High availability and performance are crucial for enterprise storage architectures providing mission-critical applications, such as online transaction processing for financial services. The Intel® Optane™ SSD DC D4800X with its unique combination of dual port PCIe NVMe, consistent low latency and high random read/write performance, delivers the performance and capabilities required for enterprise-class storage arrays.

The SSD DC D4800X provides dual port redundancy for maximum data availability during system upgrades or a failover event, enabling enterprise class capabilities and serviceability in high availability storage systems.

Intel® Optane™ SSDs Break Through NAND Bottlenecks

Intel® Optane™ technology provides industry-leading capabilities of breakthrough performance, predictably fast service, responsiveness under load and high endurance.

The first Intel Optane technology-based dual port drive can break the NAND bottleneck to help deliver higher service levels to mission-critical applications and reduce transaction costs for latency sensitive workloads. Combining breakthrough performance with data path redundancy enables enterprise storage array providers to design solutions capable of:

- Extremely consistent and fast response times even in the presence of increasing write pressure
- High performance at low queue depths commonly found in enterprise workloads
- Predictably fast service—faster than NAND SSDs
- Supporting write intensive workloads common in areas such as OLTP and HPC with high endurance

The Intel® Optane™ SSD DC D4800X offers:

- 24x7 data availability with redundant paths and hot-plug capability for continued data access in the event of a failure
- High performance, low latency data placed on Intel® Optane™ SSDs to accelerate data delivery and amplify system performance of capacity NAND SSDs
- Capability to scale service levels and performance far beyond traditional NAND-based platforms as needed, while balancing overall design costs
**Key Features**

The dual port Intel® Optane™ SSD DC D4800X provides enterprise storage features, including hot-pluggable removal and insertion, allowing in-service replacement options. Other key features include:

- VSS (variable sector size): 512, 520, 4096, 4104 bytes
- Up to 16 multiple dynamic name spaces
- 128 queue pair/ port
- Reservation
- SGL (scatter gather lists)
- CMB (control memory buffer)
- OPAL2.0
- FIPs140–2†

† Only available for OEM customer SKUs

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**FEATURE** | **SPECIFICATION**
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Model | Intel® Optane™ SSD DC D4800X
Form Factor and Capacity | U.2 2.5in. 15mm form factor; 375GB, 750GB, 1.5TB
Interface | PCIe 3.0 2x2, NVMe
Media | Intel® Optane™ memory media
Performance¹ | Seq R/W: up to 2400/2400MB/s at QD 16 x16
 | 4KB Random R/W: up to 560/540K IOPs
Latency (typical) R/W¹ | 4K Random Latency (typ.) R/W: 22/29μs
 | 4K Sequential Latency (typ.) R/W: 22/29 μs
Endurance | 375GB – 20.5 PBW; 30 DWPD
 | 750GB – 41.1 PBW; 30 DWPD
 | 1.5TB – 82.1 PBW; 30 DWPD
Reliability | AFR: < 0.44%
 | MTBF: 2 million hours
 | UBER: 1 sector per 10^17 bits read
Quality of Service (QoS): 99.999%² | 4KB Random, Queue Depth 1, R/W: <64/79 μs
 | 4KB Random, Queue Depth 32, R/W: <214/218 μs
Power | Active (Average): Up to 25W
 | Idle: <10W
 | Enhanced power-loss data protection
Operating Temperature | 0-70°C with specified airflow
Warranty | 5-year limited warranty

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1. Performance measured using FIO version 3.5 (ioengine=pvsync2 hipri for QD1) OS: CentOS 7.3.1611 Kernel: 4.14.50. Measurements are performed on a full logical block address (LBA) span of the drive. Power mode set at PM0. Drive formatted with 512byte sector size. Performance collected with aggregation from two hosts accessing two equal sized namespaces from the drive. Average measurement. Results can vary based on setup and measurement window.

2. Quality of Service measured using 4KB transfer size on a random workload on a full LBA span of the drive once the workload has reached steady state but including all background activities required for normal operation and data reliability. Runtime is 20 minutes. Based on Random 4KB QD=1, 32 workloads, measured as the time taken for 99.9 (or 99.99) percentile of commands to finish the round-trip from host to drive and back to host.

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Intel® Optane™ SSD DC D4800X improves redundancy, a key feature for High Availability applications, with two NVMe storage controllers accessing the same drive in the case of a single point of failure.

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Intel technologies’ features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com.

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