



Supermicro Reference Architectures for NexentaEdge

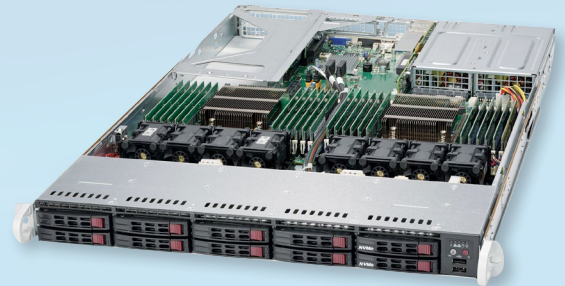
NexentaEdge is Software-Defined Storage, delivering high performance Block and Object services and truly disruptive storage economics thanks to cluster wide inline deduplication.

Next Generation scale-out storage for your Next Generation Cloud Applications

The relentless growth of unstructured data creates a need for solutions specifically designed to scale and run on low cost shared-nothing clusters of industry standard servers, delivering highly available, highly durable and extremely cost effective storage

NexentaEdge is ideally suited to meet these requirements and support the following use cases:

- A single NexentaEdge cluster delivers Cinder Block, Swift and S3 Object storage services required by OpenStack clouds. Horizon management plug-in simplifies storage management and capacity planning.
- NexentaEdge delivers container-based deployment option, providing persistent storage services to Docker based application microservices allowing high performance, enterprise-grade storage foundation for cloud-native applications.
- Chunk level cryptographic checksums, S3 object API and unmatched storage efficiencies provided by cluster wide inline deduplication make NexentaEdge an ideal platform for petabyte scale backup and archive repositories.



Next Generation Design

- Scale out, shared nothing architecture deployed on Linux standard x86 servers
- Fully distributed data and metadata management
- Multi-petabyte scale with low management overhead

Data Protection & Optimizations

- Inline deduplication is performed on all written data across the entire cluster. Variable size chunking ensures maximum capacity savings
- Object level replication policy control allows the application to set data specific protection levels

High Performance

- Cloud Copy On Write of all content enables high performance data and metadata management
- Replicast network protocol optimizes network utilization, minimizes data transfers and delivers faster response times
- Flexhash optimizes data placement, data access, and automatically ensures effective balancing of performance and capacity loads across the cluster



KEY FEATURES

- Next-Generation design
- iSCSI with Cinder support
- Swift and S3 Object API
- End to end data integrity protection
- Cluster wide inline deduplication
- Fully distributed architecture with No single point of failure
- Automatic load balancing based on least utilized resources (CPU, network, storage)
- CLI and Horizon management plug-in
- Container converged infrastructure, ready for cloud native applications

Cluster Role	1U/2U Storage Servers			
SRS SKUs	SRS-128U00-NE0T-00	SRS-128U00-NE0S-00	SRS-628R00-NE0T-00	SRS-628R00-NE0S-00
System SKUs	SYS-128U00-NE0T-00	SYS-128U00-NE0S-00	SYS-628R00-NE0T-00	SYS-628R00-NE0S-00
Form Factor	1U		2U	
CPU	Dual Intel® Xeon® processor E5-2690 v4 2.6GHz, 14-core		Dual Intel® Xeon® processor E5-2630 v4 2.2GHz, 10-core	
Memory	256 GB		64GB (Object Only) - 128GB (Block I/O)	
Capacity	8.6 TB		96 TB	
SSDs	2.5" SATA 6Gb/s SSD, 960GB, Data (x9) 2.5" SATA 6Gb/s SSD, 240GB, Boot (x1)		2.5" SATA SSD MLC (x2)	
HDDs	-		3.5" SATA 7.2k HDD (x10)	
HBA Controller	AOC-S3008L-L8e or AOC-S3108L-H8IR			
Network Interface	AOC-STG-I2T (RJ45)	AOC-STGN-I2S (SFP+); AOC-E10GSFPSR (transceiver)	AOC-STG-I2T (RJ45)	AOC-STGN-I2S (SFP+); AOC-E10GSFPSR (transceiver)
Software	Ubuntu 14.04 CentOS 7.2 RHEL 7.2 NexentaEdge 1.1.0 or above			

Cluster Role	4U Storage Servers			
SRS SKUs	SRS-648R00-NE0T-00	SRS-648R00-NE0S-00	SRS-648R00-NE0T-00	SRS-648R00-NE0S-00
System SKUs	SYS-648R00-NE0T-00	SYS-648R00-NE0S-00	SYS-648R00-NE0T-00	SYS-648R00-NE0S-00
Form Factor	4U			
CPU	Dual Intel® Xeon® processor E5-2630 v4 2.2GHz, 10-core		Dual Intel® Xeon® processor E5-2660 v4 2.00GHz, 14-core	
Memory	128 GB		256 GB	
Capacity	288 TB		576 TB	
SSDs	2.5" SATA SSD MLC (x6)		2.5" SATA SSD MLC (x12)	
HDDs	3.5" SATA 7.2k HDD (x30)		3.5" SATA 7.2k HDD (x60)	
HBA Controller	AOC-S3008L-L8e or AOC-S3108L-H8IR			
Network Interface	AOC-STG-I2T (RJ45)	AOC-STGN-I2S (SFP+); AOC-E10GSFPSR (transceiver)	AOC-STG-I2T (RJ45)	AOC-STGN-I2S (SFP+); AOC-E10GSFPSR (transceiver)
Software	Ubuntu 14.04 CentOS 7.2 RHEL 7.2 NexentaEdge 1.1.0 or above			

- Memory, HDD and SSD configurations can vary depending on the form factor and workload profile
- 0s are defined based on the SSD brands and the quantity of nodes.
- Supermicro team will recommend the minimum quantity of nodes for clients according to the preferred replica method.
- For object storage only, SSDs can be substituted for HDDs to minimize the cost.

For More Information Please Visit www.supermicro.com/solutions/Supermicro_NexentaEdge.cfm