

Dell VxRail™ 8.0.x

Administration Guide

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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Revision history

Date	Revision	Description of change
March 2023	3	Updated for VxRail version 8.0.020.
January 2023	2	Updated for VxRail version 8.0.010.
January 2023	1	Initial release for VxRail version 8.0.000.

Introduction

This document provides administrative tasks for VxRail.

This document is intended for customers, field personnel, and partners who want to manage and operate VxRail clusters. This document is also designed for people familiar with:

- Dell Technologies systems and software
- VMware virtualization products
- Data center appliances and infrastructure
- [SolVe Online for VxRail](#)

See the [VxRail Documentation Quick Reference List](#) for a complete list of VxRail documentation.

Access Support for your VxRail

Support resources are available for your VxRail.

Use the following resources to obtain support for your VxRail:

- In the VMware vSphere Web Client, select **VxRail**. Use the **Support** functions on the **VxRail Dashboard**.
- Go to [Dell Technologies Support](#).
- Use SolVe Online to select available hardware and software on your VxRail. Generate customized procedures to replace hardware components and upgrade software components.

Register for a Dell Technologies Support account

Create a Dell Technologies Support account to access support resources.

For more information about how to access a Dell Technologies Online Support account or to upgrade an existing account, see [KB 21768](#).


After you register, you can:

- Obtain product license files and software updates.
 - Download VxRail product documentation.
 - Access or download the SolVe Desktop application for customized procedures to replace hardware components and upgrade software components.
 - Browse the VxRail community and support information.
 - Link your support account for access to resources from within VxRail Manager.
1. Go to [Dell Technologies Support](#).
 2. Click **Sign In** and select **Create an account**.
 3. Enter your first name, last name, email address, and preferred password.
 4. Click **Create an Account**.

It may take approximately 48 hours to receive a confirmation of account creation.

Use SolVe Online for VxRail procedures

To avoid potential data loss, always use SolVe Online for VxRail to generate procedures before you replace any hardware components or upgrade software.

 **CAUTION:** If you do not use *Solve Online for VxRail* to generate procedures to replace hardware components or perform software upgrades, VxRail may experience potential data loss.

You must have a [Dell Technologies Support](#) account to use [SolVe Online for VxRail](#). For more information about SolVe for VxRail, see [KB 000022572](#).

Locate your VxRail serial number

If you contact Dell Technologies Support for your VxRail, provide the VxRail serial number, also known as the Product Serial Number Tag (PSNT).

Identify the VxRail serial number in VMware vSphere Web Client or locate the serial number that is printed on the physical VxRail.

Locate your VxRail serial number in VxRail Manager

The PSNT is the VxRail serial number in VxRail Manager.

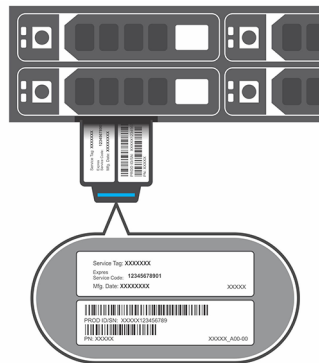
1. On the VMware vSphere Web Client, click **Hosts and Clusters**.
2. Select VxRail cluster.
3. Click **Monitor**.
4. Select **VxRail > Appliances**.
5. Click **Open physical view for this cluster**.

The VxRail serial number is displayed in the **Appliance PSNT** box.

Locate your physical VxRail serial number

Locate your VxRail serial number for models based on PowerEdge servers.

1. On the upper right corner of the VxRail chassis, locate the luggage tag.
2. Pull out the blue-tabbed luggage tag.
3. Locate the serial number label on the pull-out tag.



The Product Serial Number Tag (PSNT) is the 14-digit number that is on the front edge of the luggage tag.

Access VxRail content using the QRL

Use the Service Tag or QRL code on the Dell QRL site to access VxRail information for VxRail 15G, and later models.

If your VxRail has a QRL that is added to the luggage tag, you can use this tag to obtain factory configuration and warranty information. You can also enter the Service Tag to access information.

1. On the VxRail luggage tag, locate the QRL or Service Tag.



2. Using the camera on your phone or laptop, use the QRL code on the Service Tag to access information specific to your VxRail. You can also go to qrl.dell.com to enter the Service Tag information.

VxRail features and components

VxRail is powered by PowerEdge servers that use HCI system software to provide virtualization, compute, and storage in a scalable system. VxRail provides centralized management, orchestration, and life cycle management.

VxRail can be rapidly deployed into an existing data center environment, and the end-product is immediately available to deploy applications and services.

VxRail is based on a collection of nodes and switches that are integrated as a cluster under a single point of management. All physical compute, network, and storage resources in the VxRail are managed as a single shared pool. They are allocated to applications and services based on customer-defined business and operational requirements.

VxRail has a simple, scale-out architecture, leveraging VMware vSphere and VMware vSAN to provide server virtualization and software-defined storage, with simplified deployment, upgrades, and maintenance through VxRail Manager. Network connectivity is essential for the VxRail clustered architecture because through the logical and physical networks, individual nodes act as a single system providing scalability, resiliency, and workload balance.


The VxRail software bundle that is loaded into the compute nodes contains VxRail Manager, VMware vCenter Server, VMware vSAN and VMware vSphere. For information about licensing, see [Manage VxRail licenses](#).

VxRail is the individual node that then uses a collection of nodes to form a VxRail cluster and under a single point of management. The nodes can be customized with specific components to support different VxRail cluster types based on business and operational requirements.

The VxRail nodes can be customized to provide physical compute, network, and storage resources for the cluster. Local disk drives on each node are used to form a VMware vSAN datastore as the primary storage resource for application workload. Alternatively, the nodes can be customized without local disk drives to instead use external data center resources for primary storage.

VxRail supports satellite nodes in addition to the following types of clusters:

- Standard VxRail minimum VMware vSAN cluster configuration: Contains three to 64 nodes.
- Stretched clusters: supports synchronous I/O on a local vSAN datastore on two sites that are separated geographically
- Dynamic node cluster minimum configuration: Contains two to 64 nodes.
- VxRail 2-node Remote Office Branch Office (ROBO) cluster configuration: Contains two nodes. You can convert a two-node ROBO cluster to a standard VxRail 3-node cluster and then expand to 64 nodes.

 **NOTE:** VxRail version 8.0.010 does not support 2-node ROBO clusters.

For more information, see [Configure parameters for VxRail clusters](#) and [Expand a cluster](#).

The following table provides an overview of VxRail components:

Components	Description
Management	<p>VxRail Manager is a plug-in for the VMware vCenter Server that allows you to administer your VxRail clusters without leaving the VMware vSphere Web Client. VxRail Manager provides the following:</p> <ul style="list-style-type: none"> • Perform diagnostics using automation physical views of each node, down to the component level. • Automatically detect new nodes and add to a cluster. • Automates Day 0, Day 1, and Day 2 operations. • Provides a single point of support, KB articles, user forums, and best practices. • Provides a software stack for SDDC building blocks that include compute, network, storage, and management. • Monitor system health with deep hardware intelligence and a UI. • View software versions and updates and upgrade system software. • Access qualified software products with VxRail Market. • Replace hardware, add drives, and cycle power to the cluster or nodes. • Continuously Validated State (CVS) monitors the VxRail compliance state and reports detected drifts.

Components	Description
	VxRail SaaS multicloud management provides centralized data collection and analytics to streamline monitoring VxRail clusters, improve serviceability, and upgrade clusters. Use this information to manage the performance and capacity of your engineered HCI.
Storage	<ul style="list-style-type: none"> • VxRail with vSAN <ul style="list-style-type: none"> ◦ VMware vSAN represents VMware vSAN Original Storage Architecture (OSA). ◦ VMware vSAN Express Storage Architecture (ESA) for VxRail version 8.0.0. VxRail version 8.0.010 does not support VMware vSan ESA. • VxRail dynamic nodes <ul style="list-style-type: none"> ◦ Dell SAN or NAS products: PowerStore, PowerMax, and Dell Unity XT ◦ Dell PowerFlex ◦ Another vSAN cluster through vSAN HCI Mesh • Virtualization infrastructure administrators manage storage on a per-VM basis. Storage policies are defined at VM level for provisioning and load balancing.
Virtualization	<ul style="list-style-type: none"> • VMware vSphere, including VMware ESXi • VMware vCenter Server
VMs	RecoverPoint for VMs among other applications.

VxRail advanced features

VxRail provides advanced features such as automatic deployment, automatic scale-out, fault tolerance, and diagnostic logging.

Automatic deployment

The VxRail Manager application fully automates the installation and configuration of all nodes into a cluster after the setup is complete and the network settings are configured.

Automatic scale-out

VxRail provides automated scale-out functionality by detecting an unconfigured node when powered on. VxRail automatically performs scale-out by adding a node to the cluster. The following scale-out options are available:

- Multinode expansion—Add up to six VxRail nodes into a cluster in parallel, reducing the time that is required to expand your cluster.
- VMware Loudmouth—if enabled, VxRail Manager uses Loudmouth autodiscovery capabilities that are based on the RFC-recognized ZNC protocol. Loudmouth requires IPv6 multicast which is limited to the management VLAN that the nodes use for communication. VMware Loudmouth:
 - Runs on each VMware ESXi host device and on the VxRail Manager VM.
 - Enables you to automatically discover and configure VxRail on your network.
 - Enables VxRail Manager to discover all nodes and automate the configuration process.

Node failure tolerance

VxRail tolerates node failures when using VMware vSAN or VMware vSAN ESA, as defined by the VMware vSAN policy. VxRail implements the following standard VMware vSAN policy of one failure by default:

- An entire node can fail, and the system continues to function.
- A drive failure cannot affect more than one node.
- One cache drive can affect as many as six capacity drives (HDDs or SSDs).
- VMware vSAN ESA does not use cache drive.
- One network port on any node can fail without affecting the node.

VxRail Manager configures network failover through the virtual switch configuration in VMware ESXi during the initial setup.

Logging and log bundles

VxRail Manager provides logging and log bundles that provide operation and event information about your VxRail cluster.

VxRail deployment options for VMware vCenter Server

A VxRail cluster can join an existing customer-managed VMware vCenter Server during the initial configuration. With a customer-managed VMware vCenter Server, you can manage multiple VxRail clusters from a single interface. A customer-managed VMware vCenter Server can be hosted on the VxRail cluster as it is managing, or it can be located outside of that cluster within the customer environment.

Depending on the VMware vCenter Server location and source, the scope of VxRail management may differ. The following table describes the types of management:

VMware vCenter Server	Cluster type	Internal to VxRail cluster	External to VxRail cluster	VxRail scope of management
VxRail-managed	Regular	Default and preferred	Not supported	Multiple clusters
	Stretched	Supported	Not supported	Multiple clusters
	vSAN 2-node	Supported VxRail 7.0.410 and later	Not supported	Multiple clusters
Customer-managed	Regular	Supported	Supported	Multiple clusters
	Stretched	Supported	Supported and preferred	Multiple clusters
	vSAN 2-node	Supported VxRail 7.0.410 and later	Supported VxRail 7.0.410 and later	Multiple clusters

To join an existing customer-managed VMware vCenter Server, enter an existing data center and a nonconflicting cluster name during the initial configuration. VxRail joins the data center as a VMware vSAN cluster with the specified cluster name.

When using your VxRail with a customer-managed VMware vCenter Server, verify that:

- The customer-managed VMware vCenter Server version is listed in the [KB 000520355](#).
- A customer-supplied license is installed.

VxRail Manager Overview

VxRail Manager is a plug-in for the VMware vCenter Server that enables you to administer your VxRail clusters without leaving the vSphere Web Client. VxRail Manager is registered with the VMware vCenter Server when installing or upgrading the VxRail version.

VxRail Manager administrative tasks

Use VxRail Manager and Solve Online for VxRail to manage your VxRail. Using VxRail Manager and Solve Online you can:

- Configure, add or remove hosts
- Shut down VxRail clusters
- Configure satellite nodes
- Configure iDRAC
- View service connectivity and system health information

VxRail version 8.0.010 does not support satellite nodes.

Configure parameters for VxRail clusters

View and configure VxRail cluster parameters in the VMware vSphere Client. Procedures to perform cluster configurations using the VMware vSphere Client are provided in VxRail Manager. For more information about using the VMware vSphere Client, see [VMware Docs](#).

The following table lists the VxRail cluster parameters:

Parameter	Description
System	Indicates the version of VxRail Manager software running and enables the VxRail update.
Updates	Perform cluster-level VxRail upgrades and view compliance reports.
Certificate	Update the VxRail certificate.
Market	Access qualified applications to install and run on your VxRail cluster.
Hosts	View or modify the hosts within the VxRail cluster. Also adds hosts to the VxRail cluster.
Support	Displays the linked Dell Technologies Support account and link or change to a new account.
Connectivity	Displays the linked Dell Technologies Support account and provides a link to change to a new account. Enables service connectivity.
Networking	Displays the proxy status, configure proxy settings for Internet connections, and configure traffic throttling.
Health Monitoring	Enable or disable system health monitoring feature for maintenance purposes.
Troubleshooting	Displays the last several collected logs and generates a customized log bundle using types and nodes.

Service connectivity

Service connectivity provides secure, automated access between Dell Technologies Support and your VxRail. To use certain features in VxRail Manager:

- Enable service connectivity in direct connection mode or through an external secure connection gateway.
- Enable remote support connectivity for VxRail using the VMware vSphere client. Remote support connectivity is required for CloudIQ. Using remote support connectivity, you can:
 - Provide usage data to the Dell Technologies customer experience improvement program.
 - Determine the level of data about your VxRail environment that is collected. Environmental usage, performance, capacity, and configuration information are the different types of data that are collected. Dell Technologies uses this information to improve your experience with VxRail.

SaaS multi-cluster management features

To access the SaaS multi-cluster management and analytics features of VxRail, log in to [CloudIQ](#) and enable Remote Support Connectivity on each cluster.

Convert a VxRail-managed VMware vCenter Server to a customer-managed VMware vCenter Server

The following guidelines apply while converting a VxRail-managed VMware vCenter Server to a customer-managed VMware vCenter Server while using a script:

 **NOTE:** You cannot use VxRail Manager to perform this task.

- Converting a VxRail-managed VMware vCenter Server to a customer-managed VMware vCenter Server is a one-way conversion and you cannot convert a customer-managed VMware vCenter Server back to a VxRail-managed VMware vCenter Server.
- A VxRail-managed VMware vCenter Server is licensed by VxRail. If a VxRail-managed VMware vCenter Server is converted to a customer-managed VMware vCenter Server, then it is no longer supported by the VxRail license.
- After the conversion process, provide a customer-supplied VMware vCenter Server license. For more information about obtaining licenses, see [Manage VxRail licenses](#).
- VxRail Manager does not manage the VMware vCenter Server life cycle after converting a VxRail-managed VMware vCenter Server to a customer-managed VMware vCenter Server.

Enable VMware vLCM (optional)

To enable VMware vSphere Lifecycle manager (vLCM), use the VMware vSphere Web Client. The following guidelines apply after enabling VMware vLCM:

- Once the VMware vLCM is enabled, you cannot disable the VMware vLCM feature.
- If VMware vLCM is enabled on a cluster:
 - The VxRail native LCM backend cannot be used for host upgrades on that cluster.
 - You must manually upgrade the VMware vSAN disk format after the hosts are upgraded.

Update system software

To update system software, generate the specific procedure using [SolVe Online for VxRail](#). You can also install and use the SolVe Desktop application on your Windows system. Dell Technologies continually updates the information in SolVe to ensure that the latest versions, procedures, and notes are available.

If your cluster is in an unhealthy state or has critical health alarms, you may not be able to update your system software. Contact your sales representative or reseller or open a service request for updating your system.

For major upgrades from VxRail version 4.7.000 or 7.0.000 to VxRail version 8.0.x, obtain new VMware vSphere 8.0 licenses for the VMware vCenter Server, VMware vSAN, or VMware vSphere from the VMware licensing portal.

Expand a cluster

With VxRail automated installation and scale-out features, you can expand your cluster from three nodes.

You can use automated installation and scale-out features or multinode expansion to expand your clusters. VxRail automated installation and scale-out features to expand your clusters from three nodes. VxRail multinode expansion for a higher compute and storage capacity, and to simultaneously add up to six nodes.

VxRail supports expansion of the following clusters:

- The minimum standard VxRail VMware vSAN cluster configuration is three nodes with a maximum of 64 nodes.
- The minimum dynamic node cluster configuration is two nodes with a maximum of 64 nodes.
- The VxRail 2-node ROBO cluster configuration consists of two nodes. You can convert a two-node ROBO cluster into a standard VxRail 3-node cluster and expand to 64 nodes.

Deploy a mixed cluster in VxRail

Follow best practices when you deploy a mixed cluster:

- In the VxRail vSAN ESA, the new nodes must be of the same type and same configuration.
- For most VxRail models, the first three nodes in a cluster must be the same type and with an identical configuration. For 2-node clusters, both nodes must be the same type with an identical configuration.
- VxRail G560 requires three nodes.
- All nodes in the cluster must be running the same VxRail software version.
- The version must meet the minimum for the newest hardware model node that is being added.
- All nodes must match with the hardware model, configuration, memory, processor, drive size, number of drives, and type.
- The 15G PowerEdge server must be running VxRail 7.0.210 or VxRail 8.0.0 or later.
- Do not use 10 GbE bandwidth in clusters with 25 GbE bandwidth.
- Do not use hybrid nodes in clusters with all-flash or all-NVMe nodes.
- VxRail Intel-based nodes can only be added into a cluster with other Intel-based nodes.
- VxRail AMD-based nodes can only be added into a cluster with other AMD-based nodes.

Expand a cluster

The following actions are not permitted when adding a node in a VxRail cluster:

- Add a VIB to the cluster, such as RecoverPoint for VMs, VMware NSX, NVIDIA GPU, or other third-party VIBs.
- Configure jumbo frames on the cluster.
- Enable VMware vSAN encryption.
- Install external storage targets in the cluster, such as iSCSI, NFS, or FC.
- Install an additional VMware VDS.
- Configure a stretched cluster.
- Perform security hardening on the cluster.

If any change is made after the initial cluster deployment, place the new node in the maintenance mode and apply matching settings.

Configure VxRail satellite nodes

Using VxRail Manager, you can configure certain parameters that apply to the hosts in your VxRail cluster.

VxRail uses satellite nodes to provide simplicity, agility, and automation. Satellite nodes are used to address more edge use cases with single node deployments. Using satellite nodes, you can extend the VxRail operational model and efficiencies to edge sites while automating day-to-day operations, health monitoring, and life cycle management. This service is provided from a centralized location without the need for local technical or specialized resources.

With VxRail version 8.0.0, a VxRail cluster with a customer-managed VMware vCenter Server and VMware vSAN ESA can manage the satellite nodes. The deployed VxRail Manager VM can control all satellite nodes from a centralized host management location in the VMware vCenter Server. You can add, remove, and update satellite nodes from one access point using the VxRail Manager. The host folder is used to logically group the VxRail satellite nodes together.

VxRail version 8.0.010 does not support satellite nodes or VMware vSAN ESA.

From the VMware vSphere Web Client, you can do the following:

- Configure iDRAC.
- Add, edit, or remove a host folder.
- Add a node to a folder.
- Upgrade the satellite nodes in a folder.
- Remove a host device.

Go to VxRail Manager for configuration steps that use the VMware vSphere Web Client. For more information about using the VMware vSphere Web Client, see [VMware Docs](#).

Configure iDRAC

Configure iDRAC for the VxRail host.

1. In the VMware vSphere Web Client, click **Hosts and Clusters**.
2. Select the VxRail host in the left window and click **Configure**.
3. Select **VxRail > iDRAC Configuration**.
4. Click **Edit** next to **IPv4 Settings**. Modify the settings and click **Apply**.
5. Click **Edit** next to **VLAN Settings**. Modify the settings and click **Apply**.
6. To add an iDRAC user, click **Add** next to the **Users**. Enter user information and click **Apply**.

Monitor the health of your VxRail

Monitor the health of your VxRail by viewing the health of components in VMware vSphere Client.

Service connectivity

You can verify your VxRail connectivity heartbeat, which is the last time that your system has communicated using service connectivity. You can also review the configuration data that was sent to service connectivity.

Your VxRail can use service connectivity by connecting directly to the Dell backend (Dell Support Team that handles requests) or through secure connect gateway. Use VxRail Manager to enable service connectivity on your VxRail using VMware vSphere Web Client.

Physical system health

VxRail Manager enables you to monitor the physical health of the VxRail. All tasks are performed using the VMware vSphere Web Client.

You can monitor the following VxRail components:

- Health, status, and event information
- Drives
- Nodes
- Power supply
- NIC status

For more information about using the VMware vSphere Web Client, see [VMware Docs](#).

Shut down a VxRail cluster

Shut down your VxRail cluster from VxRail Manager.

If your customer-managed VMware vCenter Server is hosted on VxRail, you cannot use the cluster shut-down functionality. You must perform a manual shutdown and use the start-up procedure to prevent a login issue after restart. When you shut down a cluster, VxRail Manager automatically:

- Shuts down related VMs and services.

- Performs system health diagnostics and maintenance mode diagnostics.
- Indicates any errors or conditions that prevent shutting down.

To shut down a VxRail cluster, generate a step-by-step shut down procedure using [SolVe Online for VxRail](#).

Add a VxRail node to a cluster

Add a VxRail node to a cluster.

Before adding a VxRail host to a cluster, verify that the nodes are the same type and configuration in the VxRail vSAN ESA initial release.

To add a VxRail node to a cluster, generate a step-by-step procedure using [SolVe Online for VxRail](#).

Remove a VxRail node from a cluster

Remove a VxRail node from a cluster

After a node is removed from a cluster, you must image the node before you readd or repurpose the node. Do not use the node until it is imaged.

To remove a VxRail node from a cluster, generate a step-by-step VxRail procedure using [SolVe Online for VxRail](#).

Configure automated renewal of VxRail Manager certificate

VxRail Manager automatically enrolls the VxRail Manager certificate. This procedure is provided if automatic renewal is needed.

1. From VMware vSphere Web Client, select **Hosts and Clusters**.
2. Select the VxRail cluster on which you want to configure automatic renewal of VxRail Manager certificate.
3. Click **Configure**.
4. Select **VxRail > Certificate** in the left window.
5. Click **EDIT AUTOMATED RENEWAL**.
6. In the **Edit Automated Renewal** window, click **Enable** or **Disable**.
7. Enter the **Certificate Authority Server URL**, **Challenge Password**, **Certificate Validation Frequency** and **Renew Certificate Before Expiration**, and then click **APPLY**.


Manage VxRail licenses

VxRail contains preinstalled, temporary VMware vSphere and VMware vSAN evaluation licenses. These licenses must be replaced with new licenses or existing ones to continue to use VMware vSphere or VMware vSAN.

Standard license is not supported for VMware vSAN ESA. VMware vSAN ESA requires vSAN Advanced or later licenses.

You can leverage existing VMware vSphere or VMware vSAN licenses (for example, from existing ELAs) or obtain a license from the following:

- Dell Technologies direct OEM
- Dell Technologies brokerage services
- VMware direct
- Partners (resellers)

 **NOTE:** You do not need a VMware vSAN license to use dynamic node clusters or satellite nodes.

You can acquire VMware vSphere or VMware vSAN licenses with VxRail, or you can leverage existing VMware vSphere licenses and VMware vSAN licenses through an ELA with VMware approvals. Contact your Dell Technologies account team for the complete criteria for VxRail VMware vSAN ELAs.

Work with your sales representative to ensure that you have the correct type and quantity of VMware licenses for your environment. Go to VxRail Manager for instructions on how to set up your licenses using **CloudIQ**.

Once you have your license, you can use the VMware vSphere Web Client to assign the license to your hosts or clusters.

VxRail also includes the Dell RecoverPoint for Virtual Machines license for software that can be downloaded, installed, and configured. There are five full VM licenses per single node (E, V, P, D, and S-series) and 15 full VM licenses for the G-Series chassis.

Manage VxRail account passwords

VxRail Manager detects password changes in the VMware vCenter Server and prompts you to update the password in VxRail Manager. For a summary of rules for setting up accounts and passwords that are implemented by VxRail, see [KB 000158231](#).

When a management account changes or expires, VxRail Manager mutes health monitoring and displays alerts on the **Physical View** and **Market** pages. Go to VxRail Manager to update the following passwords:

- VxRail-managed VMware vCenter Server
- Customer-managed VMware vCenter Server
- VMware ESXi management host

After VxRail Manager passwords are updated, the system returns to normal state and health monitoring is unmuted.

Administrative tasks

You can perform some administrative tasks outside of VxRail Manager using *Solve Online for VxRail*. Not every task is supported on every version of VxRail software.

For more information about *Solve for VxRail*, see [KB 22572](#).

The following list represents some of the procedures that you can perform using Solve for VxRail:

- Change the external log server IP address in VxRail Manager
- Change the FQDN of the VMware vCenter Server Appliance
- Configure jumbo frames
- Configure VxRail node to support only PCIe adapter port
- Convert the VxRail-managed VMware VDS to a customer-managed VMware VDS
- Enable DPU offloads on VxRail
- Enable dynamic link aggregation on a VxRail network
- Enable VMware vSAN RDMA in the VxRail cluster
- Enhanced Linked Mode for VMware vCenter Server
- Import the VMware vCenter Server certificates into the VxRail Manager trust store
- Import VMware vSphere SSL certificates to VxRail Manager
- Migrate the satellite node to a VMware VDS
- Remove VxRail nodes
- VxRail Manager file-based backup

For a complete listing of How To procedures, go to [Solve Online for VxRail](#).

Go to [VMware vSphere documentation](#) for information regarding VMware tasks.

Replace and add VxRail hardware

Qualified VxRail customers can use [SolVe Online for VxRail](#) to add or replace customer-replaceable components.

Automated replace and add disk workflow is not supported with VxRail vSAN ESA. See [SolVe Online for VxRail](#) for step-by-step procedures.

Generate step-by-step hardware component procedures in [SolVe Online for VxRail](#) before replacing any hardware components or performing upgrade procedures. For hardware-specific information, see [Dell Technologies Support](#).

 **CAUTION:** If [SolVe Online for VxRail](#) is not used to generate procedures, VxRail is at risk for potential data loss.

Replace disks in VxRail with VxRail Manager

Replace disks in VxRail using VxRail Manager. For disk replacements, the following conditions apply:

- Do not use VMware vCenter Server or any other tool with the automated hardware replacement process.
- With the automated hard drive replacement workflow, only one hard drive can be replaced at a time, with no other devices.
- With the automated SSD replacement workflow, only one SSD can be replaced at a time, with no other devices.

Before using VxRail Manager to replace disks in VxRail, generate a step-by-step procedure using [SolVe Online for VxRail](#).

Add disks with VxRail Manager

Add disks in VxRail using VxRail Manager. Before using VxRail Manager to add disks in VxRail, ensure that:

- You generate a step-by-step replacement procedure using [SolVe Online for VxRail](#).
- You add an HDD or SSD in the exact location you selected in VxRail Manager. Using the automated HDD or SSD add workflow, only one hard drive or SSD can be added at a time (with no other devices).

Automated disk addition for VxRail version 8.0.0 is not supported for VMware vSAN ESA. For VMware vSAN ESA disk addition procedures, see [SolVe Online for VxRail](#).

Set up external storage for a dynamic node cluster

For a dynamic node cluster, you must use external storage along with the VxRail onboard storage resources.

See the appropriate Support Matrix on the [Dell Technologies Support Site](#) for the supported storage of dynamic clusters.

VxRail supports the following:

- NFS
- VMFS over iSCSI/FC/FC-NVMe/TCP-NVMe
- vVol over NFS/iSCSI/FC
- FC-NVMe over vVol
- PowerFlex
- VMware vSAN HCI-Mesh

You can use the following external storage arrays to provide primary storage for your VxRail cluster:

- Dell Unity
- PowerStore
- PowerMax
- PowerFlex
- VMware vSAN HCI-Mesh

For more information about the configuration of the external storage, see [VxRail Configure External Storage of Dynamic Node Cluster](#).

External storage does not impact the following VxRail features:

- Upgrades
- Reset
- Cluster shutdown

You can scale VxRail compute resources separately from storage capacity to improve overall hardware usage levels.

VMware products used with VxRail

VMware products can be ordered with VxRail or purchased separately.

The following table provides links to VMware documentation:

VMware product	Documentation
VMware Horizon	<ul style="list-style-type: none">• VMware Horizon Documentation• VMware Horizon Release Notes
VMware vSphere Remote Office and Back Office (ROBO)	<ul style="list-style-type: none">• VMware Validated Design Documentation• SDDC Architectures• Overview of ROBO SDDC
VMware Cloud Foundation	<ul style="list-style-type: none">• VMware Cloud Foundation Documentation• VMware Cloud Foundation Release Notes