



Dell PowerVault MD3 iSCSI Array Series

The Dell™ PowerVault™ MD3 iSCSI array series offers 1Gb and 10Gb Ethernet iSCSI SAN solutions that are ideal for entry-level storage consolidation in virtualized environments that require high availability and high performance without sacrificing ease of use. Designed for flexibility, the MD3 iSCSI array series support a range of drive types, enclosures and RAID levels all within a single array.

1Gb and 10Gb Ethernet-based network storage

PowerVault MD3 iSCSI arrays offer exceptional performance and flexibility for storage consolidation and scalability to meet your business demands. Now it's simple to improve storage utilization by combining storage resources, increasing availability with redundant hardware, and streamlining the backup process.

iSCSI storage, ideal for virtual server environments

Implement your high performance network storage solution for less with MD3 iSCSI array series using low-cost, well-understood 1Gb or 10GBASE-T Ethernet technology. Along with significant savings in hardware, IP SANs can also lower training investment. Ethernet is a familiar technology, so there's usually no learning curve.

Now you can effectively consolidate storage to support the value of your virtual environment with the performance to meet both IOPs-intensive as well as high bandwidth applications. MD3 storage systems are fully-qualified for use in virtualized application environments with VMware® ESX™ and Microsoft® Hyper-V® software.

Keep pace with the latest technology

MD3 iSCSI arrays offer maximum performance and capacity at an affordable price. They easily handle the application demands of large databases with increased processing capability. These arrays also support solid-state drives (SSD) to meet the most demanding I/O requirements. An optional High Performance Tier (HPT) feature is available to increase array I/O and throughput performance and enables the SSD cache feature to improve your read performance by storing frequently read data and making it quickly accessible. A maximum of 16GB cache is available with the dual controller option, leveraging 8GB cache per controller.

Gain a new level of management efficiency

MD3 iSCSI arrays are managed by the advanced MD Storage Manager software, an intuitive client-based Java application designed for easy user interaction with the system no matter what your level of familiarity with storage systems. It offers two different management paths and features an enterprise window that monitors multiple arrays through a single interface.

With the MD Storage Manager, all administrative tasks, including configuration, re-configuration, expansion, maintenance and performance-tuning, can be performed without system downtime or interruption to array performance. MD Storage Manager's configuration flexibility includes the ability to mix RAID levels, segment sizes, array sizes and cache policies all within a single storage array.

Deployment scalability and flexibility

Scale easily: Up to 64 servers can be connected to a single MD3 iSCSI Array. Storage capacity can be expanded up to a base of 120 hard drives¹ on all MD3 iSCSI models. If additional capacity is needed, the 2U models can scale by simply hot-plugging additional PowerVault MD1200 or MD1220 expansion enclosures to grow capacity up to 192 hard drives.¹ 4U dense arrays can scale up to 180 hard drives¹ in just 12U using two MD3060e expansion enclosures.

Mix and match drives: 2U arrays hold up to 12 x 3.5" or 24 x 2.5" drives, and support additional expansion through the MD1200 enclosure (12 x 3.5") or MD1220 enclosure (24 x 2.5"). Both the 4U dense array and the MD3060e expansion enclosure hold up to 60 hard drives (3.5" and 2.5").

Optional features

Premium features are now bundled into two options. One option is designed to support the high demand for performance and includes the HPT feature. If protecting data is a priority, then the pre-packaged Data Protection features ensure the full suite of premium data protection options are available.

Snapshots: Supports up to 128 snapshots per virtual disk and a total of 512 snapshots per system in the Premium Feature Key, which provides additional data availability.

Virtual disk copy (VDC): VDC is full replication of an existing virtual disk at any point in time, often used for decision support and application development testing. Reads and writes are supported while doing a virtual copy.

Self-encrypting drives (SEDs): With SEDs, if a drive is removed from the array or powered down, the data on that drive is encrypted and useless to anyone who attempts to access it without the appropriate security authorization.

HPT: Meet the most demanding performance requirements for your organization to remain productive and competitive.

SSD cache: Help improve performance when combined with the High Performance tiering option.

Remote replication: Replicating data over a common IP network increases the flexibility of backing up data.

Standard features

Reliable storage is enhanced with software features that provide added data protection, improved virtualization and ease of management. The integration of VMware VAAI helps improve performance where you need it, freeing your server from storage related tasks. Dynamic Disk Pools (DDP) simplifies data management and improves storage efficiencies with self-healing dynamic disk rebalancing, without the worries of traditional RAID configurations. With just a few clicks you can add or delete disks from DDP to increase or decrease your pools size as needed. DDP supports up to 20 disk pools and can support up to 120 SSD drives with up to 1024TB of storage.²

Other software feature enhancements include thin provisioning, vCenter Plug-in and enabling VASA and SRA. The high density models have standard features to ensure high performance for general purpose computing or applications with high bandwidth requirements, including HPT and SSD cache.

Introducing the new
MD3, the next generation
of affordable storage

Dell PowerVault MD3 iSCSI Array Series Tech Specs

Feature	MD3200i/MD3600i/MD3800i	MD3220i/MD3620i/MD3820i	MD3260i/MD3660i/MD3860i	MD3060e
Drives	12 x 3.5" SAS, NL-SAS, SSD	24 x 2.5" SAS, NL-SAS, SSD	Mix and match up to 60 x 3.5" and 2.5" SAS, NL-SAS, SSD	
Drive capacity	<ul style="list-style-type: none"> 15K RPM SAS: 300GB, 600GB 7.2K RPM NL-SAS: 500GB, 1TB, 2TB, 3TB, 4TB SSD: 200GB, 400GB; read-intensive SSD: 800GB, 1.6TB (available with 3.5" HDD carriers) 	<ul style="list-style-type: none"> 15K RPM SAS: 146GB, 300GB 10K RPM SAS: 300GB, 600GB, 900GB, 1.2TB 7.2K RPM NL-SAS: 500GB, 1TB SSD: 200GB, 400GB; read-intensive SSD: 800GB, 1.6TB 	<ul style="list-style-type: none"> 3.5" 7.2K RPM NL-SAS: 500GB, 1TB, 2TB, 3TB, 4TB 2.5" 15K RPM SAS: 146GB, 300GB 2.5" 10K RPM SAS: 300GB, 600GB, 900GB, 1.2TB 2.5" 7.2K RPM NL-SAS: 500GB, 1TB SSD: 200GB, 400GB; read-intensive SSD: 800GB, 1.6TB (available with 3.5" HDD carriers; 3.5" 10K and 15K HDDs are not supported on the dense model) 	
Expansion capabilities ¹	Up to 192 drives using the MD1200 or MD1220		Up to 180 drives using the MD3060e	Up to 2 dense expansion enclosures per MD3660f array
Connection	1GBASE-T or 10GBASE-T iSCSI			6Gb SAS
Controllers ³	MD3200i/MD3600i: Single or dual MD3800i: Dual	MD3220i/MD3620i: Single or dual MD3820i: Dual	Dual	Dual Expansion Management
Cache	MD3200i/MD3600i: Single 2GB cache or dual 2GB or 4GB cache MD3800i: Dual 4GB or 8GB cache	MD3220i/MD3620i: Single 2GB cache or dual 2GB or 4GB cache MD3820i: Dual 4GB or 8GB cache	MD3260i/MD3660i: Dual 2GB or 4GB cache MD3860i: Dual 4GB or 8GB cache	Controller dependent
Maximum cache	MD32x0i/MD36x0i: 8GB (4GB per controller) MD38x0i: 16GB (8GB per controller)			
Maximum host	64			
Form factor	2U rack enclosure — Dell ReadyRails™ II static rails for tool-less mounting in 4-post racks with square or unthreaded round holes or tooled mounting in 4-post threaded-hole racks		4U rack enclosure	4U rack enclosure
Management software	MD Storage Manager			Managed with controller
Standard features ²	DDP, thin provisioning, VAAI, vCenter Plug-in, VASA, SRA, SEDs		DDP, thin provisioning, VAAI, vCenter Plug-in, VASA, SRA, HPT, SSD cache, SEDs	Controller dependent
Optional features	Snapshot, VDC, SEDs, HPT, remote replication, HDD expansion option ¹		Snapshot, VDC, remote replication, HDD expansion option ¹	
OS support	Microsoft® Windows®, VMware®, Microsoft Hyper-V®, Citrix® XenServer®, Red Hat® and SUSE®			
RAID levels	Support for RAID levels 0, 1, 10, 5, 6; Up to 180/192 ¹ physical disks per group in RAID 0, 1, 10; Up to 30 physical disks per group in RAID 5, 6; Up to 512 virtual disks; DDP ²			Managed with controller
Physical dimensions	8.68cm (3.42") x 44.63cm (17.57") x 60.20cm (23.70")	8.68cm (3.42") x 44.63cm (17.57") x 54.90cm (21.61")	17.78cm (7") x 48.26cm (19") x 82.55cm (32.5")	17.78cm (7") x 48.26cm (19") x 82.55cm (32.5")
Maximum weight	29.30 kg (64.6 lb)	24.22 kg (53.4 lb)	105.20 kg (232.0 lb)	105.20 kg (232.0 lb)
Environment				
Power	AC: 600W peak output DC: 700W Wattage: 2U arrays (MD3800i/MD3820i/MD3620i/MD3600i/MD3220i/MD3200i) support DC power supply		AC: 1755W	
Heat dissipation (max)	2047 BTU/hr		5988 BTU/hr	
Voltage	100 to 240 VAC 48V DC		220V AC, auto ranging	
Frequency range	50/60Hz			
Temperature	Operating: 10° to 35°C (50° to 95°F) with a maximum temperature gradation of 10°C per hour 2U arrays (MD3800i/MD3820i/MD3620i/MD3600i/MD3220i/MD3200i) support Fresh Air cooling, up to 35°C			
Relative humidity	Operating: 20% to 80% (non-condensing) with a maximum humidity gradation of 10% per hour			
Altitude	Operating: -16 to 3048 m (-50 to 10,000 ft) NOTE: For altitudes above 2950 feet, the maximum operating temperature is derated 1°F/550 ft.		Operating: -30.5 m to 3000 m (-100 ft to 9,840 ft) NOTE: For altitudes above 2950 ft, the maximum operating temperature is derated 1.8°F/1000 ft	

Global services and support

Reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage and Networking, Dell Enterprise Solutions and Services deliver innovation at any scale. And if you're looking to preserve cash or increase operational efficiency, Dell Financial Services has a wide range of options to make technology acquisition easy and affordable. Contact your Dell Sales Representative for more information.

OEM-ready version available

From bezel to BIOS to packaging, your storage arrays can look and feel as if they were designed and built by you.⁴ For more information, visit Dell.com/OEM.

¹ Premium Feature Key required for expansion beyond 120 drives.

² MD32x0i and MD36x0i arrays are limited to a maximum of 10 DDPs up to 256TB. MD38x0i arrays are limited to a maximum of 20 DDPs per array up to 1024TB.

³ 2GB available as single or dual controller option; 4GB and 8GB only available as dual controller option.

⁴ OEM-ready available on certain models.

Simplify Your Storage at Dell.com/PowerVaultMD3

