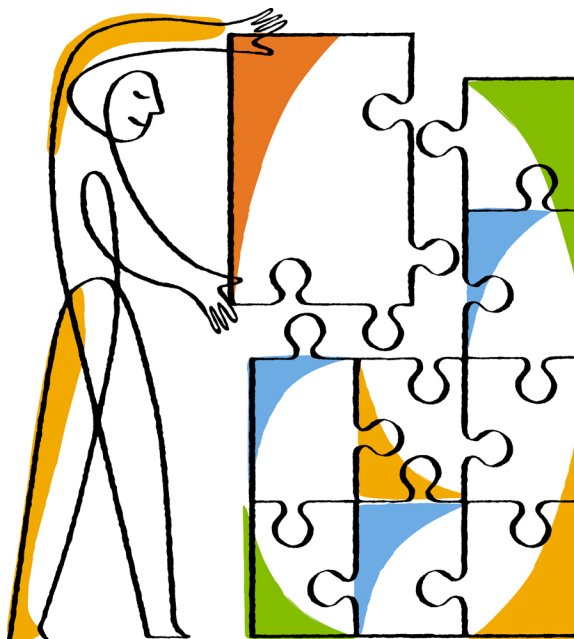




SnapManager[®] 2.0.3 for Hyper-V[®]

Release Notes



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Contents

- What SnapManager for Hyper-V is 4**
- New in this release 5**
 - Upgrade notes 5
 - Known limitations 6
 - Qualifying your configuration in the IMT 6
 - Fixed issues 7
- Known issues 8**
- Documentation updates and additions 10**
 - Failing over in SnapManager for Hyper-V 10
 - Failing back in SnapManager for Hyper-V 13
- How to get help and find more information 17**
- Copyright information 18**
- Trademark information 19**
- How to send your comments 20**

What SnapManager for Hyper-V is

SnapManager for Hyper-V provides you with a solution for data protection and recovery for Microsoft Hyper-V virtual machines (VMs) running on Data ONTAP on cluster shared volumes and Windows shared and dedicated volumes.

You can perform application-consistent and crash-consistent dataset backups according to protection policies set by your backup administrator. You can also restore VMs from these backups. Reporting features enable you to monitor the status of and get detailed information about your backup and restore jobs.

New in this release

SnapManager 2.0.3 for Hyper-V introduces fixes to a critical issue found in 2.0.2. This release of SnapManager for Hyper-V also includes feature enhancements that build on the new and changed features and cmdlets in the previous version.

New features in SnapManager 2.0.3 for Hyper-V

SnapManager 2.0.3 for Hyper-V includes the following enhancements:

- Bug fixes

Note: You must have SnapDrive 7.0.3 for Windows installed to upgrade to or install SnapManager 2.0.3 for Hyper-V.

New features in SnapManager 2.0.2 for Hyper-V

SnapManager 2.0.2 for Hyper-V included the following enhancements:

- Support for Windows Server 2012 R2
- Bug fixes

Upgrade notes

Upgrade notes describe new requirements for upgrading to or installing SnapManager 2.0.3 for Hyper-V. They also describe any changes in support between the last release of SnapManager 2.0.2 for Hyper-V and this one, including any deprecated features. Review this information carefully before upgrading to or installing SnapManager 2.0.3 for Hyper-V.

Changes introduced in SnapManager 2.0.3 for Hyper-V

You must have SnapDrive 7.0.3 for Windows installed to upgrade to or install SnapManager 2.0.3 for Hyper-V.

Changes introduced in SnapManager 2.0.2 for Hyper-V

SnapManager 2.0.2 for Hyper-V no longer supports backup for non-NTFS volumes for NAS.

Known limitations

Known limitations identify platforms, devices, or functions that are not supported by SnapManager 2.0.3 for Hyper-V and which you should review carefully.

Application-consistent backup on NAS storage

Making an application-consistent backup of a virtual machine (VM) that is stored on NAS storage is not supported by Microsoft Hyper-V Server 2012. This limitation does not apply to crash-consistent backups.

Virtual switch name

The virtual switch name for a VM must be exactly the same for the primary and secondary Windows hosts.

SMB 3.0

Backup and restore operations require a FlexClone license when Hyper-V VMs are deployed over SMB 3.0.

Qualifying your configuration in the IMT

You can use the NetApp Interoperability Matrix (IMT) to verify SnapManager for Hyper-V support for your configuration: Data ONTAP software, host operating system, and the like. You should qualify your configuration before you install or upgrade to SnapManager 2.0.3 for Hyper-V.

Steps

1. Go to the [NetApp Interoperability Matrix Tool](#).
2. If SnapManager for Hyper-V is not the selected Storage Solution, click **Change** and select it under the Software category.



3. In the **Component Explorer** pane, select each component you want to verify. You are prompted to add the components to the worksheet. Click **Add**.
Tip: Select the parent of a set of components to select all its children.
4. When you are satisfied with your choices, click **Show Results**.
5. The IMT lists each supported configuration.

- Scroll across a configuration to view the supported components and any notes or alerts for the configuration.
- Click the configuration name to display complete information for supported components, including support history and NetApp policies and guidelines for the selected Storage Solution category.

Tip: If no results are returned for your configuration, click **Feedback** in the upper right corner of the IMT.

Fixed issues

It is a good practice to review the bugs fixed in SnapManager 2.0.3 for Hyper-V before upgrading to the new release.

Bug ID	Description
814288	SnapDrive 7.0.2 upgrade causes the SnapManager for Hyper-V UI to crash in Windows Server 2008 R2.

Known issues

Some behaviors are known to affect functionality in SnapManager 2.0.3 for Hyper-V. You can use the workarounds provided to manage some of these behaviors.

NetApp Bugs Online provides complete information about most bugs, including any workarounds. If a Bugs Online report is available, the Bug ID column in the table contains a hyperlink that you can click to view the report.

Known issues identified in this release

The following issues have been added to the release notes since the last release.

Bug ID	Description
787653	Volume and qtree security styles must be NTFS for NAS application-consistent backups for SnapManager for Hyper-V versions 2.0.2 and 2.0.3
815853	Backup operation fails with invalid license error when SVM name has uppercase characters.

Known issues identified in previous releases

The following issues were reported in previous editions of the release notes.

Bug ID	Description
727548	The installation wizard lacks a service account type in the credentials form.
758197	Restore of SnapManager 2.0.2 for Hyper-V backup fails for NAS VM, when volume or qtree has non-NTFS security style.
774260	NAS backup will fail on non-NTFS volume security style for SnapManager 2.0.2 for Hyper-V.
794535	Failed to restart virtual machine (VM) after restoring from crash-consistent backup.
794538	Unable to restore a virtual machine (VM) with a shared VHDX, from a crash-consistent backup.
795389	Unable to restart virtual machine with a shared VHDX after restoring from an application-consistent backup.
797925	Crash-consistent restore issues with SMB VMs having multiple VHDs and Hyper-V Snapshot copies.
799219	Disaster recovery restore from a crash-consistent backup of a VM with Hyper-V Manager Snapshot copies fails on non-English systems.

Bug ID	Description
799244	Restore of a deleted VM from crash-consistent backup of a VM with Hyper-V Manager Snapshot copy, fails to register the VM.
758545	Installer error 1316 results when a local upgrade is performed by a remote installation.

Documentation updates and additions

You should be aware of some updates and additions to the *Installation and Administration Guide* that have occurred since the time of publication. You can be sure that you have the latest information by monitoring the NetApp Support Site for updates to the Release Notes.

Failing over in SnapManager for Hyper-V

To recover from a disaster, SnapManager for Hyper-V must first fail over to a secondary storage system. Failing over involves a series of manual steps in PowerShell.

About this task

Most backups can be restored to an alternate host for both NAS and SAN; however, Windows Server 2008 R2 crash-consistent backups cannot be restored to an alternate host.

For help with DACL or ACL permissions or resetting permissions on a directory, see the *Clustered Data ONTAP® 8.2 Data Protection Guide* or the *Data ONTAP 8.1 Data Protection Online Backup and Recovery Guide for 7-Mode*.

Steps

1. If you are running Data ONTAP 8.1.x, on the secondary site, enter the Storage Virtual Machine information to the Transport Protocol Setting (TPS) in the SnapDrive for Windows MMC.

For more information, see the *SnapDrive 7.0 for Windows Administration Guide for SAN Environments*.

2. From the secondary storage system, connect to all the LUNs.
If the secondary storage system is clustered, go to the node where the cluster group is online and connect to all the LUNs from that node in the cluster.
3. Depending on your configuration, take one of the following actions:

If the primary storage system is...	Then do this...
A stand-alone host (SAN)	Connect to all the mount points and LUNs of the same type on the primary storage system.
A clustered host (SAN)	From the node where the cluster group is online, connect to all the mount points and LUNs in the cluster.

If the primary storage system is...	Then do this...
Data ONTAP 8.1.x configured with a single LUN hosting VMs on a source FlexVol volume (SAN)	For SnapMirror updates to succeed, you must create a second, smaller LUN (10 MB to 100 MB) on the source FlexVol volume before initiating a backup. From the node where the cluster group is online, connect to all the mount points and LUNs in the cluster.
A stand-alone or clustered host (NAS)	Unmount the Data Protection (DP) volume, mount the DP volume as rewriteable, verify that the volume has RWX permissions, and then create CIFS shares for the different volumes.

4. Depending on your configuration, take one of the following actions:

If your configuration is...	Then do this...
SAN	Restore the SnapInfo LUN from its last Snapshot copy.
NAS	Mount the SnapInfo directory.

For NAS, if an `access is denied` error occurs, or if you are unable to browse to the exposed CIFS share location, you might need to reset the access control list on the share. See the “Configuring an applying file security on NTFS files and folders” text in the *Clustered Data ONTAP 8.2.1 File Access Management Guide for CIFS*.

5. Add the secondary storage system or cluster in the SnapManager for Hyper-V MMC and configure it with the SnapInfo path.
6. Enter the following cmdlets:
 - a. Enter `Get -VMSFromBackup` to retrieve the list of VMs present in the backup metadata.
 - b. Enter `Get -Backup` to get the backup copies for each VM.
7. To restore, use `Restore -Backup` with the VM GUID and the backup copy with the following parameters:

To restore from...	Enter this command...
An alternate host	<code>Restore-Backup -Server <i>Secondary_host_system_or_cluster_name</i> -DisableVerifySnapshot -RestoreToAlternateHost</code>
A listed backup	<code>Restore-Backup -Server -VirtualMachinePath -SnapshotFilePath @VHD</code>

For @VHD, a VM might have multiple VHDs; make sure that you enter both a source and a destination path pair specified for each VHD.

8. If the secondary host system is a cluster, complete the following steps:
 - a. Ensure that the LUNs on which the VMs reside are online on the cluster node that owns the cluster group.
 - b. Use the failover PowerShell cmdlets to make the VMs highly available.

Failover examples

The following example shows a two-cluster setup in which smhv-cluster-01 is the primary site and hv-19-cluster is the secondary site. After the primary site fails, run the following PowerShell cmdlets:

```
PS C:\> Get-VMsFromBackup -Server hv-19-cluster

winxp-x64c-135                593ABA72-
B323-4AF7-9AC6-9514F64C0178
csv1-xp-3                    59B85C68-BAFA-4A49-8E85-
A201045843F7
vm-w2k8r2sp1
5A248757-872B-4FE7-8282-91C8E9D45CF9
um10_11_dr
5AC1B2A8-6603-4F90-98F5-4F2F435AB0C2
winxp-x64c-30                5B47D3CF-5D96-495D-9BAB-
FB394392CF31
winxp-x64c-126                5B57EED1-B4F1-45A3-
A649-24C6947CB79C
winxp-x64c-118
5B5D417B-70DC-427C-94BB-97FF81C5B92B
winxp-x64c-122                5BEE26B8-BE57-4879-
A28E-9250A6A5EEFC
csv4-w2k3-19                  5D0613E5-B193-4293-8AAD-
F8B94A5D851F

PS C:\> Get-Backup -Server hv-19-cluster -ResourceName um10_11_dr

BackupName      : smhv-ccb-ds_04-10-2012_10.37.58
RetentionType   : hourly
DatasetName     : smhv-ccb-ds
BackupId        : smhv-ccb-ds_04-10-2012_10.37.58
BackupTime      : 4/10/2012 10:37:58 AM
BackupType      : Application consistent
BackedupVMs     : {um10_11_dr}

PS C:\> Restore-Backup -Server hv-19-cluster -ResourceName
um10_11_dr -BackupName smhv-ccb-ds_04-10-2012_10.37.58
-DisableVerifySnapshot -RestoreToAlternateHost
```

The following example shows a SAN restore operation to an alternate path for which N:\ is the destination and I:\ is the source LUN path:

```
PS C:\> Restore-Backup -Resourcename dr-san-ded1
-RestoreToAlternateHost -DisableVerifySnapshot -BackupName
san_dr_09-11-2013_10.57.31 -Verbose
-VirtualMachinePath "N:\dr-san-ded1" -SnapshotFilePath "N:\dr-san-
ded1" -VHDs @(@{"SourceFilePath" = "I:\dr-san-ded1\Virtual Hard
Disks\dr-san-ded1.vhdx"; "DestinationFilePath" = "N:\dr-san-
ded1\Virtual Hard Disks\dr-san-ded1"})
```

The following example shows a NAS restore operation to an alternate path for which \\172.17.162.174\ is the source SMB share path and \\172.17.175.82\ is the destination SMB share path:

```
PS C:\> Restore-Backup -Resourcename vm_claba87_cifs1
-RestoreToAlternateHost -DisableVerifySnapshot -BackupName ag-
DR_09-09-2013_16.59.16 -Verbose
-VirtualMachinePath "\\172.17.175.82\vol_new_dest_share\ag-vm1" -
SnapshotFilePath "\\172.17.175.82\vol_new_dest_share\ag-vm1" -VHDs
@(@{"SourceFilePath" = "\\172.17.162.174\vol_test_src_share\ag-
vm1\Virtual Hard Disks\ag-vm1.vhdx"; "DestinationFilePath" = "\
172.17.175.82\vol_new_dest_share\ag-vm1\Virtual Hard Disks\ag-
vm1.vhdx"})
```

Failing back in SnapManager for Hyper-V

After failing over to a secondary storage system, SnapManager for Hyper-V completes disaster recovery by failing back to the original primary storage system. Failing back restores primary storage function to the original primary storage site after its storage systems are reenabled or replaced.

About this task

For help with DACL or ACL permissions or resetting permissions on a directory, see the *Clustered Data ONTAP® 8.2 Data Protection Guide* or the *Data ONTAP 8.1 Data Protection Online Backup and Recovery Guide for 7-Mode*.

Steps

1. Depending on the condition of the primary storage system, take one of the following actions:

If the primary storage system is...	Then do this...
Recoverable	Move the data from the secondary host back to the primary storage system.
Completely destroyed	Provision a new storage system.

2. Complete the following steps to manage the SnapMirror relationship:

- a. Initialize the SnapMirror relationship from the secondary storage system to the primary storage system to recover the data.
- b. Resynchronize the existing SnapMirror relationship from the secondary storage system to the primary storage system.
- c. Using SnapDrive on the secondary storage system, initiate a SnapMirror update for each of the LUNs or SMB/CIFS shares on the secondary storage system.

3. Depending on your configuration, take one of the following actions:

If the primary storage system is...	Then do this...
A stand-alone host (SAN)	Connect to all the mount points and LUNs on the primary storage system of the same type.
A clustered host (SAN)	From the node where the cluster group is online, connect to all the mount points and LUNs in the cluster.
Data ONTAP 8.1.x configured with a single LUN hosting VMs on a source FlexVol volume (SAN)	For SnapMirror updates to succeed, you must create a second smaller LUN (10 MB to 100 MB) on the source FlexVol volume before initiating a backup job. From the node where the cluster group is online, connect to all the mount points and LUNs in the cluster.
A stand-alone or clustered host (NAS)	Unmount the Data Protection (DP) volume, mount the DP volume as rewriteable, verify that the volume has RWX permissions, and then create CIFS shares for the different volumes.

4. Depending on your configuration, take one of the following actions:

If your configuration is...	Then do this...
SAN	Restore the SnapInfo LUN from its last Snapshot copy.
NAS	Mount the SnapInfo directory.

For NAS, if an access is denied error occurs, or if you are unable to browse to the exposed CIFS share location, you might need to reset the access control list on the share. See the “Configuring an applying file security on NTFS files and folders” chapter in the *Clustered Data ONTAP 8.2.1 File Access Management Guide for CIFS*.

5. Add the primary host or cluster in SnapManager for Hyper-V MMC and configure it with the SnapInfo path.
6. Enter the following cmdlets:
 - a. Enter `Get -VMsFromBackup` to retrieve the list of VMs present in the backup metadata.
 - b. Enter `Get -Backup` to get the backup copies for each VM.
7. To restore, use `Restore -Backup` with the VM GUID and the backup copy with the following parameters:

To restore from...	Enter this command...
An alternate host	<code>Restore-Backup -Server Secondary_host_system_or_cluster_name -DisableVerifySnapshot - RestoreToAlternateHost</code>
A listed backup copy	<code>Restore-Backup -Server -VirtualMachinePath -SnapShotFilePath @VHD</code>

For @VHD, a VM might have multiple VHDs; make sure that you enter both a source and a destination path pair specified for each VHD.

8. If the secondary host system is a cluster, complete the following steps:

- a. Ensure that the LUNs on which the VMs reside are online on the cluster node that owns the cluster group.
- b. Use the failover PowerShell cmdlets to make the VMs highly available.

For NAS, after they are exposed as CIFS shares from one cluster node, the VMs are accessible to all hosts configured to use the storage system cluster.

Failback examples

The following example shows a two-cluster setup in which smhv-cluster-01 is the primary site and hv-19-cluster is the secondary site. After failing over to the primary site, fail back by running the following PowerShell cmdlets:

```
PS C:\> Get-VMsFromBackup -Server smhv-cluster-01

winxp-x64c-135                593ABA72-
B323-4AF7-9AC6-9514F64C0178
csv1-xp-3                    59B85C68-BAFA-4A49-8E85-
A201045843F7
vm-w2k8r2sp1
5A248757-872B-4FE7-8282-91C8E9D45CF9
um10_11_dr
5AC1B2A8-6603-4F90-98F5-4F2F435AB0C2
winxp-x64c-30                5B47D3CF-5D96-495D-9BAB-
FB394392CF31
winxp-x64c-126                5B57EED1-B4F1-45A3-
A649-24C6947CB79C
winxp-x64c-118
5B5D417B-70DC-427C-94BB-97FF81C5B92B
winxp-x64c-122                5BEE26B8-BE57-4879-
A28E-9250A6A5EEFC
csv4-w2k3-19                  5D0613E5-B193-4293-8AAD-
F8B94A5D851F

PS C:\> Get-Backup -Server smhv-cluster-01 -ResourceName
um10_11_dr

BackupName      : smhv-ccb-ds_04-10-2012_10.37.58
RetentionType   : hourly
DatasetName     : smhv-ccb-ds
BackupId        : smhv-ccb-ds_04-10-2012_10.37.58
BackupTime      : 4/10/2012 10:37:58 AM
BackupType      : Application consistent
BackedupVMs     : {um10_11_dr}

PS C:\> Restore-Backup -Server smhv-cluster-01 -ResourceName
um10_11_dr -BackupName smhv-ccb-ds_04-10-2012_10.37.58
-DisableVerifySnapshot -RestoreToAlternateHost
```

The following example shows a SAN restore operation to an alternate path for which N:\ is the destination and I:\ is the source LUN path:

```
PS C:\> Restore-Backup -Resourcename dr-san-ded1
-RestoreToAlternateHost -DisableVerifySnapshot -BackupName
san_dr_09-11-2013_10.57.31 -Verbose
-VirtualMachinePath "N:\dr-san-ded1" -SnapshotFilePath "N:\dr-san-
ded1" -VHDs @(@{"SourceFilePath" = "I:\dr-san-ded1\Virtual Hard
Disks\dr-san-ded1.vhdx"; "DestinationFilePath" = "N:\dr-san-
ded1\Virtual Hard Disks\dr-san-ded1"})
```

The following example shows a NAS restore operation to an alternate path for which \172.17.162.174\ is the source SMB share path and \\172.17.175.82\ is the destination SMB share path:

```
PS C:\> Restore-Backup -Resourcename vm_claba87_cifs1
-RestoreToAlternateHost -DisableVerifySnapshot -BackupName ag-
DR_09-09-2013_16.59.16 -Verbose
-VirtualMachinePath "\\172.17.175.82\vol_new_dest_share\ag-vm1" -
SnapshotFilePath "\\172.17.175.82\vol_new_dest_share\ag-vm1" -VHDs
@(@{"SourceFilePath" = "\\172.17.162.174\vol_test_src_share\ag-
vm1\Virtual Hard Disks\ag-vm1.vhdx"; "DestinationFilePath" = "\
172.17.175.82\vol_new_dest_share\ag-vm1\Virtual Hard Disks\ag-
vm1.vhdx"})
```

How to get help and find more information

The NetApp Support Site provides access to troubleshooting tools, product documentation, and technical assistance. You can use NetApp Community forums to connect with peers, and the NetApp Library to access technical reports and white papers.

Resource	Description
<i>NetApp Support Site</i>	Access troubleshooting tools, product documentation, and technical support assistance.
<i>NetApp Community public forum</i>	Connect with peers, ask questions, exchange ideas, find resources, and share best practices.
<i>NetApp Library</i>	Access technical reports, white papers, and other documents.

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