



Nexenta Software-Defined Storage Accelerated by SanDisk

SanDisk Optimus.2 SAS SSD product line, utilizing Guardian technology, delivers flash solutions that are ideal for Nexenta's customers searching for an enterprise class storage solution. Delivering high endurance levels with up to 45 DWPD (Drive Writes Per Day), and capacities ranging from 100GB to 2TB, the Optimus.2 product line solves application workload requirements across use case, from write-intensive to read-intensive, in addition to general-purpose read/write I/O.

SanDisk's Guardian Technology™ platform combines the cost-effectiveness of MLC flash with the extended endurance, high reliability and high performance to meet the demanding requirements of a host of enterprise applications that can't be as effectively served by off-the-shelf SSD solutions.



WITH **GUARDIAN**
TECHNOLOGY
PLATFORM

Use Case	SanDisk Optimus SSDs	Software-Defined Storage
Performance for ZIL Leveraging a write-intensive SanDisk Optimus Extreme for NexentaStor in a hybrid storage pool environment will deliver the low latency required to accelerate the overall performance of the storage system	Optimus Extreme™ Endurance: 45 DWPD Capacity: 100-800GB Random Performance: 95,000/40,000 IOPS Sequential Performance: 500/500 MB/s Warranty: 5 years	NexentaStor <ul style="list-style-type: none"> • Write-intensive workloads and cache • Hybrid storage pools NexentaConnect <ul style="list-style-type: none"> • GPU-intensive systems • CAD/engineering users
I/O for L2ARC The expected maximum performance is based on the probability that a read I/O operation is accessing data already cached in faster memory or L2ARC. Optimus Ultra increases the size of the read cache and improves I/O	Optimus Ultra™ Endurance: 25 DWPD Capacity: 150GB-1.2TB Random Performance: 95,000/40,000 IOPS Sequential Performance: 500/500 MB/s Warranty: 5 years	NexentaStor <ul style="list-style-type: none"> • Read cache • Hybrid storage pools NexentaConnect <ul style="list-style-type: none"> • Standard office workers • User profile storage
TCO for all-flash array SSDs reduce latency, heat generation, power consumption and form factor, which all translate to significant savings for any datacenter	Optimus Eco™ Endurance: 3 DWPD Capacity: 400GB-2TB Random Performance: 90,000/35,000 IOPS Sequential Performance: 500/500 MB/s Warranty: 5 years	NexentaStor <ul style="list-style-type: none"> • Accelerated data storage pools NexentaConnect <ul style="list-style-type: none"> • Call center capacity • User data storage

SanDisk Enterprise SSDs for NexentaStor

SanDisk Extreme, with up to 50 drive writes per day (DWPD) in a 2.5" form factor, is an ideal enterprise-class SSD for Nexenta ZIL deployment in most enterprise and cloud use cases, while SanDisk Ultra provides the ability to cache data at the lowest possible latencies to satisfy application response time and performance for read cache. In addition to satisfying high performance and low latency requirements in Nexenta tiered storage environments with Optimus Extreme and Ultra, SanDisk also delivers an Eco product line with

SAS SSDs which are up to 2TB, making this ideal for an all flash solution. In an ever-increasing number of deployments, SanDisk Optimus.2 Eco SAS SSD's provide an attractive alternative to HDD's. The absence of moving parts in SSDs reduces latency, heat generation, power consumption, and form factor, translating to significant cost savings for any data center. Since fewer SSDs are required to deliver the same outcome as more HDDs, massive overprovisioning of drives is no longer necessary. This savings results in decreased capital and operational expenditures, while vastly increasing performance and reliability.

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SanDisk Gold and Platinum partners enjoy sale and marketing benefits to help you close business. Benefits include joint marketing and co-branded sales collateral, sales leads, training, SanDisk logo usage, and business and planning tools.

More information:

<https://businesspartners.sandisk.com/>

SanDisk Optimus Family with Guardian Technology Platform

High and Consistent Performance

- Up to 500/500 MB/s¹ sequential read/write
- Up to 95,000/40,000 IOPS (Ascend, Ultra and Extreme)
- Up to 90,000/35,000 IOPS (Eco)
- Less than 5% performance degradation over lifetime

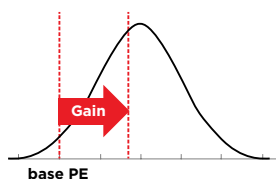
High Reliability

- Full data path protection
- T10-DIF support
- F.R.A.M.E. technology
- Backup power circuitry

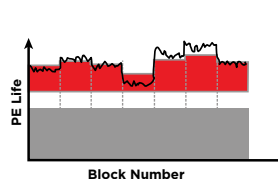
High Capacity and Endurance for Multiple Workloads

- Optimus Eco: 400GB-2TB¹ mixed-use and read-intensive workloads
- Optimus Ascend™: 200GB-1.6TB¹, mixed-use workloads
- Optimus Ultra: 150GB-1.2TB¹, write-intensive workloads
- Optimus Extreme: 100-800GB¹, write-intensive workloads
- 19nm MLC / 31-45 DWPD²
- High reliability

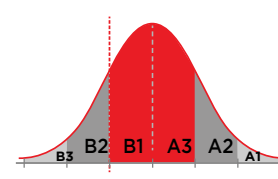
Aggregated Flash Management



Advanced Signal Processing



Intelligent Flash Mixing



NexentaStor

NexentaStor, a software-defined storage (SDS) platform, allows thousands of customers all around the world to transform their storage infrastructure, increase flexibility and agility, simplify management and dramatically reduce costs without compromising on availability, reliability or functionality. NexentaStor is software-defined storage with SMARTS:

- Security
- Manageability
- Availability
- Reliability
- TCO
- Scalability

SanDisk Enterprise SSDs

Through a combination of unique and innovative IP, and the use of Multi-Level Cell (MLC) flash, SanDisk's newest generation of 19nm SSDs feature a native SAS 6Gb/s interface, outstanding performance metrics, and a comprehensive set of high-end features making them ideal to integrate with existing infrastructure for a wide variety of enterprise environments such as servers, external storage arrays, and storage area networks (SAN) where performance and high-availability are required.

- 45 DWPD² (random workload)
- 5 Year Warranty²
- Data Integrity – BER 1017
- FlashGuard™: Enhances flash endurance
- DataGuard™: Ensures data integrity
- EverGuard™: Reliable 24x7 operation

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SanDisk®

At SanDisk, we're expanding the possibilities of data storage. For more than 25 years, SanDisk's ideas have helped transform the industry, delivering next generation storage solutions for consumers and businesses around the globe.

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¹ Performance may vary by capacity.

² Warranty/DWPD - The lesser of 5 years from the date of manufacture of the product or the date on which the product's relevant endurance threshold set forth in the product specifications are reached. For more warranty information, please visit kb.sandisk.com.

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