Dell EMC PowerEdge Express Flash NVMe "Mixed Use" PCIe SSD

This Mixed Use class PCIe solid-state storage device, based on Samsung's PM1725a product family leverages their 3rd generation of 3D TLC NAND. It enables a strong blend of high IOPs performance, medium-to-high endurance and a strong price point to deliver outstanding value.

The Dell EMC™ PowerEdge™ Express Flash NVMe Mixed Use PCIe SSD is a high-performance storage device designed for solutions requiring high IOPs, ultra-low latency and enterprise-class storage reliability and serviceability. The Express Flash NVMe PCIe-SSD delivers exceptional performance and medium-to-high endurance in demanding mixed use enterprise environments, such as E-Commerce, Seismic Analysis and OLTP Database workloads. Built with server-grade, 3D Triple-level cell (3D TLC) NAND, the low-latency PowerEdge Express Flash NVMe PCIe SSD provides unmatched throughput, exceptional reliability and serviceability. The Express Flash NVMe device is optimized with the high-performance NAND, achieving ultra-high IOPs and sequential read/write speeds. Engineered for mixed use workloads, this PowerEdge Express Flash device provides outstanding performance and medium-to-high endurance – Five Drive Writes per Day (5 DWPD).

Breakthrough performance

The Dell EMC PowerEdge Express Flash NVMe "Mixed Use" PCIe SSD enables IOPS performance that far surpasses conventional rotating hard drives. The Express Flash device is designed to deliver sequential throughput on reads and writes of up to 6.0/2.0 GB/s respectively.

Storage management

Dell EMC storage management applications enable you to manage and configure the Express Flash PCIe SSD subsystem, control and monitor multiple PCIe SSD devices, and provide online maintenance. The Express Flash NVMe PCIe SSD solution supports the unified extensible firmware interface (UEFI) and human interface infrastructure (HII) for pre-operating system management and the Dell EMC OpenManage™ Server Administrator (OMSA) application for operating system management.

Durability

Enterprise-grade 3D TLC NAND and sophisticated NAND-management algorithms delivers 5 DWPD with 7.3/14.6/29.2/58.4 petabytes of "Total Bytes Written" (TBW) drive life for the 800GB/1.6TB/3.2TB/6.4TB devices respectively. Since NAND SSDs have a finite number of program and erase cycles, Dell EMC warrants the Express Flash PCIe SSD to a maximum amount of data written to the SSD in TBW. The SSD monitors these cycles, and Dell EMC software management applications notify you when the warranty limits are reached.

Hot swap

Dell EMC PowerEdge Express Flash PCIe SSDs support orderly hot swap, allowing you to add or remove a device without halting or rebooting the system in which the devices are installed. Dell EMC supported PCIe SSD hot-swappable functions include:

- Orderly or Hot Insertion
- Orderly Removal
- Orderly Swap

Orderly hot swap features are only supported on 2.5" PCIe SSD.

Device monitoring

The self-monitoring analysis and reporting technology (SMART) feature set minimizes unscheduled system downtimes by providing a method of early detection of device degradation or fault. By monitoring and storing critical performance and calibration parameters, the SMART feature-set attempts to predict degradation or fault conditions. The knowledge of a negative reliability condition allows the host system to warn you of an impending risk of device failure and advise on appropriate action.

Dell EMC PowerEdge Express Flash NVMe "Mixed Use" PCIe SSDs deliver great performance in enterprise environments.

Express Flash NVMe "Mixed Use" PCIe SSD & PCIe SSC

Features	Technical Specification
Capacity	800GB, 1.6TB, 3.2TB and 6.4TB[1] (PM1725a)
Interface	PCIe Gen3 x4 (2.5") & PCIe Gen3 x8 (Add-In-Card)
Sequential read/write	Add In Card - Up to 6.0/3.0 GB/s[2] 2.5" – Up to 3.2/2.8 GB/s[2]
Random read/write	650,000+/60,000+ IOPs - 800GB 2.5" 700,000+/160,000+ IOPs[3] - 1.6TB/3.2TB/6.4TB – 2.5" 950,000+/160,000+ IOPs[3] – 1.6TB/3.2TB/6.4TB – Add in card (HHHL)
Latency	Read 90us[4] – Write 20us[4]
Active power consumption	25W maximum
Supported operating systems	Canonical® Ubuntu® LTS Citrix® XenServer® Microsoft Windows Server® with Hyper-V Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi For specifications and interoperability details see Dell.com/OSsupport
Form factor	12.5 inch – 800GB/1600GB/3200GB/6400GB HHHL (Half Height, Half Length) add-in card – 1600GB/3200GB/6400GB
Dimensions	2.5 inch - 100.50mm x 69.85mm x 14.80mm HHHL add-in card - 167.65mm x 69.85mm x 18.71mm

1 Unformatted; 1GB = 1 billion bytes; formatted capacity is less

2 128KB transfer size, steady state

3 4KB transfer size, steady state.

4 4KB transfer size, steady state, QD=1. Read latency captured under sustained Random workload, Write latency captured under sustained Sequential Workload.

Global services and support

Dell Services can help reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. The Dell Services team takes a holistic view of your needs, and designs solutions for your environment and business objectives while leveraging proven delivery methods, local talent and in-depth domain knowledge for the lowest total cost of ownership.

Learn More at Dell.com/poweredge/expressflash

End-to-end technology solutions

Reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell EMC for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage and Networking, Dell EMC 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.*