nexenta

Nexenta + SanDisk®: Freedom in Storage Choice

As a Software-Defined Storage vendor, Nexenta offers the freedom—to customers and end users—to determine the right storage choice for their workloads. Solid state infrastructure, composed of SanDisk SSDs, are increasingly important ingredients to meet the demands of enterprise workloads, especially those involving virtualization, big data analytics, data warehousing, and dynamic modeling.

Solution Focus

- Cloud computing and storage
- VDI
- Data backup

Benefits

- Lower latency with higher IOPS
- Responsive customer support

SanDisk Products

- **Optimus Eco™ SAS SSDs** (400GB, 800GB, 1.6TB, 2TB capacities)

- **Optimus Ascend™ SAS SSDs** (200GB, 400GB, 800GB, 1.6TB capacities)

- **Optimus Ultra™ SAS SSDs** (150GB, 300GB, 600GB, 1.2TB capacities)

- **Optimus Extreme™ SAS SSDs** (100GB, 200GB, 400GB, 800GB capacities)

The Challenge

Current and estimated future application workloads—business-critical applications, cloud computing and storage, virtual desktop infrastructure (VDI), and data backup—create challenges for businesses as they configure their IT infrastructure. These application workloads have requirements that range from highly-variable IOPS to large data throughput and uptime reliability.

"Enterprise customers, such as banks, telcos, and government agencies all have the same issue," commented Tarkan Maner, Nexenta Chairman and CEO. "They have data from seven to ten years ago—tier two or three, known as 'cold storage'—that they are attempting to manage and store. Some of those workloads with older data may not need the same level of performance, accessibility, and risk management; while tier one storage workloads—from big data analytics, social media, hosting services, to the Internet of Things (IoT) applications—require speed, compliance, security, and high IOPS from their storage architecture."

As a result, customers are looking for more freedom in their choice of hardware. For legacy storage, they are seeking cost benefits and a low total cost of ownership (TCO), whereas with first-tier storage, lower latency, scalability, and greater performance are key criteria. In both cases, reductions in capital expenditure (CapEx) and operational expenditure (OpEx) are required. Solid state drives (SSDs), such as those provided by SanDisk, can address these challenges to meet customers' Service Level Agreements (SLAs) and be executed at the lowest possible TCO, without increasing architecture complexity or OpEx.

The Solution

Enterprise-class SSDs are uniquely designed for applications and workloads requiring low latency, high I/O performance (IOPS), reliability, endurance, energy efficiency, and consistent performance. In addition, enterprise-class SSD models address explicit types of workloads, such as those use cases that are write-intensive, read-intensive, or mixed-use. Together, Nexenta and SanDisk provide a complete end-to-end storage system management framework, which leverages high-performing, enterprise-class SSDs from SanDisk. SanDisk's Optimus SAS SSDs enable NexentaStor to offer tiered storage for mixed-use case environments that require low-latency SSDs for write-intensive and mixed-use I/O. Nexenta customers can achieve a lower TCO by using Optimus SAS SSDs to reduce both read and write latency in a ZFS hybrid storage pool when compared to legacy storage systems.

SanDisk®
a Western Digital brand

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When Nexenta evaluated potential storage partners in the marketplace, SanDisk stood out because of the write-cache capabilities of the Optimus Extreme and Optimus Ultra SSDs, which are at the heart of the Nexenta solution. For read-cache requirements, Nexenta encourages customers to utilize Optimus Eco or Ascend SSDs. Available in a range of capacities and endurance points, and powered by SanDisk's Guardian Technology™ Platform, the Optimus SAS SSD family delivers solid-state solutions with a combination of performance, reliability, and value that satisfies the demands of the most I/O-intensive enterprise server and storage applications.

"In this business, everything goes back to these six criteria: security, manageability, availability, reliability, total cost of ownership, and scale. We look for partners to deliver on all six segments. SanDisk is the leader in the SSD space, and understands the platform space very well," said Maner.

NexentaStor uses SanDisk SAS SSDs for two purposes: as a low-latency write log (ZIL) to improve overall storage system performance; and as a high-IOPS read cache (Level-Two ARC or L2ARC) to improve "hot data" placement and primary access latency. SanDisk's Optimus Extreme, with up to 45 drive writes per day (DWPD) in a 2.5" form factor, is an ideal enterprise-class SSD for Nexenta ZIL deployment for most enterprise and cloud use cases. SanDisk provides additional Optimus SAS SSDs with up to 10 or 25 Drive Writes Per Day (DWPD) that are ideal with L2ARC.

The Result

Nexenta has implemented as many as 100 systems using SanDisk SSDs in locales such as India, Europe, and the U.S. Enterprise customers in the hosting, financial, media/entertainment, and telco industries, have found increased performance, with decreased TCO, when deploying this solution.

"Together, SanDisk and Nexenta meet the needs of our customers in multiple segments—tier one storage to what we call the "tier *n*" storage. Flash and SSD architectures are needed for tier one and tier two types of applications, where customers are looking for better performance and faster IOPS," said Maner.

In addition, both Nexenta and their customers have been pleased with the responsive customer support from SanDisk. "SanDisk consultants rapidly customized the firmware design to suit our customers' needs," said Eddo Jansen, Sales Engineer, Nexenta Systems. "The support lead times of many of SanDisk's competitors are very long; this is another way that SanDisk wins in the marketplace."

As this partnership develops, Nexenta looks forward to using SanDisk PCIe devices to interconnect and share resources across different nodes to continue to improve speeds and latency. "At the end of the day, there are a few trends—one is convergence and the other is hybrid solutions—that will place a strong focus on flash storage and SSDs as we move forward into the future. Our partnership with SanDisk is not only about great technology, but also about great service—touching our customers on multiple levels to deliver better processes that enable them to be successful. We are proud to be part of SanDisk's great partner ecosystem—as we deliver the best technology and the best service—with the best people—to our customers," said Maner.

Summary

Nexenta and SanDisk have partnered together to provide the manageability, reliability, security, and scalability that Nexenta's customers are seeking. "As the global leader in Software-Defined Storage, Nexenta needs to partner with the best solution from an SSD and flash perspective," said Tarkan Maner, Nexenta Chairman and CEO. "SanDisk gave that opportunity to us—the ability to better serve our customers worldwide."