Datasheet

NetApp OnCommand Shift

Migrate between VMware ESX/ESXi and Microsoft Hyper-V platforms with fast and easy VM conversions

Key Benefits

Cost Reduction

- Reduce virtualization costs with data portability and platform choice.
- Balance the mix of hypervisor platforms to make your IT budget go further.

Speed and Efficiency

- Migrate data from VMware vSphere ESXi or Microsoft Windows Server Hyper-V platforms in an automated, near-zero-touch manner that minimizes downtime.
- Convert virtual machines (VMs) from one hypervisor platform to another in minutes, not hours, regardless of VM size.

Agility and Simplicity

- Break down VM migration barriers with a simple, bidirectional, and automated solution.
- Enable multihypervisor deployments to optimize dev/test, production, and remote environments.

The Challenge: Hypervisor Migration

The burgeoning demands of today's modern enterprise are greatly increasing the pressure on IT organizations to look beyond virtualization to the benefits of private cloud computing for cost reductions, agility, efficiency, and scalability. Private cloud environments elevate the business advantages of virtualization and shared infrastructure to new heights. Leaders in the private cloud and virtualization markets, such as Microsoft and VMware, offer organizations choice in deploying and investing in the features they need. In addition, many IT organizations see the benefits of a flexible, multihypervisor environment. For example, one hypervisor might be used in dev/test, while another might be used in production or remote environments. However, such an arrangement is unworkable unless a viable solution exists to easily and efficiently convert VMs from one environment to another.

Depending on the virtualization or private cloud platform of choice, migrating from VMware vSphere ESXi to Microsoft Windows Server Hyper-V or vice versa can be a complex, costly, and time-consuming process. Available migration tools are expensive, offer limited functionality, and force the organization to shut down the virtualized environment for prolonged periods of time. This situation is unacceptable in most cases, especially with production application migrations.

The Solution: NetApp OnCommand Shift

NetApp® OnCommand® Shift software helps enterprises remove costly barriers to data center transformation with fast and efficient migrations across virtualized platforms. OnCommand Shift provides complete end-to-end conversion of VMs from VMware vSphere ESXi to Microsoft Windows Server Hyper-V or vice versa. The near-zero-touch solution minimizes downtime while reducing hypervisor migration costs.

With OnCommand Shift conversions from ESXi to Hyper-V, the flat VMware disk file is efficiently cloned into a virtual hard disk with headers and metadata. A VMware disk on an NFS datastore can be shifted to a virtual hard disk in seconds, as shown in Figure 1. The conversion efficiency occurs because OnCommand Shift writes only the differences in the file format and not the contents of the virtual disk.

OnCommand Shift collects and stores all VM information, takes backups of VMs and network/disk settings before any conversion takes place, and removes hypervisor integration tools (for example, VMware tools) if necessary. It converts VMs quickly and restores network interface controller configurations and VLAN settings.

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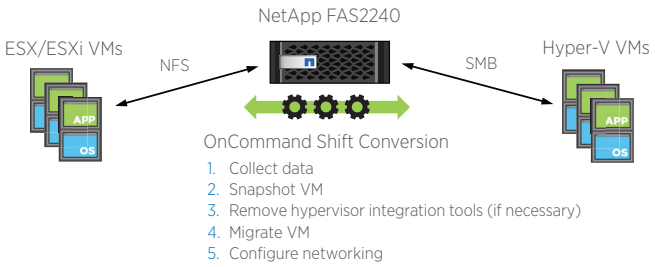
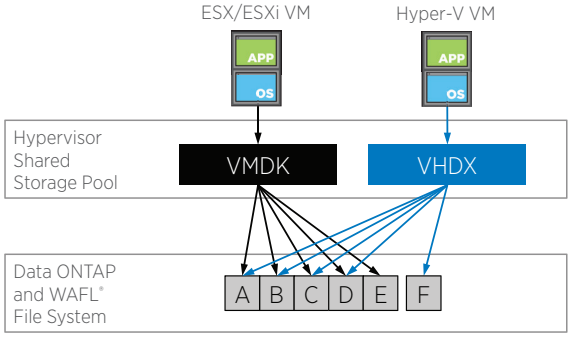


Figure 1) OnCommand Shift provides end-to-end conversion of VMs between VMware ESX/ESXi and Microsoft Hyper-V



FlexClone-powered, no data copy or import

Figure 2) OnCommand Shift creates a virtual copy of the VMDK consisting of pointers to existing data blocks. The software then clones the data from the VMDK into a VHD or VHDX, or vice versa if it is converting from VHD or VHDX to VMDK.

Save time and money

OnCommand Shift is a cost-effective VM conversion tool that reduces hypervisor migration efforts and costs by providing the organization with complete data portability and platform choice. The software eliminates the need to purchase additional storage or to assign added personnel or data center resources. With OnCommand Shift, the IT organization can easily balance the mix of hypervisor platforms as needed to optimize VM licensing costs and extend existing IT budgets.

Minimize downtime

OnCommand Shift is an efficient, near-zero-touch solution that minimizes downtime. Unlike other conversion tools that force extended downtime, OnCommand Shift converts VMs from ESXi to Hyper-V or from Hyper-V to ESXi in just minutes, regardless of VM size. Bulk VM conversions are further streamlined with multiple workflow engine integrations by applying the OnCommand Shift PowerShell module.

How OnCommand Shift works

With other VM migration tools, the VMs must first be copied from the location where the hypervisor datastore resides onto a platform that can perform the conversion. At that point, the VMs can be written to the new hypervisor destination. This process involves two full moves of each entire VM. The time required for such a conversion can be hours or days, depending on the network speed and other considerations.

OnCommand Shift solves this complex problem by eliminating the need to copy the data. In the case of an ESXi-to-Hyper-V conversion, OnCommand Shift uses NetApp FlexClone® technology to create a virtual copy of the VMware disk (VMDK). This disk consists of pointers to existing data blocks, as shown in Figure 2. OnCommand Shift simply clones the data from the VMDK into a VHD or VHDX file, writing the appropriate metadata as it goes. The resulting VHD or VHDX file takes up practically no extra space on the disk.

System Requirements

Hardware requirements

- A NetApp FAS2240 controller or higher
  - NetApp clustered Data ONTAP® 8.2.1 or later software
  - NFS and CIFS/SMB licensed on the controller
- A physical or virtual server to control the overall conversion workflow and convert VMs
  - 2 vCPUs
  - 4GB RAM
  - Application: 250MB free disk space
  - Conversion storage: 250GB (minimum), 500GB (preferred) free disk space

Software requirements

- Data ONTAP PowerShell Toolkit version 3.0.1 or higher
- PowerCLI 5.1 or higher
- Microsoft Hyper-V PowerShell cmdlets
- Microsoft .NET Framework 3.5

Supported VMware ESX/ESXi configurations

- ESXi server 5.0, 5.1, 5.5, 6.0

Supported Microsoft Hyper-V configurations

- Windows Server 2008 R2 Hyper-V
- Windows Server 2012 Hyper-V
- Windows Server 2012 R2 Hyper-V

About NetApp

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.

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