

# Microsoft Hyper-V Backup and Recovery

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Microsoft Hyper-V is a native hypervisor; it can create virtual machines on x86-64 systems running Windows. Starting with Windows 8, Hyper-V superseded Windows Virtual PC as the hardware virtualization component of the client editions of Windows NT.

Storware Backup and Recovery solution supports Hyper-V 2016+ environments. All backups are done via a dedicated Hyper-V agent that needs to be installed on each Hyper-V host. Microsoft Hyper-v is the only hypervisor that requires the installation of an agent. The process is very simple, the rest of the configuration is similar to other suppliers. Storware is a cost-effective and competitive platform for small to enterprise business.

## Supported Platforms

Support for Windows Server 2016+

Supported virtual machine configuration versions: 6.2 and higher

## Benefits



**HTML 5 Web Console** – with an intuitive and modern UI, you can quickly set up protection and store backups in several different backup providers. Manage and monitor backup processes from a single pane of glass.



**Easy Configuration** – configuration Wizard makes the launch and setup of Storware fast and easy. Start to protect your VMs within minutes!



**Transparent Licensing** – the easiest licensing without hidden costs: per VM, per Host, per TB, and 24/7 support team at your disposal.



**Set and Forget Automation** – automate VM protection with custom or predefined backup policies. Test backup automatically to ensure recoverability – use Disaster Recovery Plans to verify that your backed-up VM is bootable and was not damaged before the backup was performed.

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## Features

- incremental backup
- file-level restore
- VM disk exclusion
- snapshot management
- pre/post snapshot command execution
- backup disks sharable over iSCSI
- name-based policy assignment
- power-on VM after restore

## Advantages

Storware allows remote execution of PowerShell scripts inside virtual machines (WinRM Powershell).

Storware is meant to be a single point to manage all backups (virtual machines, endpoints, cloud).

Installation is fast and easy (the Windows way: next, next..., finish).

Integration and stability are at an excellent level; the environment, once configured, works without problems.

Integration with Azure, backup of HCI clusters and cloud VMs living inside Azure cloud.

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# Features

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## Backup Types



Storware creates backups (full and incremental) of virtual machines working in Hyper-V. We're backing up the data on the disks as well as configuration.

## Resilient Change Tracking



The usage of RCT mechanisms (there's no need to keep the snapshots on the Hyper-V).

## Backup Workflow



Storware backs up virtual machines from version 6.2. Can back up disks to Cluster Shared Volumes (CSV) and Storage Spaces Direct (S2D); also supports Hyper-V failover clustering.

## Instant Restore



With Storware, you can use instant restore with live migration for your virtual machines.

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# How it works

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Microsoft Hyper-V is the only hypervisor that requires the installation of an agent. The process is straightforward, and the rest of the configuration is similar to other suppliers. RCT (also known as CBT in other virtualization platforms) supports both full and incremental backups for this hypervisor.

For Microsoft Windows Server 2016 or later versions, the resilient change tracking (RCT) feature is used by default to back up virtual machines (VMs). RCT makes it possible to detect changes that happened at specific points in time as opposed to scanning the entire disk for any possible changes. The changes are tracked at the data block level. Only blocks that have changed since the last backup operation are candidates for the next incremental backup. RCT can accelerate incremental backups by as much as 50% (compared to technologies available in Windows Server 2012).

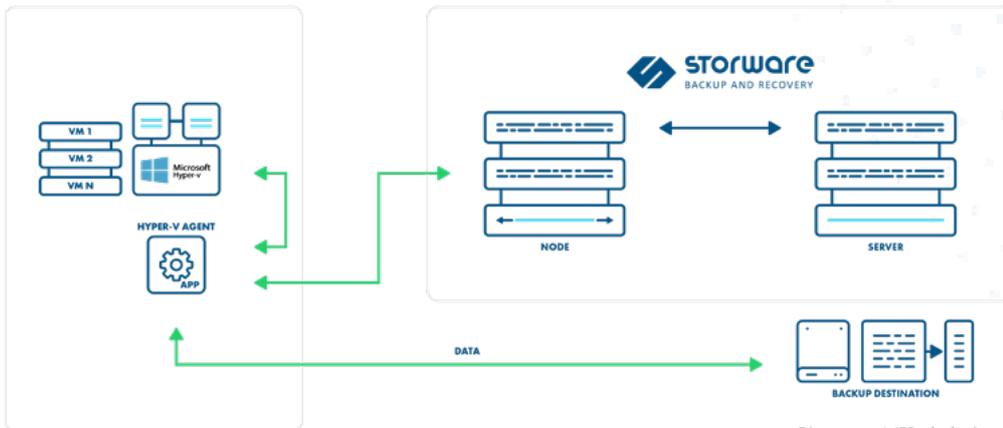
RCT reduces the risk of loss of information by storing bitmaps using a more resilient strategy. RCT implemented in Hyper-V accomplishes this by generating three different bitmaps – one in the memory and the other on the disk. Disk backups are available when a power outage or migration occurs. The usual memory backup is granular and accessible when a VM is running. Specifically, the RCT file is utilized when the server runs typically. However, when a VM is moved to a different host, or a power failure occurs, the bitmap stored in memory is no longer available. The Modified Region Table (MRT) file is utilized in such cases. The MRT file is more granular and contains all information on changes committed to the disk. The files are attached to VHD (X) and may be moved along with the machine. In effect, RCT reduces backup time and offers greater resilience through enhanced block tracking mechanisms compared to most other backup solutions designed for virtual environments.

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# How it works



File system, NFS, deduplication appliances  
 Object storage on-premise or via cloud providers  
 Enterprise backup providers (Dell EMC, IBM, Micro Focus, Veritas)

**LEGEND**

- Transfer
- Management

\*Backup Destination and optionally staging (if local disk on Node are not used)

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