



Datasheet

NetApp Virtual Storage Console for VMware vSphere

End-to-end storage management for VMware infrastructures

Key Benefits

- Simplify storage and data management for VMware environments by enabling administrators to directly manage storage through VMware vCenter
- Boost responsiveness with real-time discovery and reporting on storage health and usage
- Reduce storage costs with thin provisioning and block-level deduplication of datastores
- Improve provisioning and management results with built-in best practices and recommended settings

The Challenge

Data centers continue to virtualize their server and storage environments to realize the benefits of higher efficiencies and lower costs. However, this shift to virtualization creates new complexities, including the need for integration between those server and storage environments. Without real-time visibility into, and management of, storage health, utilization, and performance, server administrators must regularly coordinate with storage administrators to provision, configure, and optimize VMware datastores. This necessity impedes business agility, complicates management, and increases operating costs.

The Solution

NetApp® Virtual Storage Console (VSC) for VMware vSphere is a free¹ vSphere client plug-in. VSC fully integrates with VMware vCenter to provide end-to-end lifecycle management for virtual machines (VMs) in VMware environments that use NetApp storage systems. VSC provides visibility into the NetApp storage environment from within the vCenter console. VMware administrators can easily perform tasks that improve both server and storage efficiency while still using role-based access control to define what operations administrators can perform.

VSC leverages NetApp technologies to deliver comprehensive, centralized management of NetApp storage operations in both SAN- and NAS-based VMware virtual server and desktop infrastructures. These operations include discovery, health and capacity monitoring, and datastore provisioning. VSC results in tighter integration between storage and server environments, greatly simplifies virtualized storage management, and helps deliver excellent performance from virtualized storage environments. Once installed, VSC provides a view of the storage environment from a VMware administrator's perspective and optimizes storage and host configurations.

Centralized Management, Monitoring, and Host Configuration

For enhanced management efficiency in large-scale deployments, VSC allows VM administrators to manage multiple vCenter Server instances from a single vSphere web client. Administrators can centrally monitor and manage all NetApp storage systems through a single VSC web client from within the vCenter console, without requiring storage administrator intervention.

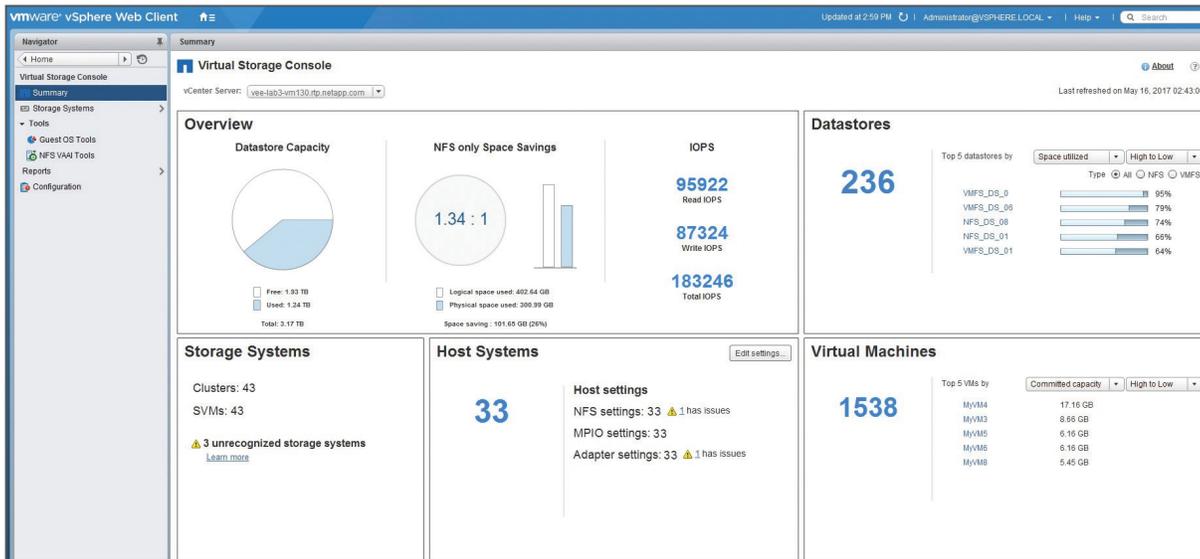


Figure 1) Dashboard view displays key indicators at a glance.

Storage utilization and health

VSC also enables viewing and management of all NetApp storage systems, including the mapping of physical to virtual resources, storage system status, and storage capacity information. This visibility reduces the time it takes to identify storage issues and proactively address problems. In addition, VMware administrators can instantly view utilization statistics for NetApp SAN- and NAS-based datastores at the volume, LUN, and aggregate levels, allowing them to make informed decisions about VM object placement. Data deduplication and thin provisioning are just some of the storage-saving technologies that make NetApp integration with vCenter valuable.

Performance dashboard

A key component of daily operations is keeping the virtual environment performing to application and user requirements. The VSC plug-in brings a dashboard view to help virtualization administrators quickly identify the status and performance of the storage resources. With this view, VM administrators are able to see which storage and host systems are available, and the status of the top five virtual machines and datastores. Each of the top five VM and datastore lists can be customized to display the key results that are relevant to the VM administrator. The datastore display can be sorted by utilization, IOPS, and latency results, and the VM display can be sorted by committed capacity, latency, and uptime by VM.

VMware storage settings

VMware administrators can easily view NetApp storage systems configured for use in the virtual infrastructure; identify the physical VMware ESX or ESXi hosts connected to each storage system; and verify that the host bus adapter (HBA) timeout, NFS tunable, and multipath configuration settings reflect NetApp best practices. If any hosts are out of compliance, administrators can select one or more hosts and execute an update to bring the settings back into compliance for optimal performance.

Unified appliance

Also included with the VSC installation package is the vStorage APIs for Storage Awareness (VASA) provider and Storage Replication Adapter (SRA) for VMware Site Recovery Manager. This approach to delivering a unified Linux appliance provides a single installation to deliver these three VMware implementation components. All three products can be configured independently, but the new unified appliance simplifies deploying and maintaining these key integration points to connect ONTAP storage with vSphere.

VASA and VVols

The VASA Provider for Clustered Data ONTAP® is an information pipeline between NetApp Clustered Data ONTAP storage systems and vCenter Server. This tool shares with vCenter information about storage and datastores, including storage configuration, health status, and capacity. This information allows VM administrators to make more intelligent storage decisions. The VASA provider is included in the unified appliance and can be used to introduce Storage Policy Based Management (SPBM) to the vCenter environment.

The capabilities of VSC with the integrated VASA Provider are expanded with the addition of VMware vSphere Virtual Volume (VVOL) support. In addition to storage capability profile management for both traditional and Virtual Volume datastores, the VASA Provider offers Virtual Volume management. Unlike traditional virtual disks, VVols are dynamically provisioned by the VASA Provider as distinct storage entities on the storage system, and all VVOL operations, such as snapshots, clones, and recovery, are off-loaded to the storage system. This approach results in enhanced efficiencies, new levels of automation and scalability, and simplified storage operations.

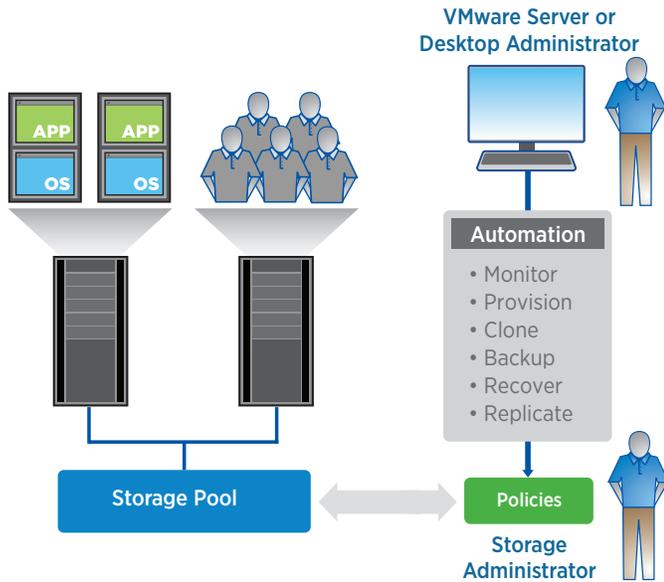


Figure 2) Empowering VMware administrators without affecting storage policies.

Fast, Space-Efficient Provisioning Efficient VM datastore provisioning

NetApp Virtual Storage Console provides nondisruptive, end-to-end datastore provisioning from within vCenter for NFS and VMFS datastores. When coupled with the NetApp VASA Provider, VSC can provision datastores that match a predefined service-level objective (SLO). Datastores can be quickly and easily provisioned to ESX and ESXi hosts, clusters, or entire data centers, or resized and deleted. In addition, policies can be set to automatically grow datastores to meet rapidly changing business requirements.²

Storage policy-based management

As a key element of the VMware Software-Defined Data Center, Storage Policy-Based Management (SPBM) allows VM administrators to reduce some of the initial storage provisioning challenges. By creating various storage policies that define storage characteristics such as performance, encryption state, and data protection availability, new virtual machines can be provisioned to use the storage that matches the needs of the application.

With SPBM, the use of standard storage profiles optimizes the process of provisioning at scale, eliminating the need to provision each virtual machine individually. When policies are defined and matched to Virtual Volumes, it is possible to provision more granular storage resources to each virtual disk aligned by policy for the data type. This capability brings virtualization administrators closer to “zero-touch” storage management, minimizing the level of storage platform knowledge necessary to align storage resources to the virtual machine.

Get More out of ONTAP for VMware with Virtual Storage Console

VMware administrators are looking to get the most out of their hardware platforms to support the requirements of their virtual machines. By using NetApp Virtual Storage Console, administrators with storage using NetApp ONTAP® can get visibility into the storage environment from within the vCenter console. VMware administrators can easily identify the status of virtual machines and datastores, respond directly to storage from the vCenter Web Client, and perform tasks that improve storage efficiency for their virtual machines.

System Requirements

NetApp Virtual Storage Console 7.0 requirements

- VMware ESXi/vCenter Server 6.0U3 or later
- NetApp Data ONTAP ESXi/vCenter ONTAP 8.3 or later

For the most current system requirements and free software download, see the NetApp Virtual Storage Console for VMware vSphere Interoperability Matrix Tool.

2. The ability to automatically shrink datastore size is currently available for NFS environments only.

About NetApp

NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation and optimize their operations. For more information, visit www.netapp.com. #DataDriven