User manual for UrBackup Client for Microsoft Hyper-V 2016

For version: 2.2.x
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1. Introduction

UrBackup Client for Hyper-V 2016 is a special UrBackup client for Microsoft Hyper-V 2016. It creates virtual clients for each Hyper-V VM, allows backups of VM disks as images using Hyper-V production snapshots using Hyper-V's resilient change tracking (RCT) to track changes and can restore images to VHD/VHDX.

2. Supported configuration

The client only works with following software combination:

- Microsoft Hyper-V 2016 (earlier versions are not supported)
- UrBackup Client for Microsoft Hyper-V
- At least UrBackup Server 2.3.x or Infscape UrBackup Appliance 1.7.x
- Disks stored as VHD/VHDX files

To enable change tracking (RCT) you might have to upgrade the Hyper-V VMs to a newer configuration version[1].

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[1] See https://docs.microsoft.com/en-us/windows-server/virtualization/hyper-v/deploy/upgrade-virtual-machine-version-in-hyper-v-on-windows-or-windows-server

3. Usage

3.1 Connect client to server

Install the Hyper-V specific client on the server, instead of the generic client. The server will not auto-upgrade this client, so you'll have to manually install upgrades from then on.

If your server is connected via Internet, you'll have to configure the client to connect to the server.

- Create a new client on the server (Status page → Add new client). Select "Add new Internet client/client behind NAT" and enter an appropriate name for your Hyper-V server
- Install UrBackup Client for Microsoft Hyper-V on the Hyper-V server
- Go to the client settings via tray icon or via

  ```
  cd "C:\Program Files\UrBackup"
  UrBackupClientGUI.exe settings
  ```

  in the command line. Enter the client name as computer name, the Internet server IP and port and the client authentication key.
- Check in the tray icon status Window (or `UrBackupClient_cmd.exe status`) that the client connects to the server

After the client is connected to the server it creates additional clients for each Hyper-V VM.
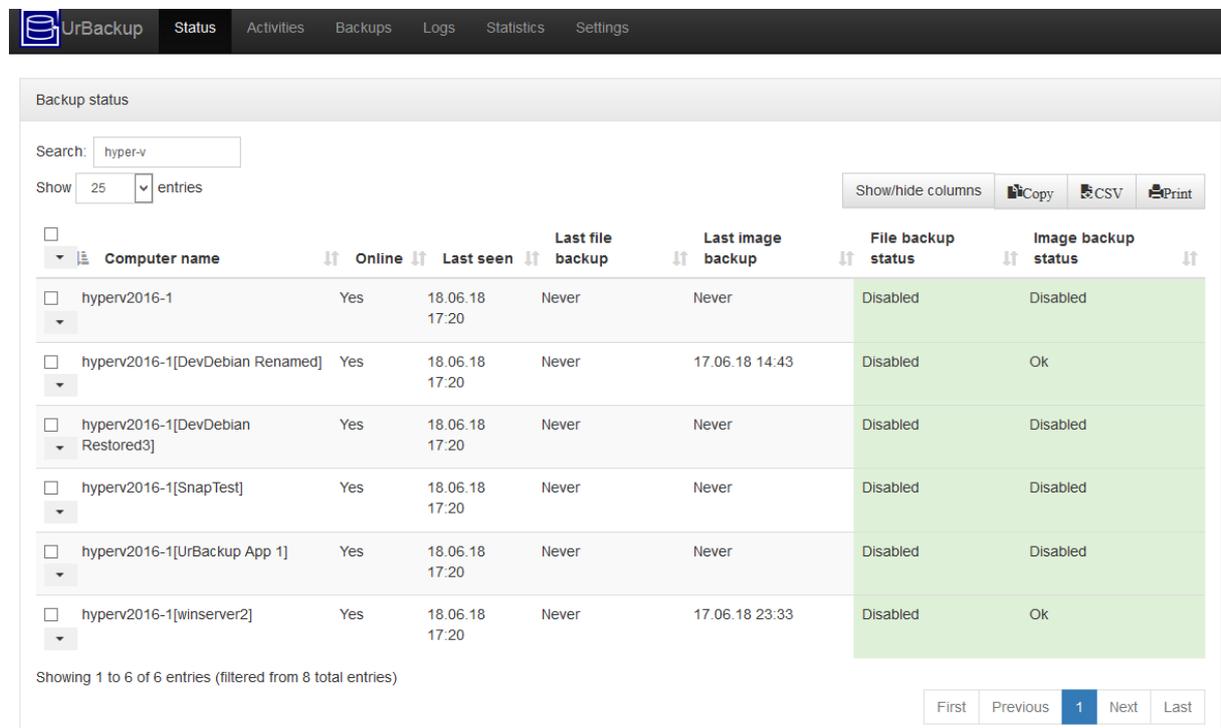
Computer name	Online	Last seen	Last file backup	Last image backup	File backup status	Image backup status
hyperv2016-1	Yes	18.06.18 17:20	Never	Never	Disabled	Disabled
hyperv2016-1[DevDebian Renamed]	Yes	18.06.18 17:20	Never	17.06.18 14:43	Disabled	Ok
hyperv2016-1[DevDebian Restored3]	Yes	18.06.18 17:20	Never	Never	Disabled	Disabled
hyperv2016-1[SnapTest]	Yes	18.06.18 17:20	Never	Never	Disabled	Disabled
hyperv2016-1[UrBackup App 1]	Yes	18.06.18 17:20	Never	Never	Disabled	Disabled
hyperv2016-1[winserver2]	Yes	18.06.18 17:20	Never	17.06.18 23:33	Disabled	Ok

Showing 1 to 6 of 6 entries (filtered from 8 total entries)

3.2 Configure VM clients

Now you can configure the image backup frequency and number of image backups to keep for each VM separately or create groups for VMs. If you want to disable backups for a VM, disable image backups in the settings or move it into a group where image backups are disabled.

Per default it backs up all disks of a VM. You can also manually list which volumes it should backup. The names are constructed as follows:

1. Controller type "IDE" or "SCSI"
2. Controller number starting with "0" for the first controller
3. Disk number starting with "0" for the first disk

Each component separated by ":".

So use e.g. "IDE:0:0,SCSI:0:0" to backup the first IDE and first SCSI disk.

3.3 Restoring disks via PowerShell scripts

There are two PowerShell scripts in C:\Program files\UrBackup which can restore disks to VHDX files.

In PowerShell:

```
cd "C:\Program files\UrBackup"
.\hyperv_list_backups.ps1 -VmName winserver2 -username admin

      id letter        time_s time_str
      -- ------        ------ --------
335298368 SCSI:0:0 1529271236 2018-06-17 23:33
335298363 SCSI:0:0 1528666152 2018-06-10 23:29
335298358 SCSI:0:0 1528061270 2018-06-03 23:27
335298343 SCSI:0:0 1527965181 2018-06-02 20:46
```

Now you can use a backup time to restore disk images. Disk images in the same backup group have the same backup time. If you want to restore a single disk from a backup you have to also specify the image id (with the -Id parameter).

In PowerShell:

```
.\hyperv_load_backups.ps1 -VmName winserver2 -Time 1527965181 -Dest
C:\vhdx_restore\
```

3.4 Live restore by directly using disk from server

If you are storing the images as VHD files or if you are using Infscape UrBackup Appliance you can directly start your VMs referencing the disk backups on your backup server. Then you can live migrate the disks somewhere else while the restored VM is running.

First create a local differencing VHD(X) referencing the disk image on the backup server (in PowerShell):

```
New-VHD -ParentPath \\urbackupapp1\AllBackups\hyperv2016-
1[DevDebian]\ 180610-2328_Image_SCSI_0_0\Image_SCSI_0_0_180610-
2328.vhdx -Path C:\diff\DevDebian_IDE_0_0.vhdx -Differencing
```

Then create a new VM using the disk(s) and then live migrate the disks somewhere else.

3.5 Restore via Restore CD

Currently not supported.