PRODUCT BRIEF

Intel® Solid State Drive Data Center D3700/D3600 Series

Break the Storage Bottleneck with No Critical Data Interruption

High Availability PCIe* dual port delivers high bandwidth, high random IOPs, and low latency compared to most top rated SAS SSDs.

Intel's First Dual Port NVMe* SSDs

Today, more and more storage systems require High Availability (HA) features that allow customers to access data without interruptions. HA storage is especially critical for storage systems using online transaction processing (OLTP) and private cloud storage; systems that demand 24-hours-per-day, seven-days-per-week accessibility with failover recovery.

Redundancy is a key feature for today's storage demands. Allowing data to be kept in more than one place minimizes the threat of data loss due to a single point of failure. HA storage systems require that at least two controllers can access the same drive through multi- path so that if one controller fails, the other can continue to access exactly the same data without interruption, keeping the storage system running and serviceable.

Intel's first dual port NVM express* (NVMe) SSD, the Intel® Solid State Drive Data Center D3700/3600 Series, provides new dual port features to support enterprise storage architecture with higher performance and lower latency than today's SAS products. These SSDs provide a competitive advantage to address the increasing demand for all-flash array (AFA) and hybrid flash array (HFA) markets. The DC D3700/D3600 Series provides high availability, excellent performance, dense storage, and optimal utilization of platform and storage resources.

Delivering Breakthrough Performance for High Availability Storage Solutions

Matching high performance with high reliability, the D3700/D3600 Series offers a range of capacities – 800GB, 1.6TB and 1.0TB, 2.0TB respectively. With PCIe* Gen3 support and NVMe specification 1.2 implementation, the D3700/D3600 Series is designed to support active/active dual port and recovery during failover when one of the hosts is unavailable.

With NVMe queuing interface and support for up to 80 I/O queues, the DC D3700/3600 Series delivers excellent sequential read performance of up to 2100MB/s and sequential write speeds of up to 1500MB/s. The SSDs deliver very high random read IOPS up to 470K and random write IOPS of up to 95K for 4KB operations.

The DC D3700/D3600 Series also includes High Endurance Technology (HET), which combines NAND silicon enhancements and SSD NAND management techniques to extend SSD write endurance up to 10 and three drive writes per day for five years.

Built on the Latest Industry Standards for Streamlined Deployment

PCIe 3.0: The D3700/D3600 Series is a PCIe Gen3 SSD architected with a dual port, NVMe controller delivering high performance and low latency to HA storage systems.

U.2 Connectors: Taking advantage of the U.2 connector and providing hot-plug removal and insertion capabilities, enabling in-service replacement options.

NVMe 1.2: The DC D3700/D3600 Series is the first Intel NVMe SSD product line to support NVM 1.2 designed specifically for HA storage. Features include:

- NVM Express 1.2
- 80 SQ/CQ + 1 admin queue per port
- WRR queue priority support
- Dynamic multiple name spaces
- Reservations
- Scatter/Gather I/O
- 1MB MDTS
- CMB for Submission Queue

Designed for Data Integrity and Reliability

Designed with uncompromised data integrity and drive reliability, the series provides:

- Lasting Integrity with end-to-end data protection features
- <5% performance degradation over the product life[1]
- Up to 90% IOPs consistency[2]

Usage Models

The DC D3700/D3600 Series is a perfect solution where high performance and high availability are required. These products are targeted for two main segments:

- **Mission critical enterprise storage deployment**: Traditional storage solutions, HFA, and AFA are under great pressure to deliver high performance and high availability to meet the needs of business critical applications.
- **Top tier storage for scale-out server based storage**: Bringing high performance to metadata servers and high performance/high availabilty to the caching tier.

For more information on Intel® SSD DC D3700/D3600 Series, visit **www.intel.com/ssd**

[1] Performance degradation. Source – Intel. Data collected on Intel SSD for Data Center for PCIe family on a standard endurance offering. Performance data collected on cycled drives using short stroke approach adhering to JESD218 method.

[2] IOPS consistency. Source – Intel. Measured performance of Intel® SSD DCS3710 and DC P3700 on 4K Mixed (70/30) workload. Device performance measured using FIO. Quality of Service measured using 4 KB (4,096 bytes) transfer size on a random workload on a full Logical Block Address (LBA) span of the drive once the workload has reached steady state but including all background activities required for normal operation and data reliability. Based on Random 4KB QD=1, 32 workloads, measured as the time taken for 99.9 (or 99.9999) percentile of commands to finish the round-trip from host to drive and back to host.

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