



# **What SnapManager for Hyper-V is**

## SnapManager for Hyper-V

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# 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) residing on storage systems running ONTAP.

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

## 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 residing on storage systems running ONTAP software
- Back up and restore virtual machines hosted on Cluster Shared Volumes (CSVs)
- 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
- Perform cluster operating system (OS) rolling upgrades

## List of SnapManager for Hyper-V limitations

It is important that you understand that some features are not supported in SnapManager 2.1 and later for Hyper-V .

- Canceling, suspending, and resuming backup and restore jobs 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 2.1 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 SMB shares) 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.
- Creating an application-consistent backup of a virtual machine (VM) that is stored on NAS storage is not supported by the Windows Server 2012 Hyper-V operating system.

This limitation does not apply to crash-consistent backups. It only applies to the free Hyper-V server, which does not include file share shadow copy services.

- The virtual switch name for a VM must be exactly the same for the primary and secondary Windows hosts.
- Backup and restore operations 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.
- The following Hyper-V Servers do not support application-consistent backups of VMs:
  - Microsoft Hyper-V Server 2016 (free edition)
  - Microsoft Hyper-V Server 2019 (free edition)

Note that this limitation does not apply to crash-consistent backups or the following Windows platforms:

- Microsoft Windows Server 2016 Standard and Datacenter Edition
- Microsoft Windows Server 2019 Standard and Datacenter Edition

# Data management concepts

SnapManager for Hyper-V uses datasets and policies, which enables you to group virtual machines and then apply rules to these groups to govern their behavior. This information is useful in scenarios in which you are using SnapManager for Hyper-V to schedule a backup and to specify a retention policy for the backup.

- **datasets**

A dataset is a group of virtual machines (VMs) that enables you to protect data using retention, scheduling, and replication policies. You can use datasets to group virtual machines that have the same protection requirements. A VM can be part of multiple datasets.

- **Hyper-V parent hosts**

Hyper-V parent hosts are physical servers on which the Hyper-V role is enabled. Hosts that contain virtual machines are added to SnapManager for Hyper-V for protection and recovery. SnapManager for Hyper-V must be installed and running on each Hyper-V parent host.

- **unprotected resources**

Unprotected resources are virtual machines that are not part of any dataset. You can protect these resources by adding them to a dataset.

- **virtual machines**

A virtual machine run on a Hyper-V parent host is a representation of a physical machine, with its own operating system, applications, and hardware.

SnapManager for Hyper-V tracks the globally unique identifier, or GUID, of the virtual machine and not the virtual machine name. If you delete a virtual machine that is protected by SnapManager for Hyper-V, and then create a different virtual machine with the same name, the new virtual machine is not protected, because it has a different GUID.

- **management consoles**

Management consoles are computers on which SnapManager for Hyper-V is installed and running as a client. You can use management consoles to remotely manage SnapManager for Hyper-V operations on a remote Hyper-V parent host.

- **scheduling policies**

Scheduling policies assign backup jobs for particular times, enabling you to automate the scheduling process. You can add multiple scheduling policies, which apply to all virtual machines that are dataset members. SnapManager for Hyper-V uses Windows Scheduler to create scheduled tasks.

- **retention policies**

A retention policy is the way you manage dataset backup retention in SnapManager for Hyper-V. Retention policies determine how long to keep a dataset backup, based on either time or number of backup copies.

The limits that you set in a retention policy ensure that your data backup does not compromise future storage capacity.

You can set the following retention periods in SnapManager for Hyper-V:

- One hour
- One day
- One week
- One month
- Unlimited



You can specify a retention period once per dataset.

After choosing how often dataset backups are deleted, you can choose to delete either backups that are older than a specified period of time or backups that exceed a maximum total.

If your system appears to retain old backups, check your retention policies. All objects being backed up that share a Snapshot copy must meet the backup deletion criteria in order for the retention policy to trigger the removal of a Snapshot copy.

- **replication policies**

A replication policy determines whether the SnapMirror destination is updated after a successful backup operation. SnapManager for Hyper-V supports volume-based SnapMirror only. You must configure a SnapMirror relationship on the two storage systems before you attempt to perform a SnapMirror update. This is required for both the source and destination.

## Related information

[Data ONTAP 8.2 Data Protection Online Backup and Recovery Guide for 7-Mode](#)

[NetApp Documentation: SnapDrive for Windows \(current releases\)](#)

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