Backup Hyper-V Virtual Machine Using VSS Provider on DPM 2012

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Introduction

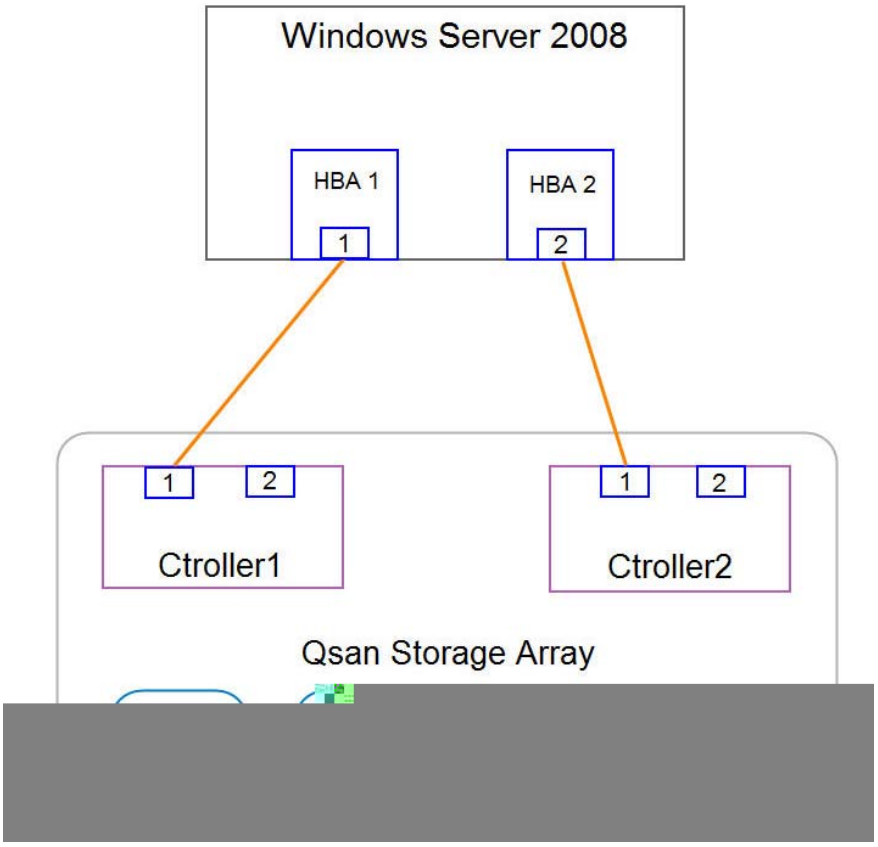
This document introduces how to backup the Virtual Machine on standalone Hyper-V server or CVS (Cluster Shared Volumes) on Hyper-V cluster on Data Protection Manager (DPM) which is a component of Microsoft System Center 2012.

Environment

Host OS	Windows Server 2008 R2
DPM	DPM 2012 RC in System Center 2012 RC
HW VSS provider	Qsan Hardware VSS provider 1.0
Installer	Qsan Storage Service 2.0.2
Qsan System	Qsan F300Q-D316
Firmware	2.2.1

Diagram

The diagram of the standalone Hyper-V server:



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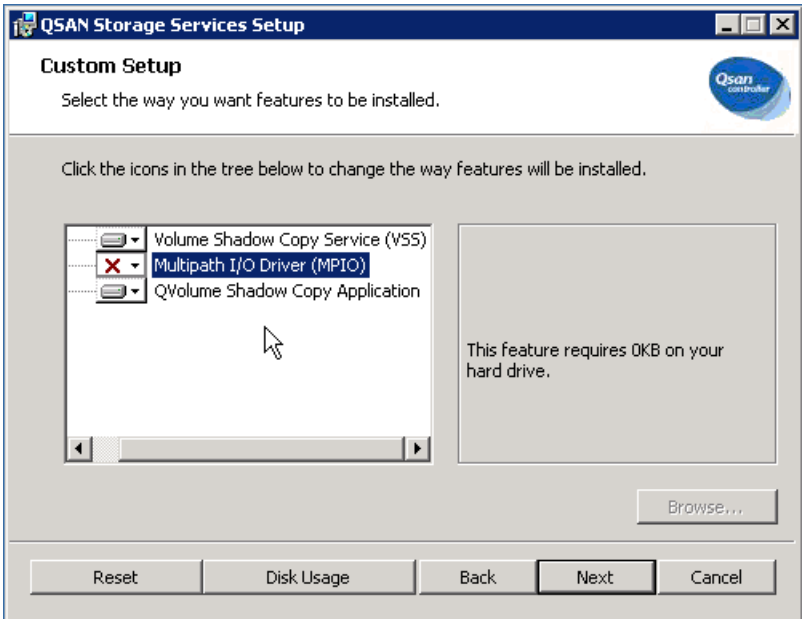
About the MPIO Support

The Multipath I/O is natively supported in Windows Server 2008. Although the MIPO driver is also available in the Qsan Storage Service installer, we strongly recommend using the Multipath I/O in the Windows Server 2008 instead of the Qsan MPIO driver.

Install the Qsan VSS Hardware Provider

It's necessary to install the Qsan VSS hardware provider for the Hyper-V server. The Qsan VSS hardware provider is included in the Qsan Storage Service installer.

1. Run the Qsan Storage Service installer on the Hyper-V server which you want to backup with the DPM. It's enough to install the **Volume Shadow Copy Service (VSS)**. The **Multipath I/O driver (MPIO)** won't be selected in Windows Server 2008. The QVolume Shadow Copy application is a small client tool used to test whether the VSS is installed properly or not, it is optional.



2. A reboot is necessary after the installation. To check whether the Qsan VSS hardware provider is installed properly, you can use the command "vssadmin list providers" in command prompt to list providers on the host.

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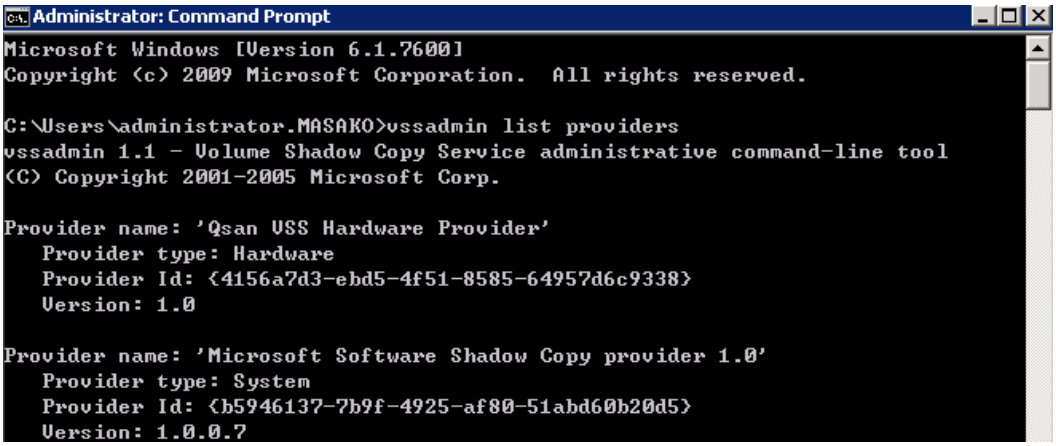
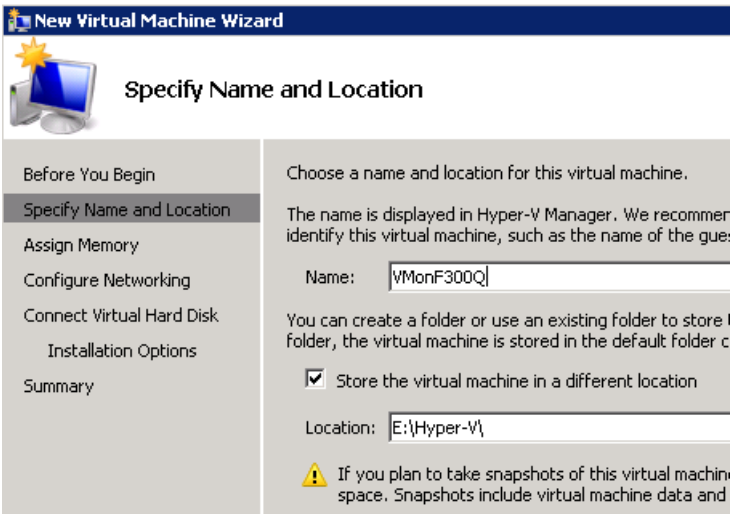
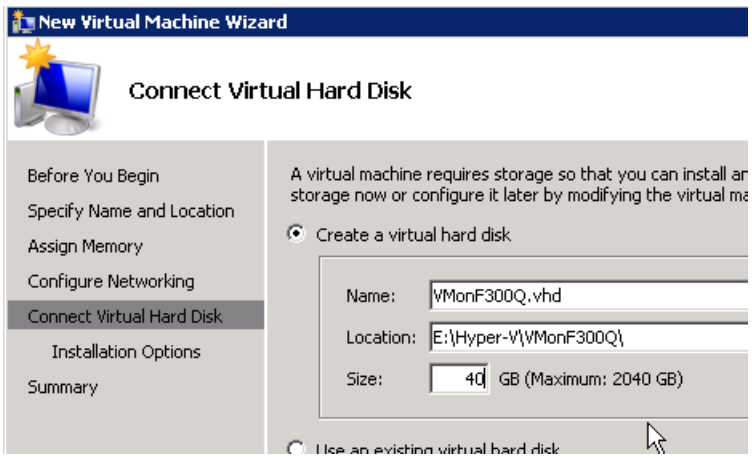


Backup the VM on Standalone Hyper-V Server

1. The drive letter e:\ is a volume on the Qsan F300Q. The VM has been created on the volume to support the backup with Qsan VSS hardware provider on DPM.





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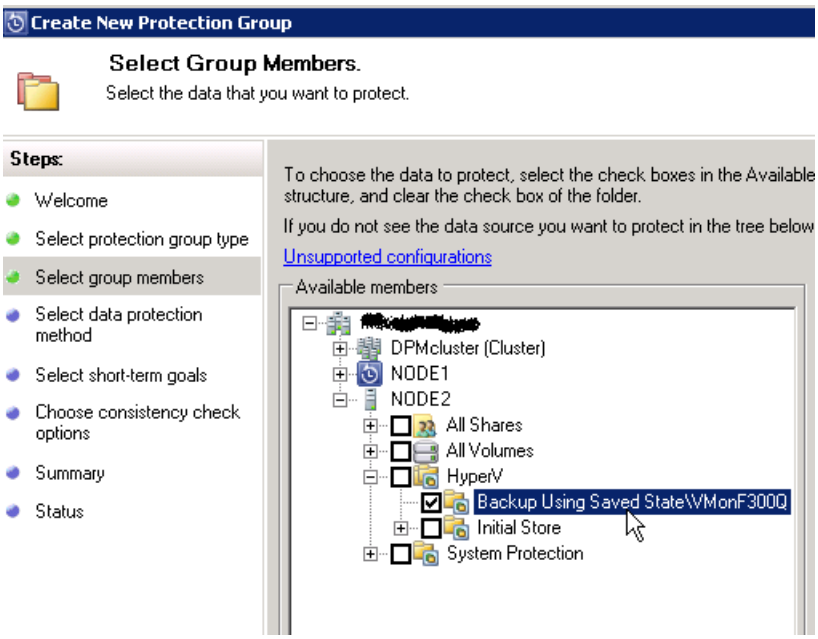
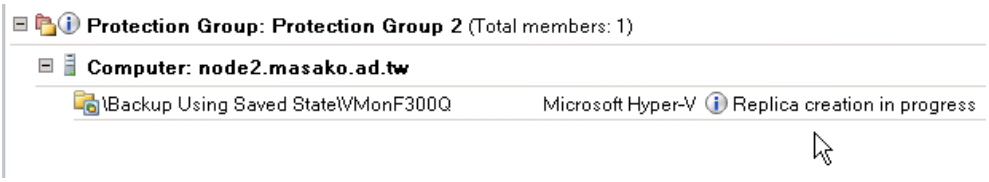
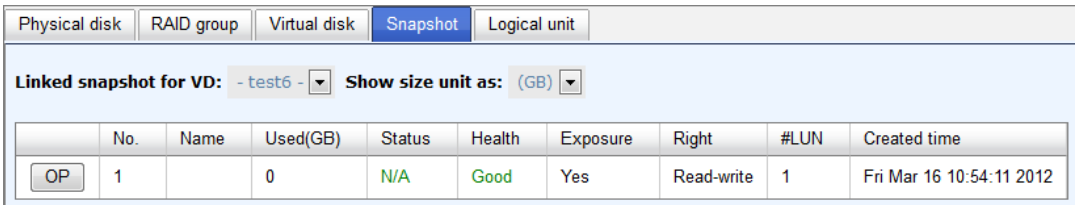
2. On the DPM server, create a new protection group to backup the VM on the standalone Hyper-V server by selecting the VM in the **Available members** list.



3. After the protection group is created, the DPM will start the backup automatically.



4. When the backup job is running, you can see a snapshot which has been taken with empty name on the Qsan F300Q. (Figure 1) And then it is mounted automatically on the standalone Hyper-V server. (Figure 2). When the backup job is done, the snapshot will be deleted automatically.



(Figure 1)

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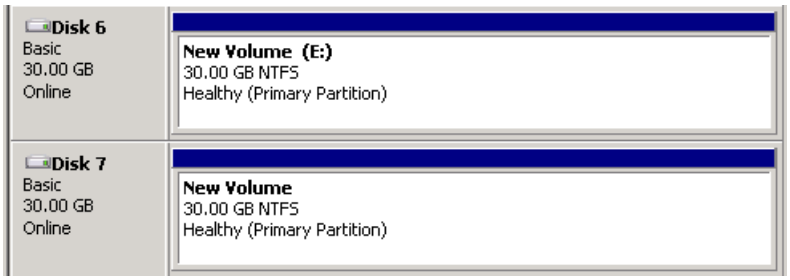
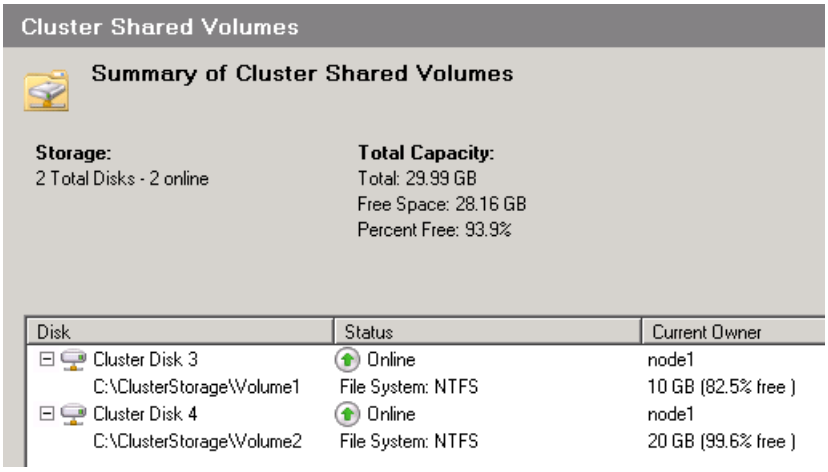


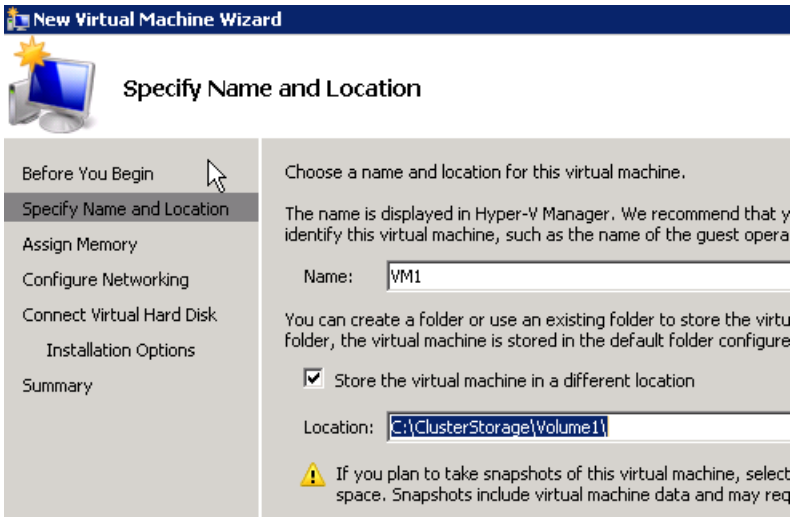
(Figure 2)

Backup the VM in CSV on Hyper-V Cluster

1. Two volumes from the Qsan F300Q are mounted as the CSVs in this case.



2. Create a new VM named VM1 on the Hyper-V cluster and set the store location to the first CSV.



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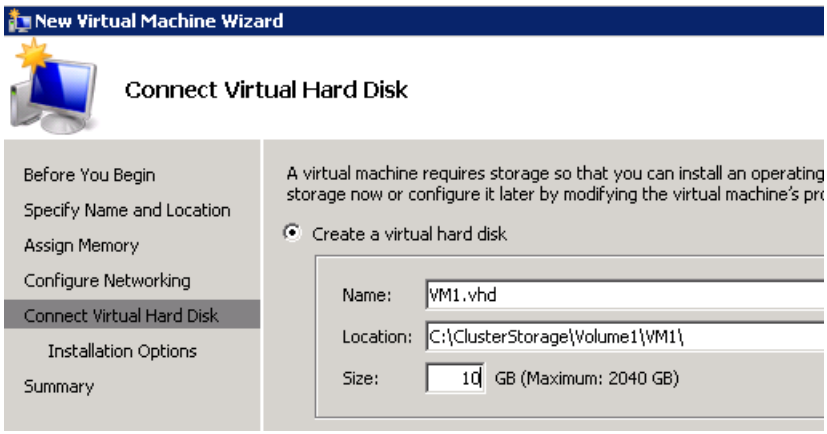
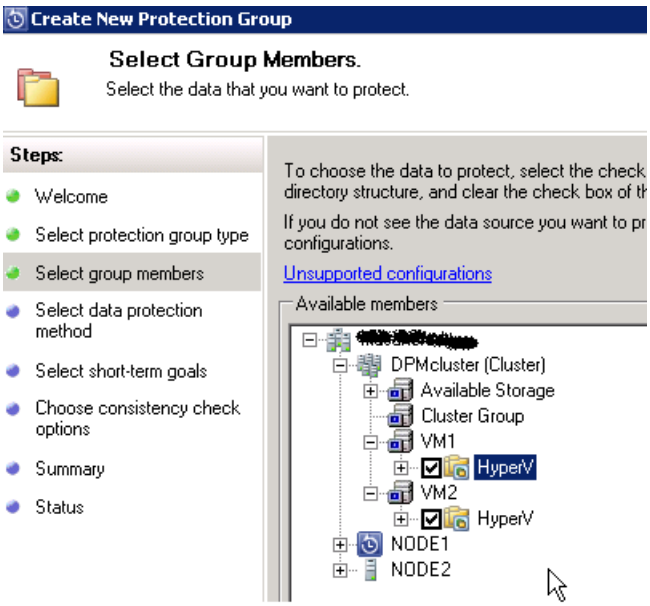


And then create the second VM named VM2 on the Hyper-V cluster and set the store location to the second CSV.

3. Create a new protection group on DPM server to backup these two VMs.



4. The same step as the standalone Hyper-V server, a snapshot will be taken on the Qsan F300Q when the backup is running on DPM server. And it is mounted on the cluster node which the VM is running on.

Summary

Using the Qsan hardware VSS provider, it can prevent the VM being in "redirected I/O mode" while running the backup job from DPM server to the other VM which is running on different Hyper-V cluster node in the same CSV. For more information about the protection for CSV on DPM

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server, please check the documentation from Microsoft, http://technet.microsoft.com/en-us/library/ff634189.aspx.

Applies To

- All Qsan Series with VSS supported.
- Qsan Storage Service 2.0.2

Reference

- Download Microsoft Private Cloud Evaluation Software
  http://technet.microsoft.com/en-us/evalcenter/hh505660.aspx?ocid=otc-f-corp-jtc-DPR&wt.mc_id=TEC_103_1_33
- System requirements
  http://technet.microsoft.com/en-us/library/hh757829.aspx
- Understanding Protection for CSV
  http://technet.microsoft.com/en-us/library/ff634189.aspx

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