



Restore a virtual machine from a backup copy

SnapManager for Hyper-V

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Restore a virtual machine from a backup copy

You can use SnapManager for Hyper-V to restore a virtual machine (VM) from a backup copy. You can also restore a VM that is part of a cluster. SnapManager for Hyper-V determines the appropriate node in the cluster to which to restore the VM.

To restore a VM, SnapManager for Hyper-V uses the file-level restore feature in SnapDrive for Windows. You can spread the associated files of a VM, including the configuration file, Snapshot copies, and any VHDs, across multiple ONTAP LUNs. A LUN can contain files belonging to multiple VMs.

If a LUN contains only files associated with the VM that you want to restore, SnapManager for Hyper-V restores the LUN by using LCSR (LUN clone split restore). If a LUN contains additional files not associated with the virtual machine that you want to restore, SnapManager for Hyper-V restores the virtual machine by using the file copy restore operation.

Related information

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

Requirements for restoring a virtual machine

To restore a virtual machine from a backup copy, you must first determine how you want to restore the backup copy.

VM backup copy name

You must decide which backup copy you want to restore.

All backup copies are listed by name in the Backups pane of the Recovery Management window.

VM backup copy type

Restoring a VM from an application-consistent backup is done in coordination with VSS. Hyper-V VSS writer deletes the VM before restoring and registers the VM to Hyper-V Manager after the restore operation finishes.

Restoring a VM from a crash-consistent backup does not involve VSS. The VM is turned off prior to the restore operation. When you are restoring from a crash-consistent backup, the VM must exist; restoring a deleted VM from a crash-consistent backup fails.

VM backup copy status

You must determine if the virtual machine still exists.

If the virtual machine no longer exists, you can still restore it if the LUNs on which the virtual machine was created still exist. The LUNs must have the same drive letters and Windows volume GUIDs as at the time of backup.

If you delete a virtual machine in Windows Server 2008 R2, you can restore the virtual machine from an application-consistent backup, but in Windows Server 2012 and Windows Server 2012 R2, you can restore a deleted virtual machine from both a crash- and application-consistent backup.

If the virtual machine was removed from all datasets before it was deleted, you can still restore it by selecting

Unprotected Resources and selecting a backup to which it belonged.

VM backup copy configuration status

You must determine if the virtual machine configuration is the same as it was at the time of the backup.

If the current virtual machine configuration is different than at the time of backup, SnapManager for Hyper-V notifies you that the virtual machine layout has changed, and asks you if you would like to restore the virtual machine configuration and data as it existed in the backup.



Because SnapManager for Hyper-V does not back up the cluster configuration of the virtual machine, it cannot restore the cluster configuration. If the virtual machine and cluster configuration are lost, you can restore the virtual machine from SnapManager for Hyper-V, but you have to manually make it highly available.

If the virtual machine is configured differently than the current configuration of the virtual machine in the backup, you might need to update the cluster configuration to reflect any newly added or removed virtual hard disks (VHDs).

Snapshot copy status

You can verify that the backup Snapshot copies exist on the storage system before attempting the restore operation.

VM restart

You can choose to start the virtual machine after it is restored.

Related information

[Microsoft TechNet: Failover Clusters in Windows Server 2008 R2](#)

Restore a virtual machine from a backup copy

You can use SnapManager for Hyper-V, which restores a single virtual machine (VM) at a time, to recover lost or damaged data from a backup copy.

What you'll need

You must have the following information available:

- Backup name
- Configuration information
- Script information

When restoring to an alternate host, the CPU type on the physical computer on which your original VM resided should be compatible with the physical computer onto which you want to restore the VM. Alternatively, you can use the Hyper-V Manager to specify that the machine is allowed to restore to a machine with a different CPU type.

About this task

After storage live migration, you cannot restore from the latest backup.

If you start a restore operation of a Hyper-V virtual machine, and another backup or restoration of the same virtual machine is in process, it fails.

Steps

1. From the navigation pane, click **Recovery**.
2. Select the virtual machine that you want to restore.
3. In the Backups pane, select the name of the backup copy that you want to restore and click **Restore**.

The Restore wizard appears.

4. Complete the steps in the wizard to restore the virtual machine backup copy.

Closing the wizard does not cancel the restore operation. SnapManager for Hyper-V validates the virtual machine configuration before beginning the restore operation. If there have been any changes in the virtual machine configuration, a warning appears, enabling you to choose to continue or to cancel the operation.

After you finish

You can view the status of the restore operation in the **Jobs Management** window or check the operation results by viewing the report in the **Reports Management** window.

Related information

[Restore from a backup after failback](#)

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