

# Micron® VMware vSAN™ All-Flash HPE ProLiant DL380 Gen 10 Solution



## Powerful All-Flash Storage for Your Software-Defined, HPE Infrastructure

Data-intensive businesses that thrive in today's environment move quickly, and data platforms must move quickly with them. Technologies such as workload-tuned SSDs and advanced DRAM in conjunction with Enterprise servers, multicore processors and state-of-the-art virtualization like VMware® vSAN™ are chasing application lethargy out of the data center.

Many vSAN deployments are all-flash today, proving the need for high performance nodes to enable dense, cost-effective virtualized application environments. Like the standard AF-6 all-flash VMware vSAN Ready Node™ definition, this reference architecture combines Enterprise-grade, lightning-quick SATA SSDs in its cache tier with high-capacity, SATA SSDs in its capacity tier and advanced Micron® DRAM with HPE ProLiant DL380 Gen 10 2-socket rack-mount servers to balance compute, capacity, cost and performance with vSAN 6.6.

This reference architecture (developed by Micron in collaboration with VMware) is results and value oriented. It provides predictably high performance that's easy to deploy and manage while enabling the key features and capabilities of vSAN 6.6.

## Key Features

### Balanced All-Flash Performance

This all-flash vSAN reference architecture with SATA SSDs is optimized at the platform level for better results and better value.

**Cache tier 5100 MAX SSDs** bring high speed, low latency and endurance to the vSAN cache tier.

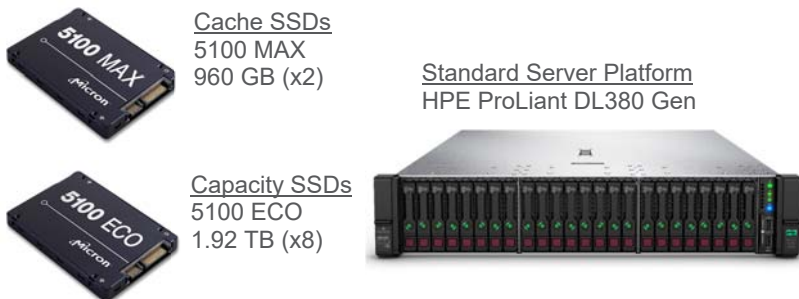
**Capacity tier 5100 ECO SSDs** tame the data deluge that can overwhelm the traditional IT infrastructure, tailored to meet the needs of read-intensive capacity deployments.

### Flexibility and Choice

Micron lab-validated reference architectures enable you to build with confidence, and enable faster time to deployment with predictable results.

### Easier Deployment

Micron Accelerated vSAN Reference Architecture 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: Reference Architecture Major Components:**  
Micron SATA SSDs and HPE ProLiant DL380 2U, 2-socket Servers (with Micron DRAM)



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## vSAN 6.6 Key Features and Capabilities

According to the VMware vSAN 6.6 data sheet, the following are achievable: <sup>1</sup>

**Flash-optimized:** vSAN 6.6 optimizations deliver up to 50% more IOPS than previously possible, deployed for over 50% less than the cost of competing hybrid hyper-converged solutions.

**Deduplication and Compression:** Software-based deduplication and compression optimizes all-flash storage capacity, providing as much as 7x data reduction.<sup>2</sup>

**Data Protection (Erasure Coding):** Increases usable storage capacity by up to 100% while keeping data resiliency unchanged.

**vSAN Encryption:** Native to vSAN, vSAN Encryption provides data-at-rest security at the cluster level, built for compliance requirements and offers simple key management.

## Reference Configuration

Component	Qty per Node	Part Number	Description
Server	1	868703-B21	HP ProLiant DL380 Gen 10
CPU	2	BX806736148	6148 Gold 20-core 2.40 GHz
Memory	12	MEM-DR432L-CL02-ER26	Micron 32GB DDR4-2666 MHz RDIMM ECC
Boot Drive	1	MTFDDAK480TCB-1AR1ZABYY	480GB Micron 5100 PRO
Cache SSD	2	MK000960GWEZK	Micron 5100 MAX SATA 960GB SSD
Capacity SSD	8	VK001920GWEZE	Micron 5100 ECO SATA 1920GB SSD
Networking (NIC)	1	631FLR-SFP28	Broadcom BCM57414 NetExtreme-E 25GbE Dual Port

## Get Started with All-Flash vSAN 6.6 Today!

An all-flash vSAN can bring amazing benefits. Download the Reference Architecture (<https://www.micron.com/resource-details/5eb5db47-1b79-43d0-b1f1-ad474bc13121>).

Visit Micron's SATA SSD page ([https://www.micron.com/products/solid-state-storage/bus-interfaces/sata-ssds#](https://www.micron.com/products/solid-state-storage/bus-interfaces/sata-ssds#/)) for our most recent SATA products for Enterprise and Personal computing.

VMware's vSAN page is loaded with details on vSAN 6.6 (<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-virtual-san-datasheet.pdf>  
2. Assumes deployment enables 7X data reduction; actual data reduction is dependent on several external factors.  
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.  
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## Micron Accelerated Storage Solution Reference Architecture Delivers

**Balanced CPUs, DRAM and Storage:** Engineered and lab-tested by Micron vSAN and platform experts to optimize each node for memory and IO-intensive applications, releasing the full potential of vSAN 6.6 in demanding mixed workload environments.

**A Complete, Deployable Reference Architecture:** The reference architecture linked below provides deployment and testing details for one of the most compelling vSAN configurations: a performance/cost-balanced all-flash vSAN-enabled VMware vSphere® cluster using a combination of Micron® SSDs.

**Faster Time to Productive Applications:** Storage (SSDs and DRAM) can represent a significant part 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, our reference architectures help you build and deploy faster with more confidence.

