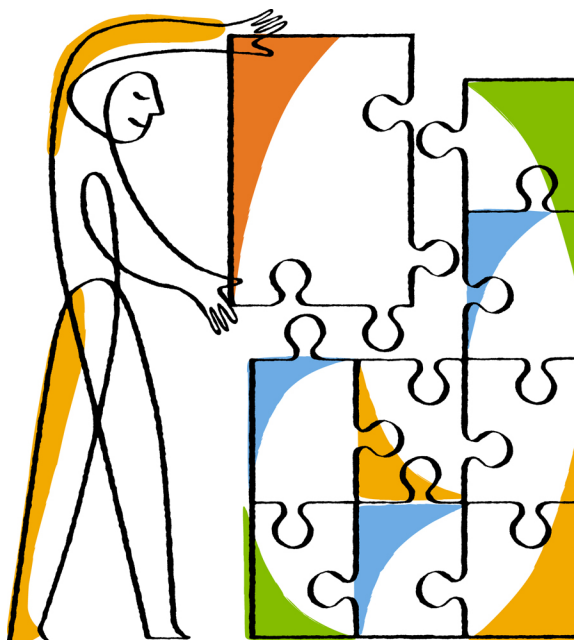




SnapManager[®] 2.0 for Hyper-V[®]

Release Notes



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New and changed features in SnapManager 2.0 for Hyper-V

SnapManager 2.0 for Hyper-V introduces new features and enhancements, such as native SnapVault integration, SAN integration, and remote host installation.

SnapManager 2.0 for Hyper-V includes the following new features and enhancements:

- Native SnapVault integration
- Support for both local (SAN) and remote VSS hardware providers (SMB 3.0) for backup
- Remote host installation
- SnapInfo Settings now support cluster-shared volume 2.0 (CSV) and SMB 3.0 shares
- Cmdlet reference information moved from the *Installation and Administration Guide* to the new *Cmdlet Reference Guide*
- New Manage Storage Connection Settings form
 - A new **Update all nodes** option has been added in the Manage Storage Connection Settings wizard.
This updates storage connections to all nodes in a cluster. You must run this when you add a new node to a cluster.
- Support for gMSA (Group Management Service Account)
- Ability to restore to an alternate path for disaster recovery
- Ability to restore a deleted VM from a crash-consistent backup (on Windows Server 2012 only)

SnapManager 2.0 for Hyper-V contains the following changed features:

- The Add Host functionality has been expanded into a full wizard.
- The Backup Management wizard and the Policy Management wizard have been updated to include the **Update to SnapMirror/SnapVault** option on the Backup options page.
- Restore-backup has 3 new parameters for restoring to an alternate location: - VirtualMachinePath, -SnapShotFilePath, and -VHDs

SnapManager 2.0 for Hyper-V contains the following new cmdlets:

- Add-SMHVDataSet
- Add-SMHVHost
- Add-SMHVPolicy
- Get-SMHVDataSet
- Get-SMHVHost
- Get-SMHVPolicy
- Invoke-SMHVConfigureHost
- Invoke-SMHVRemoteHostInstall
- Invoke-SMHVRemoteHostUninstall

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- Remove-SMHVDataSet
- Remove-SMHVHost
- Remove-SMHVPolicy
- Set-SMHVDataSet
- Set-SMHVPolicy

What you can do with SnapManager for Hyper-V

SnapManager for Hyper-V enables you to back up and restore multiple virtual machines across multiple hosts. You can create datasets and apply policies to them to automate backup tasks such as scheduling, retention, and replication.

You can perform the following tasks with SnapManager for Hyper-V:

- Group virtual machines into datasets that have the same protection requirements and apply policies to those datasets
- Back up and restore dedicated and clustered virtual machines on storage systems running Data ONTAP software
- Back up and restore virtual machines running on cluster shared volumes and using Windows Failover clustering
- Automate dataset backups using scheduling policies
- Perform on-demand backups of datasets
- Retain dataset backups for as long as you need them, using retention policies
- Update the SnapMirror destination location after a backup successfully finishes
- Specify custom scripts to run before or after a backup
- Restore virtual machines from backups
- Monitor the status of all scheduled and running jobs
- Manage hosts remotely from a management console
- Provide consolidated reports for dataset backup, restore, and configuration operations
- Perform a combination of crash-consistent and application-consistent backups
- Perform disaster recovery operations using PowerShell cmdlets

List of SnapManager for Hyper-V limitations

It is important that you understand that some features are not supported in SnapManager 2.0 for Hyper-V.

- Canceling, suspending, and resuming backup jobs are not supported.
- Canceling a restore job is not supported.
- Canceling the backup delete job is not supported.
- Policies cannot be copied across datasets.
- Role-based access control (RBAC) is not supported.
- Excluding virtual hard disks (VHDs) from a SnapManager for Hyper-V Volume Shadow Copy Service (VSS) backup job is not supported.
- Single file restore from a backup copy is not natively supported.
- Cross-version management is not supported; for example, you cannot use Client Console 1.2 to manage SnapManager 2.0 for Hyper-V, and vice versa.
- If you start to restore a Hyper-V virtual machine (VM), and another backup or restoration of the same VM is in process, your attempt fails.
- Restoring a deleted VM from a crash-consistent backup copy is supported only for Windows Server 2012.
- Running different versions of SnapManager for Hyper-V on different nodes of a failover cluster is not supported.
- Reverting from SnapManager 2.0 for Hyper-V is not supported.
- Backup or restore jobs of virtual machines are not supported when users change the cluster ownership node while backing up or restoring.
- Mixed-mode backups (of virtual machines containing files on CSV 2.0 volumes and normal shared disks) are not supported.
- After you migrate the storage of a VM to another location using Windows Server 2012, you cannot restore on that VM from backup copies made before the migration.
- For Windows Server 2012, you cannot perform a backup job where the backup set includes both a Cluster Shared Volume (CSV) and a shared disk.
- When configuring Manage Storage Connection Settings, you cannot use Remote Procedure Call (RPC) protocol; you can use only HTTP and HTTPS protocols.
- Remote VSS backup when the VM is hosted on a DNS zone share is not supported. Using DNS zones to host a VM is not a supported configuration.
- 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.
- The virtual switch name for a VM must be exactly the same for the primary and secondary Windows hosts.
- Backup and restore require a FlexClone license when Hyper-V VMs are deployed over SMB 3.0.
- The maximum supported LUN size for restore operations is 14 TB.

Related information

Knowledge Base: kb.netapp.com/support/index?page=home

Window Server 2012 Products and Editions Comparison: <http://www.microsoft.com/en-us/download/details.aspx?id=38809>

Data ONTAP requirements

The Data ONTAP requirements depend on the type of licensing you use with SnapManager for Hyper-V.

For host-based licensing and storage-based licensing, you must use Data ONTAP 8.0 or later.

You must use Data ONTAP 8.2 or later of MultiStore (vFiler unit) for use with SnapManager for Hyper-V.

If using a version of Data ONTAP prior to 8.2, there are some restrictions on certain operations. For more information about licensing, see the *SnapDrive for Windows Installation and Administration Guide*.

For the most current information, see the Interoperability Matrix.

Related information

[The NetApp Interoperability Matrix Tool \(IMT\) - support.netapp.com/NOW/products/interoperability/](http://support.netapp.com/NOW/products/interoperability/)

License requirements

To run SnapManager for Hyper-V, you must install either host-based or storage system licenses.

SnapManager suite license	A SnapManager suite license is required on the Windows host system. You can choose either host-based licensing or storage system licensing.
Per server license	This is also known as <i>host-based licensing</i> . If you select host-based licensing, you must provide a SnapManager suite license key during installation, which you can change later if you need to. You can change the license key after installation by clicking License settings in the SnapManager for Hyper-V Welcome window. Each parent host requires a SnapManager suite license.
Per storage system license	This is also known as <i>storage system licensing</i> . If you select storage system licensing, you must add the SnapManager suite license to all storage systems to run the SnapManager for Hyper-V operations.
Per client system license	Use this licensing option when you are installing the management console.

Hotfix requirements

You must manually install hotfixes to your Windows Server operating system environments.

Operating system	Required hotfixes
Windows Server 2008 R2	• KB978157 • KB979743 • KB2406705 • KB974909 • KB975354 • KB977096 • KB974930 • KB2517329
Windows Server 2008 R2 SP1	• KB2406705 • KB2531907 • KB2263829 • KB2494016 • KB2637197 • KB2517329
Windows Server 2012	• KB2770917 • KB2779768

Related references

Writer returned failure code 0x800423f3. Writer state is 8 on page 20

Known issues

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

Create dataset operation fails due to mismatched port number

Issue	When using the Add Host wizard to add a remote host and you provide a mismatched port number, creating a dataset fails. You might see this error: <code>Web Service Client channel was unable to connect to the ProtectionGroupManagementService instance on machine host_name.</code>
Cause	This issue occurs when a mismatched port number is specified in the Add Host wizard, which is then subsequently used to communicate with the remote host during web services.
Corrective action	Restart the SnapManager for Hyper-V service on the managing host and add the remote host again, this time using the correct port number.

Crash-consistent restore operation fails when the VM directories are renamed or deleted

Issue	When a VM directory is deleted or renamed, restoring the VM from a crash-consistent backup fails.
Cause	This issue occurs because the cache does not update correctly.
Corrective action	Manually refresh the VM cache by changing the VM state in Hyper-V Manager.

Remote installation fails if SnapDrive 7.0 for Windows is already installed on the host or cluster node

Issue	Remotely installing SnapManager for Hyper-V (through the Remote Host Install wizard or the Add Host dialog box) fails if SnapDrive 7.0 for Windows was manually installed on the target host or cluster node previously.
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Cause	This issue occurs because the user credentials are incorrectly added to the administrator group of the remote host or cluster node. Manually installing SnapDrive 7.0 for Windows fails to add your credentials to the administrator group of the remote host or cluster node. To use remote installation, you cannot manually install SnapDrive 7.0 for Windows on any individual host or cluster node.
Corrective action	You can perform one of two workarounds: uninstall SnapDrive 7.0 for Windows and reinstall it using the Remote Host Install wizard, or manually install SnapManager for Hyper-V on the affected host or cluster node.

NAS backups taking a long time, compared to SAN backups

Issue	In certain environments, you might observe NAS backups taking an unusually long time, especially when compared to SAN backups.
Cause	This issue is related to how Microsoft updates the DNS cache.
Corrective action	If this problem occurs, put the CIFS server entry in the etc/host file: Manually update etc/hosts on each of the nodes in the cluster to have ip-address/<CIFS server name> mapping for the Data ONTAP CIFS LIFs.

Requirement when adding a new node to a cluster

Issue	Every time you add a new node to a cluster, you must run the Manage Storage Connection Settings wizard and select the Update all nodes option. If you do not run the Manage Storage Connection Settings wizard with the correct options selected, you might see the following error: Error: Vss Requestor - Backup Components failed. Failed to call keep snapshot set, share name:\\EXAMPLE\\EXAMPLE\\, File Server Shadowcopyset id:, Reason Index and count must refer to a location within the string.
Cause	This issue occurs because the SnapDrive for Windows storage settings do not propagate throughout all the cluster nodes.
Corrective action	You must run the Manage Storage Connection Settings wizard from any node in the cluster and select the Update all nodes option to push storage connections to all the nodes.

The device is not ready.

Issue	If the Storage Virtual Machine (SVM) that hosts the report directory is down, a backup of NAS VMs hosted on a different SVM might fail with the error The device is not ready. In the backup report, you might see the following message: <pre>HOST_01 Validating backup request Validation of backup request completed Starting backup of dataset Retrieving dataset topology Retrieving dataset topology - completed successfully Backup task: Backup Task [Host: HOST_01, Type: Hyper-V] Waiting for backup task: Backup Task [Host: HOST_01, Type: Hyper-V] to complete The device is not ready. Backup failed with error(s). Details: An error occurred in the backup process.[Host: HOST_01] The device is not ready.</pre>
Cause	This message occurs when the mapped LUN is not accessible, causing a standard Windows message for Device not ready.
Corrective action	This is an expected behavior; bring the SVM that hosts the report directory back online and retry the backup job.

Remote installation does not work with x86 client

Issue	If you try to run the Add Host wizard without having already installed SnapDrive 7.0 for Windows and SnapManager 2.0 for Hyper-V on the remote host, the Add Host wizard fails with this error message: >>---Invalid package path!, Please check if installation package is available at this path: [C:/Example].
Cause	This issue occurs because the Remote Install feature is not supported in the SnapManager 2.0 for Hyper-V x86 client.
Corrective action	You must install SnapDrive 7.0 for Windows and SnapManager 2.0 for Hyper-V on the remote host before running the Add Host wizard from the x86 client.

Installation wizard lacks service account type in the credentials form

Issue	The SnapManager for Hyper-V installer currently does not support a service account-type object in the credentials form of the Installation wizard. A service account is required if you want to provide GMSA (Group Management Service Account) rights for the service.
Cause	This process is not natively supported by the installer form.
Corrective action	1. Complete the SnapManager for Hyper-V installation with your standard domain \user credentials. 2. Stop the SnapManager for Hyper-V Web Service: a. Launch the Task Manager application. b. Click the Services tab. c. On the bottom-right, click the Services button. d. From the Services window, right-click SnapManager for Hyper-V Web Service. e. From the drop-down menu select Stop. 3. Modify the SnapManager for Hyper-V Web Service properties: a. From the Services window, right-click SnapManager for Hyper-V Web Service. b. From the drop-down menu, select Properties. c. Click the Log On tab. d. Change the account name to GMSA account and leave the password blank: for example, <domain>\<gmsa_acctname>\$. e. Click OK. 4. Restart the SnapManager for Hyper-V Web Service: a. From the Services window, right-click SnapManager for Hyper-V Web Service. b. Select Start.

When the SnapInfo path is unavailable, backup jobs fail with a misleading error message

Message	SnapManager for Hyper-V backup failed to complete Backup of the Dataset Name: Example01 Backup id: 9612db1c-d1b1-4efe-afe1-d5c12345671d failed to execute Error: Failed to process the file system discovery request: Error SDAPI_INTERNAL_ERROR: Error 0x57 occurred. Description is not found.
Description	When the SnapInfo path is unavailable, the backup job fails; this is expected behavior. However, the error message that displays is misleading.
Corrective action	Ensure that the SnapInfo path is available and retry the backup. You can control the SnapInfo directory path settings by using the Configuration wizard or the SnapInfo settings action.

Failed to restore from pre-upgrade crash-consistent backup when the VM was deleted in Windows Server 2012

Issue	After you upgrade to version 2.0, you cannot restore from a crash-consistent backup copy made with any version of SnapManager for Hyper-V prior to 2.0, if the backup is stored on a VM that was deleted in Windows Server 2012.
Cause	This functionality was not available in previous versions of SnapManager for Hyper-V for a crash-consistent backup, so it is not available after upgrade.
Corrective action	This is an expected behavior. If you have an application-consistent backup copy available, you can restore from that. If you only have a crash-consistent backup copy, there is no workaround available.

Application-consistent backup of VM on NAS not supported for Microsoft Hyper-V Server 2012

Issue	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.
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Cause This limitation is imposed by a missing feature in Microsoft Hyper-V Server 2012. Application-consistent backup of NAS VMs is supported by a new Microsoft component called Microsoft File Share Shadow Copy Provider, which is available in all the Windows Server 2012 editions except Microsoft Hyper-V Server 2012. File Services is a limited feature on Hyper-V Server 2012, which is why the Microsoft File Share Shadow Copy Provider is not supported.

Corrective action None available.

Related information

Window Server 2012 Products and Editions Comparison: <http://www.microsoft.com/en-us/download/details.aspx?id=38809>

Validation for restore operation from pre-upgrade backup Snapshot copies returns VHD warning

Issue After upgrading to SnapManager 2.0 for Hyper-V, you might see unexpected VHD warnings when validating a restore operation from backup Snapshot copies that were made before the upgrade.

You might receive the following warning for a VM on standalone host: Current VHD configuration of the VM is different from that at the time of backup. Restoring the VM may result in addition of VHDs to the VM or may result in making some existing VHDs orphan. Are you sure you want to proceed with restore operation?

You might receive the following warning for a VM on a cluster host: The current virtual machine snapshot file location of the VM [C:file_path] does not match with that at the time of backup [C:file_path]. Are you sure you want to proceed with restore operation?

Cause A VM can be restored from the previous SnapManager for Hyper-V version's backup; however when validating, a warning dialogue could appear regarding the difference between the current VM configuration and the configuration of the VM at the time of backup operation, even though the VM configuration is same.

This warning message should be verified by the user first, to confirm that nothing has changed in the VM configuration, and then it can be safely ignored to continue the restore operation.

If the configuration has really changed, then the implications of restoring the VM should be well understood before continuing the restore operation. One example of a

configuration change is the addition or removal of VHD after making the backup copy.

Corrective action If you have first verified that there is no change in the VM configuration since the upgrade, you can ignore this warning message.

SnapManager for Hyper-V does not load nodes added to the cluster

Issue When you add a new node to a cluster, SnapManager for Hyper-V might not load or display the new node in the cluster.

Cause This issue occurs because the storage connection settings have not been propagated to the new nodes.

Corrective action

1. Configure the node:
 - a. From one of the existing nodes, run the Configuration wizard.
 - b. On the Storage Connection Settings window, select the **Update all nodes** option.
 - c. Finish the Configuration wizard.
2. Modify the dataset:
 - a. From the Dataset tab, select one of the datasets.
 - b. Select the **Modify** under Actions.
 - c. Complete the Modify Dataset wizard, even if there is no change.
3. You must repeat Step 2 for all the datasets to have the policy and schedule added to the new node.

The SnapManager for Hyper-V MMC might crash in some Windows 2008 R2 configurations

Message MMC has detected an error in a snap-in and will unload it.

Description The message occurs on Windows 2008 R2 because the COMPLUS_ApplicationMigrationRuntimeActivationConfigPath Environment variable is not set.

Corrective action Add the following batch file to the shortcut you are using to execute the SnapManager for Hyper-V GUI:

```
setx -m COMPLUS_ApplicationMigrationRuntimeActivationConfigPath  
"C:\Program Files\IBM\SnapManager for Hyper-V"C:\Program Files  
\IBM\SnapManager for Hyper-V\SnapManager For Hyper-V.msc"
```

Writer returned failure code 0x800423f3. Writer state is 8

- Message** Vss Requestor - Backup Components failed. Writer Microsoft Hyper-V VSS Writer involved in backup or restore encountered a retryable error. Writer returned failure code 0x800423f3. Writer state is 8
- Description** This message occurs because of a Windows Server 2012 issue that is caused by the inclusion of direct-attached iSCSI LUNs or pass-through disks in the VSS backups. The fix was released as a Windows update for Windows Server 2012.
- Corrective action** Perform these two steps to resolve this issue:
1. Install the Windows Server 2012 update KB2770917.
 2. Update the integration service in all the virtual machines (VMs) that have SnapDrive for Windows installed and have direct-attached iSCSI LUNs or pass-through disks on them.

Note:

Even with the hotfix, SnapManager for Hyper-V does not back up your pass-through disks.

Related references

[Hotfix requirements](#) on page 12

Related information

[Windows KB 2770917: http://support.microsoft.com/kb/2770917](http://support.microsoft.com/kb/2770917)

Windows installer does not display installer log file

- Issue** Windows installer does not display the Windows installer log file after installation finishes on the following operating systems:
- Windows Server 2003
 - Windows XP
 - Windows Vista

Cause	This is a known limitation in the Windows installer.
Corrective action	To view the log file manually, go to \windows\temp and find the MSI log file (MSI####.log) that is stamped with a time close to the time that the installation completed.

Import (mount) of Snapshot LUN from a SAN boot LUN Snapshot copy fails in Windows Server 2008 R2

SnapManager for Hyper-V does not support backup and restore operations on virtual machines running on SAN boot LUNs.

For more information, see bug ID 377102.

Related information

[Bugs Online - support.netapp.com/NOW/cgi-bin/bol](http://support.netapp.com/NOW/cgi-bin/bol).

Error 5605 received during backup

Message	The root\MSCluster namespace is marked with the RequiresEncryption flag. Access to this namespace might be denied if the script or application does not have the appropriate authentication level. Change the authentication level to Pkt_Privacy and run the script or application again.
Description	This message occurs during SnapManager for Hyper-V backup operations. It occurs because SnapManager for Hyper-V sets the authentication level each time a call is made to WMI (Windows Management Instrumentation). SnapManager for Hyper-V uses packet privacy as the authentication level. If SnapManager for Hyper-V receives this warning, the application modifies the authentication level temporarily and sets it to the packet privacy.
Corrective action	The next set of calls works without triggering an error. These warnings can be safely ignored.

SnapManager for Hyper-V does not automatically move files to a changed SnapInfo location

If you change SnapInfo settings after a host is added to SnapManager for Hyper-V, you must manually move all files on the previous SnapInfo LUN to the new location; SnapManager for Hyper-V does not update them automatically. If you do not copy the files, you cannot restore from or

manage the backup copy made using the previous SnapInfo LUN, and SnapManager for Hyper-V does not list the backup copy.

SnapManager for Hyper-V fails to connect to a Hyper-V host

Issue	SnapManager for Hyper-V intermittently fails to connect to a Hyper-V host, even though the host is up and can be reached over the network.
Cause	This issue occurs when the Smsvchost . exe file for the WCF service stops responding. See Microsoft Knowledge Base article 2536617 for more information.
Corrective action	See Microsoft Knowledge Base article 2504602 for a possible workaround.

Related information

Knowledge Base article 2504602 - <http://support.microsoft.com/>

Knowledge Base article 2536617 - <http://support.microsoft.com/>

Higher memory use on SnapInfo owner node during backup

Issue	The SnapInfo owner node shows higher memory use by the SnapManager for Hyper-V service when a backup is in progress.
Cause	This is an expected behavior. After the backup is completed, memory use returns to normal.
Corrective action	None required.

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.

Backup Dataset wizard In the Backup Dataset wizard, the following requirement listed on the Secondary Backup Options page no longer applies: “The volume hosting the SnapInfo directory must also have the same label specified in its SnapVault policy.”

Instead, a pre-formatted label (smhv_snapinfo_%hostname%) is applied to the SnapInfo copy. Ensure that the pre-formatted label has been created on the SnapVault relation policy. Here, %hostname% is the Windows Failover Cluster name or the stand-alone Hyper-V host name.

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