

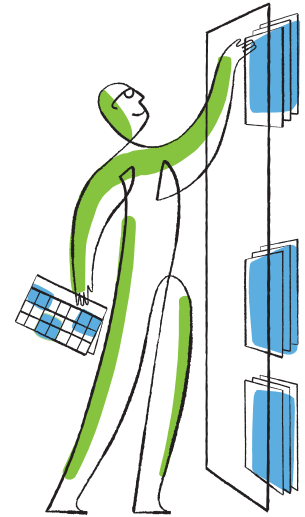


NetApp®

Datasheet

NetApp Virtual Storage Console 2.0 for Citrix XenServer

Manage storage directly from Citrix XenCenter



KEY BENEFITS

- Improve IT efficiencies by enabling Citrix administrators to manage storage for XenServer and XenDesktop directly from XenCenter, including NetApp® systems running clustered Data ONTAP®.
- Reduce storage costs with thin provisioning and deduplication of NAS and SAN storage repositories.
- Adapt quickly to changing business needs by provisioning and cloning thousands of virtual machines in minutes.
- Improve planning and responsiveness with storage discovery and utilization reports.
- Reduce risk through role-based access control (RBAC) and built-in compliance checks with Citrix and NetApp storage best practices.

The Challenge

Administrative dependencies limit productivity

Enterprise IT departments continue their shift toward virtualized data centers and the promise of higher efficiencies with lower costs. Unfortunately, the transition to virtual servers and desktops often leads to a simultaneous increase in storage growth and complexity.

Because a virtual machine (VM) is essentially a set of storage files, the traditional boundaries between servers and storage are now less clear. Consequently, administrators of virtual infrastructures spend more time on storage operations. However, relying on storage administrators to provision, configure, and optimize storage for XenServer and XenDesktop requires ongoing coordination and consumes valuable time. Although Citrix XenCenter is a powerful tool for managing virtual servers and desktops, Citrix administrators also need a way to manage the associated storage with ease and efficiency.

Inefficient provisioning and cloning of virtual machines

Sophisticated IT professionals understand that the ability to deploy resources dynamically is required to respond quickly to changing business

needs. Virtual machine cloning is an increasingly effective and popular means of accelerating deployments. However, typical cloning methods can be expensive, inefficient, and slow because they require full copies of VMs and time-consuming script development to integrate cloning processes with storage solutions.

The NetApp Solution

NetApp offers storage solutions that are tightly integrated with Citrix technology to simplify storage management and reduce costs in virtualized environments. An example of this deep integration is the NetApp Virtual Storage Console (VSC) for Citrix XenServer.

VSC for XenServer is a plug-in for XenCenter that provides information to proactively manage NetApp storage, including storage discovery and usage statistics. It also provides active management capabilities, including provisioning, deduplication, resizing, and destruction of storage repositories. VSC for XenServer supports dynamic virtualized infrastructures, enabling Citrix administrators to deploy thousands of VMs in minutes while consuming only a small amount of storage.

Empowering Citrix Administrators

All VSC for XenServer capabilities are integrated into the XenCenter frame-

work, providing your Citrix administrators with tools to improve server, desktop, and storage visibility and efficiencies directly from the XenCenter interface.

Discover and configure NetApp storage and hosts

The Virtual Storage Console makes it easy for Citrix administrators using XenCenter to discover NetApp storage and manage and configure host settings. They can easily identify the physical hosts connected to each NetApp controller and apply best practice settings for SAN protocols (FC and iSCSI)¹. To simplify deployments, administrators can specify the network interfaces as well as the storage aggregates that should be used every time a new storage repository is created. VSC for XenServer also supports the NetApp clustered Data ONTAP operating system², which enables you to view and manage all nodes in a NetApp cluster from a single console.

Understand storage utilization

Your Citrix administrators can use VSC for XenServer to instantly view utilization reports for SAN- and NAS-based storage at the volume, LUN, and storage repository layers, ending at the NetApp aggregate, a collection of RAID-protected disks. Disk space savings—often 50% or more—from NetApp storage efficiency technologies such as data deduplication, thin provisioning, and thin cloning are available for each storage repository. These technologies and reports help improve forecast accuracy and capacity planning.

VM and storage lifecycle management

Simplify storage deployment and administration for your XenServer and XenDesktop environments. Using VSC for XenServer, your Citrix administrators can create, configure, provision, manage, and destroy individual VMs or entire storage repositories directly from XenCenter by using resources and interfaces assigned by the storage administrator.

Storage repositories can be provisioned to individual XenServer hosts or to entire

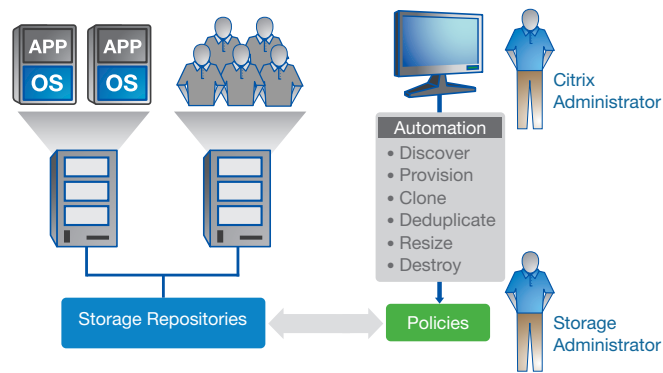


Figure 1) Empowering Citrix administrators without affecting storage policies.

pools from XenCenter with a management wizard. You can also set policies that automatically grow or shrink³ your repositories to meet rapidly changing business requirements.

Fast, Space-Efficient Cloning

VSC for XenServer provides extremely fast, cost-effective VM provisioning and cloning using NetApp FlexClone[®] technology.⁴ Citrix administrators can create thousands of VMs in minutes without custom scripts or storage administrator assistance.

Our block-level deduplication for primary storage can also dramatically reduce storage requirements for virtual servers and desktops because it eliminates much of the data in virtual hard disk files, which in many cases are nearly identical.

Role-Based Access Control

While Citrix administrators gain new management capabilities with VSC, the storage administrator retains ownership and control of storage policies. VSC for XenServer also supports RBAC, which provides appropriate access to various administrator-driven operations.

Built-In Best Practices

VSC for XenServer further reduces risk through built-in compliance with Citrix and NetApp best practices. For starters, our VSC plug-in reduces the potential for errors associated with command line interfaces because the right sequence of programmatic commands and parameters is coded into the VSC software. Your

administrators can also apply NetApp best practices for running virtual servers on storage, including recommended settings for multipathing and iSCSI.

Enabling Cloud Computing

VSC supports secure multi-tenancy, so you can provision and manage VMs in multi-tenant cloud environments. Whether you're an end customer, service provider, or cloud provider, you can administer partitions of shared application, compute, and NetApp storage resources (Vservers) from within the XenCenter framework, maintaining desired service levels and security for each tenant.

Note: The Virtual Storage Console 2.0 for XenServer is available for download at no charge to all NetApp customers. However, there is a licensing fee for the FlexClone feature.

1. VSC 2.0 for XenServer supports the application of best practice settings for SAN protocols only.
2. VSC 2.0 for XenServer supports clustered Data ONTAP for NFS environments only.
3. Only NFS storage repositories can be resized using VSC 2.0 for XenServer.
4. At this time, VSC 2.0 for XenServer supports cloning only in NFS environments.

About NetApp

NetApp creates innovative storage and data management solutions that deliver outstanding cost efficiency and accelerate business breakthroughs. Discover our passion for helping companies around the world go further, faster at www.netapp.com.

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