Hewlett Packard
Enterprise

HPE MSA 2042 Storage

HPE MSA 2042 Storage offers an entry storage platform with built-in hybrid flash for application acceleration and high performance. It is ideal for performance-hungry applications and includes 800 GB of solid-state drive (SSD) capacity.

The all-inclusive set and forget software suite includes built-in, real-time data tiering that dynamically moves frequently used data to flash and less used data to lower-cost media tiers. This suite includes 512 snapshots out of the box for instant recovery and remote replication for affordable application availability. The software delivers management tools that are ideal for IT generalists and server administrators.

The MSA 2042 allows for flexible growth now and into the future. Data-in-place upgrades reduce data migration and drive investments. Start small and scale as needed with any combination of SSD, SAS, or midline SAS drives.

Key benefits

Accelerate applications affordably
- Leading entry storage platform now with built-in flash acceleration

- Ideal for performance-hungry applications

- The industries leading entry SAN array[1] now with 800 GB of SSD capacity (standard)

Set it and forget it
- Built-in, real-time data tiering dynamically moves hot data to flash and aging data to lower-cost media

- All-inclusive software suite and simple management tools are customized for IT generalists and server administrators

Reduce risk with modern disaster recovery and business continuity features
- 512 snapshots out of the box for instant recovery

- Remote replication included as standard for affordable application availability

Grow flexibly now and into the future
- Data-in-place upgrades help eliminate risky data migrations and costly drive investments

- With any combination of SSD, SAS, or midline SAS drives, you can start small and scale up as needed

[1] Based on the Q1 2016 IDC WW Quarterly Enterprise Storage Systems Tracker for External Entry (PB 1-4) SAN Storage revenue in 1Q16

Virtualization features

The MSA 2042 comes standard with an all-inclusive software suite that includes the following data services:

- Automated tiering (with performance and archive tiering): Utilizing a real-time I/O engine to position data intelligently on the most appropriate "tier" of storage. For customers, like you, who leverage MSA's performance tiering capacities with the 800 GB of embedded flash storage, you can see improved application response times on both read and write activities for frequently accessed data. You can also benefit from efficient utilization of storage resources through the ability to move data, which has not been accessed for an extended period, to cost-effective media such as midline SAS HDDs (archive tiering).

- SSD read cache: You also have the option to utilize the 800 GB of embedded flash storage as read cache. Read Cache can significantly improve random read performance by allowing the SSDs to be utilized as an extension of the MSA 2042 controller cache. Read cache is ideal for those workloads that are high in random reads with potential "hotspots" of frequently accessed data.

- Virtual tier affinity: As an enhancement to the automated tiering feature, virtual tier affinity is a settable attribute that allows a storage administrator to define Quality of Service (QoS) preferences for data volumes in a tiered environment. Virtual tier affinity acts as a guide to the system on where to place hot or cold data from a given volume onto the available tiers.

- Virtualized snapshot services: Created specifically for the MSA virtualized storage architecture, the MSA 2042 provides up to 512 snapshots and utilizes redirect-on-write technology to provide better snapshot performance, the ability to create nested snapshots, and dramatically simplified snapshot management.

- Thin provisioning: This feature allows storage allocation of physical storage resources only when they are consumed by an application. You have the choice to overprovision the fully user-customizable alerts for thinly provisioned volumes.

- Wide striping: By leveraging virtualized storage "pools," the MSA 2042 users can leverage wide striping technology to simplify volume expansion and to facilitate full utilization of all resources allocated to a specific volume.

- New Web user interface: The new virtualized array architecture also comes with a powerful, embedded storage management utility, which makes setup and management of the MSA 2042 simple and intuitive.

For more information on MSA software, visit **hpe.com/storage/MSA2042**

Technical specifications

HPE MSA 2042 SFF Storage   **HPE MSA 2042 LFF Storage**

Drive description	Up to 199 SFF SSD/SAS/MDL SAS or 96 LFF SSD/SAS/MDL SAS maximum including base array and expansion, depending on model. SEDs are not supported on the MSA2042
Capacity	Supported 637 TB SFF / 768 TB LFF maximum raw capacity
Storage expansion options	HPE MSA 2040 3.5-inch LFF disk enclosure or D2700 2.5-inch SFF disk enclosure MSA 2042 supports up to 7 SFF or LFF Disk Enclosures of any combination.
Storage host interface:	8 Gb/16 Gb Fibre Channel, 1 GbE/10 GbE iSCSI, 6 Gb/12 Gb SAS
SAN backup support	Yes
Software features, standard	Performance tiering, archive tiering, 512 snapshots, remote replication, thin provisioning, space reclamation, volume copy, virtual tier affinity (QoS)
Compatible operating systems	Microsoft® Windows Server® 2012 Microsoft Windows® 2008 R2 Microsoft Windows Hyper-V HP-UX Red Hat® Linux® SUSE Linux Solaris VMware® ESXi™ 5.x VMware ESXi 6.x MAC OSX Detailed information available at: **hpe.com/storage/spock**
Clustering support	Windows, Linux, HP-UX
Form factor	2U base array, 2U LFF or SFF disk enclosures
Warranty (parts-labor-onsite)	3-0-0, includes 3 years 9x5 telephone support, and rights to new versions of firmware

MSA software and data services

HPE MSA Performance Automated Tiering
The MSA 2042 ships standard with Performance Automated Tiering enabled. The MSA 2042 Automated Tiering engine is capable of providing performance tiering functionality as well as archive tiering functionality. The performance tiering functionality operates to move data between an enterprise SAS HDD tier and an SSD tier based on real-time access trends placed on the array. Archive tiering operates to move data between enterprise SAS HDDs and midline SAS HDDs based on real-time I/O patterns.

HPE MSA Snapshot Software
The MSA 2042 ships standard with 512 snapshots enabled. The 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 to any previous snapshot. Snapshots are a great complement to tape or disk backup strategy.

The MSA Snapshot functionality is controller-based so no host resources are used in the operation. The MSA 2042 copy services utilize copy-on-write capabilities when operating on linear volumes and redirect-on-write capabilities when operating on virtualized volumes.

HPE MSA Volume Copy Software
The MSA 2042 ships standard with HPE MSA Volume Copy Software enabled. The MSA Volume Copy 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. MSA 2042 Volume Copy Software is controller based, meaning no host resources are used.

HPE MSA Remote Snap Software
The MSA 2042 ships standard with HPE MSA Remote Snap Software enabled. The MSA Remote Snap Software is built on asynchronous replication technology that provides replication of block-level data between HPE MSA 1040, HPE MSA 2040, and MSA 2042 arrays. The Remote Snap Software supports both Ethernet (iSCSI) and Fibre Channel interconnects, and provides flexible remote data protection options.

HPE StoreEasy Gateway Storage
An HPE StoreEasy 3000 Gateway Storage can add file, print, iSCSI, and management hosting services to an MSA 2042 array. For more information, visit **hpe.com/storage/storeeasy**.

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 **hpe.com/go/factoryexpress**.

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

Customize your IT lifecycle management, from an acquisition of new IT, management of existing assets, and removal of unneeded equipment.

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 idea economy.

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
You can access expertise to support deployment, operations, relocation, sanitization, and disposal, along with 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 Hewlett Packard Enterprise to help prevent problems and reduce downtime.

HPE Proactive Care Advanced builds and incorporates on Proactive Care and gives you personalized technical and operational advice from an assigned, local account support manager (ASM). The ASM provides 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.

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 Hewlett Packard Enterprise.

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 Hewlett Packard Enterprise. 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.

Data sheet

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4AA6-6915ENN, August 2016