Dell PowerVault MD1220

The Dell™ PowerVault™ MD1220 direct-attached storage array 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 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.

- 6Gb/s SAS: With a 35% increase in IOPs capability and twice the throughput of the previous generation of arrays, the PowerVault MD1220 can satisfy even the most performance-intensive applications such as web, database, and email hosting.
- Solid State Drives: Pair the increased IOPs and throughput of 6Gb/s SAS with support for Solid State Drives (SSDs), which have 3x the IOPs performance over 15K SAS drives[1], and you have 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 H800 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 80PLUS® Silver Certified power supplies. This enhancement augments the power, heat, and space efficiencies already gained from the Small Form Factor (SFF) array. In fact, 2.5-inch disks consume up to 50% less power and 70% less space than 3.5-inch drives. Combine this with variable-speed and, temperature-controlled fans, and the MD1220 is optimized to deliver performance in an energy-efficient 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 H800, 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 H800 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 leverages the same 2.5-inch drives as 11G 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 Hard Disk Drives (HDDs) at 7200, 10K, 15K rpm and SAS Solid State Drive (SSDs)
Drive Performance and Capacities	2.5" SAS HDDs 10,000 RPM 6Gb/s SAS drives available in 300GB and 600GB 2.5" SAS SSDs[1] 3Gb/s SSD available in 149GB
Maximum Capacity (per enclosure)	12TB using twenty-four (24) 500GB 7200 RPM 6Gb/s SAS HDDs
Expansion Capabilities	PERC H800 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 H800 (4 enclosures per port, single path) Unified mode (recommended redundant path) for daisy chaining up to 4 enclosures per PERC H800 (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 and RAID levels	
Enclosure Management Modules (EMM)	2 EMM provide redundant enclosure management capability
RAID Levels	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	600 W
Host Heat Dissipation	188 W
Input Voltage Range	100-240 VAC, auto-sensing
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	
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
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)

[1]Based on testing performed by Dell Labs in comparing Dell PERC H800 with PowerVault MD1220 to PERC 6/E with PowerVault MD1120.

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