nexenta
Enterprise class storage for everyone
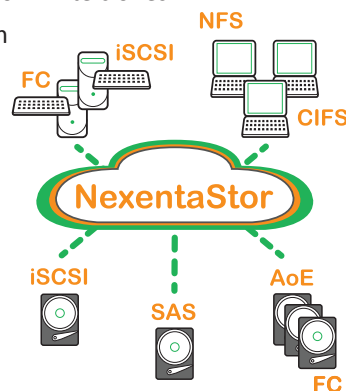
dataON

Nexenta Enterprise Storage Solutions:
Increase Storage Performance

A shift is underway in the enterprise data storage market. The need to cost effectively store large amounts of data is growing exponentially. Nexenta uniquely complements virtualized environments — from the datacenter to the cloud — by delivering best-of-breed data protection with the most efficient and scalable storage infrastructure. NexentaStor provides 70-80% savings over proprietary solutions and capitalizes on the benefits of ZFS technology to manage cloud and other massive storage deployments.

What is NexentaStor™

NexentaStor is a unified storage management platform that delivers enterprise-class features and runs on industry-standard hardware. With NexentaStor, customers can enjoy superior functionality and flexibility, along with the support of an open-source community that collectively possesses far greater resources than any single vendor. NexentaStor features:

- FS-based unified storage for NFS, CiFS, iSCSI, & Fibre Channel
- Unlimited snapshots & copy-on-write clones
- Deduplication & compression
- Hybrid storage pooling with native SSD performance
- Virtual data center storage
- VMware VAAI support
- Block-level mirroring
- Thin provisioning
- Unlimited file size
- HA Cluster support for multiple virtual IP Addresses

Benefits of a Certified Total Solution

Even though NexentaStor is designed to run on any industry standard hardware, Nexenta performs a rigorous testing program to certify the interoperability of our vendor partners' hardware. This enables our channel partners like; DataON Storage to sell pre-certified solutions. Certified solutions are designed to:

- Eliminate uncertainty of hardware / software compatibility
- Minimize engineering and support time = cost saving
- Eliminate vendor lock-in:
  - Customer's data is their own; they can migrate away in hours, not months
  - Industry standard hardware from hardware market rather than a legacy storage vendor can give savings of 70% or more
  - Predictable costs with no second-year gotcha

Why DataON™ Storage

DataON Storage delivers innovative storage solutions designed to snap into existing IT environments. DataON Storage's solutions are industry compliant, featuring various high performance network connectivity, I/O and disc options.

DataON Storage offers customers superior performance through balanced architecture, high-speed interconnect options and industry leading management. From basic monitoring and alerting to en masse software provisioning, DataON Storage provides customers with a single point of accountability while ensuring successful planning, installation, post-installation support and onsite maintenance options.

Enterprise-Class Storage Monitoring

DataON's DSM 3.0 is specifically designed for NexentaStor HA Clustering. As a top of the class enterprise storage monitoring and management software DSM 3.0 provides a well-constructed GUI tool designed from an IT Administrator's point of view.

DSM 3.0 software is integrated with NexentaStor to provide accurate and reliable monitoring tools.

DataON DSM 3.0
FOR NexentaStor™

DSM 3.0 features:

- Nexenta NMV based management GUI
- Failed disk and disk drive identification
- FRU monitoring and E-mail alert
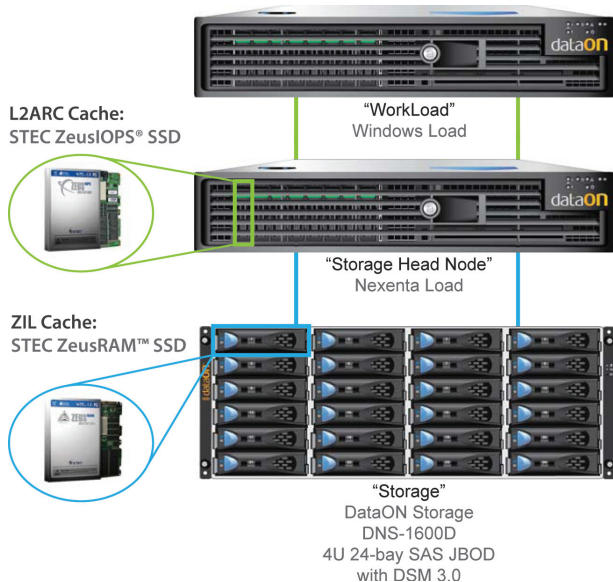- Intuitive GUI, integrated in NexentaStor

Increase Storage Performance

Increasing the I/O performance of next generation datacenters and cloud computing environments is essential for supporting enterprise e-commerce, database, and email applications. Utilizing STEC's ZeusRAM™ SSD as the write log and ZeusIOPS® as the read cache combined with NexentaStor storage system, can alleviate performance bottlenecks.

Total cost of solution benefits include; up to 5X better performance for such enterprise applications as database indexing and email exchanges, reduced the cost per user by a factor of 8 and the cost per transaction by factor of 4.

Real-World Configuration

The Nexenta high performance unified storage system using of 2x STEC® ZeusRAM™ as write log (ZIL) and 1 x ZeusIOPS® 400GB MLC as read cache (L2ARC) in the DataON Storage NX2625 2U dual Intel® Xeon® quad-core processors and 48GB of DDR3 1333MHz RAM server, and DNS-1600D 4U 24-bay 3.5" 6G SAS Disk Shelf with 22 enterprise-class 6Gbps SAS hard disk drives. The storage system was connected to the application server using 10 Gbps Ethernet link to provide a high-performance connection between the application server and Nexenta storage system.

L2ARC Cache:
STEC ZeusIOPS® SSD

"WorkLoad"
Windows Load

"Storage Head Node"
Nexenta Load

ZIL Cache:
STEC ZeusRAM™ SSD

"Storage"
DataON Storage
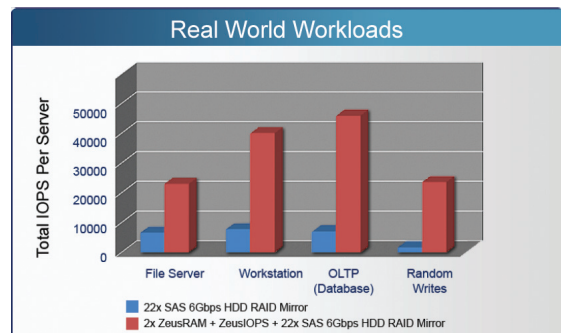DNS-1600D
4U 24-bay SAS JBOD
with DSM 3.0

Real-World Performance Testing

The IOMeter workload performance test was configured to run under different real-world workloads including a workstation (emulating VDI deployment), a file server application and an (OLTP) database application, on a NexentaStor-enabled DataON storage system with ZeusRAM™ and ZeusIOPS® SSDs disabled. The same tests were run again with ZeusRAM™ and ZeusIOPS® SSDs enabled.

NexentaStor™ Test Configuration

Real-World Test Results

Testing confirms performance improvements when two ZeusRAM™ SSDs were used in a mirrored configuration as a write log device and one ZeusIOPS® SSD (400GB MLC drive) was used as a read cache device. Performance results included; up to 5X better performance for such enterprise applications as database indexing and email exchanges It also supported 15X more users, up to 5X improvement in workstation(VDI) workloads and up to 12X performance improvement in random write workloads.

Real World Workloads

About Nexenta Systems

Nexenta Systems, Inc. is the leading supplier of Open Storage solutions for the enterprise. Its flagship software-only platform, NexentaStor™, delivers high performance, ultra-scalable, cloud- and virtualization-optimized storage management. Because it runs on industry-standard hardware, NexentaStor provides open, unified storage management at a fraction of the cost of legacy systems, eliminating the frustrations of traditional vendor lock-in.

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About DataON Storage

DataON™ Storage is the leading provider of Enterprise-Class Storage Enclosures with 6G/b SAS technology delivering high availability, scalability, flexibility and high performance storage solutions. Since 2007, DataON™ Storage offers disk shelf products including; 4U 60-bay 3.5" ultra-dense JBOD, 4U 24-bay 3.5" best-of-breed and 2U 24-bay 2.5" high-density and green storage disk shelf. In addition to the SAS JBODs DATAON™ also developed its disk shelf management software well known as DSM 3.0 specifically for NexentaStor™, OpenSolaris and Solaris OS. More information about DataON is available at http://www. DataONstorage.com.