StarWind Virtual SAN®
Creating Virtual Tape Library Device

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TECHNICAL PAPER
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About StarWind
StarWind is a pioneer in virtualization and a company that participated in the development of this technology from its earliest days. Now the company is among the leading vendors of software and hardware hyper-converged solutions. The company's core product is the years-proven StarWind Virtual SAN, which allows SMB and ROBO to benefit from cost-efficient hyperconverged IT infrastructure. Having earned a reputation of reliability, StarWind created a hardware product line and is actively tapping into hyperconverged and storage appliances market. In 2016, Gartner named StarWind “Cool Vendor for Compute Platforms” following the success and popularity of StarWind HyperConverged Appliance. StarWind partners with world-known companies: Microsoft, VMware, Veeam, Intel, Dell, Mellanox, Citrix, Western Digital, etc.

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Introduction

Some companies have to adhere to regulatory requirements for tape vaulting, while the backup process requires a smaller backup window. StarWind Virtual Tape Library (VTL) is a StarWind Virtual SAN feature that eliminates the need for the physical tape by emulating the industry-standard tape hardware and keeping all data on inexpensive, fast and high-capacity spinning disks. This technology is designed for SMB and Enterprise that look for either getting rid of physical tapes completely or accelerate the backup process and add an extra level of protection. Even with explosive data growth, StarWind VTL fits the backup job into reasonable time-frame by accelerating it, so that the process does not overlap with production time.

This guide is intended for experienced StarWind users, Windows system administrators and IT professionals who would like to configure StarWind Virtual Tape Library (VTL). It provides step-by-step guidance on how to create the VTL device that runs on top of the Windows Server 2016.

A full set of technical documentation can always be found here.

For any technical inquiries, please, visit our online community, Frequently Asked Questions page, or use the support form to contact our technical support department.
Creating Virtual Tape Library

1. Launch the StarWind Management Console by double-clicking the StarWind tray icon.

   **NOTE:** If the StarWind Service and Management Console already are installed on the server, the Management Console will automatically add the local StarWind instance to the Console tree after the first launch. Then, the Management Console automatically connects to the StarWind Service using the default credentials. To add remote StarWind servers to the Console, press the Add Server button on the control panel.

2. StarWind Management console will ask you to specify the default storage pool on the server you connect to for the first time. Please, configure the default storage pool to use one of the volumes you have designated as StarWind storage earlier. All devices created through the Add Device wizard will be stored on that storage pool by default. Should you decide to use an alternative storage path for your StarWind virtual disks, please, use the Add Device (advanced) menu item.

3. Press the Yes button to configure the storage pool. If you require changing the storage pool destination, press Choose path and point the browser to the necessary disk.

4. Select the StarWind server where you wish to create the device.

5. Press the Add Device (advanced) button on the toolbar.

6. Add Device Wizard will appear.
Select **Tape Device**.

Select Device Type you want to create or export as iSCSI Target

- Hard Disk Device
- Tape Device
- Optical Disc Drive

Click **Next** to continue.

Select the **Virtual Tape** item.

Select Disk Device Type

- Virtual Tape
  Virtual Tape based on File Images stored on Disk
- Physical Tape
  Export existing physical Tape Device as iSCSI Target
- Physical Tape Auto-Loader/Changer
  Export existing physical Tape Auto-Loader/Changer Device as iSCSI Target

Click **Next** to continue.
7. Specify the Virtual Tape Library location

Virtual Tape Library Location

- Create a New Virtual Tape Library
  - Name: VTLL
  - Location: My Computer\SIS\Device

- Use an Existing Virtual Tape Library
  - Location: (select existing)

8. Select the Device Model from the drop-down list. You also can fill all slots in the newly created Tape Library with empty tapes.

Select Device Model to emulate:

- Device Model: HP MSL8096

Click **Next** to continue.
9. Then, provide **Target Alias** or choose the default one.

Click **Next** to continue.

Click the **Create** button and view the creation progress.

**Creation Page**

Press "Create" to add new Device and attach it to new Target

**Progress**
- Creating Device Folder...
- Creating Image File...
- Creating Device...
- Creating Target and attaching Device...
10. Once the creation is completed, click Close.

11. Next, create the tape. For this purpose, click on the recently created VTL device and press Create Tape. The new Wizard window appears.
12. Enter the path to the tape files location if needed and click **Next** to continue.

13. Specify the **Number of Tapes, Tape Type**, and other parameters.

Click the **Create** button,
14. The created tape appears in the first slot of the VTL device in the **StarWind Management Console**.

![Image of StarWind Management Console showing VTL1 device with a tape inserted in slot 1.](image-url)
Mounting VTL on the backup server

To pass-through the VTL device to the server, it is necessary to mount the corresponding VTL iSCSI target. In this example, the tape library will be mounted locally on the server.

15. Open Microsoft iSCSI Initiator. Afterwards, navigate to the Discovery tab and press the Discover Portal button.
16. Enter the localhost address (127.0.0.1) and press the **Advanced** button.

![Discover Target Portal](image)

17. Select **Microsoft iSCSI Initiator** from the Local Adapter drop-down list and, press the **OK** button to add the discover portal.

![Advanced Settings](image)

18. Open the **Targets** tab, find the iSCSI target, which corresponds to the StarWind VTL device, and press the **Connect** button.
19. In the appeared window, uncheck the **Enable multi-path** option and press the **Advanced** button.

![Connect To Target window](image1)

Set a **Local adapter** as the **Microsoft iSCSI Initiator**, specify **127.0.0.1 / 3260** as a **Target portal IP**, and press the **OK** button twice to connect to the target.

![Advanced Settings](image2)

Now, the VTL iSCSI target is listed as **Connected**.
Installing tape library drivers

It's recommended to install the latest update of the HP driver. The driver for HP MSL8096 can be downloaded here: HPE StoreEver Tape Drivers for Microsoft Windows. The current version (4.2.0.0) supports Windows Server 2016. HP drivers must be installed on the host where StarWind VTL device is mounted via iSCSI. In our example, a local host is used.

1. Extract the previously downloaded driver (Step 4) and launch cpqsetup.exe

2. Select All and click Install.
3. Once the drivers are installed, you will see **Hewlett Packard MSL G3 Series library (x64 based)** in the Medium Changer devices.

Now, everything is ready for adding the tape library to backup software.
Conclusion

The StarWind VTL seamlessly integrates into the existing infrastructures and allows the backup process to fit the backup window that not only meets the regulatory requirements but also enables to reduce the backup costs. At the same time, system performance remains stable by increasing the speed of the backup process. StarWind VTL works great with Veeam Backup and Replication and other backup solutions.
Contacts

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