VMware Virtual SAN
Radically Simple Hypervisor-Converged Storage

KEY BENEFITS

- Radically simple storage designed for virtual machines
- Hypervisor-converged storage software that creates a high-performance, persistent storage tier
- Significantly reduced TCO by up to 50 percent
- Integrated with VMware stack
- Flash-optimized architecture for compelling price/performance
- Low upfront investment; grow as you go with granular linear scaling of performance, capacity, and cost
- Rapid storage provisioning and automated, self-tuning ongoing management
- Single pane of glass management with vSphere
- Backed by VMware support and all major server OEMs

Virtual SAN
Clustered Datastore

What Is Virtual SAN?

VMware Virtual SAN is a new software-defined storage tier for VMware vSphere, bringing the benefits of the software-defined data center to storage. By clustering server hard disk and solid state drives (HDDs and SSDs), Virtual SAN creates a flash-optimized, highly resilient shared datastore designed for virtual environments.

Based on a hypervisor-converged distributed architecture embedded in the vSphere kernel, Virtual SAN can make optimal data placement and I/O optimizations. Because it sits directly in the I/O data path, the product is able to deliver the highest levels of performance, scalability, and resilience without taxing the CPU with additional overhead.

Virtual SAN also differs from other storage products in its policy-based approach to storage management. This management architecture enables administrators to specify storage attributes—such as capacity, performance, and availability—in the form of simple policies on a per-VM basis. These policies, governed by service-level agreements (SLAs), dynamically self-tune and load-balance the system so that each virtual machine has the right level of resources. The system can adapt to ongoing changes in workload conditions to ensure that each virtual machine has the storage resources it needs.

Virtual SAN distributed architecture leverages enterprise-grade SSDs for high-performance read/write caching and HDDs for cost-effective data persistence. Using server-side storage, Virtual SAN delivers unmatched price/performance compared to other Virtual Storage Appliances (VSA) or midrange hybrid arrays in the market today. The Virtual SAN datastore granularly scales up by adding more disks or scales out by adding more hosts, allowing users to configure the system to meet their needs flexibly.

Virtual SAN is simple and automates time-consuming manual storage tasks. Not only is Virtual SAN managed through the VMware vSphere® Web Client, but it also integrates with other VMware products such as VMware® vCenter™ Site Recovery Manager™ and VMware vCloud® Automation Center™. This integration makes provisioning and management of storage in virtual environments easy and seamless.

Key Features and Capabilities

Hypervisor-converged storage software – Virtual SAN is embedded in the vSphere kernel. This unique characteristic of Virtual SAN makes integration with vSphere seamless and enables best performance and scalability.
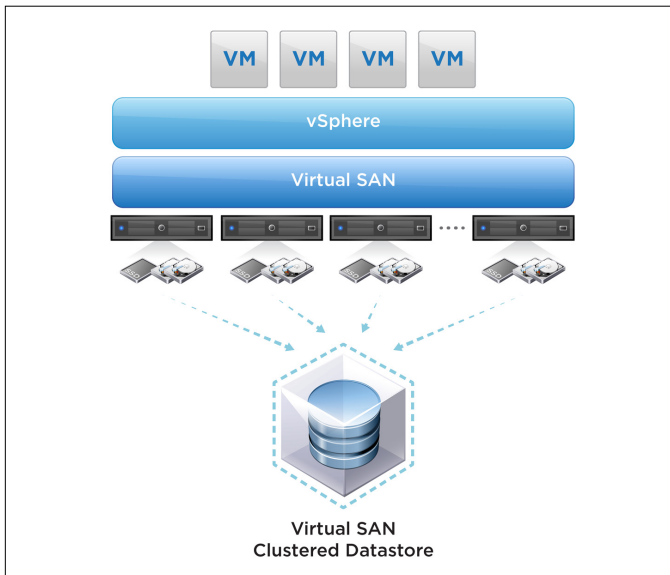
VM-centric policy-based management – Storage requirements are associated with individual virtual machines or virtual disks in the form of policy statements. Virtual SAN automatically translates these policy statements into system configurations to instantly provision storage with the right SLAs.

Server-side read/write caching – Virtual SAN minimizes storage latency by accelerating read/write disk I/O traffic with built-in caching on enterprise-grade server-side flash technology.

Built-in failure tolerance – Virtual SAN leverages distributed RAID and cache mirroring to ensure that data is never lost if a disk, host, or network fails.

Single pane of glass management with vSphere – Virtual SAN removes the need for training on specialized storage interfaces or the overhead of operating them. Provisioning is now as easy as two clicks.

Granular nondisruptive scale-up or scale-out – You can easily and nondisruptively expand the capacity of the Virtual SAN datastore by adding hosts to a cluster or disks to a host.

Hardware independence – Virtual SAN can be deployed on hardware from any server manufacturer. This gives you the flexibility to build out customized storage systems in heterogeneous hardware environments.

Interoperability with VMware stack – Virtual SAN leverages vSphere snapshots, vSphere clones, VMware vSphere® Data Protection™, and vSphere Replication for data protection, backup, rapid cloning, and disaster-recovery (DR) purposes. Virtual SAN interoperates with vCloud Automation Center and vCenter™ Operations Management Suite™ and can be deployed in conjunction with VMware® Horizon View™ in VDI environments and vCenter Site Recovery Manager in DR environments.

Benefits

Simple – Virtual SAN is the first policy-driven storage product that simplifies how storage is provisioned and managed. It gives you a new way to manage storage by automating many of today's manual tasks. The new model doesn't involve LUNs or RAID configurations and removes the need for manual adjustments.

High performance – By using server-side flash technology, Virtual SAN enables true server-side read/write caching. The solution optimizes the I/O data path to maximize throughput and minimize latency, and because it is embedded in the VMware® ESXi™ kernel, it is a truly unique solution that delivers better performance than a virtual appliance or an external device.

Lower TCO – Virtual SAN lowers TCO by up to 50 percent. Because it uses enterprise-grade HDDs and SSDs to create a converged and resilient SAN-like storage tier within the hypervisor, the price/performance value of Virtual SAN is unmatched by any other VSA or midrange hybrid array.

System Requirements

Hardware
Host

• 1GB NIC; 10GB NIC recommended

• SATA/SAS HBA or RAID controller

• At least one SSD and one HDD for each capacity-contributing node

Cluster

• Minimum cluster size: three hosts

Hardware Compatibility List

http://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsan

Software

• One of the following: vSphere 5.5 U1 (VMware vSphere® any edition or above), VMware vSphere® with Operations Management™ 5.5 U1 (any edition), or VMware vCloud® Suite 5.5 U1 (any edition)

• VMware® vCenter Server™ 5.5 U1

Learn More

For more information or to purchase VMware products, call 877- 4 -VMWARE (outside North America, +1-650 -427-5000), visit http://www.vmware.com/products, or search online for an authorized reseller. For detailed product specifications and system requirements, refer to the vSphere documentation.

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