



VMware vSAN with Horizon

Addressing Infrastructure Challenges for Desktop Transformation

At a Glance

VMware vSAN with Horizon® delivers native storage for virtual desktops and apps. With just a few clicks, IT administrators can provision this VMware vSphere®-embedded, enterprise-ready storage solution and begin managing it with familiar VMware vCenter tools. vSAN supercharges industry-standard x86 servers, and drives to create a high-performance, low-cost datastore for desktops and apps. It gives Horizon deployments granular, elastic storage capacity that grows without forklift upgrades. vSAN is included in VMware Horizon Enterprise and Horizon Advanced Editions.

Key Benefits

- Superior desktop and app performance at scale to improve user experience
- All-flash configurations to meet performance and cost goals
- Storage you set up in just a few clicks and manage with familiar vCenter tools
- Pay-as-you-grow affordability with granular scaling, letting you add storage performance and capacity in small, manageable increments
- Automated self-tuning that rebalances storage resources to align with desktop and application demand

Organizations are looking to desktop and app virtualization to achieve greater business agility and worker mobility. The transition from physical to virtual can seem overwhelming, however, when IT administrators consider the impact on their infrastructure. VMware vSAN solves the problems of storage cost and complexity by giving you an enterprise-class, storage virtualization software that you can enable with just a few clicks and grow affordably without large capital investments.

In physical desktops, storage is co-resident with the CPU, and every user has a local, dedicated disk. In virtual desktops and apps, however, hundreds or even thousands of users share storage that is separated from end-user devices and compute resources by distance and network. Given these conditions, IT must ensure that datacenter storage provides sufficiently high IOPS and sufficiently low latency to ensure a “just-like-physical” user experience.

Traditionally, IT departments purchase expensive, standalone storage systems to provide the performance and scale required for virtual desktops and apps. This approach requires large upfront capital investments, as well as many hours of IT time designing storage infrastructure and managing proprietary storage interfaces after installation. These architectures incur high ongoing operational costs, are difficult and expensive to scale, and may fall short of expectations when faced with the demands of virtual desktops and apps.

VMware vSAN with Horizon

vSAN is enterprise-class storage virtualization software that, when combined with vSphere, the market-leading hypervisor, allows you to manage compute and storage with a single platform. With vSAN, you can reduce the cost and complexity of traditional storage and take the easiest path to hyperconverged infrastructure and hybrid cloud.

With vSAN, storage is simple but powerful. Your IT team uses the same vCenter tools they already know to provision storage and manage automatic storage policies, making storage part of the normal VM-creation-and-management workflow.

HCI converges compute and storage resources on industry-standard x86 server and uses software to abstract and pool cluster resources with unified management software. Hyperconverged infrastructure transforms data centers by simplifying operations through automation, lowering TCO by leveraging industry standard servers and scaling incrementally.

“We placed our trust with regard to desktop virtualization in VMware vSAN, because it runs trouble-free, is cost-effective and has a high performance at the same time. “

RONALD SCHEER,
ORGANISATIONAL AND INFORMATION
TECHNOLOGY, CLIENT-SERVER OPERATION,
BERLINER STADTREINIGUNG

How does it work?

vSAN is native in the vSphere hypervisor and typically consumes less than 10% of the computing resources on each host. vSAN does not compete with other virtual machines for resources and the I/O path is shorter making it more efficient than solutions that rely on virtual appliances. A shorter I/O path and the absence of resource-intensive storage virtual appliances enables vSAN to provide excellent performance with minimal overhead. Higher virtual machine consolidation ratios translate into lower total costs of ownership. vSAN pools server-attached SSDs to create a distributed, shared datastore, providing a software-defined storage tier for virtual desktops and apps.

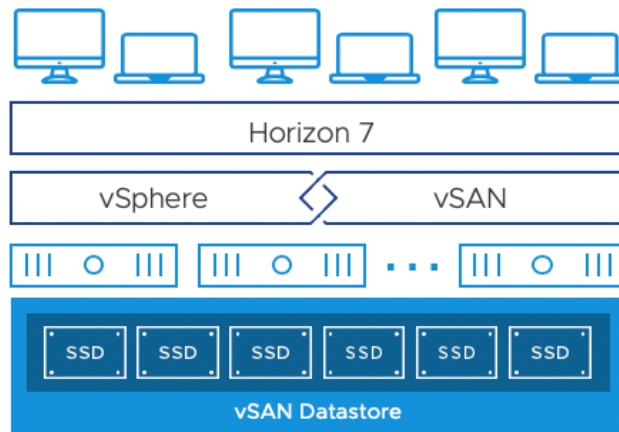


FIGURE 1: vSAN with Horizon Architecture

Superior Performance for a *Just-Like-Physical Experience*

vSAN delivers the storage performance critical to ensuring virtual desktops and apps meet the expectations of users accustomed to physical devices. vSAN is native in the vSphere hypervisor and gives you the highest level of performance without taxing the CPU with additional overhead like virtual storage appliances, which run separately on the hypervisor. In all-flash deployments, vSAN delivers up to 150K IOPS per host with consistent sub-millisecond response times. In hybrid deployments with flash and magnetic disks, vSAN delivers top-end performance out of industry-standard hardware by using SSDs for read caching/write buffering and HDDs for data persistence, balancing performance and cost requirements.

“Whenever we lost a node there was no impact on the user experience at all. That is completely amazing to me. If you’re concerned about data loss and recovery, I feel confident in saying that vSAN is a secure product.”

“Finally, we zeroed out the actual desktop computers, so they booted directly into our new Horizon cluster,” Hoffman says. Suddenly we had brand-new computers.”

MATT HOFFMAN EXECUTIVE DIRECTOR OF TECHNOLOGY, CLOVER SCHOOL DISTRICT

Time Savings Through Automation

vSAN simplifies storage management for desktops and apps by eliminating traditional, purpose-built storage systems and by letting IT use familiar vCenter tools rather than proprietary storage-management interfaces. vSAN integrates storage policies into the VM-creation workflow, ensuring each virtual desktop automatically has the type of storage it needs. There are no additional VMs or virtual appliances to install; you can enable vSAN with just a few clicks. vSAN lets you set automated storage policies at the VM level, allowing storage to self-tune and balance according to desktop and app demand.

Pay-As-You-Grow Affordability

vSAN provides a distributed architecture that allows for elastic, non-disruptive scaling. Both capacity and performance can be scaled at the same time by adding a new host to the cluster (scale-out) or can be scaled independently by adding new drives to existing hosts (scale-up, adding SSD for performance or HDD for capacity). This “grow-as-you-go” model provides predictable, linear scaling with affordable investments spread out over time. vSAN is included with Horizon Advanced and Horizon Enterprise Editions, giving you an easy path to greater desktop virtualization ROI and reduced TCO.

Lower CAPEX with Capacity-Saving Data Services

vSAN provides a rich set of data services to reduce the capacity utilized in the cluster, helping you get the most out of your infrastructure. VMware vSAN’s deduplication and compression and TRIM/UNMAP support can reduce capacity utilized by up to 80% and consolidate up to 200 VDI sessions per node. Because vSAN is uniquely native to vSphere, it can provide more consistent performance and greater consolidation than other HCI vendors.

Learn More

VMware vSAN Resources

- [vSAN Product Page](#)
- [Storage Hub](#)
- [Virtual Blocks Blog](#)
- [@vmwarevsan](#)

VMware Horizon Resources

- [Horizon 7 Product Page](#)
- [VMware End-User Computing Blog](#)
- [@vmwarehorizon](#)