

Micron® Accelerated All-Flash VMware vSAN™ 6.7 Solution



Performance, Scale, Simplicity and Budget Work Together at Last

Data-intensive businesses that thrive in today's environment move quickly, and data platforms must move quickly with them. Configuration planning is crucial. A platform with the most expensive hardware might mean overspending, whereas selecting the cheapest hardware possible may not meet your performance requirements.

Our newest vSAN 6.7 Reference Architecture (RA) targets a configuration based on VMware's AF-6 specifications that optimizes the key software and hardware elements to make vSAN easy to buy, build and grow.

Designed to provide up to 50K IOPS and at least 8TB of raw storage capacity per node, dual processors (at least 12 cores each), 256GB of memory, two disk groups per node and 10 Gb/E networking (minimum) enables the results you need today with the capacity and capability to manage tomorrow's growth.

RAs using technologies like our workload-specific SATA SSDs and advanced DRAM, in conjunction with standard 2U, 2-socket rack mount servers, multicore processors and state-of-the-art virtualization like VMware® vSAN™ help you build today with sights firmly set on tomorrow.

This solution (developed by Micron in collaboration with VMware) is designed for optimal results, affordability and value. It provides predictably high performance across multiple workloads while enabling the key features and capabilities of vSAN 6.7.

Cache SSDs:
SATA 2.5-inch
960GB (x2)



Capacity SSDs:
SATA 2.5-inch
3.84TB (x8)



Standard Server Platform:
Intel® CPUs (2U, 2-socket)

Key Features

Balanced All-Flash Performance

Micron's all-flash vSAN 6.7 solution with workload-specific SATA SSDs is optimized at the platform level for better results and better value.

Cache tier: Write-intensive SATA SSDs bring high IOPS, low latency and workload-tuned endurance to the vSAN cache tier to minimize latency and providing consistent, economical and fast cache throughput.

Capacity tier: Read-intensive SATA SSDs bring immense, virtualized platforms and their data closer to the most demanding applications. This all-SSD cache tier unlocks pent-up value — hybrid vSAN designs may be overwhelmed as your data grows.

Flexibility and Choice

Micron's lab-validated solution enables you to build with confidence and enable faster time to deployment with predictable results.

Easier Deployment

Micron's solution helps free your deployment teams from the drudgery of experimentation, testing and reconfiguration, enabling them to focus on higher-value tasks — like rapid deployment, faster time to value and building your bottom line.

Figure 1: Major Components: Micron SSDs, Standard 2U, 2-Socket Servers with Micron DRAM



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vSAN 6.7 Key Features and Capabilities

According to the VMware vSAN 6.7 data sheet, the following are achievable:¹

Reduced TCO: vSAN 6.7 stretches limited IT budgets by reducing total cost of ownership (TCO) by 50% through consolidation of core datacenter functions on to standard x86 hardware.

Deduplication and Compression: Software-based deduplication and compression optimizes all-flash storage capacity, providing as much as 7X data reduction.²

Scale for Tomorrow: Prepare for tomorrow's IT needs in the cross-cloud era with software-defined infrastructure that leverages the latest hardware technologies, supports next-gen applications and provides a stepping stone to the cloud.

Micron's Accelerated All-Flash Solution Delivers

Balanced CPUs, DRAM and Storage: Engineered and lab-tested by Micron experts in vSAN and platforms to optimize each node for memory and I/O-intensive applications, releasing the full potential of vSAN 6.7 in demanding large-scale, mixed-workload environments.

A Complete, Deployable Reference Architecture: The reference architecture linked below provides deployment and testing details for three compelling all-flash vSAN configurations: performance-optimized, density-optimized and balanced using the same combination of Micron SATA SSDs.

Faster Time to Happy Applications: Storage (SSDs and DRAM) can represent up to 70% of the value of today's advanced solutions. As a leading designer, manufacturer and supplier of advanced storage and memory technologies with extensive in-house software, application, workload and system design experience, Micron's Accelerated All-Flash solutions help you build and deploy faster with confidence.

Reference Configuration

Component	Details
Server platform	SYS-2029U-TR25M
Cache SSDs	Micron 5100 MAX (960GB, SATA)
Capacity SSDs	Micron 5200 ECO (3.84TB, SATA)
OS drive	Micron 5100 PRO (480GB, SATA)

Component	Details
CPU	Intel Xeon Gold 6142 2.60 GHz (x2)
Memory	32GB 2666 MHz ECC DDR4 (x12)
Networking	Mellanox ConnectX-4 Lx EN
Storage Controller (per node)	LSI 3108 SAS/SATA (x2)

Get Started with All-Flash vSAN 6.7

An all-flash vSAN can bring amazing benefits. Get started today by downloading our detailed [Reference Architecture](https://www.micron.com/resource-details/9bf40f56-3104-4204-ab02-39cd75474216) (<https://www.micron.com/resource-details/9bf40f56-3104-4204-ab02-39cd75474216>) and learn about the complete bill of materials, platform and disk group configuration, software tuning, performance measurements and deployment.

Visit Micron's [SATA SSD page](https://www.micron.com/products/solid-state-storage/bus-interfaces/sata-ssds#/) to learn more about complete product line of workload-optimized solid-state drives: <https://www.micron.com/products/solid-state-storage/bus-interfaces/sata-ssds#/>.

For more details on vSAN 6.7, visit [VMware's vSAN page](https://www.vmware.com/products/vsan.html): <https://www.vmware.com/products/vsan.html>.

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1. Source: <https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/products/vsan/vmware-vsan-datasheet.pdf>
2. Assumes deployment enables 7X data reduction; actual data reduction is dependent on several external factors.

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