upgrade

Fourth-generation MSA arrays support a powerful set of data services enabled with a new virtualized array system architecture. MSA 1040 customers have access to a number of these new features via a firmware upgrade and paid license feature. Supported virtualization features supported on MSA 1040 with the Advanced Virtualization Upgrade are: thin provisioning, Redirect-on-Write snapshots, automated tiering⁵, read cache, wide striping and the use of a new MSA Web-based interface.

HPE MSA Snapshot Software

HPE MSA Snapshot Software services enable increased data protection by creating recovery points for your data, taking a “picture” of your data at a specific point in time. Snapshots are then 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 tape or disk backup strategy. MSA Snapshot functionality is controller-based so no host resources are used. MSA 1040 Copy Services utilize Copy-on-Write capabilities when operating on Linear Volumes and Redirect-on-Write capabilities when operating on virtualized volumes (only on MSA 1040's with Advanced Virtualization Upgrade²). MSA 1040 arrays come with 64 snapshots bundled in the base product with an upgrade available to support up to 512 snapshot.⁶

HPE Volume Copy Software

HPE MSA Volume Copy Software makes a physical copy of the data to another set of disks within the same array. One of the 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. HPE Volume Copy Software is controller-based, meaning no host resources are used. MSA 1040 arrays ship standard with Volume Copy.

HPE MSA Array Remote Snap Software

Built on asynchronous replication technology that provides remote replication on the HPE MSA 1040/2040 and HPE P2000 G3 Arrays (FC, Combo FC/iSCSI, or iSCSI models), this optional software is based on MSA's core Snapshot technology. It supports both Ethernet (iSCSI) and Fibre Channel interconnects and provides flexible remote data protection options between two MSA arrays enabling local and/or remote recovery. For more information, visit hp.com/go/RemoteSnap.

HPE StoreEasy File Services

An HPE StoreEasy 3000 Gateway can add file, print, iSCSI, and management hosting services to an MSA 1040 array. For more information, visit hp.com/go/StoreEasy.

⁵ Automated Performance Tiering requires Performance Auto Tiering License and available with GL220 or later firmware; pre-GL220 firmware only allows archive tiering

⁶ Paid Option

HPE Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment.

hp.com/go/factoryexpress

Gain the skills you need with ExpertOne training and certification from HPE. With HPE Converged Storage training, you will accelerate your technology transition, improve operational performance, and get the best return on your HPE investment. Our training is available when and where you need it, through flexible delivery options and a global training capability. hp.com/learn/storage

Optimize your IT investment strategy with new ways to acquire, pay for and use technology, in lock-step with your business and transformation goals. hpe.com/solutions/hpefinancialservices

HPE Technology Services

Expert HPE storage consultants and service professionals sit down with you and your team to map your storage needs. Not only can we help you accelerate implementation and reduce deployment risk, but we can also help you realize the full value of your storage purchases as you transform storage for the New Style of IT.

Advice, transform, and integrate

Navigate through the complexities of storage, backup, archive, disaster recovery, and Big Data with advisory, transformation, and integration consulting.

Deploy and implement

Access expertise to support deployment, operations, relocation, sanitization, and disposal, plus improvement-focused education.

Operate and support

Find the level of personalized, proactive, and simplified support right for your business.

Note

Specific service availability varies by product

HPE Foundation Care

System-level IT hardware and software support delivers flexible coverage window and response time for more choice and simplicity.

HPE Proactive Care

Combined reactive and proactive services provide easy-to-purchase, cost-efficient system-level support coupled with personalized expert advice and products connected to HPE to help prevent problems and reduce downtime.

HPE Proactive Care Advanced builds and incorporates on Proactive Care and also gives customers personalized technical and operational advice from an assigned, local Account Support Manager for personalized technical collaboration, flexible access to specialist skills to help optimize business critical IT, and enhanced Critical Incident Management to help so the business is not affected if there is a system or device outage.



Resources
QuickSpecs

HPE Datacenter Care

Get the support you need to deploy, operate, and evolve your data center environment to be hybrid-cloud ready with single-point-of-accountability for HPE and others' product.

Get connected and get back to business—HPE Storage Technology Services provide the path to get your HPE Storage solutions and your business connected to HPE. Once connected, our experts are able to scan your system and run health checks, then use that data to create personalized reports and recommendations for actions to take to prevent problems and downtime.

For more information, visit [**hp.com/services/storage**](https://www.hp.com/services/storage).

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