

StarWind x Veeam Hardened Backup Repository: Configuration Guide for Microsoft Windows Server [Hyper-V], StarWind x Veeam Hardened Backup Repository Deployed as a Controller VM using Web UI

2026

TECHNICAL PAPERS



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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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Annotation

Relevant products

StarWind x Veeam Hardened Backup Repository (StarWind x VHBR)

Purpose

StarWind x Veeam Hardened Backup Repository (StarWind x VHBR) is a software solution that runs as a Virtual Machine on top of the Hyper-V host and turns it into a modern and robust backup repository.

This document outlines how to configure the StarWind x Veeam Hardened Backup Repository on Hyper-V host. It covers the steps on how to create a Hardened Repository and connect it to Veeam Backup & Replication for achieving backups immutability.

Audience

This technical guide is intended for storage and virtualization architects, system and backup administrators, and partners designing virtualized environments StarWind x Veeam Hardened Backup Repository.

Expected result

The end result of following this guide will be a fully configured StarWind x Veeam Hardened Backup Repository on a Hyper-V host with a Hardened Repository created and connected to Veeam Backup & Replication.

Prerequisites

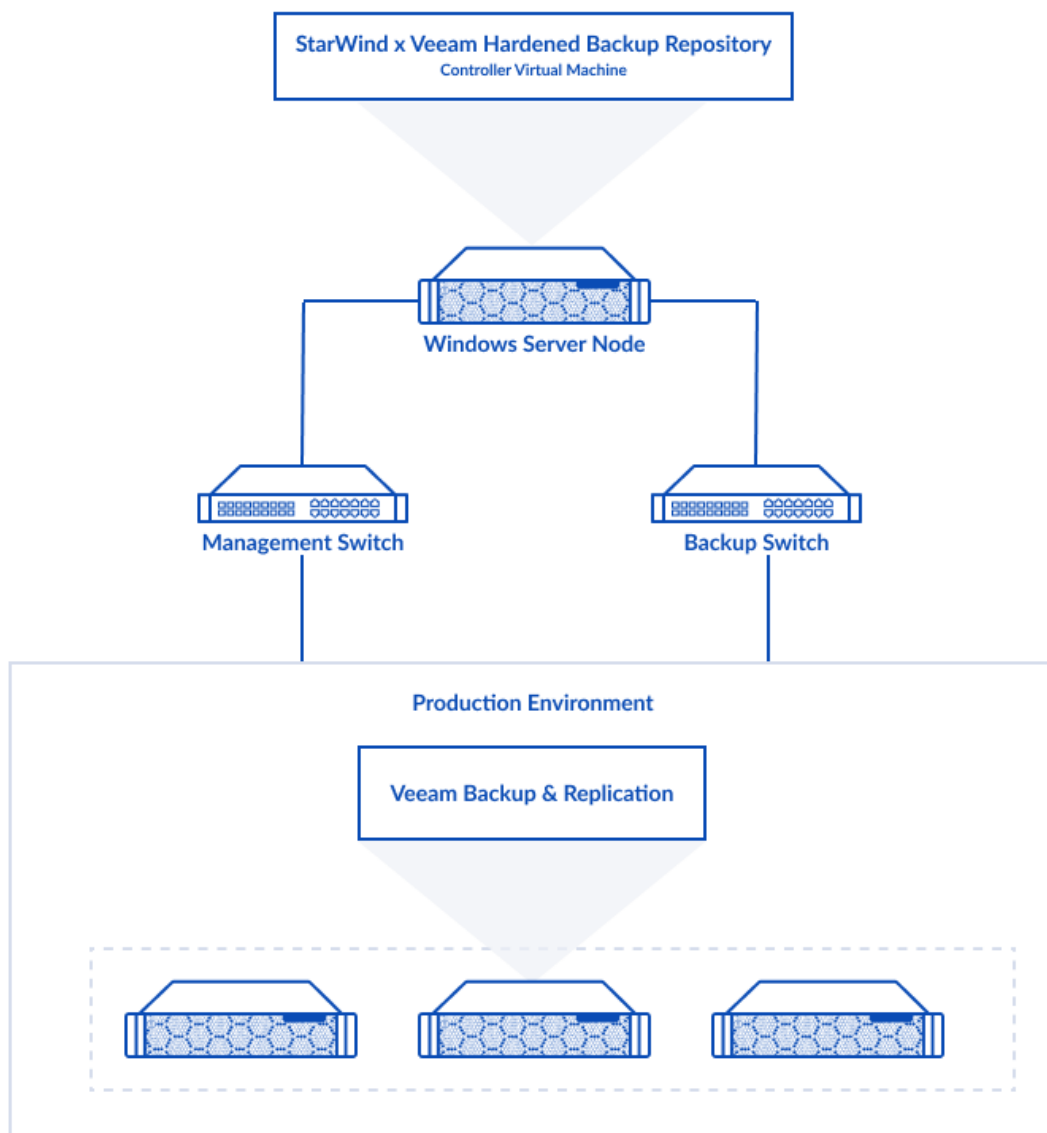
StarWind x Veeam Hardened Backup Repository system requirements

Prior to installing StarWind x Veeam Hardened Backup Repository, please make sure that the system meets the requirements, which are available via the following link: <https://www.starwindsoftware.com/system-requirements#svhbr>

Recommended RAID settings for HDD and SSD disks:
<https://knowledgebase.starwindsoftware.com/guidance/recommended-raid-settings-for-hdd-and-ssd-disks/>

Solution diagram

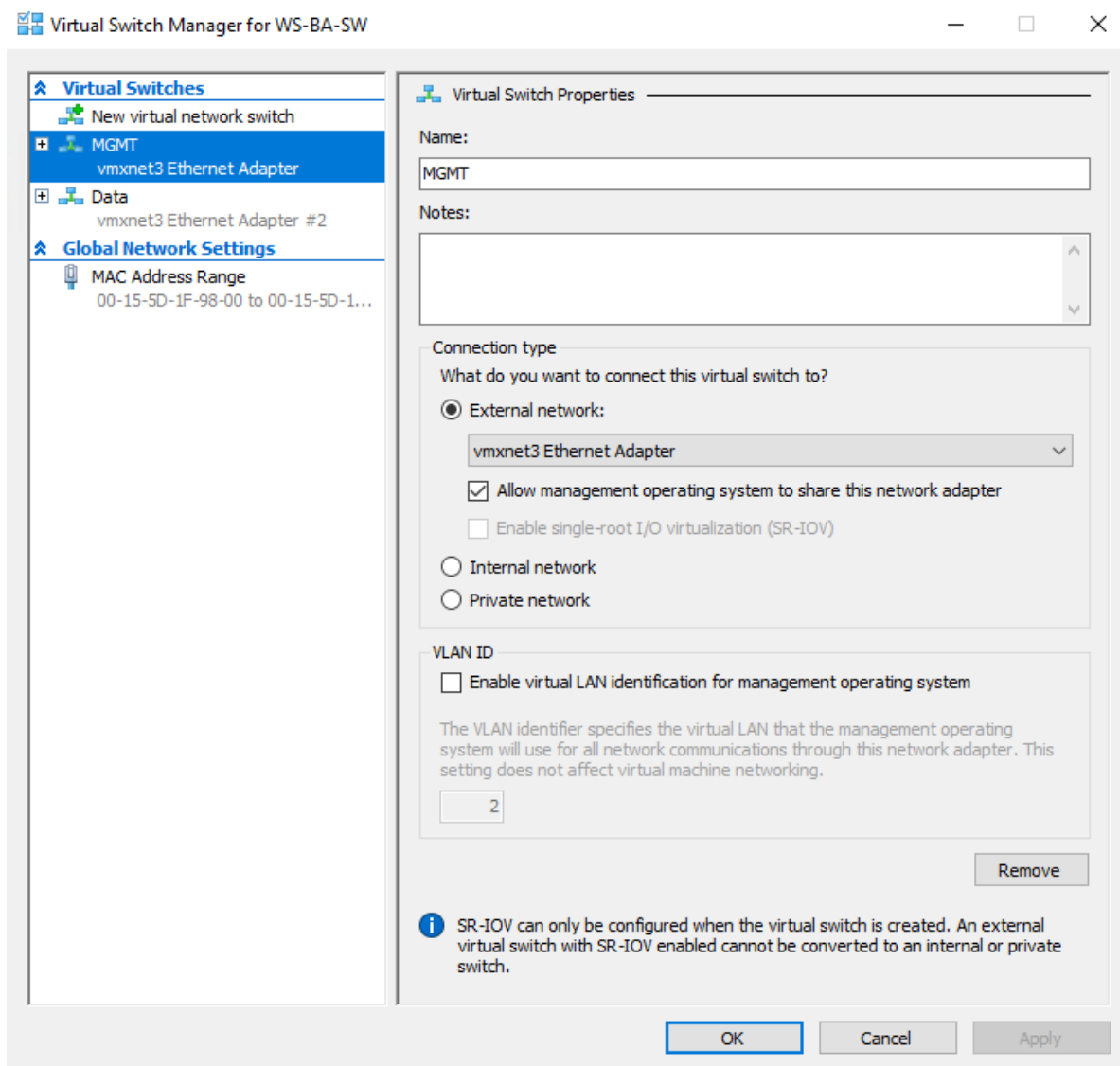
The diagrams below illustrate the network and storage configuration of the solution:



Preconfiguring Microsoft Hyper-V Host

1. Deploy Windows Server on the host and install the Hyper-V role. This can be done through Server Manager (Add Roles and Features menu item).
2. Define at least 1x network interface that will be used for the Data (backup) traffic.
3. Separate external Virtual Switches should be created for the management and Data

(backup) traffic. Using Hyper-V Manager open Virtual Switch Manager and create an external Virtual Switch.



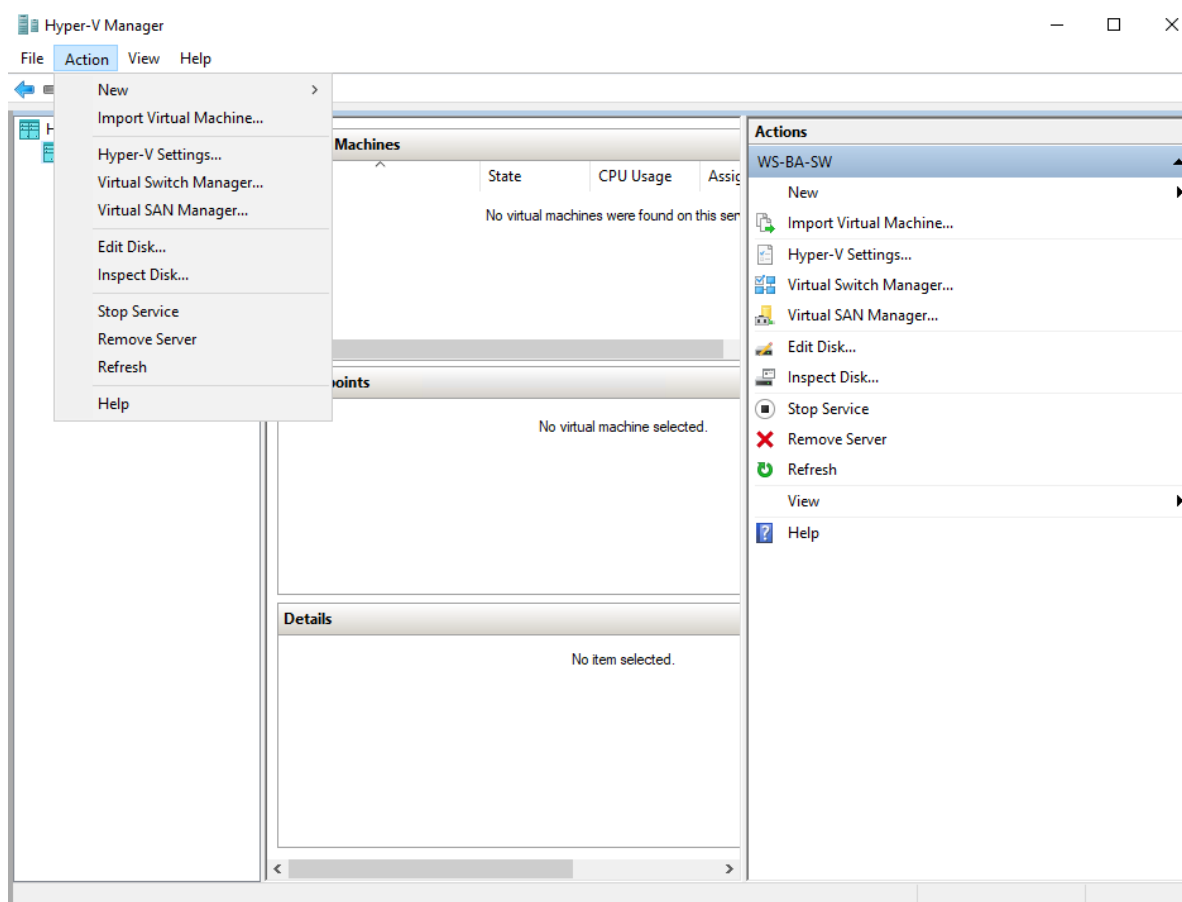
4. Configure and set the IP address on each virtual switch interface. In this document, 172.16.30.x subnet is used for Data (backup) traffic.

NOTE: In case NIC supports SR-IOV, enable it for the best performance. An additional internal switch is required for iSCSI Connection. Contact support for additional details.

5. Set MTU size to 9014 on Data interface.

Deploying Starwind X Veeam Hardened Backup Repository

1. Download StarWind x Veeam Hardened Backup Repository zip archive: <https://www.starwindsoftware.com/resource-library/veeam-hardened-backup-repository/#download>
2. Extract the virtual machine files.
3. Deploy the control virtual machine to the Microsoft Hyper-V Server using the “Import Virtual Machine” wizard in Hyper-V Manager.



4. On the second page of the wizard, point to the location of the VM template. Select the VM folder and click Next.

Import Virtual Machine ✕

Locate Folder

Before You Begin

Locate Folder

Select Virtual Machine

Choose Import Type

Summary

Specify the folder containing the virtual machine to import.

Folder:

< Previous

Next >

Finish

Cancel

5. Click Next on the “Select Virtual Machine” step.

Import Virtual Machine

×

Select Virtual Machine

Before You Begin
Locate Folder
Select Virtual Machine
Choose Import Type
Summary

Select the virtual machine to import:

Name	Date Created
CVM	5/3/2024 3:13:31 AM

< Previous

Next >

Finish

Cancel

6. Select the “Copy the virtual machine” import type and click Next.

Import Virtual Machine

×

Choose Import Type

Before You Begin
Locate Folder
Select Virtual Machine
Choose Import Type
Summary

Choose the type of import to perform:

☐ Register the virtual machine in-place (use the existing unique ID)

☐ Restore the virtual machine (use the existing unique ID)

☒ Copy the virtual machine (create a new unique ID)

< Previous

Next >

Finish

Cancel

7. Specify new or existing folders to store virtual machine files, such as configuration, snapshots and smart paging. Click Next.



Import Virtual Machine
×

Choose Folders to Store Virtual Hard Disks

Before You Begin

Locate Folder

Select Virtual Machine

Choose Import Type

Choose Destination

Choose Storage Folders

Summary

Where do you want to store the imported virtual hard disks for this virtual machine?

Location: Browse...

< Previous
Next >
Finish
Cancel

9. After this, the “VM import” wizard will validate the network. The default naming for management virtual switch is “Management vSwitch”. If existing virtual switch has a different name, specify corresponding network connections. Click Next.

Import Virtual Machine
✕

Connect Network

Before You Begin

Locate Folder

Select Virtual Machine

Choose Import Type

Choose Destination

Choose Storage Folders

Connect Network

Connect Network

Connect Network

Summary

This page allows you to connect to virtual switches that are available on the destination computer.

The following configuration errors were found for virtual machine 'CVM'.

✖ Could not find Ethernet switch 'Management vSwitch'.

Specify the virtual switch you want to use on computer "WS-BA-SW".

Connection:

MGMT

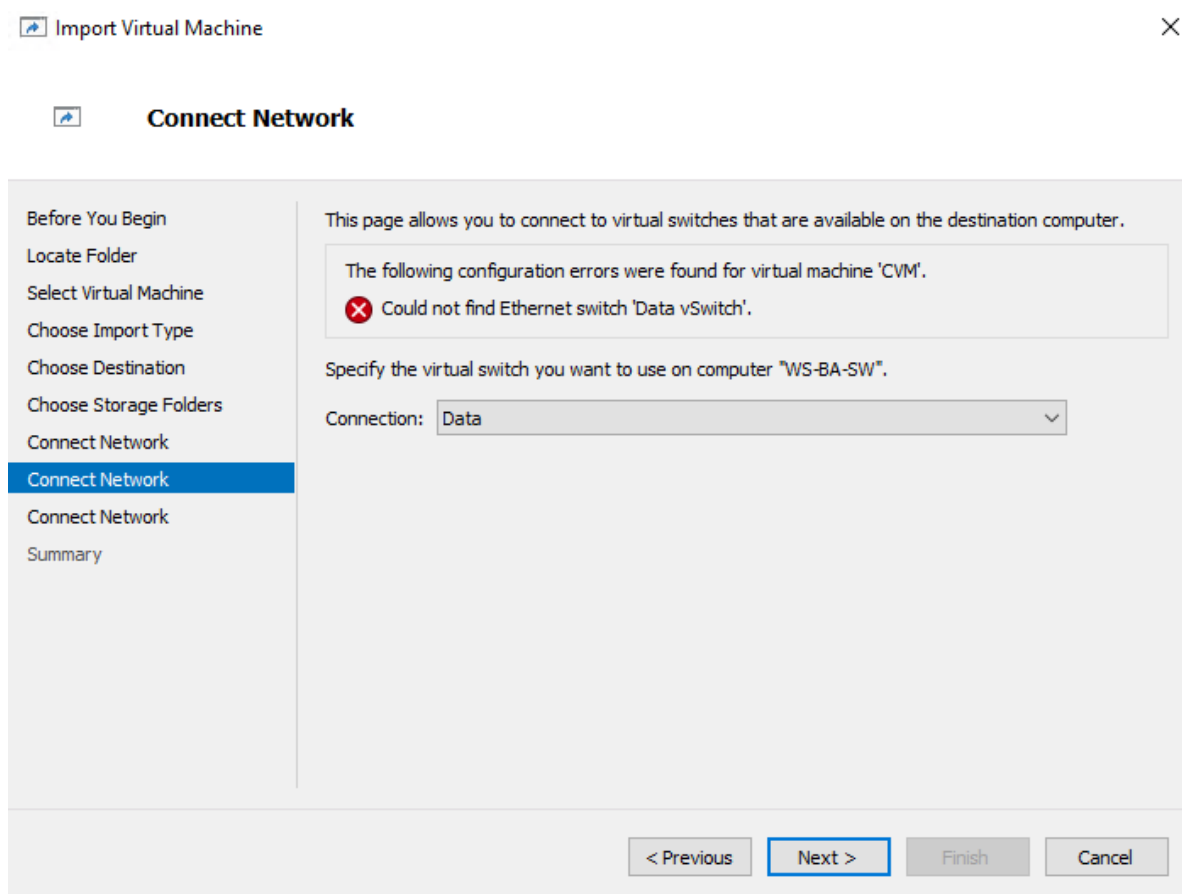
Not Connected

Data

MGMT

< Previous
Next >
Finish
Cancel

10. Perform the same for the Data (backup) traffic network. The default naming for Data virtual switch is "Data vSwitch". If existing virtual switch has a different name, specify corresponding network connections. Click Next.



11. The replication network is not required for StarWind x Veeam Hardened Backup Repository. Leave the Connection as “Not Connected”. Click Next.

✚ Import Virtual Machine

✕

✚

Connect Network

Before You Begin

Locate Folder

Select Virtual Machine

Choose Import Type

Choose Destination

Choose Storage Folders

Connect Network

Connect Network

Connect Network

Summary

This page allows you to connect to virtual switches that are available on the destination computer.

The following configuration errors were found for virtual machine 'CVM'.

✖ Could not find Ethernet switch 'Replication vSwitch'.

Specify the virtual switch you want to use on computer "WS-BA-SW".

Connection: Not Connected

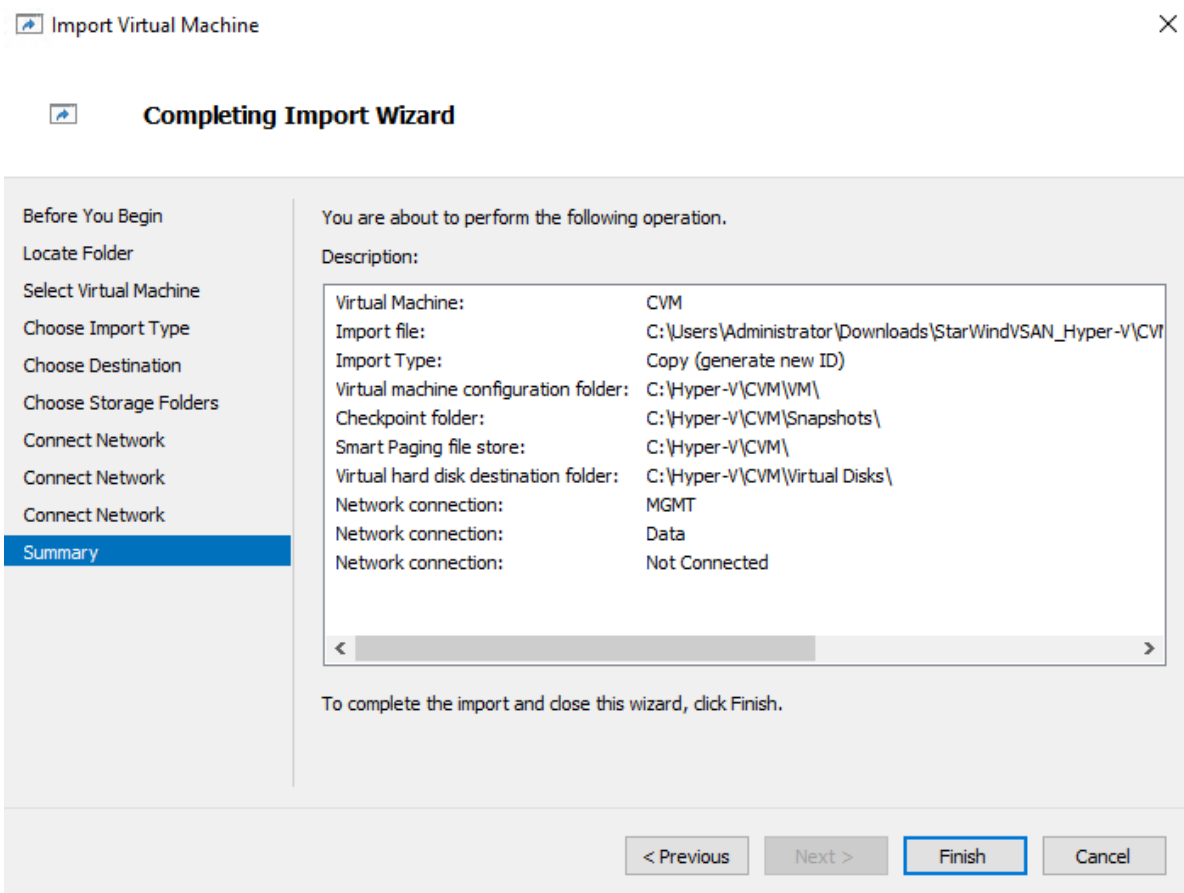
< Previous

Next >

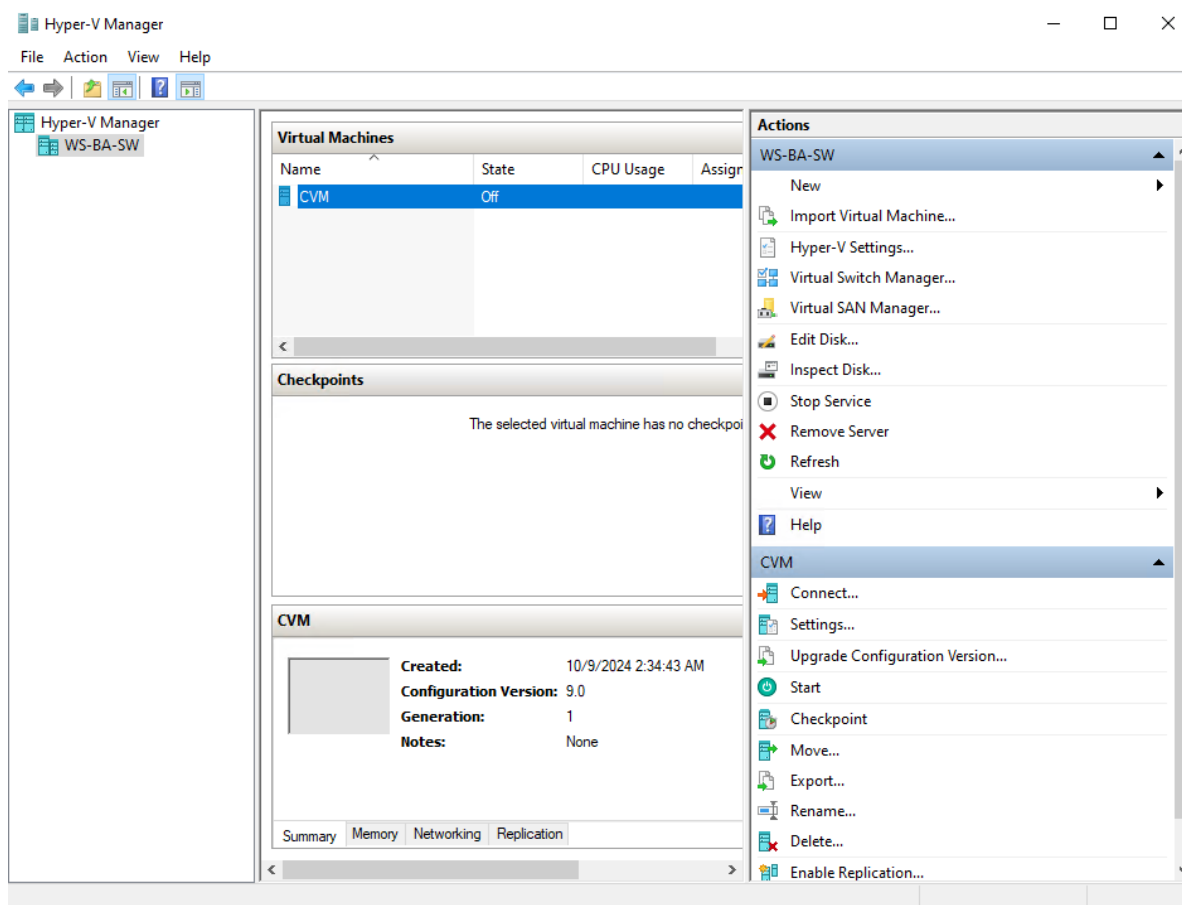
Finish

Cancel

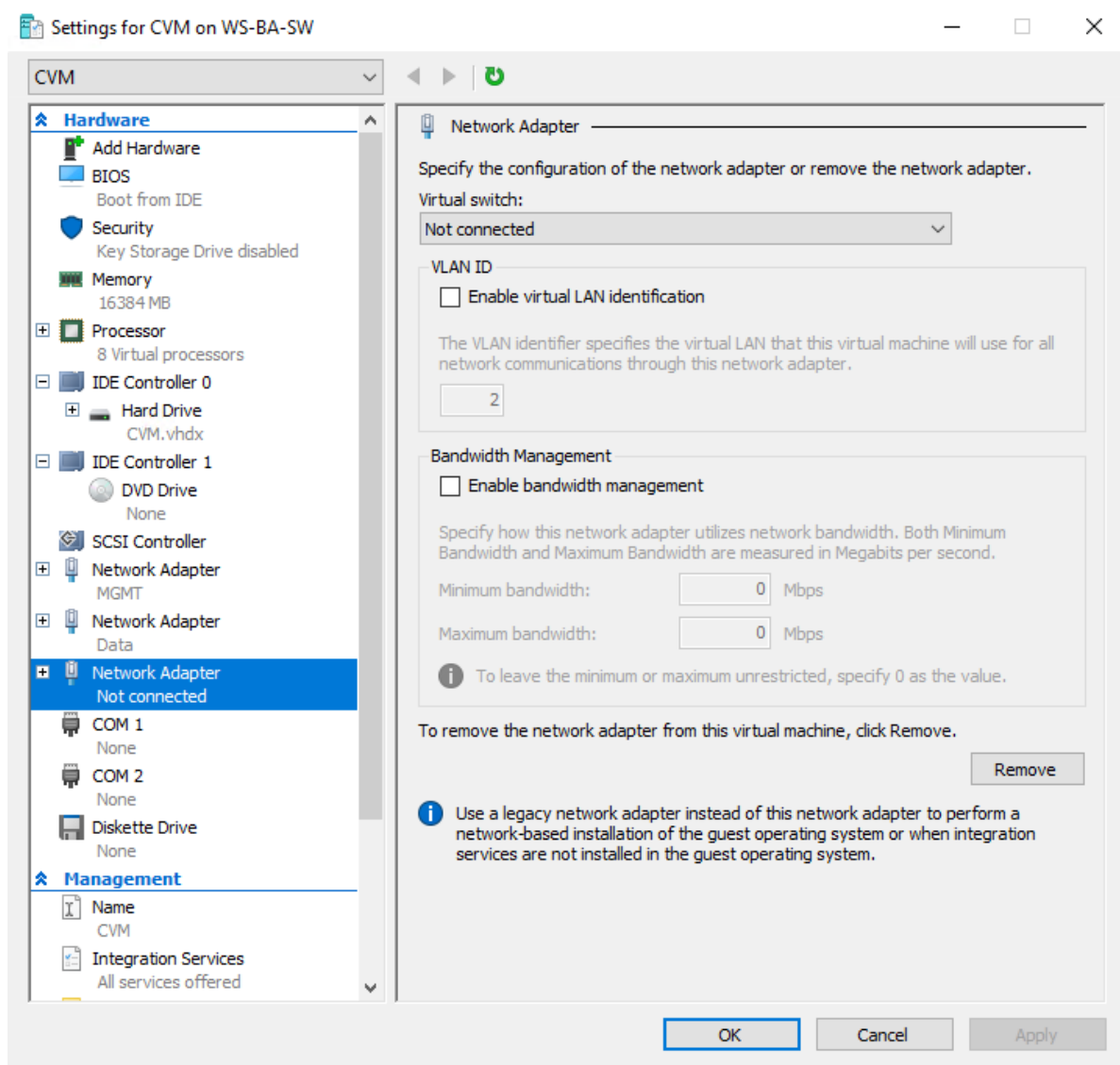
12. Review the import configuration summary and click Finish to complete the import.



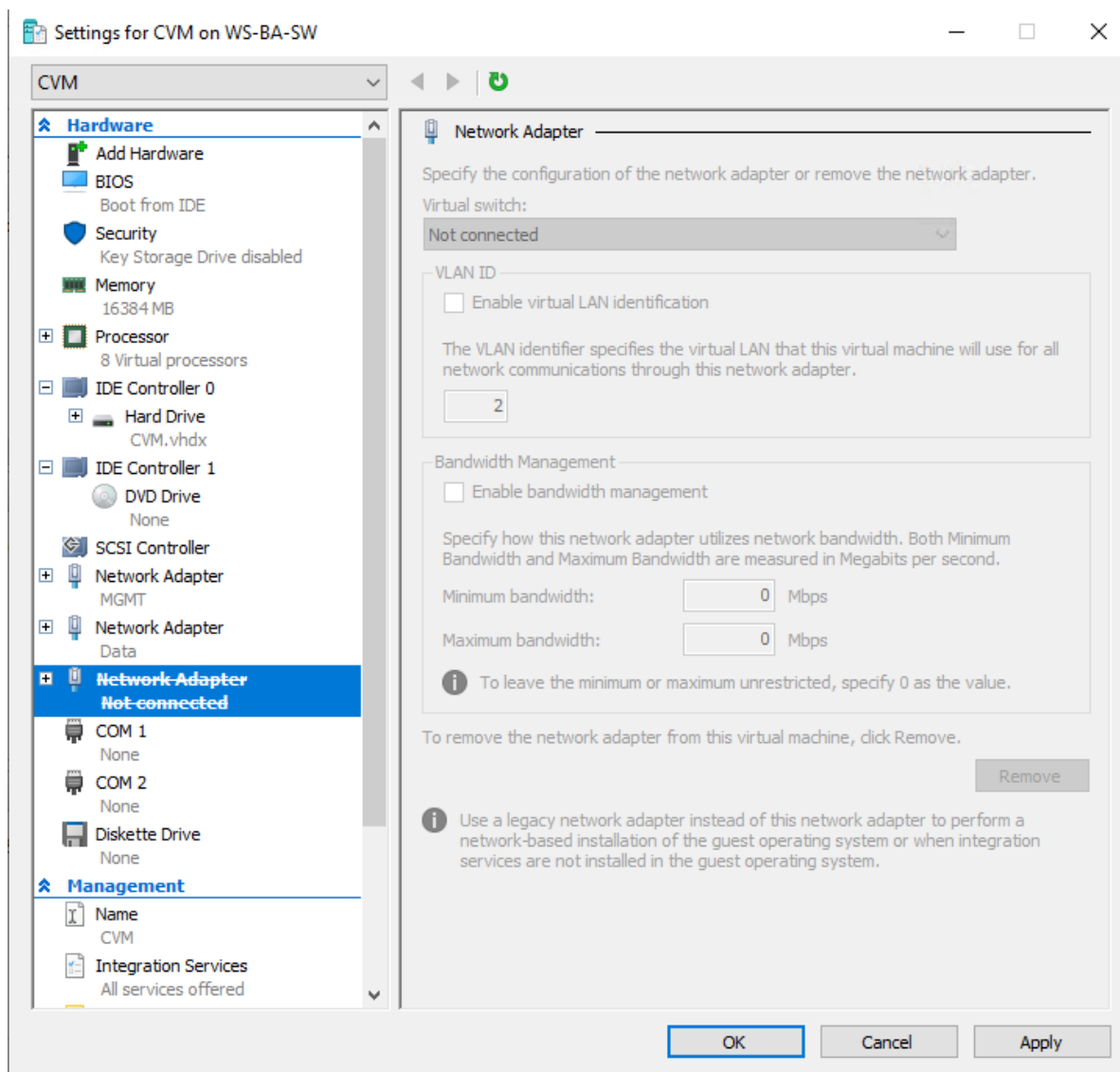
13. Once the import is complete, navigate to Hyper-V Manager, select the recently imported StarWind x Veeam Hardened Backup Repository Controller Virtual Machine (CVM) and click "Settings..."



14. Select the Network adapter (Replication) that is in the “Not connected” state and click Remove.



15. After this, Click Apply. Then click OK.



Initial Configuration Wizard

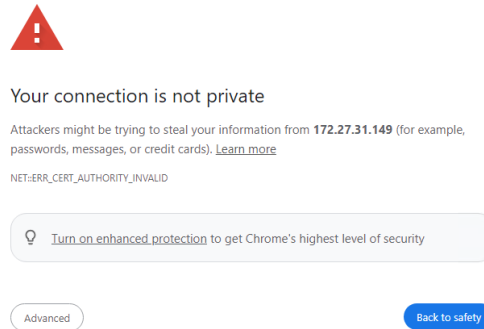
1. Start StarWind x Veeam Hardened Backup Repository CVM.

Launch VM console to see the VM boot process and get the IPv4 address of the Management network interface.

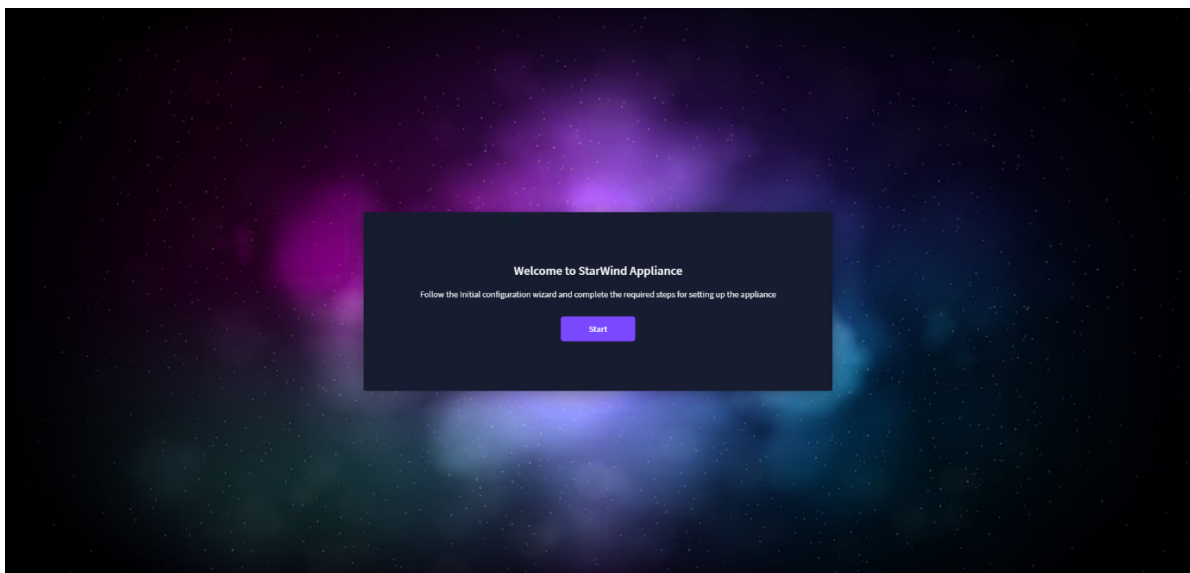
NOTE: in case VM has no IPv4 address obtained from a DHCP server, use the Text-based User Interface (TUI) to set up a Management network.

2. Default credentials for TUI: user/rds123RDS

3. Using the web browser, open a new tab and enter the VM IPv4 address to open Web Interface. Click “Advanced” and then “Continue to...”



4. StarWind x Veeam Hardened Backup Repository web UI welcomes you, and the “Initial Configuration” wizard will guide you through the deployment process.



5. In the following step, upload the license file.

StarWind Appliance Initial configuration

License

EULA

Management network

Static hostname

Administrator account

Summary

Configuration

License

Provide StarWind license file to continue

If you cannot find the license file, please contact your StarWind Sales Representative or send the request to: sales@starwind.com

Upload file

StarWind license file (.swk)

Back

Next

6. Read and accept the End User License Agreement to proceed.

StarWind Appliance Initial configuration

License

EULA

Management network

Static hostname

Administrator account

Summary

Configuration

End-user license agreement

Review and accept the following license agreement to continue

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1.1. "Account Manager" shall mean the point of contact provided by StarWind to manage Licensee's account and support requests and identified as the Account Manager. StarWind may change the Account Manager in its sole discretion by giving

☒ I accept the terms of the license agreement

Back

Next

7. Review or edit the Network settings and click Next.

NOTE: Static network settings are recommended for the configuration.

StarWind Appliance Initial configuration

✓ License

✓ EULA

● Management network

Static hostname

Administrator account

Summary

Configuration

Management network

Specify the unique IP address (static is recommended) and configure other network settings.

IP mode

Static

NIC	Adapter model	Bandwidth	MAC address	IP address	Netmask ⓘ	Gateway
enp7s18	VirtIO Ethernet Co...	10 Gbit	BC:24:11:69:9...	172.27.31.64	255.255.255.0	172.27.31.10

Name servers (optional):

DNS 1

172.27.31.1

DNS 2

8.8.8.8

Time settings (optional):

NTP server

Time zone

UTC

Separate servers with commas, a maximum of 3 servers

Back

Next

8. Specify the hostname for the virtual machine and click Next.

StarWind Appliance Initial configuration

✓ License

✓ EULA

✓ Management network

• Static hostname

Administrator account

Summary

Configuration

Static hostname

Set the current appliance hostname

Use Latin letters, numbers, and dash

Hostname

SW-VHR

Back

Next

9. Create an administrator account. Click Next.

StarWind Appliance Initial configuration

✓ License

✓ EULA

✓ Management network

✓ Static hostname

• Administrator account

Summary

Configuration

Administrator account

Specify new credentials for the appliance administrator account

Username

swadmin

Password

••••••

Confirm password

••••••

Additional information (optional)

Full name

E-mail

Back

Next

10. Review your settings selection before setting up StarWind x Veeam Hardened Backup Repository.

StarWind Appliance Initial configuration

✓ License

✓ EULA

✓ Management network

✓ Static hostname

✓ Administrator account

● Summary

Configuration

Summary

License type

License

Trial

Network settings

Interface

ens160 (82574L Gigabit Network Connection)

Bandwidth

1 Gbit

MTU

1500

IP address

172.27.31.64

Appliance hostname

SW-VHR

Credentials

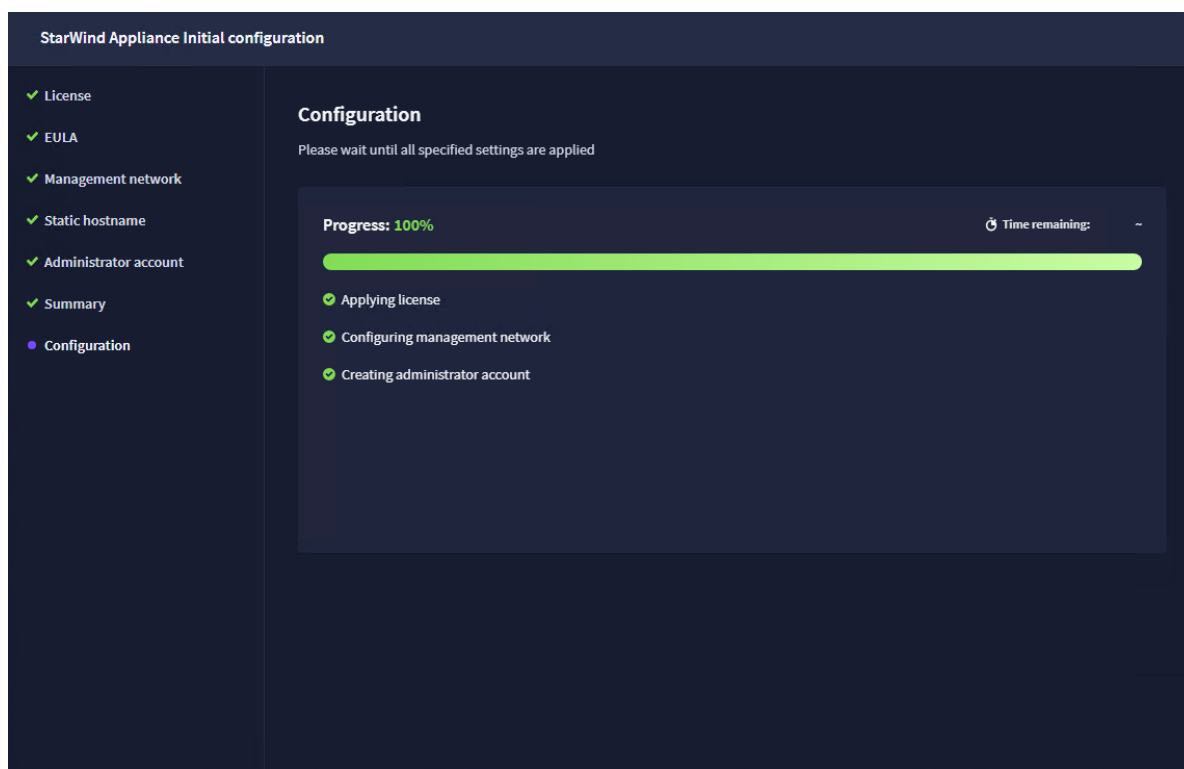
Administrator username

swadmin

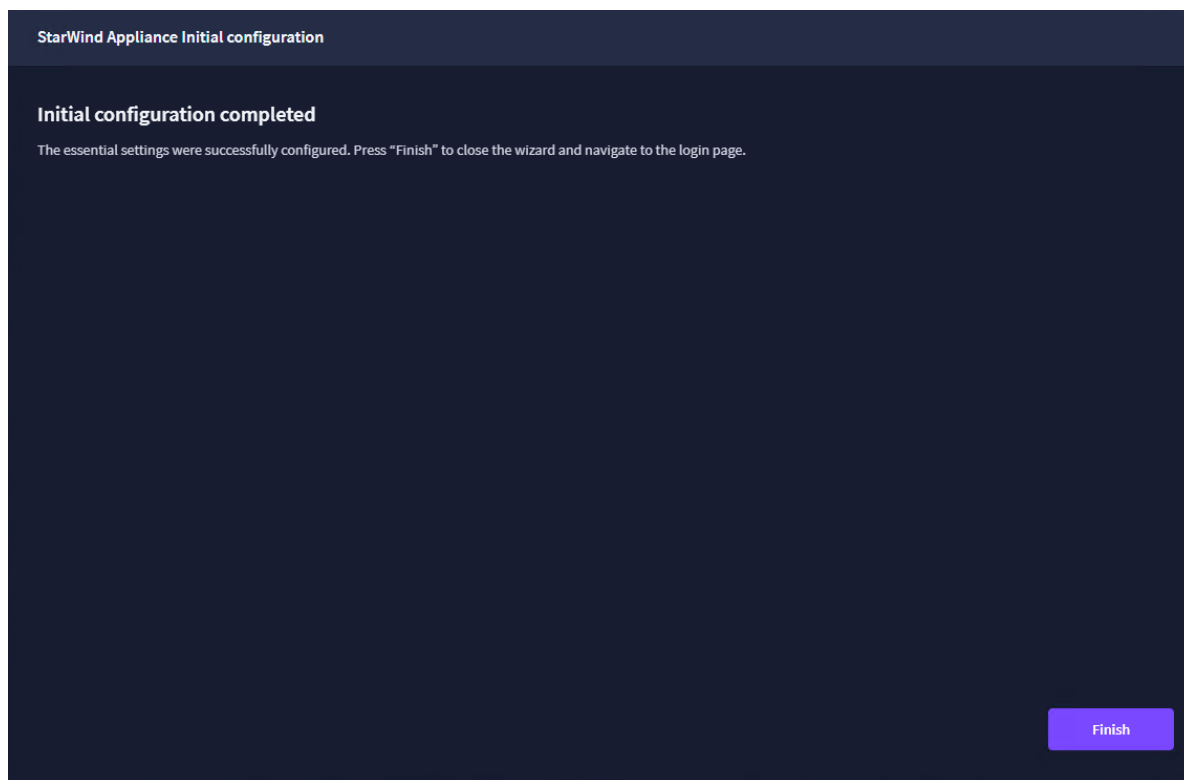
Back

Configure

11. Please standby until the Initial Configuration Wizard configures StarWind x Veeam Hardened Backup Repository for you.

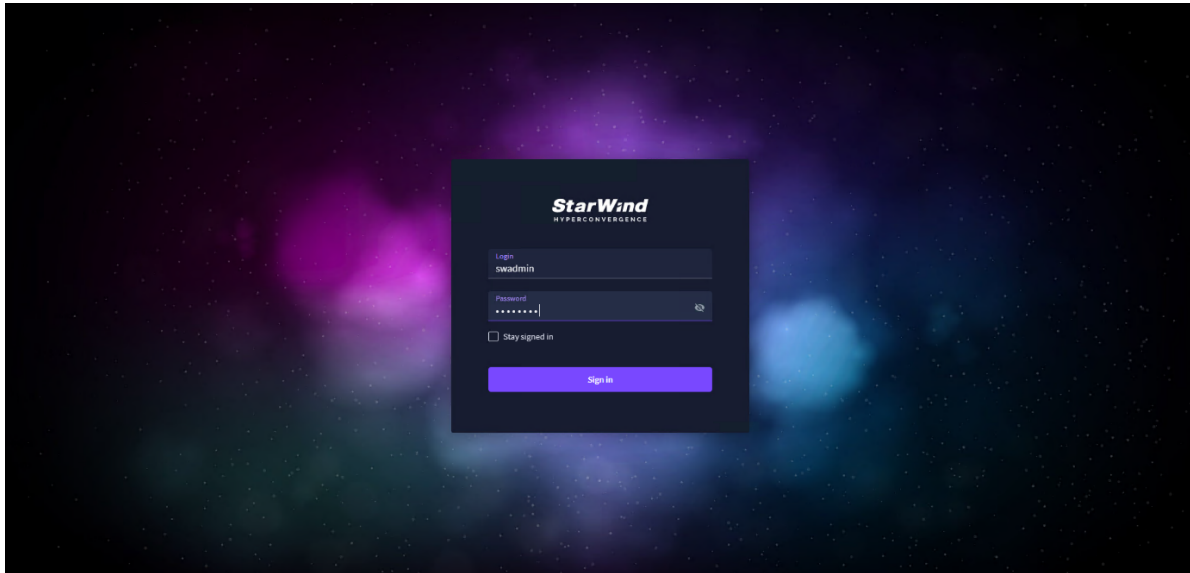


12. The appliance is set and ready. Click Finish to proceed to the Login page.

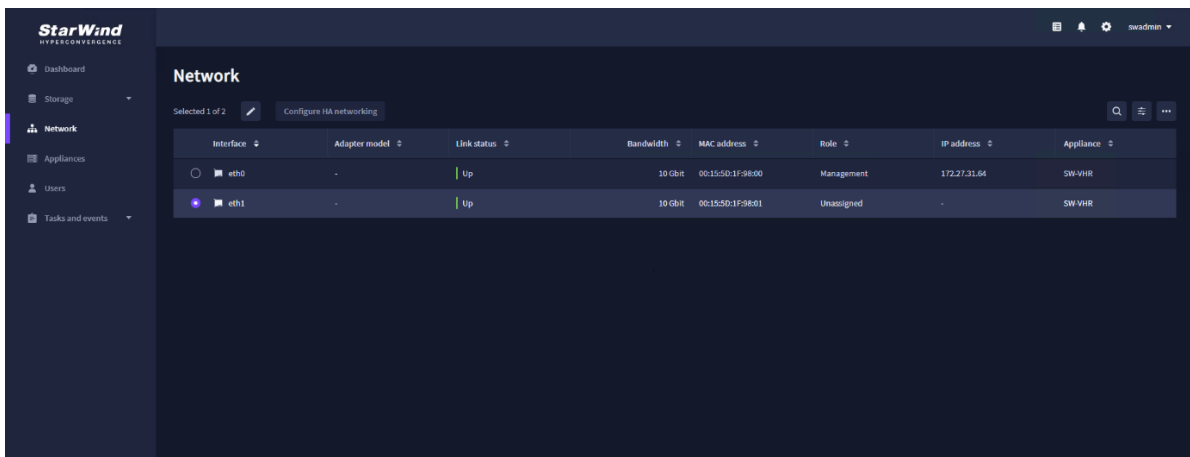


Configure Networking

1. Log in to the CVM WEB UI using the username and password specified during the initial configuration.



2. Navigate to the Network tab, select the network adapter that will be used for Data (Backup) traffic, and click the Edit icon.

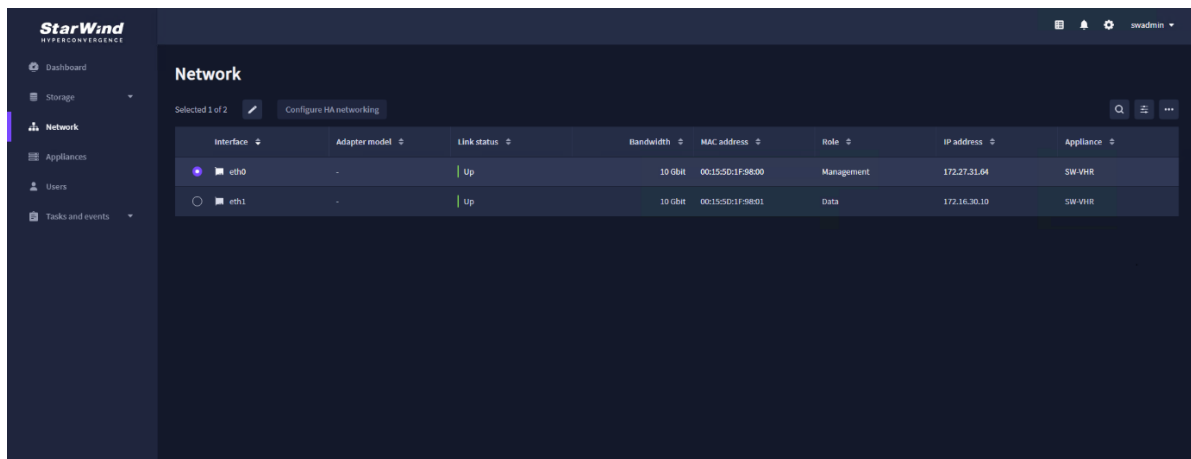


3. If the network adapter status is “Down”, uncheck the “Disable network adapter” checkbox. Make sure that the “Connect automatically on boot” checkbox is enabled and MTU is set to 9000 Assign the Data role to the network adapter, and specify the IPv4 address and network mask. Click Save.

Edit network adapter settings ×

Name eth1	Adapter model
Role Data ▼	IP mode Static ▼
IPv4 address 172.16.30.10 e.g. 192.168.100.100	Netmask 255.255.255.0 e.g. 255.255.255.0 or CIDR notation (e.g. 24)
Gateway e.g. 192.168.100.1 or leave the settings empty	DNS Separate IP addresses with commas (,) or leave the settings empty
MTU 9000 The valid value in the range of 1500-9000	
☐ Disable network adapter ☒ Connect automatically on boot	
Cancel Save	

4. You should see the newly assigned “Data” role and IP address to the network adapter.



Add Physical Disks

Attach physical storage to StarWind x Veeam Hardened Backup Repository Controller VM:

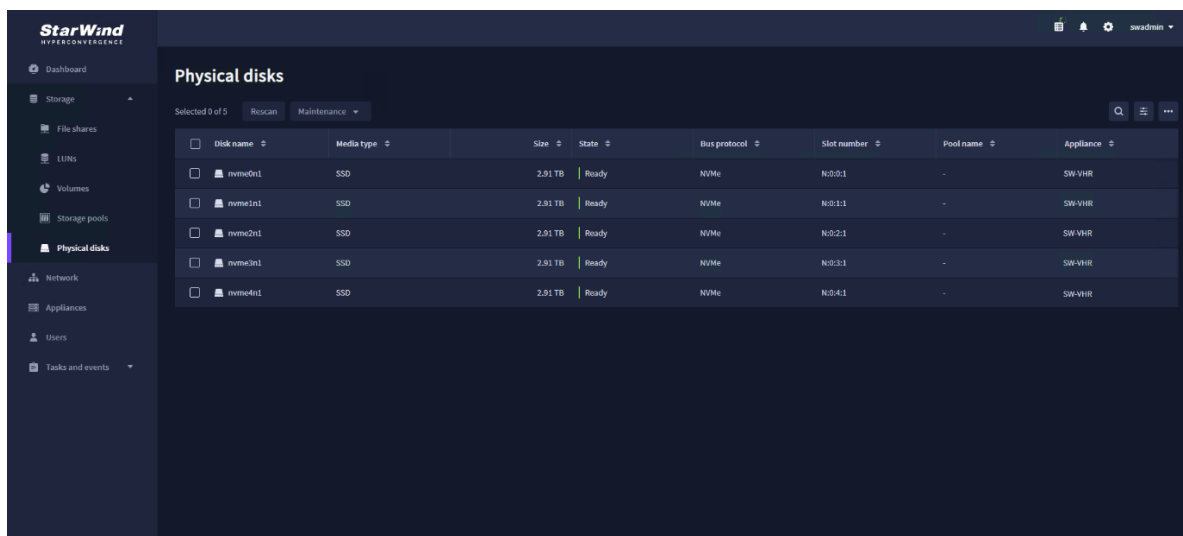
- Ensure that all physical drives are connected through an HBA or RAID controller.
- Add HBA, RAID controllers, or NVMe SSD drives to StarWind CVM via a passthrough device or add a virtual disk.

Learn more about storage provisioning guidelines in the [KB article](#).

NOTE. In this guide, NVMe drives are passed through to StarWind x Veeam Hardened Backup Repository CVM as an example.

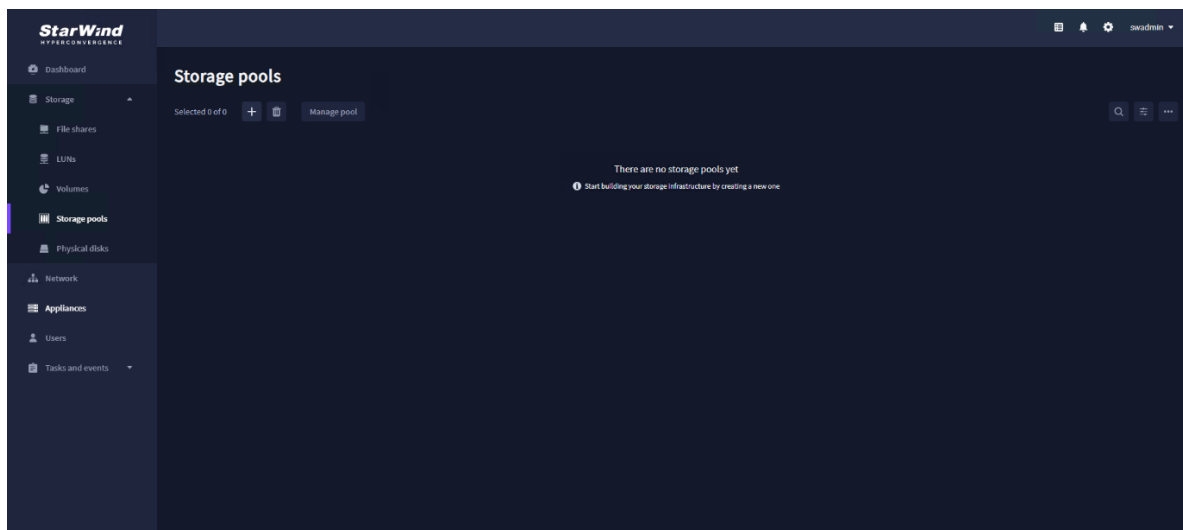
Create Storage Pool

1. Navigate to the Storage tab, select Physical disks and click Rescan.

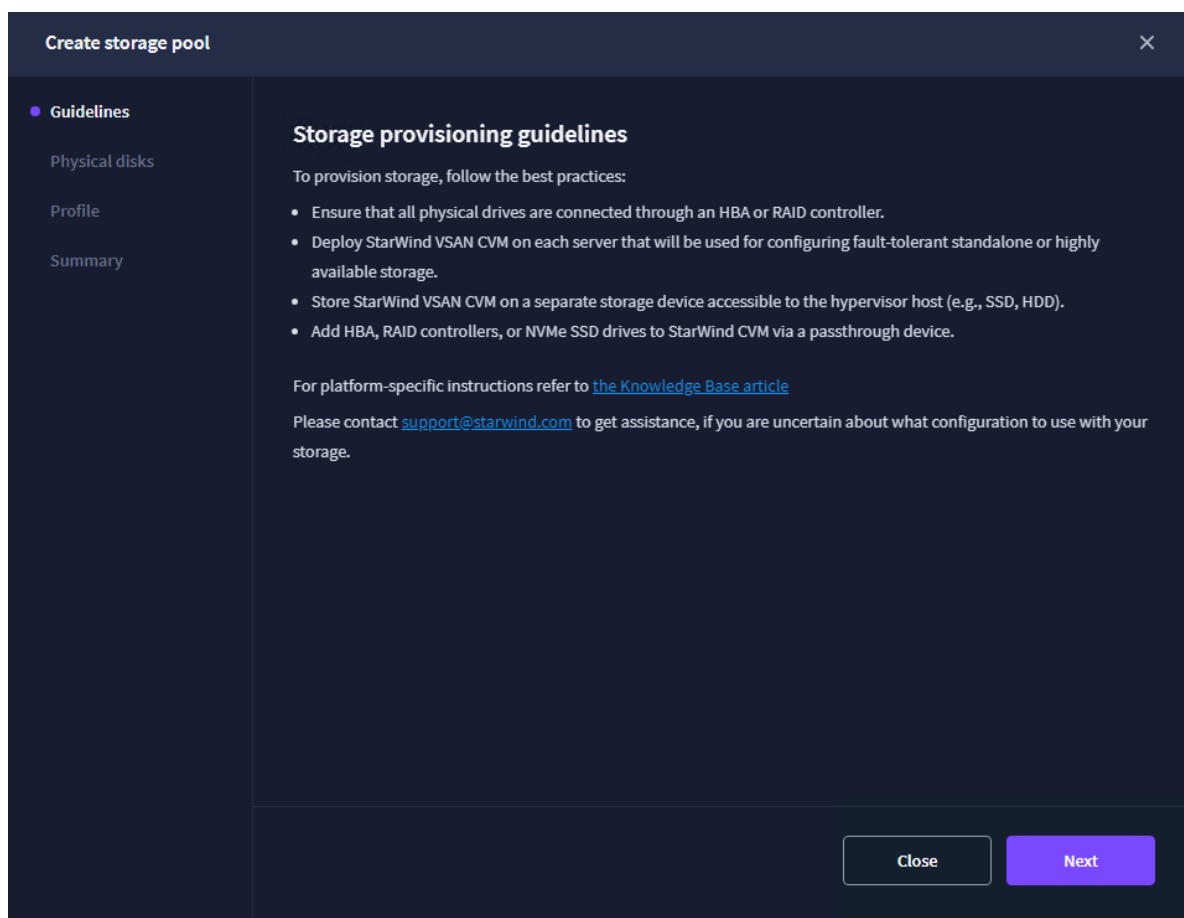


NOTE: StarWind x Veeam Hardened Backup Repository can use storage from a hardware RAID or create a Linux Software RAID or ZFS storage pools from the drives connected to an HBA controller. This guide uses Linux Software RAID as an example.

2. In the Storage tab, navigate to the Storage pools and click the “+” sign.



3. Verify the prerequisites and click Next.



4. Select the drives to create a Linux Software RAID and click Next.

Create storage pool

Guidelines

Physical disks

Profile

Summary

Physical disks

Select physical disks to include in storage pools on each node

SW-VHR

	Disk name	Media t...	Bus pro...	Size	Slot	Contro...
☒	nvme0n1	SSD	NVMe	2.91 TB	N:0:0:1	Micron_745...
☒	nvme1n1	SSD	NVMe	2.91 TB	N:0:1:1	Micron_745...
☒	nvme2n1	SSD	NVMe	2.91 TB	N:0:2:1	Micron_745...
☒	nvme3n1	SSD	NVMe	2.91 TB	N:0:3:1	Micron_745...
☒	nvme4n1	SSD	NVMe	2.91 TB	N:0:4:1	Micron_745...

Total raw capacity of selected disks: 14.55 TB

Back

Next

5. Select one of the preconfigured storage profiles or create a redundancy layout for the new storage pool manually according to your redundancy, capacity, and performance requirements. Software RAID-6 is highly recommended. To configure it, select Manual and click Next.

Create storage pool

Guidelines

Physical disks

Profile

Summary

Profile

Choose an optimal storage pool profile. Selected disks left unused will be assigned to hot spares.

Storage pool profile	Usable capacity	Fault tolerance	Hot spares
☐ High performance (recommended) Maximize storage performance while maintaining redundancy (Software RAID\RAID-10)	5.76 TB	2	- 1 +
☐ Better redundancy Maximize storage capacity while maintaining redundancy (ZFS\RAID-Z2)	7.77 TB	2	- 0 +
☐ High capacity Maximize redundancy while maintaining high storage capacity (Software RAID\RAID-5)	11.52 TB	1	- 0 +
☒ Manual Allows you to configure the storage pool layout manually.	-	-	-

Back

Next

6. Select Software RAID and then select Software RAID\RAID-6 from the Available storage pool layouts. Click Next.

Create storage pool

Guidelines

Physical disks

Profile

Manual configuration

Summary

Manual configuration

Choose the storage pool type and layout. Selected disks left unused will be assigned to hot spares.

Software RAID

- Better random write performance
- Better scalability
- Optimal for highly available (HA) SSD or HDD configurations

ZFS

- Enables storage snapshots
- Provides "bit rot" protection
- Optimal for HDD-based standalone configurations

Available storage pool layouts

Software RAID\RAID-6

Number of disk groups

1

Hot spare

0

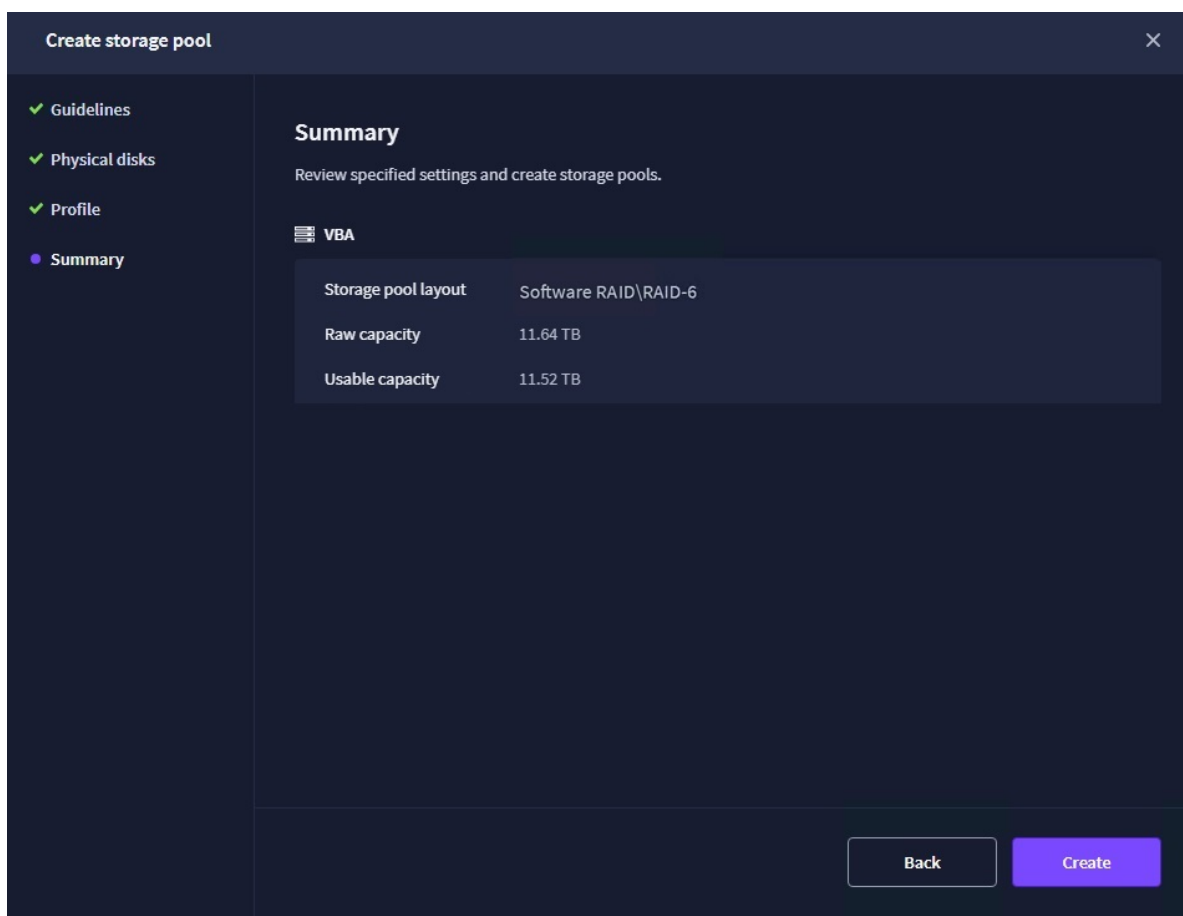
Disks in each group: 5

The estimated usable capacity for the configured storage pool layout:

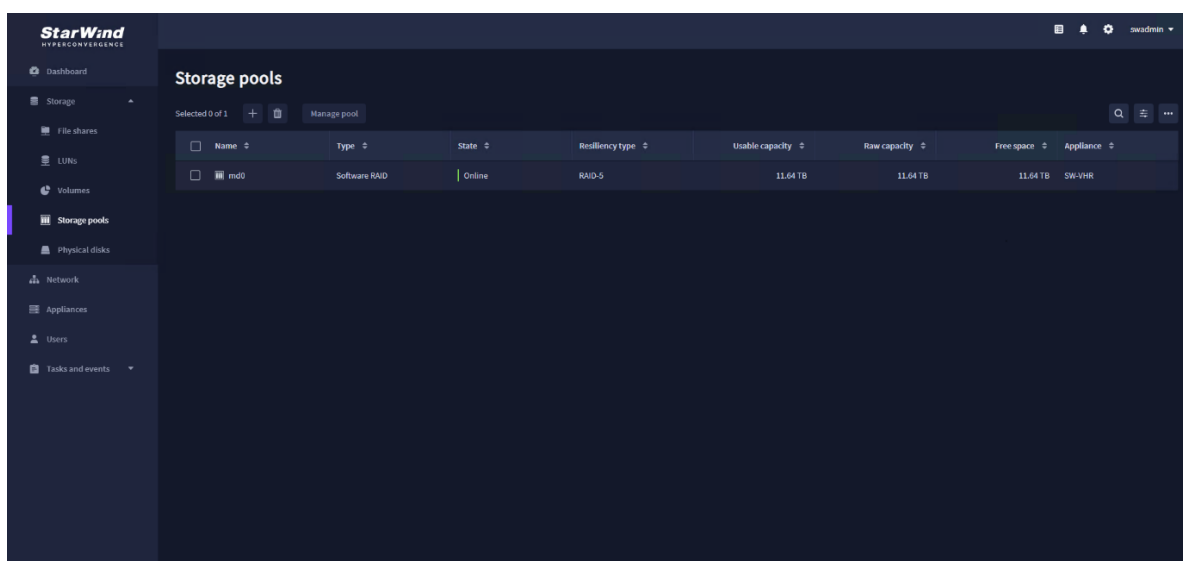
Back

Next

7. Review "Summary" and click the "Create" button to create the storage pool.



8. Wait until the Linux Software RAID synchronization process is fully complete and its state changes to Online.



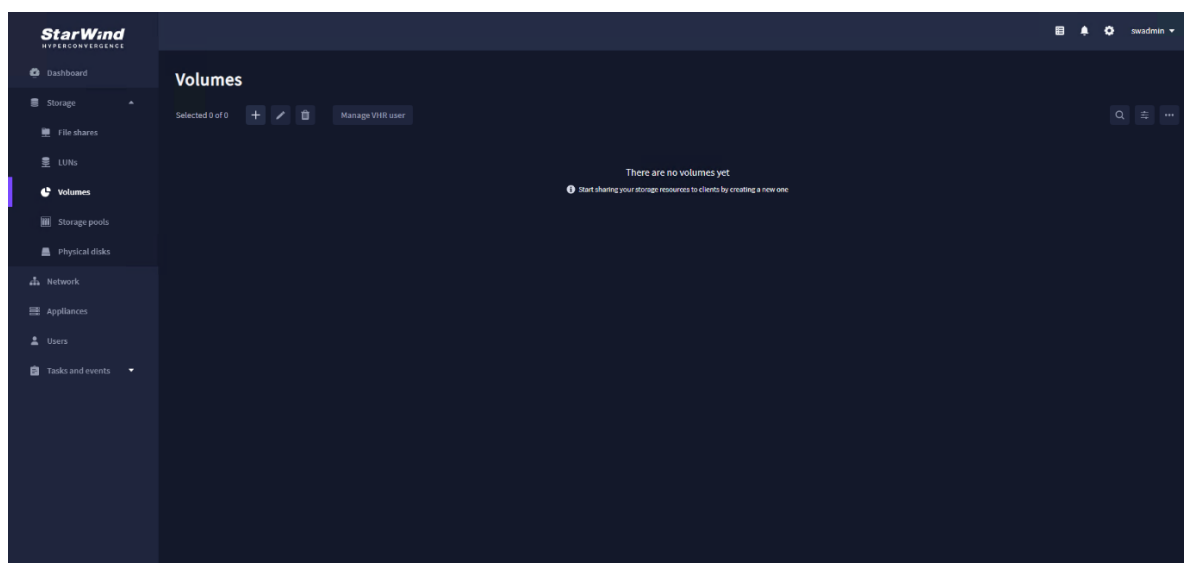
Create Backup Repository

StarWind x Veeam Hardened Backup Repository supports the creation of only hardened backup repository and non-hardened backup repository (direct attach Linux repository) for use with Veeam Backup & Replication.

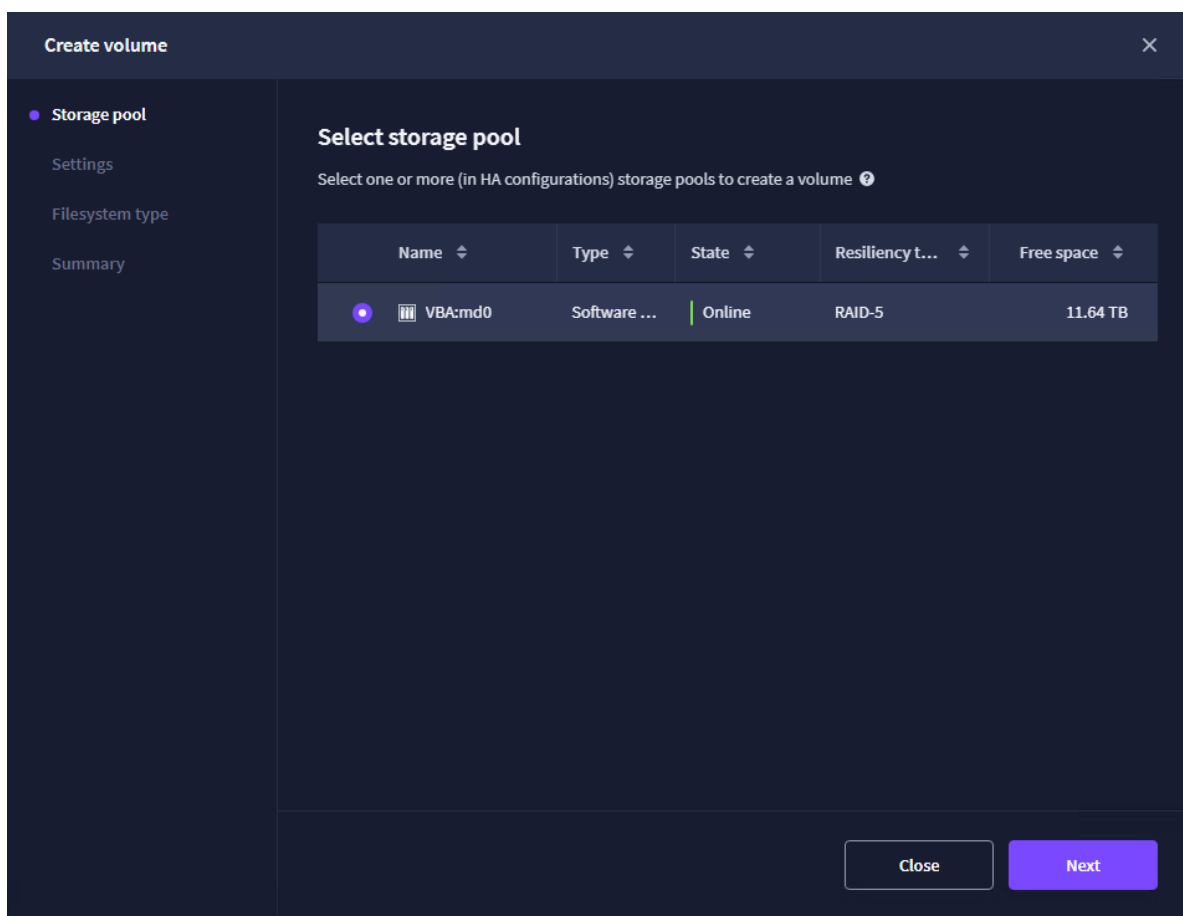
NOTE. Hardened Repository ensures immutability only when used with Veeam Backup & Replication.

Hardened Repository For Veeam Backup & Replication

1. Navigate to the “Volumes” tab and click the “+” button to open the “Create volume” wizard.



2. Select the storage pool that will be used for a new volume and click Next.



3. Specify the volume name and capacity. Click Next.

Create volume

✓ Storage pool

● Settings

Filesystem type

Summary

Specify settings

Specify the volume name and size

Name

sw-hardened-repo

You can use Latin letters, numbers, and dash

Size

11

Units

TB

Available storage pool capacity: 11.643 TB

Back

Next

4. Select the “Backup repository” volume type and click Next. Backup repository volume type has been specifically designed for use with Veeam Backup & Replication.

Create volume

✓ Storage pool

✓ Settings

● **Filesystem type**

Summary

Choose filesystem settings

Choose the preferred filesystem settings for the new volume

☐ **Standard**
The XFS volume is created with standard settings. Recommended for general use and the highest performance.

☐ **Raw**
An unformatted volume is created. Recommended for creating an NVMe-oF LUN

☒ **Backup repository**
The XFS volume is created with additional reflink (data block sharing) and CRC check flags.

Back

Next

5. Review Summary and click Create.

Create volume

✓ Storage pool

✓ Settings

✓ Filesystem type

Summary

Review summary

Review your settings before creating a volume

SW-VHR

Storage pool

VBA:md0

Volume name

sw-hardened-repo

Size

11264 GB

Filesystem settings

Backup repository

Back

Create

6. Select the recently created Volume and click “Manage VHR user”. This will create a dedicated Veeam Hardened Repository user with limited permissions for the selected volume.

StarWind

HYPERCONVERGENCE

Dashboard

Storage

File shares

LUNs

Volumes

Storage pools

Physical disks

Network

Appliances

Users

Tasks and events

Volumes

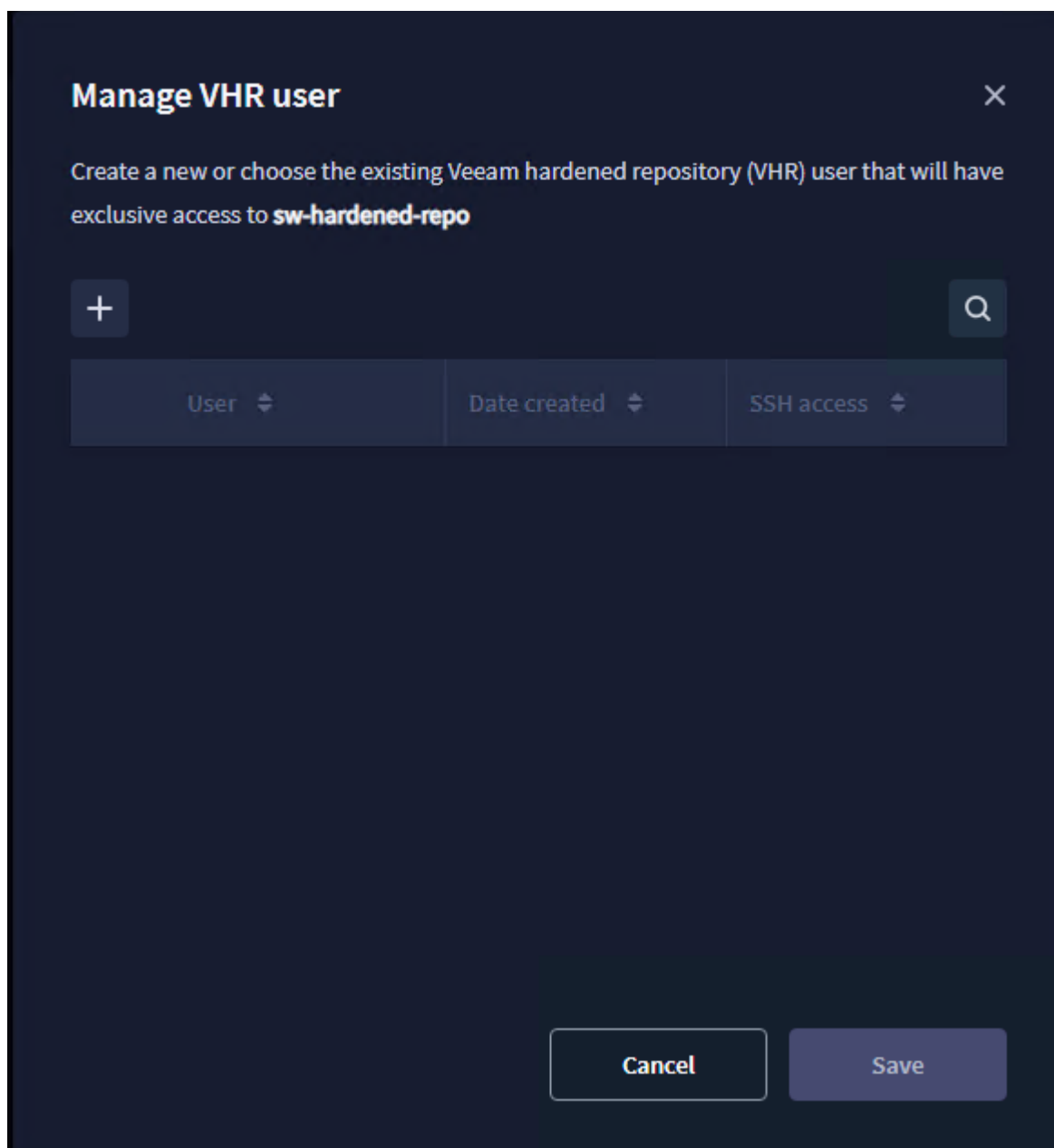
Selected 1 of 1

Manage VHR user

Name	State	Storage pool	Usable capacity	Free space	Type	VHR user	Mount point
sw-hardened-repo	Mounted	md0	11 TB	10.92 TB	Backup repository	-	/mnt/md0/vee-hardened...

NOTE. If Hardened Repository is not required, you can skip the further steps of creating a VHR user. The backup repository can be then added to Veeam Backup & Replication as a Direct Attached Linux storage to benefit from faster Veeam transport Service.

7. Click the “+” sign to create a new VHR user.



Manage VHR user

Create a new or choose the existing Veeam hardened repository (VHR) user that will have exclusive access to **sw-hardened-repo**

+
Q

User	Date created	SSH access

Cancel
Save

8. Specify the user name and password. Make sure to enable SSH access for VHR user.

Click Save.

Create Veeam user

×

The new user will be assigned to the **Veeam service** group. ?

Veeam user name

veeamuser

Can contain lowercase Latin letters, digits, underscores, periods and dashes

Password

••••••••

Must contain 8-64 characters, including numbers, symbols and capital letter

☒ Enable SSH for this user

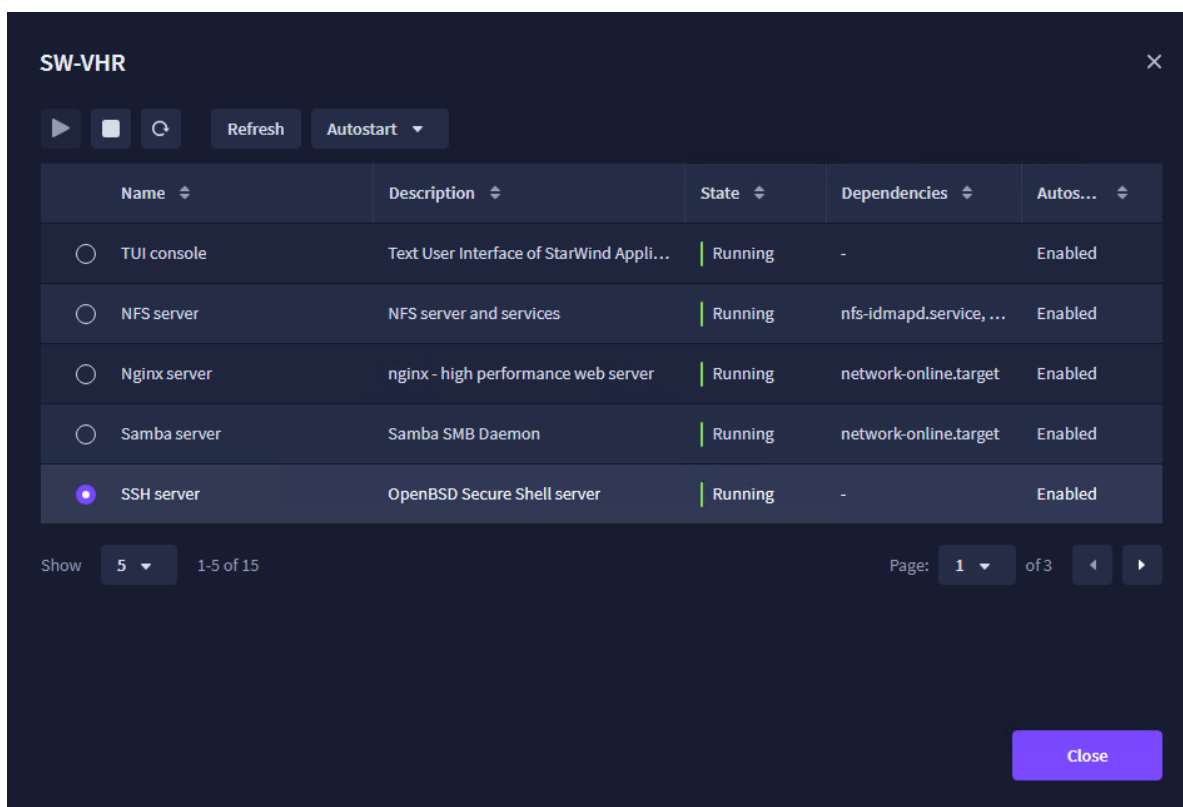
!

Disable SSH after adding the host and creating the hardened repository in the Veeam Backup & Replication console.

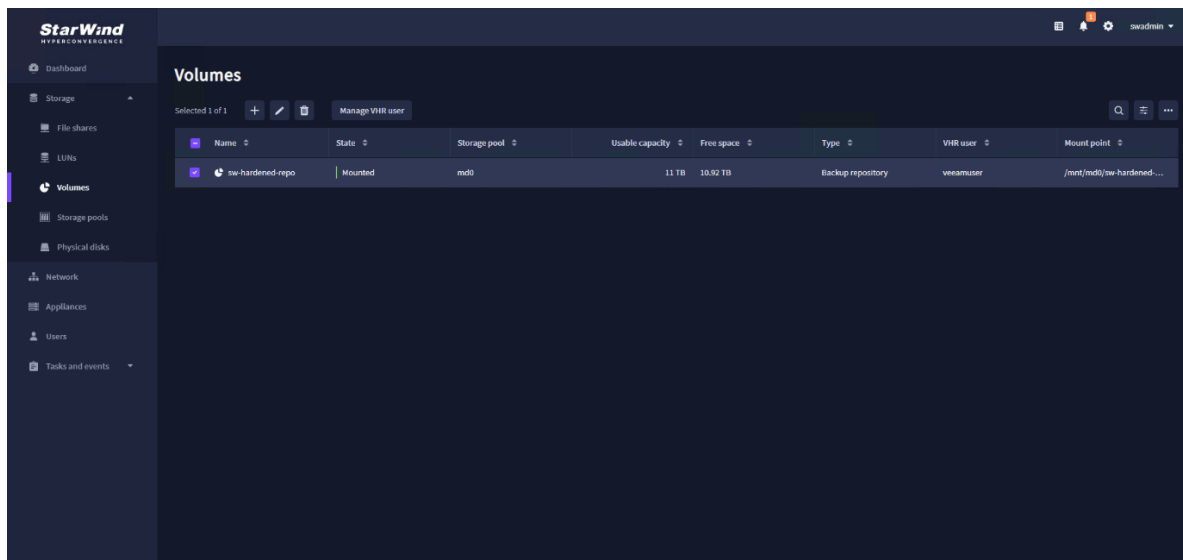
Cancel

Save

9. Make sure that SSH service is started and running in StarWind x Veeam Hardened Backup Repository CVM, For this, click the “settings icon”, navigate to “Services” and start SSH server.

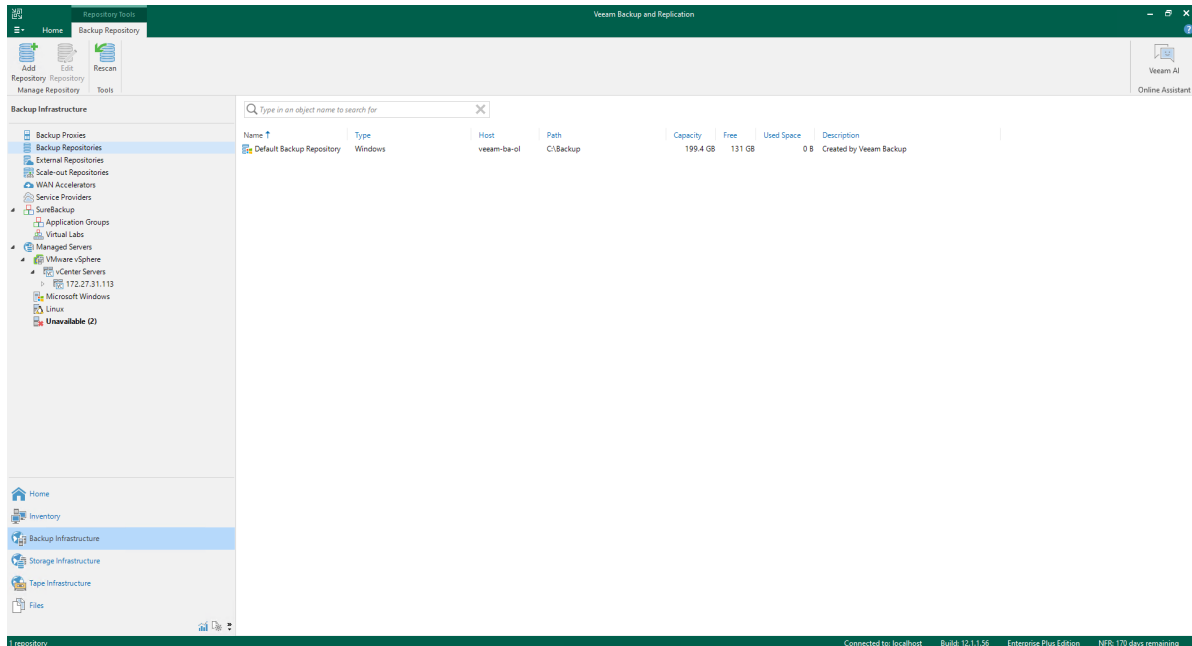


10. The recently created VHR user has been assigned to the volume.



Adding Hardened Repository To Veeam Backup & Replication

1. Open the Veeam Backup and Replication console, navigate to “Backup Infrastructure”, and select “Backup Repositories”.



2. Click “Add Repository” and select “Direct attached storage”.

Add Backup Repository ✕

Select the type of backup repository you want to add.



Direct attached storage

Microsoft Windows or Linux server with internal or direct attached storage. This configuration enables data movers to run directly on the server, allowing for fastest performance.



Network attached storage

Network share on a file server or a NAS device. When backing up to a remote share, we recommend that you select a gateway server located in the same site with the share.



Deduplicating storage appliance

Dell Data Domain, ExaGrid, Fujitsu ETERNUS CS800, HPE StoreOnce, Infinidat InfiniGuard or Quantum DXi. If you are unable to meet the requirements of advanced integration via native appliance API, use the network attached storage option instead.



Object storage

On-prem object storage system or a cloud object storage provider.

Cancel

3. Select "Linux (Hardened Repository)".



X

Direct Attached Storage

Select the operating system type of a server you want to use as a backup repository.



Microsoft Windows

Adds local storage presented as a regular volume or Storage Spaces. For better performance and storage efficiency, we recommend using ReFS.



Linux

Adds local storage or locally mounted NFS share. For better performance and storage efficiency, we recommend using XFS. The Linux server must use bash shell, and have SSH and Perl installed.



Linux (Hardened Repository)

Requires a Linux server with internal or direct attached storage. This configuration enables protection against cybersecurity threats with immutable backups. The Linux server must use bash shell and have SSH installed. For reduced attack surface, minimal Linux installation is highly recommended.

Cancel

4. In the “New Backup Repository” wizard, specify the name and description for the new repository and click “Next”.

New Backup Repository
×



Name
Type in a name and description for this backup repository.

Name	Name: sw-vhr
Server	Description: Created by SW-VEEAMBR-OL\Administrator at 10/16/2024 9:16 AM.
Repository	
Mount Server	
Review	
Apply	
Summary	

< Previous
Next >
Finish
Cancel

5. Click “Add New...”.

New Backup Repository
×



Server
Choose repository server. You can select server from the list of managed servers added to the console.

Name

Server

Repository
Mount Server
Review
Apply
Summary

Repository server:

Add New...

Path	Capacity	Free

Populate

< Previous

Next >

Finish

Cancel

6. In the “New Linux Server” wizard, specify the IP address of the backup traffic network interface (Data) on StarWind x Veeam Hardened Backup Repository CVM and click “Next”.

NOTE: You can add a backup repository using the management IP address of StarWind x Veeam Hardened Backup Repository CVM or DNS name. It is recommended to add the backup traffic network (Data) to Veeam preferred Networks after the addition of backup repository in case a separate dedicated backup (Data) network is present:

https://helpcenter.veeam.com/docs/backup/vsphere/select_backup_network.html?ver=120

New Linux Server
×



Name
Specify DNS name or IP address of Linux server. The server must have SSH and Perl installed.

Name	DNS name or IP address: 172.16.30.10
SSH Connection	Description: Created by SW-VEEAMBR-OL\Administrator at 10/4/2024 8:09 AM.
Review	
Apply	
Summary	

< Previous
Next >
Finish
Cancel

7. Click “Add...” to add the VHR user account created previously that will be used for single-use credentials.

New Linux Server
×


SSH Connection
Provide credentials for service console connection, and adjust secure shell (SSH) port number using advanced settings if required.

Name	Single-use credentials:
SSH Connection	Add new single-use credentials ▼ Add...
Review	
Apply	
Summary	

Customize advanced connection settings such as SSH timeout and service ports.
Advanced...

< Previous
Next >
Finish
Cancel

8. Specify the VHR user account credentials and click “OK”. Specify Advanced settings if required and then click “Next”.

Credentials

×



Username: veeamuser

Password:

••••••••

👁

SSH port: 22

⬆ ⬆ ⬆ ⬆ ⬆ ⬆ ⬆ ⬆ ⬆ ⬆

Non-root account

☒ Elevate account privileges automatically

☐ Add account to the sudoers file

☐ Use "su" if "sudo" fails

Root password:

Description:

veeamuser

OK

Cancel

9. Review the components that will be installed and click “Apply”.

New Linux Server
×



Review
Please review your settings and click Apply to continue.

Name
SSH Connection
Review
Apply
Summary

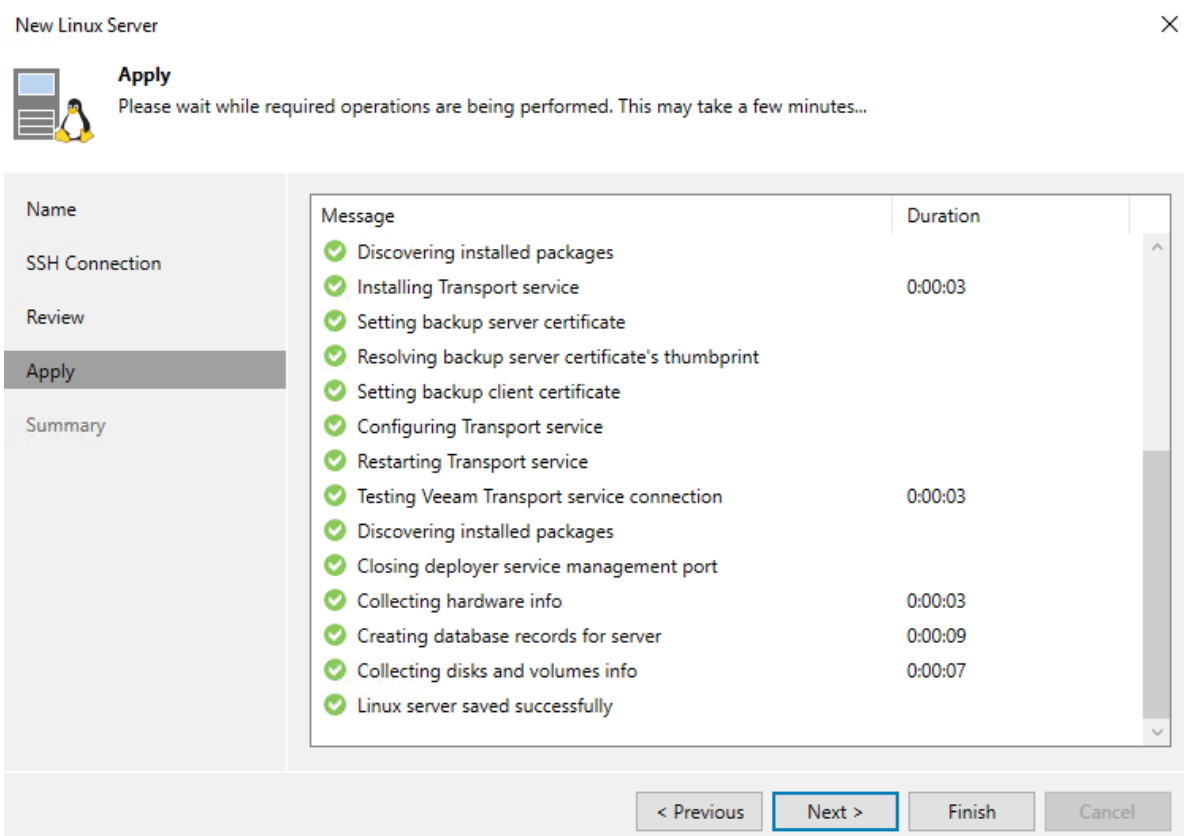
Due to these modifications the following components will be installed or removed on the target host:

Component name	Status
Installer	will be installed
Transport	will be installed

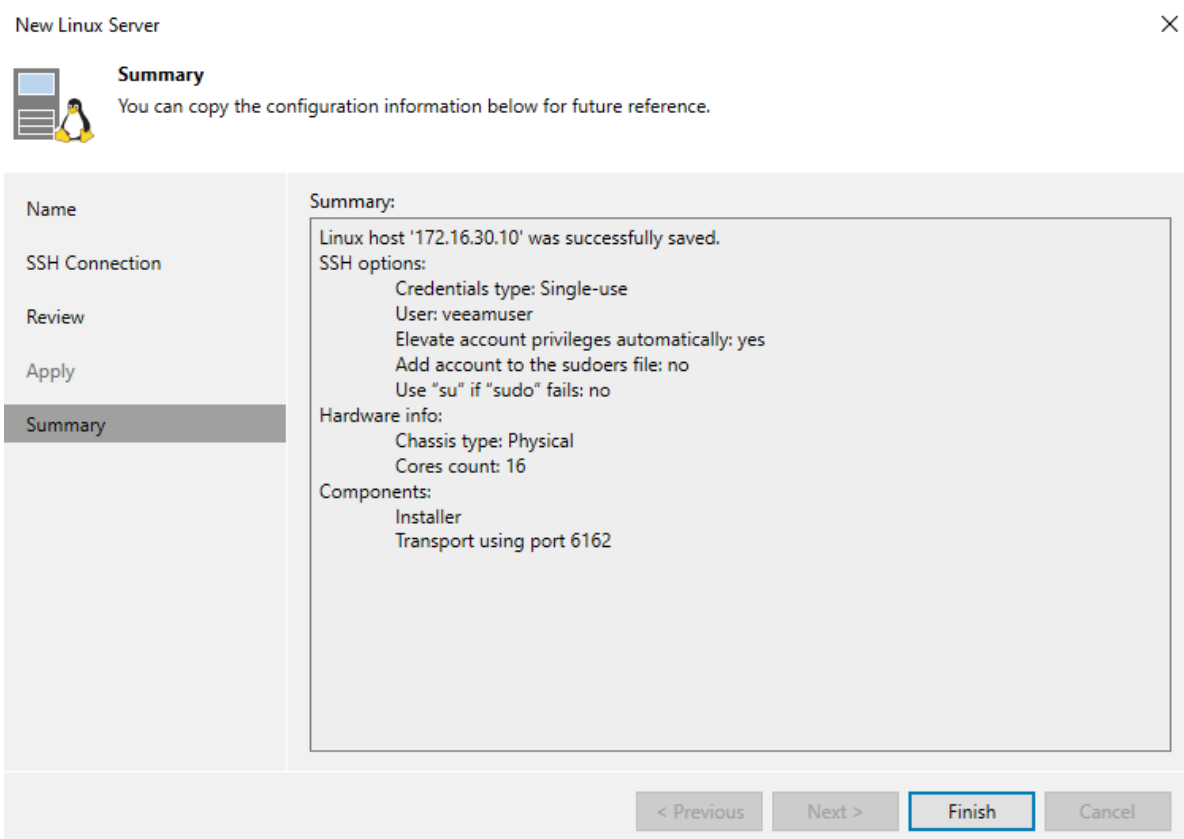
After you click Apply missing components will be installed on the target host.

< Previous
Apply
Finish
Cancel

10. Wait until the installation is complete and click “Next”.



11. Review the summary and click “Finish”.



12. In the “New Backup Repository” wizard, select the newly added StarWind x Veeam Hardened Backup Repository server and click “Populate”. Select the Backup repository volume created in StarWind x Veeam Hardened Backup Repository and click “Next”

New Backup Repository



Server

Choose repository server. You can select server from the list of managed servers added to the console.

Name	Repository server:																																						
Server	172.16.30.10 (Created by SW-VEEAMBR-OL\Administrator at 10/4/2024 8:09 AM.) Add New...																																						
Repository	<table border="1"> <thead> <tr> <th>Path</th> <th>Capacity</th> <th>Free</th> </tr> </thead> <tbody> <tr> <td>/ (/dev/mapper/main-root)</td> <td>28.7 GB</td> <td>18.5 GB</td> </tr> <tr> <td>/boot (/dev/sda3)</td> <td>456 MB</td> <td>240.6 MB</td> </tr> <tr> <td>/boot/efi (/dev/sda2)</td> <td>240.2 MB</td> <td>240.2 MB</td> </tr> <tr> <td>/dev (udev)</td> <td>3.8 GB</td> <td>3.8 GB</td> </tr> <tr> <td>/dev/shm (tmpfs)</td> <td>3.9 GB</td> <td>3.9 GB</td> </tr> <tr> <td>/mnt/md0/sw-hardened-repo (/dev/mapper/vg...</td> <td>11 TB</td> <td>10.9 TB</td> </tr> <tr> <td>/run (tmpfs)</td> <td>793.4 MB</td> <td>790.8 MB</td> </tr> <tr> <td>/run/lock (tmpfs)</td> <td>5 MB</td> <td>5 MB</td> </tr> <tr> <td>/run/user/1002 (tmpfs)</td> <td>793.3 MB</td> <td>793.3 MB</td> </tr> <tr> <td>/run/user/1003 (tmpfs)</td> <td>793.3 MB</td> <td>793.3 MB</td> </tr> <tr> <td>/sys/fs/cgroup (tmpfs)</td> <td>3.9 GB</td> <td>3.9 GB</td> </tr> </tbody> </table> Populate			Path	Capacity	Free	/ (/dev/mapper/main-root)	28.7 GB	18.5 GB	/boot (/dev/sda3)	456 MB	240.6 MB	/boot/efi (/dev/sda2)	240.2 MB	240.2 MB	/dev (udev)	3.8 GB	3.8 GB	/dev/shm (tmpfs)	3.9 GB	3.9 GB	/mnt/md0/sw-hardened-repo (/dev/mapper/vg...	11 TB	10.9 TB	/run (tmpfs)	793.4 MB	790.8 MB	/run/lock (tmpfs)	5 MB	5 MB	/run/user/1002 (tmpfs)	793.3 MB	793.3 MB	/run/user/1003 (tmpfs)	793.3 MB	793.3 MB	/sys/fs/cgroup (tmpfs)	3.9 GB	3.9 GB
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Mount Server																																							
Review																																							
Apply																																							
Summary																																							

< Previous
Next >
Finish
Cancel

13. Make sure that the “Use fast cloning on XFS volumes” setting is enabled and specify the required retention period for immutability as well as other settings if required. Click “Next”.

New Backup Repository
×


Repository
Type in path to the folder where backup files should be stored, and set repository load control options.

Name	Location
Server	Path to folder: /mnt/md0/sw-hardened-repo/backups Browse...
Repository	 Capacity: <Unknown> Populate  Free space: <Unknown>
Mount Server	☒ Use fast cloning on XFS volumes (recommended) Reduces storage consumption and improves synthetic backup performance.
Review	Make recent backups immutable for: 7 days Protects backups from modification or deletion by ransomware, malicious insiders and hackers. GFS backups are made immutable for the entire duration of their retention policy.
Apply	Load control Running too many concurrent tasks against the repository may reduce overall performance, and cause I/O timeouts. Control storage device saturation with the following settings:
Summary	☒ Limit maximum concurrent tasks to: 4 ☐ Limit read and write data rate to: 1 MB/s
	Click Advanced to customize repository settings. Advanced...

< Previous
Next >
Finish
Cancel

14. Select the Mount server and instant-recovery write cache folder. Specify additional Ports settings if required.

New Backup Repository
×



Mount Server
Specify a server to mount backups to when performing advanced restores (file, application item and instant VM recoveries).
Instant recoveries require a write cache folder to store changed disk blocks in.

Name	Mount server:	sw-veeambr-01 (Backup server) ▼ Add New...
Server	Instant recovery write cache folder:	C:\ProgramData\Veeam\Backup\IRCache\ Browse...
Repository	Ensure that the selected volume has sufficient free disk space to store changed disk blocks of instantly recovered machines. We recommend placing the write cache folder on an SSD drive.	
Mount Server	☒ Enable vPower NFS service on the mount server (recommended) Ports... Unlocks instant recovery of any backup (physical, virtual or cloud) to a VMware vSphere VM. vPower NFS service is not used for instant recovery to a Microsoft Hyper-V VM.	
Review		
Apply		
Summary		

< Previous
Next >
Finish
Cancel

15. Review the settings and components that will be installed and click “Apply”.

New Backup Repository
×



Review
Please review the settings, and click Apply to continue.

Name
Server
Repository
Mount Server
Review
Apply
Summary

The following components will be processed on server sw-veeambr-ol:

Component name	Status
vPower NFS	already exists
Mount Server	already exists
VMware VDDK	already exists

☐ Search the repository for existing backups and import them automatically
☐ Import guest file system index data to the catalog

< Previous

Apply

Finish

Cancel

16. Wait until the backup repository is created and click “Next”.

New Backup Repository



Apply

Please wait while backup repository is created and saved in configuration, this may take a few minutes.

Name	Message	Duration	
Server	✓ Starting infrastructure item update process	0:00:02	
Repository	✓ Discovering installed packages		
Mount Server	✓ Registering client sw-veeambr-ol for package vPower NFS		
	✓ Registering client sw-veeambr-ol for package Mount Server		
	✓ Registering client sw-veeambr-ol for package VMware VDDK		
Review	✓ Discovering installed packages		
	✓ All required packages have been successfully installed		
Apply	✓ Detecting server configuration		
	✓ Reconfiguring vPower NFS service	0:00:07	
	✓ Creating configuration database records for installed packages		
	✓ Collecting backup repository info	0:00:03	
	✓ Opening deployer service management port		
	✓ Checking write permissions for the repository folder		
	✓ Enabling restricted mode for Installer		
	✓ Closing deployer service management port		
	✓ Creating database records for repository	0:00:04	
	✓ Backup repository has been saved successfully		
Summary			

< Previous **Next >** Finish Cancel

17. Review the summary and click “Finish”.

New Backup Repository
×



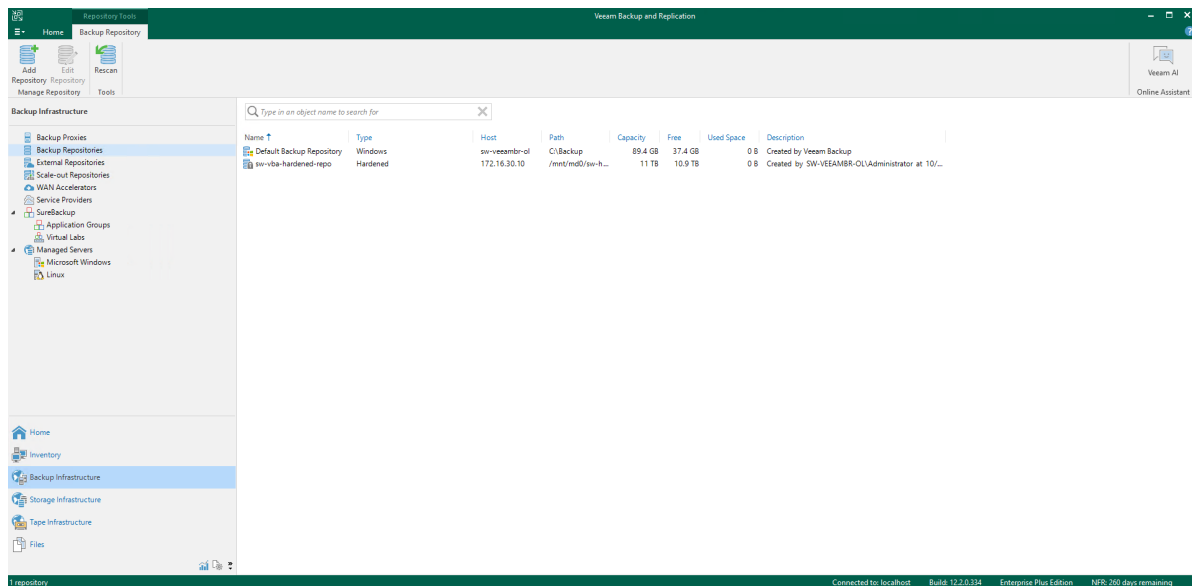
Summary
You can copy the configuration information below for future reference.

Name	Summary: Hardened backup repository 'sw-vba-hardened-repo' was successfully saved. Mount host: sw-veeambr-ol Backup folder: /mnt/md0/sw-hardened-repo/backups Write throughput: unlimited Max parallel tasks: 4 Fast cloning on XFS volumes: enabled Days of immutability: enabled for 7 days
Server	
Repository	
Mount Server	
Review	
Apply	
Summary	

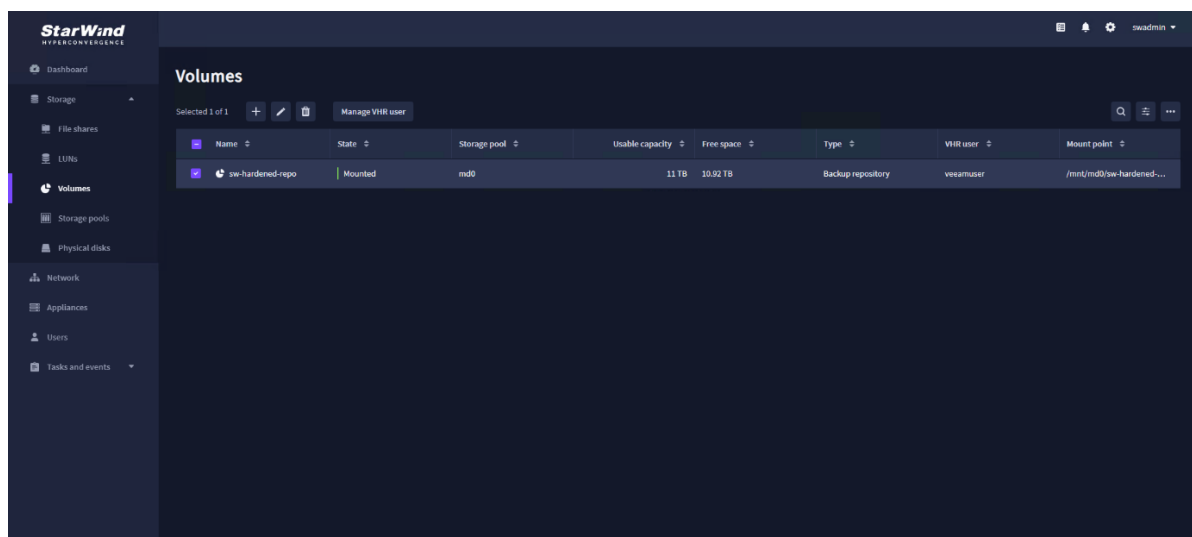
< Previous
Next >
Finish
Cancel

18. Veeam prompts whether you want to change the configuration backup location to the newly added repository. Select the preferred option according to your requirements.

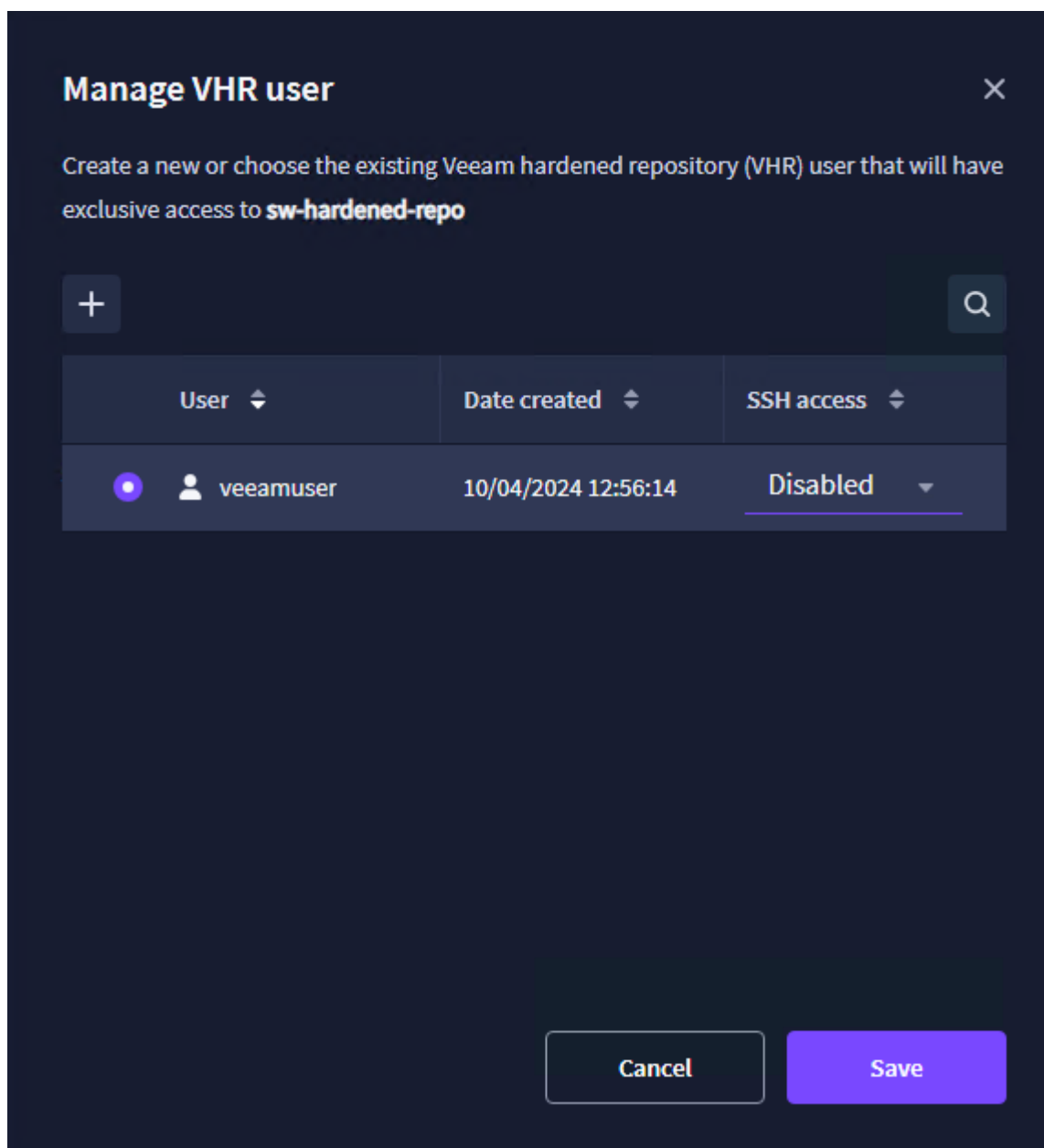
19. Hardened Repository has been successfully added to Veeam Backup & Replication.



20. Navigate back to the “Volumes” tab in StarWind x Veeam Hardened Backup Repository CVM WEB UI, select the Backup repository volume and click “Manage VHR user”.



21. Change SSH access to “Disabled” to secure the StarWind Appliance from potential local threats such as credentials theft. Click “Save”.



Conclusion

Following this guide, Veeam Hardened Linux Repository has been configured in StarWind x Veeam Hardened Backup Repository installed on a Microsoft Hyper-V host and added to Veeam Backup & Replication.

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