Dell PowerVault MD1220

The Dell™ PowerVault™ MD1220 direct-attached storage is the second generation of our energy efficient, small form factor (SFF), 2.5-inch drive expansion enclosure. The PowerVault MD1220 offers seamless expansion for PowerEdge™ servers and Dell Storage arrays while providing the Input/Output operations per second (IOPs) needed to satisfy performance-intensive applications.

Impressive performance

The PowerVault MD1220 can deliver the speed, performance and reliability to satisfy data-hungry, performance-intensive, single-server applications that store active and frequently changing information.

- 6Gbps SAS: Twice the throughput of the previous generation of direct-attached storage, the PowerVault MD1220 can satisfy even the most performance-intensive applications such as web, database and email hosting

- Solid-state drives (SSD): Pair the increased IOPs and throughput of 6Gbps SAS with support for SSDs for an ideal solution for applications that rely on random-block access

- Automatic I/O load balancing: Further optimizing the performance of the PowerVault MD1220, the PERC H810 HostRAID adapter has automatic I/O load balancing to detect when a single path starts to get saturated and balances the I/O traffic across both paths

Maximum efficiency

The PowerVault MD1220 improves energy efficiency over the previous generation with new 80 PLUS® Silver certified power supplies. This enhancement augments the power, heat and space efficiencies already gained from the SFF array. In fact, 2.5-inch disks consume less power and 70% less space than 3.5-inch drives. Combined with variable-speed and temperature-controlled fans, the MD1220 is optimized to deliver performance and energy-efficiency in a single array.

Keeping your data safe

Access and accuracy of data is key to success for any business. The PowerVault MD1220 has been engineered to maximize uptime and the security of your data.

- Redundant path with I/O load balancing: Even if a single cable path fails from one port of the PERC H810, you will continue to have access to your data through the second port

- Self-encrypting drives (SED): With drive-level encryption, if a drive is removed from its storage system or the server it is housed in, the data on that drive is encrypted and useless to anyone who attempts to access it without the appropriate security authorization. Additionally, SED supports Instant Secure Erase of drives which permanently removes data when repurposing or decommissioning drives.

- Hot-swappable drives: With hot-swappable drives you can remove and replace drives even when your system is operating; no need to turn it off and no need to reboot — new drives are available right away.

Affinity with PowerEdge

The Dell PowerVault MD1220 storage array is engineered to work optimally with Dell PowerEdge servers, as follows:

- The configuration of the PERC H810 HostRAID adapter enables the software to recognize all storage as a single unit, helping to increase reliability and fault tolerance.

- Dell OpenManage™ Storage Manager software can manage both the external array and internal storage, streamlining storage management through a single, common interface. This helps reduce resource load on the system and enables easier navigation for the user.

- The PowerVault MD1220 uses the same 2.5-inch drives as the PowerEdge servers and the same power supplies and fans as the PowerVault MD1200, reducing the cost of spares.

Direct-attached storage expansion enclosure

Improves density, versatility and performance

Feature	Dell PowerVault MD1220
PERC H800	PCI-E 2.0 Host-RAID adapter with two external x4 SAS ports, standard 512MB cache and TBBU (transportable battery-backup unit)
Drives and Capacity	
Drives	Up to twenty-four (24) 2.5-inch hot-pluggable SAS HDDs at 7.2K, 10K, 15K RPM and SAS solid-state drive (SSDs)
Drive performance and capacities	2.5" 6Gbps SAS: HDD 15K – 146GB, 300GB, 600GB HDD 10K – 300GB, 600GB, 900GB, 1.2GB HDD 10K 512e – 1.8TB HDD 7.2K – 500GB, 1TB SSD – 200GB, 800GB value SLC; 400GB mainstream SLC; 800GB RI MLC; 200GB, 400GB WI SLC; 2TB eMLC 2.5" 12Gbps SAS: HDD 15K – 600GB HDD 7.2K NL-SAS 512e – 2TB SSD – 200GB, 400GB, 800GB 1.6TB MU MLC SSD – 200GB, 400GB, 800GB WI MLC SSD – 800GB, 1.6TB RI MLC
Maximum capacity (per enclosure)	Up to 48TB when using 24 x 2TB NL-SAS 2.5" HDDs
Expansion capabilities	PERC H810 enables expansion to 8 enclosures, 4 per port
Host connectivity	
Unified mode	Unified mode (single path) for daisy chaining of up to 8 enclosures per PERC H810 (4 enclosures per port, single path) Unified mode (recommended redundant path) for daisy chaining up to 4 enclosures per PERC H810 (4 enclosures connected to both ports via redundant path cabling)
Split-mode/dual-host access	Split mode with dual Enclosure Management Modules providing direct connectivity to drives 0 though 11 and a separate connectivity to drives 12 through 23
Enclosure Management Modules (EMM) and RAID	
EMM	2 EMM provide redundant enclosure management capability
RAID	0, 1, 5, 6, 10, 50 and 60
Back-Panel Connectors (per EMM)	
Host connectivity	1 SAS (SFF 8088) IN connector for connection to the host
Expansion connectivity	1 SAS (SFF 8088) OUT connector for expansion to an additional enclosure
Service management	1 6-pin UART mini-DIN connector (for factory use only)
Power supplies (per PSU)	
Wattage – also supports DC power	AC – 600 W; DC – 700 W
Host heat dissipation	AC – 2047 BTU/hr; DC – 2388 BTU/hr
Input voltage range	100-240 VAC, auto-sensing; 48 V DC
Frequency range	50/60 Hz
Amperage	8.6 A at 100 V, 4.3 A at 240 V
Available hard drive power (per slot)	
Supported continuous consumption	Up to 1.2 A at +5V; up to 0.5 A at +12V
Physical	
Rack support	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
Height x width x depth	8.7cm (3.39 inches) x 48.2cm (18.8 inches) x 54.1cm (29.1 inches)
Weight	23.31 kg (51 lb) (maximum configuration); 8.61 kg (19 lb) (empty)
Environmental	
Temperature	Operating: 10° to 35°C (50° to 95°F) with maximum temperature gradation of 10°C per hour Storage: -40° to 65°C (-40° to 149°F) with temperature gradation of 20°C per hour Supports Fresh Air cooling, up to 35 degrees Celsius
Relative Humidity	Operating: 8% to 85% (non-condensing) with maximum humidity gradation of 10% per hour Storage: 5% to 95% (non-condensing)
Altitude	Operating: -16 to 3048 m (-50 to 10,000 ft) Storage: -16 to 10,600 m (-50 to 35,000 ft)

Simplify your storage at Dell.com/PowerVault