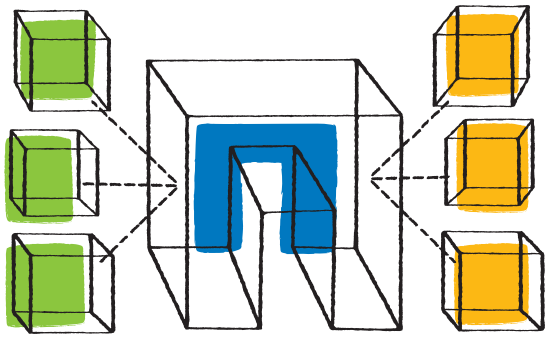

Datasheet

SnapManager for Hyper-V

Speed backup and recovery while simplifying management with automated data protection for Microsoft virtualized environments

KEY BENEFITS

Fast Backups and Restores
Back up with automated, low-impact, policy-based data protection.

Simplified Disaster Recovery
Automate remote replication for streamlined disaster recovery.

Reduced Storage Costs
Deploy space-efficient backup and cloning, data deduplication, and volume thin provisioning to reduce storage costs for your Microsoft® virtualized environment.

Nondisruptive Operations
Maintain operations during storage infrastructure maintenance and upgrades and easily scale storage without taking systems offline.

Microsoft Partner Network

2012 PARTNER OF THE YEAR
Private Cloud Partner of the Year
Winner

Microsoft Partner

Gold Data Platform
Gold Application Development
Gold Collaboration and Content
Silver Server Platform
Silver Hosting
Silver Management and Virtualization

The Challenge

Support virtualization growth while reducing storage costs

The scope, scale, and complexity of today's data-driven world create new demands in the data center. Virtualization is helping many organizations by consolidating numerous physical servers, but this results in increased demands on your storage environment. While backup and disaster recovery processes tax servers already burdened with the demands of numerous virtual machines (VMs), backup and disaster recovery policies must protect data as VMs migrate from one physical server to another.

To resolve these issues, you can run expensive, labor-intensive scripts along with your standard backup processes. Unfortunately, this approach often requires more CPU cycles and uses more I/O bandwidth than might be available on a given server.

A better approach is to shift the backup load from the servers onto an agile data infrastructure that utilizes hardware-based snapshots that efficiently and reliably serve your Windows Server® 2012 data while reducing management costs.

The Solution

NetApp SnapManager for Hyper-V

With a NetApp® storage infrastructure, including NetApp SnapManager® for Hyper-V™ software, you can maximize the benefits of virtualization and achieve greater storage consolidation and efficiency. You can also improve data protection through intelligent management and nondisruptive operations. NetApp, Microsoft's 2012 Private Cloud Partner of the Year, complements Microsoft VMs by virtualizing the underlying storage environment, consolidating hardware, and providing the same efficiencies for storage that Hyper-V does for servers.

By consolidating Hyper-V environments onto NetApp storage, you have the flexibility of an iSCSI, Fibre Channel, and FCoE SAN infrastructure as well as SMB 3.0 support for deployment simplicity and scale in a NAS environment. With NetApp FlexClone® software, administrators can easily clone VMs or virtual hard drives with virtually no storage footprint.

SnapManager is tightly integrated with and leverages Microsoft technology to help you streamline storage management by delivering

"You can greatly simplify management of your Microsoft virtualized environment by using the automated data management features in SnapManager to achieve policy-based storage provisioning, efficiency, and data protection."

automated policy-based data protection while simplifying backup and restore operations for your Microsoft virtualized environment. SnapManager enables you to perform rapid backups and restores and to establish backup policies that follow VMs as they migrate within the cluster. With SnapManager, you get an industry-leading combination of availability, scalability, and reliability for Microsoft virtualized environments, which you can extend to a private cloud environment as dictated by business requirements.

Improve VM performance

SnapManager supports VHDx, the new Hyper-V virtual hard disk format in Windows Server 2012, so you can maintain proper alignment and configuration of dynamic virtual hard disks. This enables you to benefit from the storage efficiency of dynamic VHDx files while maintaining the performance typically available only through static virtual hard disks. Further, NetApp support for SMB 3.0 and ODX means you can deploy VMs in simple to maintain NAS storage for many of your Microsoft storage needs. As a result, you can achieve greater flexibility and cross-platform scalability for your Hyper-V environments.

Increase productivity, reduce risk

Using a single, intuitive interface, you can schedule and automate backups for your entire Microsoft virtual environment. SnapManager enables you to group VMs and apply standard backup policies across complete groups. As new VMs are deployed, they are automatically identified within the SnapManager dashboard, and any VMs without a backup policy are flagged, so you don't unintentionally leave VMs unprotected.

Achieve nondisruptive operations

With NetApp storage systems and SnapManager, you can easily scale storage and expand volumes without taking storage systems offline. SnapManager support for clustered Data ONTAP® software enables nondisruptive operations during your infrastructure maintenance and upgrades, with seamless cluster failover capabilities in the storage subsystem. Clustered Data ONTAP Continuous Availability shares enable nondisruptive operations for VMs supported on SMB 3.0 NAS environments. This enables you to keep pace with your company's growing storage needs without disrupting VM availability.

Achieve intelligent management

You can greatly simplify managing your Microsoft virtualized environment by using the automated data management features in SnapManager to increase efficiency and data protection. In addition, you have the flexibility to customize and automate workflows through over 1,200 NetApp-delivered Windows PowerShell™ 2.0 cmdlets, OnCommand® plug-in for Microsoft (OCPM) rapid provisioning cmdlets, as well as the System Center Orchestration Integration Pack. The OnCommand PowerShell Toolkit and OCPM are separate NetApp products that are available free of charge and allow you to harness the power of private cloud with monitoring, automation, and self-service capabilities. We make it easy for you to deploy, manage and protect data within Microsoft VMs across your entire enterprise.

Protect more data

Eliminate exposure to data loss by performing frequent backups with our fast Snapshot™ technology.

SnapManager leverages this unique technology to off-load backups from host servers to the NetApp storage system and eliminate backup

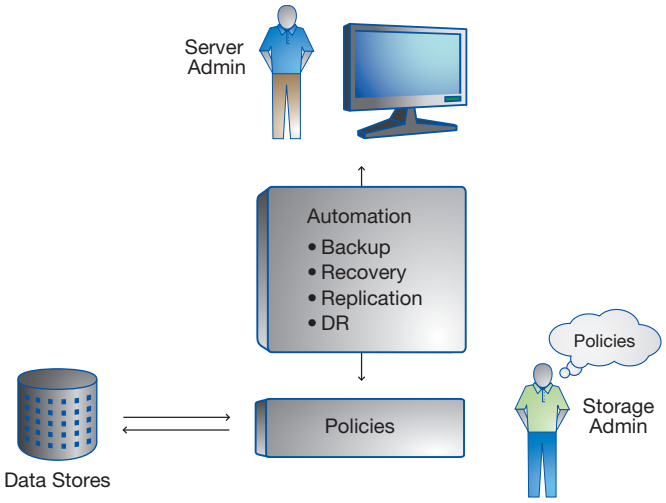

Figure 1) SnapManager for Hyper-V.

bottlenecks. Through our support for Windows Server 2012 Distributed Backup, you can achieve up to five times faster application-consistent backups and up to two times faster crash-consistent backups of your VMs and datasets over that of previous versions of SnapManager and Windows Server 2008 R2. With a crash-consistent backup that captures a snapshot of the VM the moment before a crash would have occurred, you can back up hundreds of VMs in minutes compared with an application-consistent backup that would take hours to complete. This dramatically reduces backup windows and enables you to make more frequent backups, minimize incremental disk space, and meet a very aggressive SLA. Up to 254 Snapshot copies can be kept online at any one time with negligible performance impact.

Reduce recovery time

Recovery of VMs is quick and easy with SnapManager. You choose the backup copy to restore and recovery happens within minutes. Since SnapManager uses VSS integration, it can create backups that are Microsoft application aware, that is, application-consistent backups. This moves all data out of memory and onto disk before a Snapshot copy is performed, enabling the application backups to be recorded in a consistent state. The backup process covers the application binaries, the logs, and the application data, which in turn enable the restores to be that much faster as well as return to a known state. Likewise, crash-consistent backups can be performed with the Snapshot copy so that a block-level snapshot of the disk volume at a specific point in time is achieved.

Simplify disaster recovery

SnapManager also streamlines remote replication to enable automated rapid disaster recovery. When deployed in conjunction with NetApp SnapMirror® technology, replication from the primary system to the disaster recovery site can be automatically triggered immediately following a Snapshot backup. Our support for the Service Witness Protocol in conjunction with SMB 3.0 Continuous Availability shares enables faster, nondisruptive failovers by detecting when the controller is down so the SMB connection can fail over quickly enough to be nondisruptive to applications and users. The Snapshot copy at the disaster recovery site can be rapidly promoted to a production copy in the event of a disaster.

Partner for success

NetApp Professional Services for Microsoft applications offers a wide range of services, including virtualized environment design and implementation on the NetApp storage platform, disaster recovery, and high availability, as well as data migration to help customers achieve a successful deployment. To meet your interoperability and performance needs, we collaborate closely with Microsoft on key product integration efforts, including performance testing, product validation, and joint development. Service engagements are delivered through NetApp Global Support in combination with a global partner ecosystem.

For more information about NetApp Microsoft solutions, go to *www.netapp.com/microsoftsolutions*.

System Requirements

NetApp SnapManager 2.0 for Hyper-V supports:

- Microsoft Windows Server 2008 R2 or 2008 R2 SP1 or 2012, Standard Edition, Enterprise Edition, or Datacenter Edition
- Microsoft Windows PowerShell 2.0
- x86, x64, and IA64 platforms
- iSCSI, FC, and FCoE SAN protocols
- Microsoft Management Console
- NetApp SnapDrive® for Windows® v6.4.1 or later, v6.5 or later for VHDx and Windows Server 2012 support
- NetApp SnapRestore® software
- Data ONTAP v7.2.7 or later, v8.1.2 or later for clustered Data ONTAP support, v8.2 or later for SMB 3.0 and ODX support
- Windows Guest OS on Microsoft Windows Server 2008 R2 or Microsoft Windows Server 2012

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*.

Go further, faster®

NetApp

www.netapp.com

Follow us on: