Dell PowerVault MD3200i/MD3220i Series

The PowerVault™ MD3200i/MD3220i series is a next generation iSCSI SAN solution that is ideal for entry-level storage consolidation in virtualized environments that require high availability. PowerVault MD3200i arrays are designed for environments that need higher capacity solutions while PowerVault MD3220i arrays are ideal for deployments that require increased density and higher performance.

Next-generation Ethernet-based network storage

PowerVault MD3200i/MD3220i arrays offer exceptional performance and flexibility for storage consolidation including scalability to meet your business demands. Now it's simple to improve storage utilization by combining storage resources while increasing availability with redundant hardware. A single management interface is also included, reducing management complexity.

Consolidation = efficiency

Reduce the effort required to store and manage your data. MD3200i /MD3220i series arrays can support up to 32 physical servers when connected to one or more 1Gb Ethernet switches. Storage capacity, up to a base of 120 hard disk drives, can be expanded by attaching a PowerVault MD1200 and/or MD1220 expansion enclosure. For additional scalability there is option to increase up to 192 hard drives.

iSCSI storage, ideal for virtual server environments

Implement your network storage solution for less with MD3200i/MD3220i series arrays using cost-effective, well understood 1Gb Ethernet technology. Along with significant savings in hardware, IP SANs can also lower training costs. 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. MD3200i/MD3220i storage arrays are fully qualified for use in virtualized application environments with VMware® ESX and Microsoft® Hyper-V™ software.

Keep pace with ever-increasing storage demands

MD3200i/MD3220i arrays deliver an excellent performance/price ratio. Take advantage of a next-generation array with four (4) iSCSI ports per controller that offers a 2x performance improvement compared to earlier MD storage arrays.

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 firmware upgrade is available to increase array I/O performance.

Gain a new level of management efficiency

MD3200i series 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 systems, including previous generation MD3000i arrays, through a single interface.

Wizard-based array management helps simplify the configuration process. MD Storage Manager detects and alerts you to problems then launches an automatic Recovery Guru to help you troubleshoot and resolve the problem. It's simple—the expertise is built into the software.

The PowerVault vCenter plug-in and vSphere Storage APIs - Storage Awareness (VASA) provides VMware administrators with powerful capabilities designed to increase their productivity and simplify their jobs.

Deployment scalability and flexibility

Scale up. Mix and match drive types to create your optimum tiered data environment.

Scale Easily: Up to 32 servers can be connected to a single MD3200i or MD3220i storage system. Storage capacity can be expanded up to a total of 192 hard drives. Scaling capacity is as simple as plugging in additional PowerVault MD1200 and/or PowerVault MD1220 enclosures.

Mix and Match Drives: MD3200i arrays can hold up to twelve (12) 3.5 inch form factor hard drives and MD3220i arrays hold up to twenty-four (24) 2.5 inch drives. Both the MD1200 enclosure (twelve 3.5" hard drives) and the MD1220 enclosure (twenty-four 2.5" drives) can be added behind MD3200i series arrays, enabling you to mix 3.5" and 2.5" drives in the same array. This flexibility enables data tiering for optimizing system performance.

Optional features

Snapshots: Take point-in-time snapshots of data for backup and other operations. The MD3200i series supports up to 16 snapshots per virtual disk and a total of 256 snapshots per system. Snapshot scheduler and Snapshot Rollback are features included in the Premium Feature Key providing additional data availability.

Virtual Disk Copy (VDC): Make exact, point-in-time full replications of existing virtual disks for decision support and software development testing. Reads and writes are supported while doing a virtual copy.

Self-encrypting Drives (SEDs): SEDs encrypt everything written to the drive and de-crypt everything read from the drive. Once an SED is secured, it becomes "locked" and unreadable by unauthorized persons if the drive is ever removed from the array.

High Performance Tier (HPT) - Meet the most demanding performance requirements for your organization to remain productive and competitive.

Additional Hard Drives Premium Feature Key

Ability to add up to 192 hard drives providing additional capacity to the MD Series of arrays.

Feature	Dell™ PowerVault™ MD3200i Series
Hard Disk Drives	MD3200i – Up to twelve (12) 3.5 inch SAS, Near-line SAS and SSD drives MD3220i – Up to twenty-four (24) 2.5 inch SAS, Near-line SAS and SSD drives
3.5" Drive Performance and Capacities	15,000 RPM SAS drives available in 300 GB, 450 GB and 600 GB 7,200 RPM Near-line SAS drives available in 500 GB, 1TB, 2TB and 3TB
2.5" Drive Performance and Capacities	15,000 RPM SAS drives available in 73 GB and 146 GB 10,000 RPM SAS drives available in 146 GB and 300 GB 7,200 RPM Near-line SAS drives available in 500 GB Solid State Drive (SSD) available in 149 GB (available in 3.5" HDD carriers)
Expansion Capabilities	Expand up to a base of 120 hard drives with an optional Premium Feature Key to scale up to 192 total drives using MD1200 and/or MD1220 expansion enclosures

Host Connectivity

Single Controller Models	Supports up to 4 servers directly connected or up to 32 servers when configured with an Ethernet switch
Dual Controller Models	Supports up to 8 servers directly connected or up to 32 servers when configured with Ethernet switches

Storage Controllers and RAID Levels

Storage Controllers	Each controller contains 2GB of battery-backed cache Dual controllers operate in an active-active environment mirroring each other's cache Cache protection is provided via flash memory for permanent data protection
RAID Levels	Support for RAID levels 0, 1, 10, 5, 6 Up to 120 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

Array Management and Optional Premium Features

Array Management	2nd generation Modular Disk Storage Manager Multi-path software provides failover management of redundant data paths between the server and storage array
Optional Premium Features	Snapshots: Up to 16 snapshots per virtual disk and 256 per system Snapshots Plus Virtual Disk Copy: Up to 16 simultaneous virtual disk copies High Performance Tier firmware upgrade increases array IO performance Additional Hard Drives - capacity up to 192 hard drives

Back-Panel Connectors (per controller)

Host Connectivity	Four RJ-45 1Gb Ethernet
Expansion Connectivity	One x4 6Gb SAS (8088 mini connector)
Remote Management	One RJ-45 1Bb Ethernet
Service Management	One PS/2 Serial

LED Indicators

Front Panel	1 two-color LED indicator for system status, 1 single-color LED indicator for power, 1 LED unused in this system
Hard Drive Carrier	1 single-color activity LED, 1 two-color LED status indicator per drive
Storage Controller	1 one-color LED power indicator, 1 one-color LED controller fault indicator, 1 one-color LED controller identifier, 1 one-color LED cache activity indicator, 1 one-color LED battery fault indicator
Power Supply/Cooling Fan Module	3 one-color LED status for AC status, DC status and power supply cooling fan fault

Power Supplies (per supply)

Wattage	600 W peak output
Maximum Heat Dissipation	150 W
Input Voltage Range	90 to 264 VAC
Frequency Range	47 to 63 Hz
Maximum Input Current at Rated Power	55 A for 10ms or less, 25 A for 10-150ms

Available Hard Drive Power (per slot)

Supported Continuous Consumption	3.5" drive: 25 Watts 2.5" drive: 12 Watts

Physical

Height x Width x Depth	MD3200i: 8.68cm (3.42") x 44.63cm (17.57") x 56.1cm (22.09"); MD3220i: 8.68cm (3.42") x 44.63cm (17.57") x 50.8 (20")
Weight	MD3200i: 29.3kg (64.59 lbs.) (maximum configuration); MD3220i: 24.2kg (53.35 lbs.) (maximum configuration)

Environmental

Expanded Temperature Operating Range	Continuous Operation: 10C to 35C, 10% to 80% relative humidity (RH) with a 26C max dew point. De-rate maximum allowable dry bulb temperature at 1°C/300 meters above 900 meters (1 degree F per 550 feet) 10% of annual operating hours: 5C to 40C, 5% to 85%RH with a 26C max dew point. For temperatures between 35 and 40C, de-rate maximum allowable dry bulb temperature 1°C/175 meters above 950 meters (1 degree F per 319 feet)
Relative Humidity	1% of annual operating hours: -5C to 45C, 5% to 90%RH, with a 26C max dew point. For temperatures between 40 and 45C, de-rate maximum allowable dry bulb temperature 1°C/125 meters above 950 meters (1 degree F per 228 feet)
Altitude	Operating: -16 to 3048 m (-50 to 10,000 ft) Note: For altitudes above 2950 feet, the maximum operating temperature is de-rated 1°F/550 ft.

Simplify your storage at Dell.com/PowerVault