



All-SSD, High-Performance and Cluster-Wide Deduplication at Massive Scale

10X More IOPS (@75% Read, 8K, 100% Random) &
3X More IOPS (@100% Read, 8K 100% Random)
With iSCSI vs. Hybrid Configurations

Micron and Nexenta have formed a strategic collaboration, delivering all-SSD, block storage solutions — freeing IT from the scale and performance limitations of legacy designs. By leveraging the engineering expertise of both companies across high-performance enterprise SSDs, advanced DRAM and Nexenta® NexentaEdge™ scale-out block and object software-defined storage, Micron and Nexenta have enabled next-generation, all-flash block storage running on standard platforms powered by Micron M510DC enterprise SSDs and advanced DRAM. This compact, 5U cluster is designed specifically for OpenStack® clouds, active archives, container and big data infrastructure.

This all-SSD solution (collaboratively developed by Micron, Nexenta and Supermicro) is optimized for faster results and better value versus legacy solutions. It provides predictably high performance and value that makes it easy to deploy and manage.

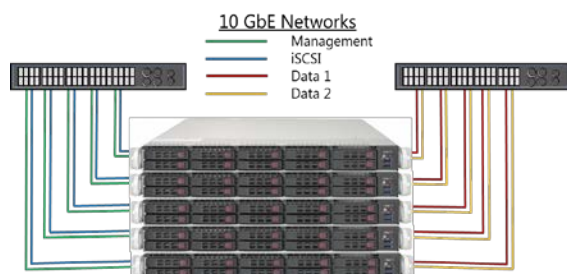


Figure 1: Micron and NexentaEdge Cluster Solution powered by Micron M510DC SSDs and advanced DRAM, NexentaEdge Software and Supermicro servers

Building the Future

What's Next in SSD Storage? Performance-Focused, Large-Scale Block and Object
Micron and Nexenta developed this tightly integrated, all-SSD solution through engineer-level collaboration, validating new concepts in software-defined, server-side SSD storage for next-generation block and object storage performance at scale.

SSD-Optimized Flexibility and Versatility

Enabling NexentaEdge with Micron's M510DC SSDs, this advanced, tightly integrated iSCSI solution offers the performance expected from state-of-the-art enterprise SSDs. With its SSD-optimized combination of flexibility, versatility and pre-engineered ease, this compact design is a high-value path to performance, flexibility, versatility and efficiency.

Scalable and Purpose-Built

Micron and Nexenta have collaboratively engineered massive, cost-effective scale from petabytes to exabytes, with class-leading performance and value — all running on Micron advanced DRAM and purpose-built M510DC SSDs.

Enabling All-Flash Data Centers Now

Micron and Nexenta are accelerating an easier, faster migration to the all-flash data center. Move your OpenStack® clouds, active archives, containers and big data infrastructure to this pre-engineered, tightly integrated all-SSD solution for outstanding results and better overall value.

Want to Learn More?

Visit www.micron.com/accelerated-solutions. Micron Accelerated Solutions provide customers with industry-leading solutions through collaborative engineering tuning that tightly integrates compute, networking and storage into a highly scalable platform.

Features of NexentaEdge Software

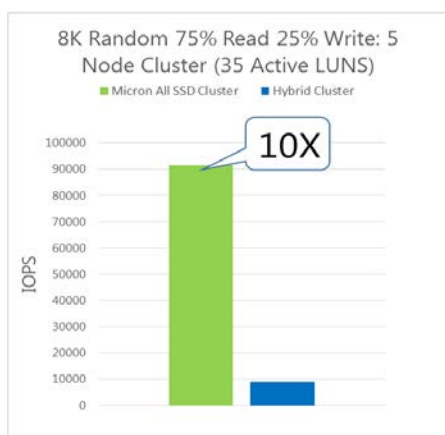
Key benefits, per the NexentaEdge data sheet:¹

- **Next-Generation Design:** Scale-out, shared-nothing architecture deployed on Linux standard x86 servers, multi-petabyte scale with low management overhead, fully distributed data and metadata management.
- **Data Protection and Optimizations:** Inline deduplication is performed on all data written across the entire cluster; variable size chunking ensures maximum capacity savings.
- **High Performance:** Small, random I/Os make NexentaEdge particularly adapted for large-scale virtual machine environments and transactional applications. The ability to enable high-performance data and metadata management and optimize data transfers and placement delivers faster responses and balanced performance required in today's enterprise.

How Micron Storage Solutions Deliver

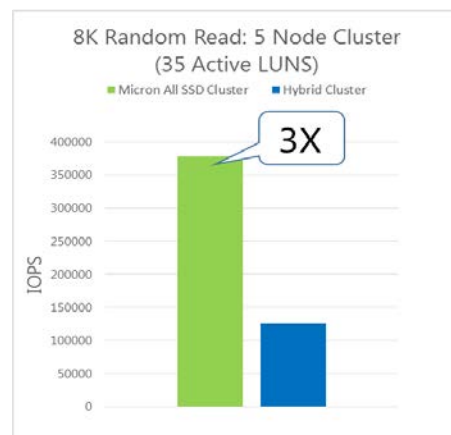
- **Optimized CPUs and DRAM:** This NexentaEdge solution offers a thoroughly pre-engineered balance among key elements for optimized performance and value.
- **Drive-Level Enhanced Data Protection:** Micron M510DC SSDs feature transparent, internal data protection features that add transparent data resiliency and seamless implementation while enabling full platform capability.
- **Reduced Command/Access Latency:** Firmware enhancements of the M510DC SSD help reduce data access times for better responsiveness and lower latency.

Micron NexentaEdge All-SSD Solution: 10X IOPS: 75% Read /25% Write, 3X IOPS 100% Read vs. Hybrid (iSCSI, 35 Active LUNS per node)²



- ✓ NexentaEdge scale-out software, all-SSD storage
- ✓ Micron M510DC enterprise-class performance SSDs
- ✓ Supermicro standard servers

35 Active LUNS: Key loading with which hybrid designs begin to show limitations in real-world capability
75% Read and 100% Read (both @8K 100% random): Common workloads for deployment targets



Micron and NexentaEdge Configuration³ Quick Reference

Configuration	5-Node Solution (10G SFP+)	Expansion Node (10G SFP+)	5-Node Solution (10G RJ45)	Expansion Node (10 G RJ45)
Part Number	SRS-128UMI-NE5S-01	SYS-128UMI-NE0S-01	SRS-128UMI-NE5T-01	SYS-128UMI-NE0T-01
Capacity	43TB Data Storage (5 nodes)	8.6TB Data Storage (per node)	43TB Data Storage (5 nodes)	8.6TB Data Storage (per node)
SSDs	Storage: HDS-2TM-MTFDDAK960MBP-16 (9 per node) Boot: HDS-2TM-MTFDDAK240MBP-16 (1 per node)		Storage: HDS-2TM-MTFDDAK960MBP-16 (x9 per node) Boot: HDS-2TM-MTFDDAK240MBP-16 (x1 per node)	
CPU	P4X-DPE5290V4SR2N2 (2 per node)		P4X-DPE5290V4SR2N2 (2 per node)	
Memory	MEM-DDR416L-CL03-ER24 (16 per node)		MEM-DDR416L-CL03-ER24 (16 per node)	
Controller	AOC-S3108L-H8iR-16DD (1 per node)		AOC-S3108L-H8iR-16DD (1 per node)	
Networking	AOC-STG-I2T (1 per node)		AOC-STGN-I2S (1 per node) AOC-E10GSFPR (1 per node)	

micron.com

Micron assumes no liability for lost, stolen or corrupted data arising from the use of any Micron products, including those products that incorporate any of the mentioned security features. Products are warranted only to meet Micron's production data sheet specifications. Products, programs and specifications are subject to change without notice. Dates are estimates only.
 ©2016 Micron Technology, Inc. Micron and the Micron logo are trademarks of Micron Technology, Inc. Nexenta, NexentaEdge and the Nexenta logo are trademarks of Nexenta Systems, Inc. OpenStack is a trademark of the OpenStack Foundation. All other trademarks are the property of their respective owners. All rights reserved.
 Rev. B 11/16 CCMMD-676576390-10496

1. Source: https://nexenta.com/sites/default/files/docs/resources/NexentaEdge_Datasheet.pdf
2. Different workloads may result in different performance values.
3. Hardware-only SKU numbers; Cluster consists of five nodes plus switches (not included), cabling; NexentaEdge software required, available for purchase (services also available for purchase).