

PRODUCT BRIEF

Intel® Optane™ SSD DC D4800X
Data Center (DC), Dual Port (D)



High Availability Meets High Performance

First Intel® Optane™ technology-based high availability dual port drive offering greater resiliency for enterprise storage solutions



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 work loads
- 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:

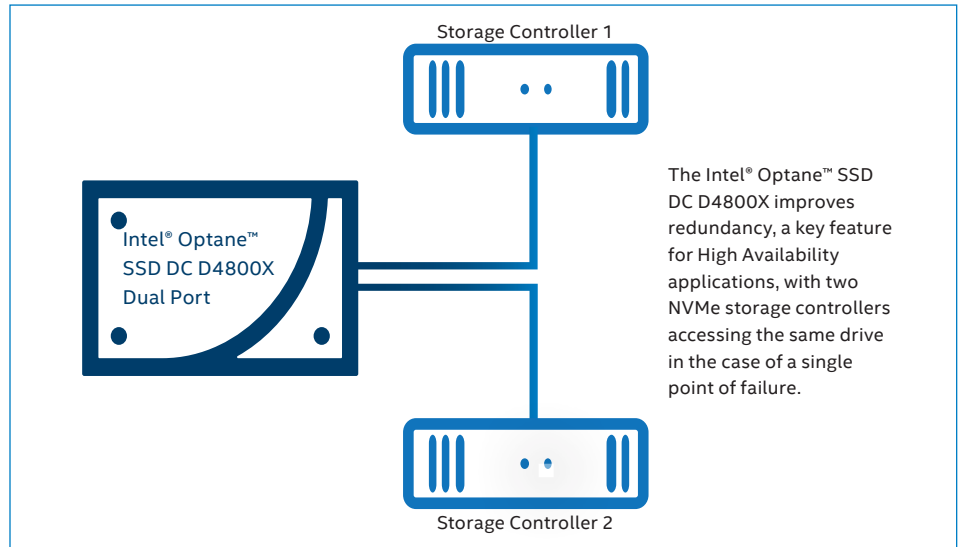
- 24x7 data availability with redundant paths and hot-plug capability for **continued data access** in the event of a failure
- High performance, low latency data placed on Intel® Optane™ SSDs to **accelerate data delivery** and amplify system performance of capacity NAND SSDs
- Capability to **scale 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



The 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.

FEATURE	SPECIFICATION
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
Performance ¹	Seq R/W: up to 2400/2400MB/s at QD 16 x16 4KB Random R/W: up to 560/540K IOPs
Latency (typical) R/W ¹	4K Random Latency (typ.) R/W: 22/29µs 4K Sequential Latency (typ.) R/W: 22/29 µs
Endurance (JESD219 workload) Petabytes Written=PBW; Drive Writes per Day=DWPD	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

For more up to date product specifications, visit ark.intel.com



For more information, visit intel.com/ssd

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. Measured using FIO version 3.5 on Linux OS: CentOS 7.3.1611 Kernel: 4.14.50. 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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