Dell EMC VxRail™ Appliance

Version 4.7.x

Administration Guide

Rev 07
December 2019

DELLEMC

CONTENTS

Contents

CHAPTER 1

Introduction

This chapter presents the following topics:

Revision history

The following table lists the revision history for this document.

Table 1 Revision history

Date	Revision	Description of change
December 17, 2019	07	Updated to support VxRail Appliance software 4.7.410, made minor edits and corrections.
December 10, 2019	06	Updated to support VxRail Appliance software 4.7.400.
September 18, 2019	05	Updated to support VxRail Appliance software 4.7.300.
March 27, 2019	04	Minor edits and corrections.
January 28, 2019	03	Expanded the description of the VxRail Manager Plugin for VMware vCenter, made minor corrections.
January 22, 2019	02	Updated to support VxRail Appliance software 4.7.100.
November 16, 2018	01	Initial release to support VxRail Appliance software 4.7.000.

Introduction

This document describes the VxRail Appliance, how it works, and how to perform administrative tasks.

The target audience for this document includes customers, field personnel, and partners who want to manage and operate a VxRail Appliance. This document is designed for people familiar with:

- Dell EMC systems and software
- VMware virtualization products
- Data center appliances and infrastructure

(i) **Note:** As of VxRail Appliance software 4.7.100, this guide reflects the change from VxRail Manager as a standalone application to its deployment as a plugin for VMware vCenter. Throughout the guide the VxRail Manager Plugin for VMware vCenter is referred to simply as "VxRail Manager".

Support

Create an Online Support account to get access to support and product resources for your VxRail Appliance.

If you already have an account, register your VxRail Appliance to access the available resources.

For convenience, you can link your Online Support account with VxRail Manager and access support resources without having to log in separately.

> (i) **Note:** If you plan to set up Secure Remote Services, your Online Support account must be linked to VxRail Manager under the same party ID or the deployment will fail. Your appliance must also be in an installed state in the Install Base.

Registering for online support

Create an Online Support account to access support resources.

About this task

After you register, you can:

- Register your system
- Obtain product license files and software updates
- Download VxRail Series product documentation
- Access SolVe Online for VxRail, or download the SolVe Desktop application for hardware replacement and upgrade procedures
- Browse the VxRail Series community and support information
- Link your support account for access to resources from within VxRail Manager

Procedure

1. Point your Web browser to www.emc.com/vxrailsupport (or http://www.dell.com/support).
2. Fill in your first name, last name, email, and preferred password.
3. Select whether you would like to subscribe to email updates.
4. Click **Create an Account**.

    Support will send you a confirmation email, typically within 48 hours.

Where to go for support resources

Access support resources for your VxRail Appliance by doing any of the following:

- In the vSphere Client, select **VxRail** from the menu and use the **Support** functions on the **VxRail Dashboard**.
- Point your Web browser to www.emc.com/vxrailsupport (or https://www.dell.com/support).

Using SolVe Online for VxRail Series procedures

Step-by-step instructions for procedures such as replacing hardware or performing system administrative tasks are available through SolVe Online and the SolVe Desktop application.

> ⚠ **CAUTION** To avoid potential data loss, refer to the VxRail Series procedures in SolVe Online or the SolVe Desktop application before performing any hardware replacement or upgrade activity.

Access SolVe Online for VxRail through your Web browser.

For more information about SolVe for VxRail, refer to KB 525271.

You must have an online support account to use SolVe Online.

VxRail documentation

The following table lists available documents about VxRail Manager and VxRail Appliances.

Table 2 VxRail Documentation

Document	Description
SolVe Online for VxRail	(Login required) Step-by-step instructions for procedures such as replacing hardware or performing system administrative tasks are available through SolVe Online and the SolVe Desktop application. For more information about SolVe for VxRail, refer to KB 525271.
VxRail Appliance 4.7.x Administration Guide VxRail Appliance 4.5.x Administration Guide	These document describe the VxRail Appliance, how it works, and how to perform administrative tasks.
VxRail 4.7.x Release Notes VxRail 4.5.x Release Notes	(Login required) These documents contain a brief description of VxRail Manager releases, including lists of known issues and workarounds.
VxRail Support Matrix	This document provides information about supported software, firmware, and hardware versions for Dell EMC VxRail appliances based on Dell PowerEdge hardware, including the E Series, P Series, S Series, and V Series.
VxRail Appliance Owner's Manuals • VxRail Appliances on 14th Generation PowerEdge Servers P Series, V series, and S Series Owner's Manual • VxRail Appliances on 14th Generation PowerEdge Servers E Series Owner's Manual • VxRail G560 and G560F Owner's Manual • VxRail 60 Series Appliance Owner's Manual • VxRail 100 Series and 200 Series Appliance Owner's Manual • VxRail G Series Appliance Owner's Manual	These documents describe the various VxRail appliances, including their physical features and technical specifications.
VxRail Appliance Getting Started Guides • VxRail G560 and G560F Getting Started Guide • VxRail E Series Appliance Getting Started With Your Appliance • VxRail P Series, S Series, and V Series Appliances Getting Started With Your Appliance	These documents describe considerations for unpacking and preparing to install VxRail appliances.
VxRail Appliance API User Guide	This document describes the API for the VxRail Appliance versions 4.5.x and 4.7.x.
VxRail Event Code Reference	(Login required) This reference guide lists the alert and event codes generated by VxRail Manager.

Table 2 VxRail Documentation (continued)

Document	Description
VxRail Security Configuration Guide	(Login required) This guide provides an overview of the configuration, deployment, and usage settings needed to ensure secure operation of the VxRail Appliance.
VxRail Appliance STIG Compliance Guide	(Login required) This document provides guidance on the secure installation and secure use of the VxRail Appliance for the DoDIN Approved Products List (APL) Deployment Configuration.
VxRail vCenter Server Planning Guide	This planning guide discusses guidance for the various vCenter Server deployment options supported on VxRail Appliances.
VxRail Planning Guide for Virtual SAN Stretched Cluster	This planning guide provides better insights into the requirements necessary for VxRail to implement Virtual SAN Stretched Cluster.
vSAN 2-Node Cluster on VxRail Planning Guide	This guide provides information for the planning of a VMware vSAN 2-Node Cluster infrastructure on a VxRail platform. (Not for VCF on VxRail solution deployments.)
VxRail Networking Guide with Dell EMC S4148-ON Switches	The deployment guide covers the process of connecting a cluster of VxRail nodes to Dell EMC Networking S4148-ON switches in a high-availability configuration.
VxRail Network Planning Guide	This is a network planning and consideration guide for the VxRail. It provides valuable insight into supported switch requirements and the networking required to support VxRail.
Networking Guides > VxRail Networking Solutions	The networking guides provided on this website assist with the deployment of your infrastructure and the optimal connectivity of your Dell EMC Networking products. Click VxRail Networking Solutions for specific VxRail solutions.
VxRail Fabric Automation SmartFabric Services User Guide	This solution brief provides an overview of how VxRail works with HCI network fabrics using Dell OS10 Enterprise Edition SmartFabric services. (Not for VCF on VxRail solution deployments.)

Locating your appliance serial number

Refer to your VxRail Appliance serial number (also called the "PSNT") if you need to contact Customer Support about your appliance.

You can look up an appliance serial number in VxRail Manager. You can also find the serial number printed on the physical appliance.

The serial number is found in a different physical location depending on which VxRail Appliance model you have.

Refer to the following sections to locate your appliance serial number.

Looking up your VxRail Appliance serial number in VxRail Manager

Follow these steps to look up your VxRail Appliance serial number in VxRail Manager.

Procedure

1. On the main page of the vSphere Client click **Hosts and Clusters** in the left navigation bar.

2. Select your VxRail cluster.

3. Select the **Monitor** tab.

4. Select **VxRail** > **Appliances** from the inner left navigation bar.

5. Click **Open physical view for this cluster**.

6. Observe the VxRail Appliance serial number, listed under each appliance ID.

   The serial number is also called the "PSNT".

   Figure 1 VxRail Appliance serial number (PSNT)
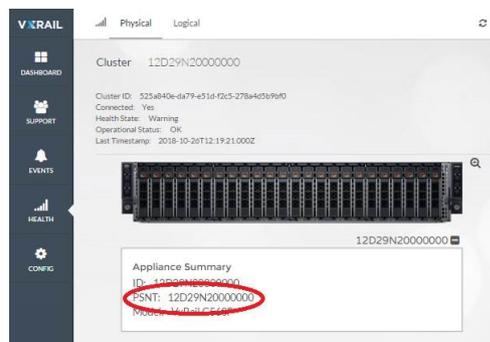
Locating your physical VxRail Appliance serial number (Models 60 through 280)

Follow these steps to locate your VxRail Appliance serial number on the following models:

Before you begin

- VxRail 60
- VxRail 120, VxRail 120F
- VxRail 160, VxRail 160F
- VxRail 200, VxRail 200F
- VxRail 240F
- VxRail 280F
- VxRail G410, VxRail G410F

About this task

Figure 2 VxRail Appliance product serial number tag (PSNT) location (Models 60 through 280)

Figure 2 VxRail Appliance product serial number tag (PSNT) location (Models 60 through 280) (continued)

1. Product serial number tag (PSNT)

Procedure

1. At the front of your VxRail Appliance locate drives 2 and 3 on the left side of the chassis.
2. Pull out the blue-tabbed tag located above drives 2 and 3.
3. Locate the appliance serial number label on the pull-out tag.

   The PSTN is the 14-digit number located on the label.

Locating your physical VxRail Appliance serial number (E, G, P, S, and V models)

Follow these steps to locate your VxRail Appliance serial number on the following models:

Before you begin

- VxRail E460, VxRail E460F
- VxRail E560, VxRail E560F, E560N
- VxRail E565, VxRail E565F
- VxRail G560, VxRail G560F
- VxRail P470, VxRail P470F
- VxRail P570, VxRail P570F
- VxRail P575, VxRail P575F
- VxRail P580N
- VxRail S470
- VxRail S570
- VxRail V470, VxRail V470F
- VxRail V570, VxRail V570F

About this task

Figure 3 VxRail Appliance product serial number tag (PSNT) location (E, G, P, S, and V models)
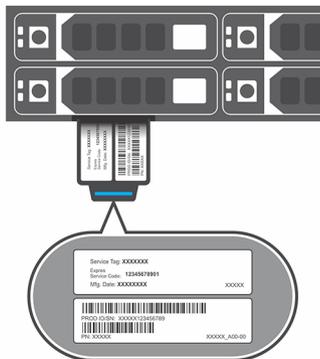
Procedure

1. At the front of your VxRail Appliance, in the upper right corner of the chassis, locate the appliance luggage tag.

2. Pull out the blue-tabbed luggage tag.

3. Locate the appliance serial number label on the pull-out tag.

   The PSTN is the 14-digit number located on front edge of the luggage tag.

CHAPTER 2

Architecture overview

Overview of the VxRail Series

The VxRail Series delivers virtualization, compute, and storage in a scalable, easy to manage, hyper-converged infrastructure appliance.

Your VxRail Appliance is built on Intel Xeon processor-based hardware with the VxRail Appliance software bundle, and support for other value-added software from Dell EMC and VMware.

The VxRail Appliance software bundle includes the following:

- VxRail™ Manager Plugin for VMware vCenter for configuration and management
- VMware vSphere®, including ESXi
- VMware vCenter Server™
- VMware vSAN™ for storage
- VMware vRealize Log Insight™

Your VxRail Appliance also includes complementary applications such as RecoverPoint for Virtual Machines.

The VxRail Appliance

The VxRail Appliance includes the appliance hardware, the VxRail Manager Plugin for VMware vCenter, Secure Remote Services, and access to qualified software products.

Appliance hardware

The VxRail Appliance consists of one to four nodes in a rackmount chassis. Each node has its own compute and storage resources.

For a list of available VxRail Appliance models refer to the VxRail website.

One or more network switches (25 GbE, 1 0GbE, or 1 GbE depending on model), appropriate cables, and a workstation/laptop for the user interface are also required for use with your VxRail Appliance.

VxRail Manager

The VxRail Manager Plugin for VMware vCenter (refered to simply as "VxRail Manager") provides a software stack for software-defined data center (SDDC) building blocks including compute, network, storage, and management. VxRail Manager streamlines deployment, configuration, and management for easier initial setup and ongoing operations.

VxRail Manager also provides integration for services and support to help you get the most out of your VxRail Appliance.

With VxRail Manager you can:

- Monitor system health with deep hardware intelligence and graphical representation
- View appliance software versions and updates
- Access Online Support and eServices
- Access community resources such as the user forum and knowledgebase
- Use the VxRail Market to access qualified software products
- Perform maintenance operations such as replacing hardware, adding drives, and cycling power to the cluster or nodes
- Perform system software upgrades

- Add and remove nodes in the cluster

VxRail ACE (Analytical Consulting Engine)

Your VxRail system allows you to take advantage of VxRail ACE (Analytical Consulting Engine), a centralized data collection and analytics platform that streamlines monitoring of your VxRail clusters, improves serviceability, and helps you make better decisions to manage the performance and capacity of your pre-engineered hyperconverged infrastructure.

You can access VxRail ACE right from within VxRail Manager, or you can also access VxRail ACE directly from your Web browser at https://vxrailace.emc.com/.

Storage and virtualization

The VxRail Series integrates VMware vSAN and virtualization to provide a complete hyper-converged infrastructure.

Storage

VMware vSAN is integrated in your VxRail Appliance to provide Software-Defined Storage (SDS). vSAN is not a VSA, but is embedded in the ESXi hypervisor kernel's I/O data path. As a result, vSAN can deliver the higher performance with minimum CPU and memory overhead.

vSAN pools the VxRail Appliance's internal SSDs and HDDs on the ESXi hosts to present a single datastore for all hosts in the cluster. vSAN uses a highly available, distributed, object-based architecture. vSAN mirrors and distributes the individual virtual disk (VMDK) across the datastore.

Virtualization

The VxRail Series lets virtualization infrastructure administrators manage storage on a per-VM basis. This VM-centric approach allows for storage policies to be defined at VM-level granularity for provisioning and load balancing. vSAN is fully integrated with vSphere, which simplifies setting up the availability, capacity, and performance policies.

For scale-out, VxRail Manager uses VMware Loudmouth auto-discovery capabilities, based on the RFC-recognized "Zero Network Configuration" protocol, to automatically discover and configure appliances on your network. Loudmouth runs on each ESXi host and in theVxRail Manager virtual machine. Loudmouth allows VxRail Manager to discover all the nodes and automate the configuration. Loudmouth requires IPv6 multicast. The IPv6 multicast communication is strictly limited to the management VLAN that the nodes use for communication.

Features

The VxRail Series offers advanced features including automatic deployment, automatic scale out, fault tolerance, and diagnostic logging.

Automatic deployment

The VxRail Manager fully automates the installation and configuration of all nodes in to a cluster after you input the network settings.

Automatic scale-out

The VxRail Series provides automated scale-out functionality by detecting a new VxRail node at power-on. VxRail automatically performs scale-out by adding the node to the cluster.

New in VxRail 4.7.x, scale-out for 4.7.x VxRail clusters is now even faster with multi-node expansion. This feature enables you to add multiple 4.7.x nodes into the same 4.7.x cluster in parallel, reducing the time required to expand your cluster.

Node failure tolerance

The VxRail Series tolerates node failures as defined by the vSAN policy. Refer to VMware vSAN documentation on FTT and FTM support for more information.

The VxRail Series implements the standard vSAN policy of one failure by default:

- An entire node can fail and the system will continue to function.

- Disk failure cannot affect more than one node.

- One cache disk can affect as many as six capacity disks (HDD/SSD).

- One network port on any node can fail without affecting the node.

    Network failover is through the virtual switch configuration in ESXi. This is automatically configured by VxRail Manager during initial setup.

Logging and log bundles

The VxRail Series provides logging and log bundles through VxRail Manager. These logs provide operation and event information about VxRail Manager.

VxRail Appliance cluster expansion

Your VxRail Appliance cluster can be scaled from a minimum of three nodes. The VxRail Manager automated installation and scale-out features make it easy to expand your cluster as your business demands grow.

With the VxRail Manager multi-node expansion feature, you can perform cluster expansion with up to six nodes in parallel, reducing the time that is required to achieve greater compute and storage capacity.

Standard VxRail Appliance models hold from one to four nodes in a rackmount chassis. vSAN 2 Node appliance models hold from one to two nodes in a rackmount chassis. You may have a partially populated appliance chassis in the cluster. You can use the empty slots in the chassis for future expansion.

You can mix different VxRail Appliance models in the same cluster. Adhere to the following guidelines when deploying a mixed cluster:

- The first four nodes in a cluster must be of the same type and configuration. (If there are only three nodes in the cluster they must all be the same type and configuration.)

- All appliances in the cluster must be running VxRail Manager version 4.7.100 or higher.

- First-generation appliances (sold under the VSPEX BLUE name) are not supported.

- Appliances using 1 GbE networking cannot be used in clusters 10 GbE or 25 GbE networking, and appliances using 10 GbE networking cannot be used in clusters with 25 GbE networking.

- 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.

- Hybrid nodes cannot be used in clusters with all-flash or all-NVMe nodes.

- All-NVMe nodes cannot be used in clusters with all-flash or hybrid nodes.

Work with your sales representative or reseller when planning your cluster expansion.

VxRail Appliance deployment options for VMware vCenter server

Your VxRail Appliance can join an existing customer-supplied vCenter server during its initial configuration. This allows you to use a remote central vCenter server to manage multiple VxRail Appliances from a single pane of glass.

A customer-supplied vCenter server can be installed as *internal* to the VxRail cluster or as *external* to the VxRail cluster. Depending on the vCenter server location and source, the scope of VxRail management may differ as described in the following table.

Table 3 VxRail vCenter Server deployment options

vCenter server source	Cluster type	Deployed internal to VxRail cluster	Deployed external to VxRail cluster	VxRail scope of management
Supplied by VxRail	Regular	Default and preferred	Not supported	Single VxRail cluster
	Stretched	Supported	Not supported	Single VxRail cluster
	vSAN 2-node[a]	Not supported	Not supported	Not supported
Supplied by the customer	Regular	Supported	Supported	Multiple clusters
	Stretched	Supported	Supported and preferred	Multiple clusters
	vSAN 2-node	Not supported	Default	Multiple clusters

a. vSAN 2-node support starts with VxRail 4.7.100.

The external vCenter server can be:

- Physical or virtual
- Windows or VCSA
- Embedded, or non-embedded deployed with an external PSC

To join an existing external vCenter server, provide an existing datacenter and a non-conflicting cluster name during the initial configuration of the appliance. The VxRail Appliance joins the datacenter as a new vSAN cluster with the specified cluster name.

(i) Note: The following considerations apply when using your VxRail Appliance with an external vCenter server:

- Ensure that the external vCenter server version to be used is listed in the VxRail and external vCenter interoperability matrix (KB 520355).
- You must provide an appropriate vCenter server license.

CHAPTER 3

Network planning

Before your VxRail Appliance is installed, your network switches must be properly configured. Consult with your sales representative or partner to prepare your switches and network before installation.

This chapter discusses the switch and network parameters you must consider to make sure that you properly setup up your switch, configure VLANs, reserve IP addresses, and so on.

Pre-Engagement Questionnaire (PEQ)

Before your appliance is installed, work with your pre-sales systems engineer, project manager, or partner to complete the VxRail Appliance Pre-Engagement Questionnaire (PEQ).

The PEQ tool is used to document the Professional Services project installation parameters needed to successfully install your appliance and to facilitate the communication between the different teams throughout the engagement workflow (pre-sales to project management to delivery).

25GbE, 10GbE, or 1GbE switch networking

Your VxRail Appliance relies on your 25GbE, 10GbE, or 1GbE switches for all of the networking between nodes in the cluster, and between the cluster and the rest of your infrastructure. It is crucial that your switches are configured properly for the VxRail Appliance to work.

Consult with your sales representative or partner to ensure your switch is properly set up to work with your VxRail Appliance according to the instructions provided by your switch manufacturer. For more detailed information about switch and network requirements, refer to the VxRail Network Planning Guide.

The following table lists the general type of switches needed for different VxRail Appliance models.

Table 4 VxRail Appliance general network switch requirements

VxRail Appliance model	Network switch requirement
VxRail 60, VxRail 60F VxRail E460 VxRail G410, VxRail G410F VxRail P470 VxRail S470 VxRail V470	10GbE or 1GbE
VxRail 120, VxRail 120F VxRail 160, VxRail 160F VxRail 200, VxRail 200F VxRail 240F VxRail 280F VxRail E460F VxRail P470F VxRail V470F	10GbE
VxRail E560F, E560N VxRail G560F VxRail P570F VxRail P580N VxRail S570F	25GbE or 10GbE

Table 4 VxRail Appliance general network switch requirements (continued)

VxRail Appliance model	Network switch requirement
VxRail V570F	

Network requirements

Your sales representative or partner will work closely with you to ensure you have the following network resources available before installing the VxRail Appliance.

25GbE, 10GbE, or 1GbE switches

You must have one or more 25GbE, 10GbE, or 1GbE switches:

- Two or more network switches are recommended for failover, and for installations with more than four appliances.

- Two switch ports are required for each node (the VxRail 60 requires four ports per node). A fully-populated appliance can require eight switch ports.

Cabling

If you have RJ45 NIC ports on your appliance you need:

- Two to four CAT6 or higher cables per node (these cables are included with RJ45-equipped appliances). A fully-populated appliance requires up to eight cables (the VxRail 60 requires 16 cables).

If you have SFP+ NIC ports on your appliance you need:

- Two to four compatible Twinax Direct-Attach-Copper (DAC) cables per node (these cables are not included; you must supply your own). Active DAC cables should be used if the cable is over 5 meters long.

or

- Two to four compatible fiber cables with appropriate transceivers per node (these cables and transceivers are not included; you must supply your own).

Servers

You must have a DNS server for network address resolution and Secure Remote Services support.

VxRail Appliance Network Configuration Table

Use the Network Configuration Table when planning and configuring your 25GbE, 10GbE, or 1GbE switches for use with your VxRail Appliance.

This table lists the network parameters that are configured during VxRail Appliance setup. Use the table before setup to plan your configuration. Work with your sales representative or partner to use the table during setup to keep track of your entries.

Table 5 Network Configuration Table

Element	Category	Description	Example	Customer value
VxRail Appliance	External Management VLAN ID (optionally modify)	Set external VLAN Management on ESXi before you configure VxRail Appliance. The default is the external VxRail management network, which uses the untagged native VLAN.	Native VLAN	
	Internal Management VLAN ID	Isolated management network used for VxRail node discovery. Set VLAN on switches before configuring VxRail appliance	Default: 3939	
	VxRail Appliance Initial IP Address (optionally modify)	If you cannot reach the default VxRail Appliance initial IP address (192.168.10.200/24), set an alternate IP address	192.168.10.200	
System	Global settings	NTP server(s)		
		DNS server(s)		
	Active Directory (optional)	Domain		
		Username		
		Password		
	HTTP Proxy Settings (optional)	IP Address		
		Port		
		Username		
		Password		
Management	Hostnames	ESXi hostname prefix	host	
		Separator	None	
		Iterator	0X	
		Top-level domain	localdomain.local	
		vCenter Server hostname	vcenter	
		VxRail Appliance hostname	vxrail	
	Networking	ESXi starting address for IP pool	192.168.10.1	
		ESXi ending address for IP pool	192.168.10.4	

Table 5 Network Configuration Table (continued)

Element	Category	Description	Example	Customer value
		vCenter Server IP address	192.168.10.101	
		VxRail Appliance IP address	192.168.10.100	
		Subnet mask	255.255.255.0	
		Gateway	192.168.10.254	
	Passwords	ESXi "root"		
		vCenter Server & VxRail Manager "administrator@vsphere.local"		
	Platform Controller Services (optional)	Platform controller services hostname	pscserver	
vSphere vMotion		Starting address for IP pool	192.168.20.1	
		Ending address for IP pool	192.168.20.4	
		Subnet mask	255.255.255.0	
		VLAN ID	20	
v SAN		Starting address for IP pool	192.168.30.1	
		Ending address for IP pool	192.168.30.4	
		Subnet mask	255.255.255.0	
		VLAN ID	30	
VM Networks		VM Network name and VLAN ID	Sales / 110	
		VM Network name and VLAN ID	Marketing / 120	
		...		
		Unlimited number		
Solutions	Logging	vRealize Log Insight hostname	loginsight	
		vRealize Log Insight IP address	192.168.10.102	
		Syslog server (instead of Log Insight)		

CHAPTER 4

Licensing your VxRail Appliance

Your VxRail Appliance comes with VMware vSphere and vSAN pre-installed. However, you must supply vSphere and vSAN licenses to activate the appliance.

Your vSphere licenses can be obtained in one of two ways:

- By leveraging existing available vSphere licenses (for example, from existing ELAs)
- By acquiring new vSphere licenses from one of the following channels:
  - Dell EMC direct OEM
  - Dell EMC brokerage services
  - VMware direct
  - Partner (resellers only)

Your vSAN licenses can be obtained in one of two ways:

- By leveraging existing available vSAN licenses from existing ELAs
- By acquiring new vSAN licenses directly from Dell EMC.

Work with your sales representative or reseller to ensure that you have the correct type and quantity of vSphere and vSAN licenses required for your environment.

Setting up vSphere licenses for VxRail

The following topics discuss how to apply vSphere licenses for your VxRail nodes.

vSphere licensing overview

The overall procedure for applying a vSphere license to your VxRail Appliance is outlined here. Refer to the subsequent sections for details of each step.

About this task

Follow these steps to activate the VMware vSphere license on your appliance.

(i) Note: Internet access is required for this process. Customers without Internet access at their site should work with their sales representative or reseller to obtain their license.

Procedure

1. Locate your partner activation code (PAC).

2. Log into the VMware activation portal and redeem your PAC to receive your vSphere license keys.

   Use your My VMware credentials or create an account if you don't have one.

3. Prepare a vSphere license key that meets your VxRail Appliance vSphere license requirements.

4. Enter your vSphere license key on the vSphere Client and apply it to your VxRail Appliance.

Locating your vSphere partner activation code (PAC)

When you buy a VxRail Appliance, you will receive a unique partner activation code (PAC) that you can use to obtain your VMware vSphere license.

Procedure

1. Locate your PAC.

   - A copy of the PAC is emailed to the **Bill to** and **Ship to** contacts for your order.

   - A copy of the PAC is also sent to any additional email addresses that were entered for your order.

2. Keep the PAC available as you license your appliance.

Logging into the activation portal

Log into the activation portal to redeem your PAC and receive your VMware vSphere license keys.

Procedure

1. Point your Web browser to the activation portal:

   ```
   https://www.vmware.com/oem/code.do?Name=EMC-AC
   ```

2. Log in with your My VMware credentials.

   If you do not have a My VMware account, create one using these steps:

   a. Click **Register** under **New Customers**.

   b. Enter your email address, password, and other information.

   c. Click to accept the terms and conditions and click **Continue**.

An email is sent to the address you registered with.

    d. In the email, click **Activate Now** and follow the instructions to complete your registration.

3. On the **VMware Registration for Partner Activation Codes** page, enter your PAC in the **Activation Code** box.

4. Click **Continue** and follow the instructions.

   You will receive an email containing the vSphere license key. The license key must next be prepared for your VxRail Appliance, and then applied using the vSphere Client.

Preparing your vSphere license for your VxRail Appliance

After you redeem your partner activation code (PAC) and receive your vSphere license, you must arrange your vSphere licenses to match your VxRail Appliance.

Before you begin

You may need to upgrade your license key to match the product version your are using (for example, vSphere 6.5 or vSphere 6.7, and so on). Refer to the VMware knowledge base article, *How to upgrade license keys in My VMware* (2006974).

About this task

Procedure

1. Log into your My VMware account.

2. Navigate to the **Manage License Keys** page.

3. Select the **Combine License Keys** option.

4. Find and select the proper number of vSphere licenses to support your VxRail Appliance.

   The following table lists the license support requirements. Work with your Dell EMC or partner representative to ensure that you have the proper type and quantity of licenses available for your environment.

VxRail Appliance model	vSphere license support requirements
VxRail 60	4 hosts and 4 CPUs
VxRail 120, VxRail 120F, VxRail 160, VxRail 160F, VxRail 200, VxRail 200F, VxRail 240F, VxRail 280F	3 hosts and 6 CPUs, or 4 hosts and 8 CPUs
VxRail E460, VxRail E460F, VxRail E560, VxRail E560F, VxRail E560N, VxRail E565, VxRail E565F, VxRail G410, VxRail G410F, VxRail G560, VxRail G560F, VxRail P470, VxRail P470F, VxRail P570, VxRail P570F, VxRail P575, VxRail P575F, VxRail P580N, VxRail S470, VxRail S570, VxRail V470, VxRail V470F, VxRail V570, VxRail V570F	1 to 4 hosts and 2 to 8 CPUs

5. Click **Combine**. (If your vSphere licenses support more than eight CPUs, click **Divide License Keys** instead.)

6. Follow the My VMware on-screen instructions to finish grouping the licenses.

   You have the option to email your license key to yourself.

7. Create a folder called `VxRail` within My VMware with the required vSphere Enterprise Plus CPU license.

After you finish

For additional information on how to manage existing vSphere license keys to meet your requirements, work with your sales representative or reseller. You can also refer to the following VMware knowledgebase articles:

- How to combine license keys in My VMware (2006973)
- How to divide license keys in My VMware (2006972)
- How to upgrade license keys in My VMware (2006974)
- How to downgrade license keys in My VMware (2006975)
- Licensing ESXi 6.x and vCenter Server 6.x (2107538)

Assigning a vSphere license to your VxRail Appliance

After combining or splitting your vSphere license and making it ready for VxRail Appliance, you must apply the license using the vSphere Client.

Procedure

1. Log into the vSphere Client.

    (You must have Global.Licenses privilege.)

2. Click **Home**.

3. In the **Administration** section, click **Licensing** in the left pane and select the **Licensing** tab.

4. Click **Add New Licenses** (the small plus icon: **+.**)

5. Enter your product license key, one license per line, and click **Next**.

6. (optional) Add a label to the license. Click **Next**.

7. Review the details and click **Finish** to add the license.

8. To assign the new license to a host, click the **Assets** tab and then click **Hosts**.

9. Select the host and click **Assign License**.

    (Shift+click to select multiple hosts to license.)

    A pop-up window shows all available licenses.

10. Select the appropriate license from the list and click **OK** to complete the licensing process.

Setting up vSAN licenses for VxRail

The following topics describe how to apply VMware vSAN licenses for your VxRail clusters.

vSAN licensing overview

The overall procedure for applying a vSAN license to your VxRail Appliance clusters is outlined here. Refer to the subsequent sections for details of each step.

About this task

Follow these steps to activate the VMware vSAN license on your cluster.

ⓘ **Note:** Internet access is required for this process. Customers without Internet access at their site should work with their sales representative or reseller to obtain their license.

Procedure

1. If you purchased your vSAN license from Dell, locate your partner activation code (PAC).

   If your vSAN license is part of an existing VMware ELA, skip to step 3.

2. Log into the VMware activation portal and redeem your PAC to receive your vSAN license keys.

   Use your My VMware credentials or create an account if you don't have one.

3. In My VMware, prepare a vSAN license key that meets your VxRail Appliance cluster vSAN license requirements.

4. Enter your vSAN license key on the vSphere Client and apply it to your VxRail clusters as needed.

Locating your vSAN partner activation code (PAC)

When you buy a vSAN license from Dell EMC, you will receive a unique partner activation code (PAC) that you can use to obtain your VMware vSAN license.

About this task

(i) Note: If you are using a vSAN license that is part of an existing VMware ELA you will not receive a PAC.

Procedure

1. Locate your PAC.

   - A copy of the PAC is emailed to the **Bill to** and **Ship to** contacts for your order.

   - A copy of the PAC is also sent to any additional email addresses that were entered for your order.

2. Keep the PAC available as you license your appliance.

Logging into the activation portal

Log into the activation portal to redeem your PAC and receive your VMware vSAN license keys.

About this task

(i) Note: If you are using a vSAN license that is part of an existing VMware ELA you will not receive a PAC, and you can skip this activation process.

Procedure

1. Point your Web browser to the activation portal:

   `https://www.vmware.com/oem/code.do?Name=EMC-AC`

2. Log in with your My VMware credentials.

   If you do not have a My VMware account, create one using these steps:

   a. Click **Register** under **New Customers**.

   b. Enter your email address, password, and other information.

   c. Click to accept the terms and conditions and click **Continue**.

   An email is sent to the address you registered with.

   d. In the email, click **Activate Now** and follow the instructions to complete your registration.

3. On the **VMware Registration for Partner Activation Codes** page, enter your PAC in the **Activation Code** box.

4. Click **Continue** and follow the instructions.

   You will receive an email containing the vSAN license key. The license key must next be prepared for your VxRail Appliance, and then applied using the vSphere Client.

Preparing your vSAN license for your VxRail Appliance

After you redeem your partner activation code (PAC; if applicable) and receive your vSAN license, you must configure your vSAN licenses to match your VxRail cluster.

Before you begin

You may need to upgrade your license key to match the product version your are using (for example, vSAN 6.5 or vSAN 6.7, and so on). Refer to the VMware knowledge base article, *How to upgrade license keys in My VMware* (2006974).

About this task

Procedure

1. Log into your My VMware account.

2. Navigate to the **Manage License Keys** page.

3. Select the **Combine License Keys** option.

4. Find and select the proper number of vSAN licenses to support your VxRail cluster.

   vSAN Standard, Advanced, and Enterprise licenses are per-CPU (socket) licenses. The following table lists the license support requirements. Work with your Dell EMC or partner representative to ensure that you have the proper type and quantity of licenses available for your environment.

VxRail Appliance model	vSAN license support requirements
VxRail 60	4 hosts, 1 CPU each: 4 CPU vSAN license required.
VxRail 120, VxRail 120F, VxRail 160, VxRail 160F, VxRail 200, VxRail 200F, VxRail 240F, VxRail 280F	3 hosts, 2 CPUs each; or 4 hosts, 2 CPUs each: 6 CPU or 8 CPU vSAN license required.
VxRail E460, VxRail E460F, VxRail E560, VxRail E560F, VxRail E560N, VxRail E565, VxRail E565F, VxRail G410, VxRail G410F, VxRail G560, VxRail G560F, VxRail P470, VxRail P470F, VxRail P570, VxRail P570F, VxRail P575, VxRail P575F, VxRail P580N, VxRail S470, VxRail S570, VxRail V470, VxRail V470F, VxRail V570, VxRail V570F	1 to 4 hosts, 2 CPUs each: 2 to 8 CPU vSAN license required.

5. Click **Combine**. (If your vSAN licenses support more than eight CPUs, click **Divide License Keys** instead.)

6. Follow the My VMware on-screen instructions to finish grouping the licenses.

   You have the option to email your license key to yourself.

7. Create a folder called `VxRail` within My VMware with the required vSAN license.

After you finish

For additional information on how to manage existing vSAN license keys to meet your requirements, work with your sales representative or reseller. You can also refer to the following VMware knowledge base articles:

- How to combine license keys in My VMware (2006973)

- How to divide license keys in My VMware (2006972)

- How to upgrade license keys in My VMware (2006974)

- How to downgrade license keys in My VMware (2006975)

- Licensing ESXi 6.x and vCenter Server 6.x (2107538)

Assigning a vSAN license to your VxRail cluster

After combining or splitting your vSAN license and making it ready for VxRail cluster, you must apply the license using the vSphere Client.

Procedure

1. Log into the vSphere Client.

   (You must have Global.Licenses privilege.)

2. In the **Navigator** pane, locate the cluster to which you want to apply the vSAN license.

3. Right-click the cluster and select **Assign License**.

4. Click **Add New Licenses** (the small plus icon: **+**.)

5. Enter your product license key, one license per line, and click **Next**.

6. (optional) Add a label to the license. Click **Next**.

7. Review the details and click **Finish** to add the license.

CHAPTER 5

Working with the VxRail Manager Plugin for VMware vCenter

Use the VxRail Manager plugin to perform administrative tasks on your VxRail Appliance cluster.

ⓘ **Note:** Throughout this guide the VxRail Manager Plugin for VMware vCenter is referred to simply as "VxRail Manager".

Overview of the VxRail Manager Plugin for VMware vCenter

VxRail Manager is deployed as a plugin for VMware vCenter. This allows you to administer your VxRail clusters without leaving the HTML5 vSphere Client.

During the installation or upgrade to VxRail Appliance software version 4.7.100 or later, the VxRail Manager plugin is installed in your vCenter.

ⓘ **Note:** Customers who are familiar with versions of VxRail Manager earlier than 4.7.100 should note the following changes:

- The plugin replaces the VxRail Manager web interface – the web interface is no longer available.
- If you try to log into the VxRail Manager web user interface, you are redirected to the VMware HTML5 vSphere Client interface.
- The plugin does not replace the VxRail Manager virtual machine on each VxRail cluster; it is the new UI for VxRail Manager.

While no functionality is lost from earlier versions of VxRail Manager, the location and presentation of the functionality has been rearranged and streamlined to provide an integrated experience within the vSphere Client.

The VxRail Manager Plugin for vCenter includes the following functionality:

- VxRail Dashboard (select **VxRail** from the vSphere Client menu)
  - System health
  - Support
  - Community activity
  - Knowledge base content
- VxRail monitoring features (select a cluster, select **Monitor** > **VxRail**)
  - Appliances (Physical view)
  - Last configuration data sent (SRS dial home)
- VxRail configure features (select a cluster, select **Configure** > **VxRail**)
  - System
  - Updates (life cycle management for performing cluster-level upgrades)
  - Market
  - Add VxRail Hosts (add node)
  - Hosts (configure host name and IP address)
  - Support
  - Networking
  - Health Monitoring
  - Troubleshooting
  - iDRAC Configuration (select host first, available for Power Edge 14G systems only)
- Additional VxRail actions (available from the cluster and hosts context menu)
  - Cluster shutdown
  - Add hosts

- Remove VxRail hosts

(i) Note: Throughout this guide the VxRail Manager Plugin for VMware vCenter is referred to simply as "VxRail Manager".

Viewing the VxRail Dashboard

Within the vSphere Client select **VxRail** from the menu to view the VxRail Dashboard.

About this task

The VxRail Dashboard shows system health and support resources at a glance, including system health, support, community activity, and knowledge base content.

System Health

Overall System Health shows the high-level system status of your VxRail Appliance. Status is shown as one of the following:

- **Healthy:** System normal. There are no major problems to address

- **Error:** An error has occurred. There is an issue that should be addressed when possible.

- **Warning:** System needs attention. There are some issues that require attention such as a disk space limit has been reached or an online support heartbeat cannot be sent.

- **Critical:** Immediate action required. There are events that must be addressed immediately to prevent downtime or data loss.

VxRail Community

VxRail Community shows the most recent articles and other content from the online VxRail community.

Support

Support shows status and links to support resources, including:

- **Last Heartbeat:** The last time a Secure Remote Services heartbeat was sent (only shown if Secure Remote Services is enabled).

- **Chat with Support:** Link to start a chat session with a support representative.

- **Open a Service Request:** Link to open a new service request ticket for support.

- **Download:** Available applications and add-ons for your VxRail Appliance.

Knowledge Base

Knowledge Base displays knowledge base articles related to VxRail Manager.

Using Support eServices

Access Support eServices directly from VxRail Manager.

Before you begin

To use Support eServices, you must have created an account. To create an account visit https:// www.dell.com/support.

About this task

VxRail Manager lets you access the following Support eServices:

- **Chat with Support:** Opens a chat session with a support representative.

- **Open a Service Request:** Opens a Web form where you can open a service request.

- **VxRail Community:** Displays the most recent activity from the VxRail Series community forums. Click a title to view the discussion.

Chat with Support

Open a live chat session with support personnel.

Procedure

1. From the vSphere Client menu, select **VxRail** to get to the **VxRail Dashboard**.

2. In the **Support** section, click **Chat with Support** to start a live chat session with a support representative.

   The chat session opens. VxRail Manager transmits your appliance ID to the support representative.

Opening a service request

Contact Customer Service to request service for your VxRail Appliance.

Procedure

1. From the vSphere Client menu, select **VxRail** to view the **VxRail Dashboard**.

2. If you have more than one appliance, click the **arrow** next to **Open a Service Request**.

   A list of the appliances in your cluster is shown.

3. Click the appliance for which you want service.

   A service request form open in a new browser tab. The form is prepopulated with information about the appliance you selected.

4. Fill out the required information and click **Submit**.

5. If you have a single appliance, or want to submit a general service request, click **Open a Service Request**.

   A Support eServices page opens in a new browser tab where you can open a request for service.

Viewing VxRail Series community updates

Browse and read the most recent activity from the VxRail Series community forums.

Procedure

1. From the vSphere Client menu, select **VxRail** to view the **VxRail Dashboard**.

2. Observe the **VxRail Community** list.

   The most recent activity from the VxRail Series community is shown.

3. Click the title of a message or article to view that topic in a new browser tab.

Using the support knowledge base

Search, access, and view the support knowledge base.

Procedure

1. From the vSphere Client menu, select **VxRail** to view the **VxRail Dashboard**.

2. Type your search terms in the **Knowledge Base** search field and press Enter or click the magnifying glass icon.

   If you have not linked your support account with VxRail Manager, you will be prompted to log in with your support credentials.

3. Click any of the returned search results to read that knowledge base article. Or click **More...** to navigate to the knowledge base website.

Configuring VxRail clusters

You can view and configure VxRail cluster parameters in the vSphere Client by selecting the cluster in the **Hosts and Clusters** view and clicking the `Configure` tab.

Cluster-level VxRail parameters include:

- **System:** Displays the current version of VxRail Manager software running on your appliance and allows VxRail update.

- **Updates:** Enables performing cluster-level VxRail system upgrades.

- **Certificate:** Update the VxRail certificate.

- **Market:** Access to qualified applications to install and run on your VxRail Appliance cluster.

- **Add VxRail Hosts:** Adds hosts to the VxRail cluster.

- **Hosts:** View or Modify the hosts within the VxRail cluster.

- **Support:** Displays the linked Support account and allows you to link or change to a new account. Also allows you to edit the Secure Remote Services configuration.

- **Networking:** Displays the proxy status, allows you to configure proxy settings for Internet connections, and allows you to configure traffic throttling.

- **Health Monitoring:** Disable system health monitoring for maintenance purposes.

- **Troubleshooting:** Displays the last several collected logs and allows you to generate a new customized log bundle using types and nodes.

Viewing the VxRail Manager version number

Display the current version of VxRail Manager software running on your appliance.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** from the left navigation bar.

2. Select your VxRail cluster and then click the **Configure** tab.

3. Click **VxRail** > **System**.

   The **System** tab is displayed.

4. Observe **About VxRail** for the VxRail Manager software version.

Linking your Online Support account to VxRail Manager

For convenience, you can link your Online Support account with VxRail Manager and access support resources without having to log in separately.

Before you begin

You must have an account before you can link it with VxRail Manager. To create a support account, see *Registering for online support*.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select your VxRail cluster and then click the **Configure** tab.

3. Select **VxRail** > **Support** from the inner left navigation bar.

   The **Support** tab is displayed.

4. Click **Edit** in the **Dell EMC Support Account** section.

   - **Set Support Account** (if no account has been set)
   - **Change Support Account** (if an account was previously set)

   The **Username** and **Password** fields are displayed.

5. Type your account credentials in the **Username** and **Password** fields.

   Leave both fields blank if you wish to unlink all accounts.

6. Click **Login**.

   VxRail Manager will log into your account and display that your account is in use.

Updating VxRail Manager certification

Update and refresh certification of the VxRail Manager running on your appliance.

Procedure

1. From the main page of the vSphere Client click **Hosts and Clusters** from the left navigation bar.
2. Select the VxRail cluster you want and click the **Configure** tab.
3. Click **VxRail > Certificate** from the inner left navigation panel.

   The **VxRail Manager Certificate Manager** panel is displayed.
4. Enter the certificate information and password and then click **Update**.

Generating a diagnostic log bundle

Create and download a diagnostics log bundle for your cluster.

About this task

VxRail Manager compiles a diagnostic log of its own operations. It does not include log information for the entire cluster.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.
2. Select your VxRail cluster and then click the **Configure** tab.
3. Select **VxRail** > **Troubleshooting** from the inner left navigation bar.

   The **Log Collection** tab is displayed
4. Click the **Create** button.
5. In the dialog box select the types of logs and specific hosts from which the logs will be collected.

6. Click the **Generate** button.

   VxRail Manager will gather diagnostics information and create a TAR file.
7. Wait for the log bundle generation to complete.
8. Click **Download** to store the file on your local machine.

Configuring a network proxy server

Configure proxy settings to allow connections to an external network through your proxy server. You can update, enable, and disable the proxy settings.

Before you begin

You must supply an existing proxy server. The type of the proxy should be either HTTP or SOCK4/5.

The following table lists the supported proxy types for VxRail Manager and Secure Remote Services VE.

Table 6 Supported proxy types

Proxy Type	VxRail Manager	Secure Remote Services VE
SOCKS4 without authentication	Supported	Not supported
SOCKS5 without authentication	Supported	Supported
SOCKS5 with authentication	Supported	Not supported
HTTP without authentication (anonymous)	Supported	Supported
HTTP with authentication (basic authentication)	Supported	Supported

About this task

The proxy is used for the Internet connection to the VxRail community, knowledge base search, appliance market download, and so on.

The proxy configuration is applied to the Secure Remote Services virtual environment during Secure Remote Services enablement and activation. After Secure Remote Services is activated, the proxy information can be set from the Secure Remote Services side independently but it will always be overwritten if new a proxy is set from VxRail Manager.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select your VxRail cluster and then click the **Configure** tab.

3. Select **VxRail** > **Networking** from the inner left navigation bar.

   The **Configure Network Environment Settings** tab is displayed.

4. Verfiy the value of **Proxy Status** in the **Configure Proxy Settings** section:

   - **Disabled:** Proxy is not enabled.

   - **Enabled:** Proxy is enabled.

5. Click **Edit** in the **Configure Proxy Settings** section.

6. Do one of the following:

   - If your proxy status is **Disabled**, and you need to configure the proxy, proceed to step 7.

   - If your proxy status is **Enabled**, and you need to update the proxy, skip to step 8.

   - If your proxy status is **Enabled**, and you need to disable the proxy, skip to step 9.

7. Click **Enable Proxy Setting** and enter the information for the proxy you want to configure:

   a. Select the expected proxy type from the **Type** dropdown box.

      The supported proxy types includes **HTTP SOCKS4**, and **SOCKS5**.

   b. Enter the **IP/Hostname** and **Port** number of the proxy server you are using.

   c. If you choose **HTTP** or **SOCKS5** as the proxy type, you can provide credentials for accessing the proxy server by checking **Autenticate Credential**. Provide the username and password in the corresponding fields.

   d. If Secure Remote Services is enabled, enter the Secure Remote Services admin password in the **Secure Remote Services password** field.

8. Click **OK**.

   The configured proxy settings are enabled for VxRail Manager.

   When your proxy status is **Enabled**, the process is complete. A message "Proxy settings have been enabled" is displayed.

9. To disable the proxy, do the following:

   a. Click the triangle button beside the **Update Proxy** button.

   b. Click **Disable Proxy** in the dropdown box.

   c. If Secure Remote Services is enabled, input the Secure Remote Services admin password in the **Secure Remote Services password** field and click **Disable Proxy**.

   When your proxy status is **Disabled**, the process is complete. A message "Proxy settings have been disabled" is displayed.

Enabling Secure Remote Services

Dell Secure Remote Services provides secure, automated access between Support and your VxRail Appliance. You must install and activate an integrated Secure Remote Services or register to an External Secure Remote Services gateway to enable some features in VxRail Manager.

You must have a support account before you enable Secure Remote Services. To create a support account, see *Registering for online support*.

(i) **Note:** If you plan to set up Secure Remote Services, your Online Support account must be linked to VxRail Manager under the same party ID or it will not work properly.

Customer experience improvement program

An optional part of using Secure Remote Services is providing usage data to Dell's customer experience improvement program. You decide the level of data about your VxRail environment that is collected. The types of data collected include environmental usage, performance, capacity, and configuration information. Dell uses this information to improve VxRail and your customer expeirence.

Enabling integrated Secure Remote Services

Follow these steps to activate integrated Secure Remote Services on your VxRail Appliance.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select your VxRail cluster and then click the **Configure** tab.

3. Select **VxRail** > **Support** from the inner left navigation bar.

   The **Support** tab is displayed.

4. Verify the value of **SRS Status**.

   - **Not configured:** Secure Remote Services is not yet configured.
   - **Deployed:** Secure Remote Services has been installed but not activated.
   - **Enabled:** Secure Remote Services is activated.

5. Do one of the following:

   - If your Secure Remote Services status is **Not configured**, proceed to step 6.
   - If your Secure Remote Services status is **Deployed**, skip to step 13.
   - If your Secure Remote Services status is **Enabled**, skip to step 16.

6. Click **Edit** in the **Dell Secure Remote Services** section.

7. Select **Internal SRS**.

8. In the **SRS VM IP Address** field, enter a valid IP address on the management network used by your VxRail Appliance.

   SRS must be on the same management network as vCenter and VxRail Manager to receive alerts and broadcast them back to Support.

9. Verify that the site ID and contact information are correct.

   These fields are pre-filled based on your Support account. However, you can manually update them if you wish.

10. Set the passwords for the root account and the admin account.

11. Click **Next**.

12. Select the level of data collected for use in the VxRail customer experience improvement program and click **Next**.

13. Review your information and click **Finish**.

    A status bar is displayed as Secure Remote Services is deployed on your system. When the process is complete, an access code is emailed to the address specified for your support account.

14. When your **SRS Status** is **Deployed**, click **Activate SRS**.

    The **Enable SRS** window is displayed.

15. Type or paste the access code in the **Access code** field.

    The access code is valid for 30 minutes. If your code has expired, click **Regenerate access code** to receive a new code by email.

16. Click **Submit**.

    A status bar is displayed as Secure Remote Services is activated on your system. When the process is complete, your Secure Remote Services status shows **Enabled**.

17. When your Secure Remote Services status is **Enabled**, the process is complete.

Enabling external Secure Remote Services

Follow these steps to configure external Secure Remote Services on your VxRail Appliance.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select your VxRail cluster and then click the **Configure** tab.

3. Select **VxRail** > **Support** from the inner left navigation bar.

The **Support** tab is displayed.

4. Verify the value of **SRS Status**.

   - **Not Configured:** Secure Remote Services is not activated.

   - **Deployed:** Secure Remote Services has been installed but not activated.

   - **Enabled:** Secure Remote Services is activated.

5. Do one of the following:

   - If your Secure Remote Services status is **Not Configured**, proceed to step 6.

   - If your Secure Remote Services status is **Deployed**, skip to step 12.

   - If your Secure Remote Services status is **Enabled**, skip to step 12 or 13.

6. Click **Edit** in the **Dell Secure Remote Services** section.

   The **Enable Secure Remote Services** window is displayed.

7. Select **External SRS**.

   The fields for configuring external Secure Remote Services are displayed.

8. In the **SRS VM IP Address** field, enter one or more external Secure Remote Services IP addresses for VxRail Manager registration (up to 10).

9. Enter the site ID.

10. Select the level of data collected for use in the VxRail customer experience improvement program and click **Next**.

11. Review your information and click **Finish**.

12. Click **Submit**.

   When your Secure Remote Services status shows as **Enabled**, the process is complete.

Accessing VxRail ACE (Analytical Consulting Engine)

VxRail ACE (Analytical Consulting Engine) is a centralized data collection and analytics platform that streamlines monitoring of your VxRail clusters, improves serviceability, and helps you make better decisions to manage the performance and capacity of your pre-engineered hyperconverged infrastructure.

About this task

You can access VxRail ACE right from VxRail Manager.

ⓘ Note: You can also access VxRail ACE directly from your Web browser at https://vxrailace.emc.com/.

Procedure

1. From the main page of the vSphere Client click **Hosts and Clusters** from the left navigation bar.

2. Select the VxRail cluster you want and click the **Configure** tab.

3. Click **VxRail > Support** from the inner left navigation panel.

4. Click the **VxRail ACE** panel to go to the VxRail ACE home page.

   VxRail ACE will open in a separate browser tab. This requires Internet connectivity.

Setting Internet online/offline mode

Follow these steps to enable or disable your VxRail Appliance's connection to the Internet.

About this task

(i) **Note:** Some VxRail Manager features are disabled when the appliance Internet connection is disabled.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select your VxRail cluster and then click **VxRail** > **Networking** from the inner left navigation bar.

   The **Configure Network Environment Settings** tab is displayed.

3. In the **Internet Connection** section, set **Connection Status** to one of the following:

   • **Enabled:** Internet access for your appliance is enabled.

   • **Disabled:** Internet access for your appliance is disabled.

Results

When **Connection Status** is set to **Disabled**, some VxRail Manager features are disabled. A message is displayed for the disabled features.

Configuring network traffic throttling

Set the communication frequency between VxRail Manager and vCenter. Setting a higher communication frequency could have a negative impact on network bandwidth consumption.

Procedure

1. From the main page of the vSphere Client click **Hosts and Clusters** from the left navigation bar.

2. Select the VxRail cluster you want and click the **Configure** tab.

3. Click **VxRail > Networking** from the inner left navigation panel.

   The **Configure Network Environment Settings** panel is displayed.

4. In the **Traffic Throttle Configuration** panel select one of the following:

   • **None:** No communications.

   • **Basic:** Minimal communications.

   • **Medium:** Moderate level communications.

   • **Advanced:** Most complete communications.

Enabling and disabling cluster health monitoring

Follow these steps to set whether VxRail Manager monitors the system health of the cluster.

About this task

Cluster health monitoring is normally enabled. You may want to disable it when you are performing service, such as replacing disks and so on.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select your VxRail cluster and then select **VxRail** > **Health Monitoring** from the inner left navigation bar.

3. In the **VxRail Cluster Health Monitoring** section, set **Health Monitoring Status** one of the following:

   - **Enabled:** Cluster health is monitored and reported. This is the default setting.

   - **Disabled:** Cluster health is not monitored.

Results

When cluster health monitoring is disabled (**Health Monitoring Staus** set to **Disabled**) VxRail Manager displays a banner indicating that monitoring is muted. You can close the banner by clicking the **X** on the right side of the banner.

Convert an internal vCenter server to an external vCenter server

You can convert a VxRail-supplied vCenter server (also called an "internal" vCenter server) to a customer-supplied vCenter server (also called an "external" vCenter server).

About this task

This is a one-way conversion from VxRail-supplied to customer-supplied vCenter server. It cannot be performed the other way around. After converting to a customer-supplied vCenter server, the server and PSC life cycle are no longer managed by VxRail Manager.

Procedure

1. From the main page of the vSphere Client click **Hosts and Clusters** from the left navigation bar.

2. Select the VxRail cluster you want and click the **Configure** tab.

3. Click **VxRail > System** from the inner left navigation panel.

4. In the **Convert vCenter Mode** panel click **Edit...** and enter the appropriate information.

Updating system software

Use the system update feature of the VxRail Manager Plugin for VMware vCenter to install updates for the system software installed on your VxRail Appliance.

About this task

ⓘ **Note:** Do not use VMware vSphere Update Manager (VUM) to update any of the components managed and updated by VxRail Manager.

ⓘ **Note:** You may not be able to update your system software in some circumstances:

- If you are using a stretch cluster VxRail configuration with VxRail software 4.7.2xx or earlier.

- If your cluster is in an unhealthy state or has critical health alarms

Open a service request, or contact your sales representative or reseller to arrange help in updating your system.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select the VxRail cluster you want to update in the left navigation pane.

3. Select **VxRail** > **Updates** from the inner left navigation bar.

   Three tabs are displayed:

- **System:** This tab lists the **Current VxRail System Version** and the **Installed Components and Versions**.

- **Internet Updates:** This tab allows you to download a new version of the VxRail system software. (Internet access is required.) If more than one version is available you can select **ALL Available System Updates** to list all of them or **Recommended System Updates** to list the recommended update for your cluster.

- **Local Updates:** This tab allows you to upload a new version of the software from your local storage. This is useful if you do not have Internet access from your VxRail appliance.

4. Click the option you want.

   The software is uploaded to the vSAN.

5. Click **Continue Update** to begin upgrading the software.

6. On the **Schedule** page choose **Update Now** or **Schedule Update**.

7. Click Next.

   The **Specification** page is displayed.

8. Enter the **Required Information to Upgrade VxRail System**, such as VxRail Manager root account and password, vCenter Server administrator account and password, PSC root account and password, and the vCenter Server root account and password. Then click **Next**.

9. Click **Next** to verify the **Target Version** and **Minimum Estimated Time** on the **Summary** page.

10. Click **Finish** (optional).

    VxRail Manager performs a series of system checks and begins the update process. The upgrade process status is displayed. When the process is done, VxRail Manager displays "Upgrade complete". If any problems are encountered during installation, VxRail Manager displays an appropriate message and steps to correct the issue.

11. Click **Refresh** to reload the **System** screen.

    When the installation is complete, the new version is displayed in the **Installed Components** list.

Viewing installed applications

The **VxRail > System > System Software Installed on this Cluster** display allows you to view information about the applications installed on your VxRail Appliance.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select the VxRail cluster you want to view in the left neavigation.

3. Select **VxRail** > **System** from the inner left navigation bar.

   The **System** tab is displayed.

4. In the **Helpful Information** section, click **Update**.

5. Scroll the **System Software Installed on this Cluster** list, if necessary, to view system software installed on your VxRail Appliance.

   The list includes a description and version number for each application installed. If a newer version of an application is available, the **Internet Upgrade** button is also displayed.

6. To view the components of the installed system software, click **Installed Components**.

   The VxRail Manager, vCenter, ESXi, VxRail VIB, and PTAgent (for Dell PowerEdge appliances) versions are displayed

Results

- If the installed software version is different from the factory version or the last upgraded version, VxRail Manager shows "The version is <xxx> (supported, reference version is <yyy>)". Related system events are generated.

- If the installed software version is not supported, VxRail Manager shows "The version is <xxx> (not supported). See KB500665". Related system events are generated.

- If the installed software version is incompatible with other software, VxRail Manager shows "The version is <xxx> (incompatible with <yyy>). See KB500666". Related system event are generated.

Using the VxRail Market

The VxRail Market lets you download, install, and upgrade qualified software products for your appliance.

About this task

Choose from a list of applications that add functionality, protection, or management to your VxRail Appliance.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select the VxRail cluster you want to work with in the left navigation.

3. Select **VxRail** > **Market** from the inner left navigation bar.

   The **Market** tab is displayed.

4. Click **Open market view**.

   The VxRail market window is displayed.

5. Scroll the **Available Applications for this Cluster** list, if necessary, to view all the applications available for your VxRail Appliance.

   The list includes a description and version number for each application.

6. Filter the application list using the filter selector at the top of the list, if desired.

7. Click **Learn more** if you want to view information about the application.

   The application page opens in a separate browser tab.

8. In VxRail Manager, do one of the following to install the application on your appliance:

   - Click **Install** to install an application directly.

   - Click **Download** to navigate to an external Web page where you can download and install the application.

   Refer to Installing an application from the VxRail Market. You can install multiple instances of an application.

9. Multiple instances of an application may be installed. To view and manage instances do the following:

   a. Click the arrow next to the name of the application to expand the instance listing.

      If there is only one instance of an application, the expand arrow is not displayed.

b. Scroll to the instance you want to manage.

c. View and manage the instance of the application as desired.

The following status messages may be displayed for an application instance:

- **Downloading:** The application is currently downloading.
- **Pending:** The application is waiting until another application finishes downloading.
- **IP address:** The application is installed.

Installing an application from the VxRail Market

Install a qualified software product from the VxRail Market.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.
2. Select the VxRail cluster you want to work on in the left navigation pane.
3. Select **VxRail** > **Market** from the inner left navigation bar.

   The **Market** tab is displayed.
4. Click **Open market view**.

   The VxRail market window is displayed.
5. Scroll the **Available Applications for this Cluster** list to find the application you want.
6. Click **Install** to install the application.
7. Fill out the fields as appropriate for the application being installed. For example, you may enter:

   - **Virtual Machine Name**
   - **IP Management address**
   - Time zone

   The fields vary depending on the application. Some fields may be pre-populated.
8. Click **Install**.

   A status bar shows the progress of the installation. The status messages include:

   - **Downloading:** The application is currently downloading.
   - **Pending:** The application is waiting until another application finishes downloading.
   - **IP address:** The application is installed.
9. To install multiple instances of an application, repeat this procedure.

Managing applications and add-ons with VxRail Manager

Manage your installed software products from the VxRail Market.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.
2. Select the VxRail cluster you want to work on in the left navigation pane.
3. Select **VxRail** > **Market** from the inner left navigation bar.

   The **Market** tab is displayed.

4. Click **Open market view**.

   The VxRail market window is displayed.

5. Scroll the **Available Applications for this Cluster** list to find the application you want.

   Filter the application list using the filter at the top of the list, if desired.

6. If there are multiple instances of the application, follow these steps:

   a. Click the arrow next to the name of the application to expand the instance listing.

      If there is only one instance of an application, the expand arrow is not displayed.

   b. Scroll to the instance you want to manage.

7. For the selected application, do either of the following:

   - Click **Open** to view the VM console.

   - Click **Manage** to view the application's management interface. (Not every application has a management option.)

Configuring VxRail hosts

The VxRail Manager Plugin for VMware vCenter lets you configure certain parameters that apply to the hosts in your VxRail cluster.

Configuring VxRail host iDRAC settings

Follow these steps to configure the VxRail Appliance host Integrated Dell Remote Access Controller (iDRAC) settings.

Procedure

1. From the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar.

2. Select the VxRail host in which you are interested in the left navigation bar.

3. Select **VxRail** > **iDRAC Configuration** from the inner left navigation bar.

4. To modify network settings, click **Edit** next to the **IPv4 Settings** section, modify the settings, and click **Apply**.

5. To modify VLAN settings, click **Edit** next to the **VLAN Settings** section, modify the settings, and click **Apply**.

6. To add an iDRAC user, click **Add** next to the **Users** section, fill in the user information, and click **Apply**.

Viewing Secure Remote Services information

You can verify your VxRail Appliance Secure Remote Services "heartbeat" (the last time your system communicated with the remote support service). You can also review the configuration data that was sent to Secure Remote Services.

Before you begin

Your VxRail Appliance can use Secure Remote Services either integrated on the cluster, or through an external Secure Remote Services gateway. For integrated Secure Remote Services, it must be installed and enabled on your VxRail Appliance. You must have a support account before you activate Secure Remote Services. See Enabling Secure Remote Services .

Procedure

1. On the main page of the vSphere Client click **Hosts and Clusters**.

2. Select your VxRail cluster in the left navigation bar.

3. Click the **Monitor** tab.

4. Select **VxRail** > **Last Configuration Data Sent** from the inner left navigation bar.

5. Observe the date and time of the last inventory.

6. Click **Download** to display the configuration data that was most recently sent to Secure Remote Services.

Viewing physical system health

The VxRail Manager **Health** view displays information about the hardware components of your appliance. A graphical representation of the appliances in your cluster makes it easy to navigate for event and status information.

Use the **Health** view to view the following:

- Appliances in the cluster: View appliance status and information such as ID, serial number, and so on.

- Individual appliance components: Drill down to see status and information for appliance components such as disks, compute nodes, and power supplies.

Locating components and viewing hardware health

Quickly locate and identify health status on any appliance in the cluster.

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail cluster from the left navigation bar.

2. Click the **Monitor** tab and select **VxRail** > **Physical View** from the inner left navigation bar.

3. Click **Cluster** to see a graphical overview of the appliances in the cluster.

   A picture of each appliance in the cluster is shown. Click the name below the picture to see a summary of that appliance.

4. Click an appliance name or the picture of an appliance to view more information about that appliance.

   The **Front View** and **Back View** of the appliance are displayed.

5. If a status icon is displayed next to an appliance, click the appliance or the magnifying glass icon to see more information.

6. Click any appliance component to view more details.

   - Click a **Disk** in the **Front View** or **Back View** to see disk status and information.

   - Click a **Node** in the **Back View** to see compute and network information.

   - Click a **power supply** in the **Back View** to see power supply status and information.

   - Click the **Back View** to see compute information.

   - Click a **NIC** in the **Back View** (E, S, P, and V models) to network information.

Viewing physical disk status

View status and information for any appliance disk in a cluster.

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters**.

2. Select your VxRail cluster from the left navigation bar.

3. Click the **Monitor** tab.

4. Select **VxRail** > **Appliances** from the inner left navigation bar.

5. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.

6. Click a **Disk** in the **Front View** or **Back View**.

   The **Disk Information** panel is displayed for that disk.

Results

The **Disk Information** panel lists disk status and information about the drive, such as:

- Status LED on/off

- Serial number

- Protocol

- Enclosure and slot location

- Disk type

- Manufacturer

- Capacity

- Remaining rated write endurance level for SSDs

Switching a disk locator LED on and off

Switch a disk's locator LED indicator on or off. The disk LED flashes to help locate the disk in an appliance.

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail cluster from the left navigation bar.

2. Click the **Monitor** tab and select **VxRail** > **Appliances** from the inner left navigation bar.

3. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.

4. Click a **Disk** in the **Front View**.

   The **Disk Information** panel is displayed for that node.

5. Click **Actions**.

6. Select the action you want:

   - **Enable Disk LED** starts flashing the disk LED.

   - **Disable Disk LED** stops flashing the disk LED.

Checking an SSD's remaining rated write endurance

Display the remaining rated write endurance (RRWE) for an SSD in your VxRail Series E, S, P, or V model appliance.

Before you begin

The following VxRail models support SSD drive rated write endurance monitoring:

- VxRail E460, VxRail E460F
- VxRail P470, VxRail P470F
- VxRail S470
- VxRail V470, VxRail V470F
- VxRail E560, VxRail E560F, E560N
- VxRail E565, VxRail E565F
- VxRail G560, VxRail G560F
- VxRail P570, VxRail P570F
- VxRail P575, VxRail P575F
- VxRail P580N
- VxRail S570
- VxRail V570, VxRail V570F

About this task

For SSD drives, the **Disk Information** panel displays a message when the remaining rated write endurance reaches certain levels:

- Warning: 30% rated write endurance remaining
- Error: 20% rated write endurance remaining
- Critical: 5% rated write endurance remaining

The Error and Critical levels are reported on the VxRail Manager dashboard.

Follow these steps to view the SSD remaining rated write endurance notification:

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail cluster from the left navigation bar.
2. Click the **Monitor** tab and select **VxRail** > **Appliances** from the inner left navigation bar.
3. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.
4. Click an **SSD** in the **Front View** or **Back View**.

   The **Disk Information** panel is displayed for that SSD.
5. Observe the remaining rated write endurance notification (if displayed).

Viewing physical node status

View compute, boot device, and NIC status and information for any appliance node in a cluster.

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail host from the left navigation bar.

2. Click the **Monitor** tab and select **VxRail** > **Physical View** from the inner left navigation bar.

3. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.

4. Click a chassis or a node in the **Front View** or **Back View**.

   The **Node Information** panel is displayed for that node.

Results

The **Node Information** panel lists status and information about the node, such as:

- Status LED on/off
- Serial number
- BIOS firmware version
- Boot device serial number and statistics
- Network interface card (NIC) MAC addresses and status

Switching a node chassis LED on and off

Switch a node's chassis LED indicator on or off. The chassis LED flashes to help locate the node appliance in a rack.

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail host from the left navigation bar.

2. Click the **Monitor** tab and select **VxRail** > **Physical View** from the inner left navigation bar.

3. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.

4. Click a **Node** in the **Back View**.

   The **Node Information** panel is displayed for that node.

5. Click **Actions**.

6. Select the action you want:

   - **Enable System LED** starts flashing the chassis LED.
   - **Disable System LED** stops flashing the chassis LED.

Shutting down a single node

Shut down an individual node in a cluster. This is useful when replacing node hardware or performing other maintenance tasks.

About this task

The following VxRail models support shutting down a single node:

- VxRail E460, VxRail E460F
- VxRail P470, VxRail P470F
- VxRail S470
- VxRail V470, VxRail V470F
- VxRail E560, VxRail E560F, VxRail E560N
- VxRail E565, VxRail E565F
- VxRail G560, VxRail G560F

- VxRail P570, VxRail P570F
- VxRail P575, VxRail P575F
- vxRail P580N
- VxRail S570
- VxRail V570, VxRail V570F

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail cluster from the left navigation bar.
2. Click the **Monitor** tab and select **VxRail** > **Pkysical View** from the inner left navigation bar.
3. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.
4. Click a **Node** in the **Back View**.

   The **Node Information** panel is displayed for that node.
5. Click **Shut Down** in the **Node Information** panel.

   The Shut Down Node window is displayed as VxRail Manager begins the shut down pre-check routine.
6. Correct any issues detected by the pre-check routine.
7. When the pre-check routine completes successfully, click **Continue** to shut down the node.

Results

During the pre-check routine, VxRail Manager checks the following:

- Checks and ensures the hosts aren't in maintenance mode
- Checks and ensure that cluster health monitoring is on
- Checks and ensures the hosts are connected
- Checks and ensures that DRS is enabled, or that all VMs on this host have been shut down
- Checks and ensures all VMs with vGPU enabled have been shut down

Viewing power supply status

View status and information for the power supplies of any appliance disk in a cluster.

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail cluster from the left navigation bar.
2. Click the **Monitor** tab and select **VxRail** > **Physical View** from the inner left navigation bar.
3. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.
4. Click a **power supply** in the center area of the **Back View**.

   The **Power Supply Information** panel is displayed for that power supply.

Results

The **Power Supply Information** panel lists status and information about the power supply, such as:

- Serial number

- Manufacturer

Viewing physical NIC status

View NIC status and network information for your VxRail Series E, G, S, P, or V model appliance.

Before you begin

The following VxRail models support NIC information monitoring in a separate NIC information panel. For the other VxRail models, NIC information is integrated in Node information panel.

- VxRail E460, VxRail E460F

- VxRail P470, VxRail P470F

- VxRail S470

- VxRail V470, VxRail V470F

- VxRail E560, VxRail E560F, VxRail E560N

- VxRail E565, VxRail E565F

- VxRail G560, VxRail G560F

- VxRail P570, VxRail P570F

- VxRail P580N

- VxRail P575, VxRail P575F

- VxRail S570

- VxRail V570, VxRail V570F

Procedure

1. On the main page of the vSphere Client, click **Hosts and Clusters** and select your VxRail cluster from the left navigation bar.

2. Click the **Monitor** tab and select **VxRail** > **Physical View** from the inner left navigation bar.

3. Click an appliance name, picture, or the magnifying glass icon next to it.

   The **Front View** and **Back View** of the appliance are displayed.

4. Click a **NIC** in the **Back View**.

   The **NIC Information** panel is displayed for that NIC.

Results

The **NIC Information** panel lists status and information about the node, such as:

- MAC address

- Link speed

- Link status

- Port number

Shutting down a VxRail Appliance cluster

You can shut down your VxRail Appliance cluster from VxRail Manager. This feature provides a graceful, automated process for properly shutting down a cluster.

About this task

When you shut down a cluster, VxRail Manager automatically does the following:

- Shuts down related virtual machines and services
- Performs system health diagnostics and maintenance mode diagnostics
- Indicates any errors or conditions that prevent shutting down

Follow these steps to shut down a VxRail Appliance cluster:

Procedure

1. In the main page of the vSphere Client, click **Hosts and Clusters** in the left navigation bar and select the VxRail cluster you want.

2. Click the **Actions** menu next to the cluster name and select **VxRail** > **Shut Down**.

   The **Shut Down Cluster** dialog box is displayed.

3. Click **Next** to continue shutting down.

   VxRail Manager begins a precheck of the system and displays the progress on the **Validate** page.

4. If the shutdown precheck process fails, VxRail Manager lists error messages. Resolve any issues and retry by clicking **Back** and then **Next**.

   You can also click **Ignore** if the error unimportant and then click **Next**.

5. On the **Confirm Operation** page, click **Next** to initiate the shutdown.

   A progress bar is displayed as the automated shut down process continues.

6. Click **Close** to exit.

   Wait for all the LEDs to turn off.

Results

When the shut down process is complete, VxRail Manager indicates that shut down is successful.

If the process does not complete successfully, follow the on-screen prompts to correct any errors.

Adding a VxRail host to a cluster

Follow these steps to add a new VxRail host to an existing cluster.

Procedure

1. From the main page of the vSphere Client select **Hosts and Clusters** from the left navigation bar.

2. Click the cluster to which you want to add a VxRail host.

3. Click **VxRail > Add VxRail hosts** from the inner left navigation panel.

4. Do one of the following:

   a. To add a host within the same rack space proceed with the default menu, and input the IP pool and management information. This is level 2 from a network configuration perspective.

   b. To add a host from another rack space that is set up to use a TOR switch and spine switch for connectivity, specify a proxy node from that target rack space and begin the VxRail host addition procedure. This is level 3 from a network configuration perspective.

   Level 2 and level 3 models are not compatible. VxRail does not support converting from one to the other. Clicking ADD HOST launches the level 2 procedure. Clicking ADD PROXY triggers a wizard to identify the proxy node on another rack to start the level 3 procedure.

Removing a VxRail host from a cluster

Follow these steps to remove a VxRail host from a cluster.

Procedure

1. From the main page of the vSphere Client select **Hosts and Clusters** from the left navigation bar.

2. Click the VxRail host you want to remove from its cluster.

3. Click the **Actions** menu next to the cluster name and select **VxRail** > **Remove VxRail Host**.

   The **Remove Host** window is displayed.

4. Enter the appropriate credentials and click **Verify Credentials**.

5. When the verification succeeds, click **Apply** to start the host removal process.

   You can monitor the progress of the process in the vCenter **Recent Tasks** list.

CHAPTER 6

Other administrative tasks

You can perform various administrative tasks outside of VxRail Manager. Not every task is supported on every version of the VxRail Appliance. Instruction for how to perform these tasks are found in either SolVe Online for VxRail or in the VMware vSphere documentation.

For more information about SolVe for VxRail, refer to KB 525271.

The following sections list the administrative tasks you can perform, and where to find the instructions.

Active Directory user management tasks

For step-by-step instructions on managing AD users, refer to SolVe Online for VxRail.

The following table lists the AD user administrative tasks by VxRail Manager software release.

Table 7 AD user management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
AD Authentication in External vCenter Server	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Join an Active Directory Domain	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

Cluster management tasks

For step-by-step instructions on managing clusters, refer to SolVe Online for VxRail or VMware vSphere documentation.

The following table lists the cluster administrative tasks by VxRail Manager software release.

Table 8 Cluster management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change DRS Setting	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere documentation, "Disable DRS"
Change the VxRail Cluster EVC Mode	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change HA Setting	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation, "vCenter High Availability"
Rename the VxRail Cluster	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

Data center management tasks

For step-by-step instructions on managing data center settings, refer to SolVe Online for VxRail.

The following table lists the data center administrative tasks by VxRail Manager software release.

Table 9 Data center management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Rename the VxRail Data Center (customer-supplied vCenter)	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Rename the VxRail Data Center (VxRail-supplied vCenter)	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

Datastore management tasks

For step-by-step instructions on managing datastores, refer to SolVe Online for VxRail.

The following table lists the datastore administrative tasks by VxRail Manager software release.

Table 10 Datastore management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Rename the VxRail Datastore	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

DNS management tasks

For step-by-step instructions on managing DNS servers, refer to SolVe Online for VxRail.

The following table lists the DNS administrative tasks by VxRail Manager software release.

Table 11 DNS management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change VxRail Cluster's DNS IP Address (customer-supplied vCenter)	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change VxRail Cluster's DNS IP Address (VxRail-supplied vCenter)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

Secure Remote Services management tasks

After Secure Remote Services is installed and activated on your VxRail appliance, you cannot change the parameters listed in the following table.

The following table lists the Secure Remote Services administrative tasks by VxRail Manager software release.

Table 12 Secure Remote Services management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Delete Secure Remote Services	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Change the Secure Remote Services IP address	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Change the Secure Remote Services hostname	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Rename the Secure Remote Services VM	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	

ESXi host management tasks

For step-by-step instructions on managing ESXi hosts, refer to SolVe Online for VxRail.

The following table lists the ESXi host administrative tasks by VxRail Manager software release.

Table 13 ESXi host management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change the ESXI host name and IP Address	Not supported	Yes	Yes	Yes	Yes	Yes	Contact Support
Change the VxRail External Management User Password	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the VxRail ESXi Root Password	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

External vCSA and PSC management tasks

For step-by-step instructions on managing the vCenter Server Virtual Appliance (vCSA) and the Platform Services Controller (PSC) on VxRail systems with an external vCenter, refer to SolVe Online for VxRail or the VMware vSphere documentation.

The following table lists the vCSA and PSC administrative tasks for external vCenter systems by VxRail Manager software release.

Table 14 vCSA and PSC (external vCenter) management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change the PSC IP address	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Change the vCSA IP address	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Rename the PSC VM	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation, "Changing a Virtual Machine Name"
Rename the PSC host	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Rename the vCSA host	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Rename the vCSA VM	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation, "Changing a Virtual Machine Name"
Change the password for administrator@vsphere.local	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation, "Change your vCenter Server Single Sign-on Password"
Change the VxRail External Management User Password (management@localos)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the password of the PSC root user (root@localos)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation, "Change the Password of the Root User"
Change the password of the vCSA root user (root@vCSA)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation, "Change the Password of the Root User"

Internal vCSA and PSC management tasks

For step-by-step instructions on managing the vCenter Server Virtual Appliance (vCSA) and the Platform Services Controller (PSC) on VxRail systems with an internal vCenter, refer to SolVe Online for VxRail or the VMware vSphere documentation.

The following table lists the vCSA and PSC administrative tasks for internal vCenter systems by VxRail Manager software release.

Table 15 vCSA and PSC (internal vCenter) management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change the VxRail vSphere Components SSL Certificates for Internal vCSA	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the PSC IP address	Yes	Yes	Yes	Yes	Yes	Yes	Contact Support
Change the vCSA IP address	Yes	Yes	Yes	Yes	Yes	Yes	Contact Support
Rename the PSC VM	Not supported	Not supported	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Rename the PSC host	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Rename the vCSA host	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Rename the vCSA VM	Not supported	Not supported	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the Internal vCSA Administrator Password (administrator@vsphere.local)	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the VxRail External Management User Password (management@localos)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the password of the PSC root user (root@localos)	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

Table 15 vCSA and PSC (internal vCenter) management tasks (continued)

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change the password of the vCSA root user (root@vCSA)	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

Migrating from a VxRail vCenter Server to a customer-supplied vCenter Server

Migrating a VxRail cluster from a VxRail-based vCenter Server to a customer-supplied (external) vCenter Server requires a custom professional service engagement. Please contact your account team for additional information.

The following table lists the vCenter migration tasks by VxRail Manager software release.

Table 16 vCenter migration tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Migrate VxRail Cluster from Embedded vCenter to External vCenter	Not supported	Not supported	Yes	Yes	Yes	Yes	This task requires a custom professional service engagement. Contact your account team.

iDRAC configuration management tasks

After your VxRail Appliance is installed and run for the first time, be cautious when changing any integrated Dell Remote Access Controller (iDRAC) settings.

The following table lists the iDRAC administrative tasks by VxRail Manager software release.

Table 17 iDRAC management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change the OS to IDRAC passthrough via the USB setting	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Do not change this setting
Reset iDRAC to factory defaults	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Do not reset iDRAC to factory defaults
Modify the vSwitch for the iDRAC network	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Do not change any settings such as vusb, vnic, vmkernel port, or iDRAC standard porgtroup

Table 17 iDRAC management tasks (continued)

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change iDRAC https port	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Do not change the iDRAC https port
Change iDRAC account	Not supported	Not supported	Not supported	Not supported	4.5.300	Yes	Refer to "Configuring VxRail host iDRAC settings" in the Admin Guide, or SolVe Online for VxRail
Change iDRAC VLAN configuration	Not supported	Not supported	Not supported	Not supported	4.5.300	Yes	
Create a new iDRAC account	Not supported	Not supported	Not supported	Not supported	4.5.300	Yes	
Configure iDRAC IPv4 networking	Not supported	Not supported	Not supported	Not supported	4.5.300	Yes	

iSCSI management tasks

For step-by-step instructions on connecting to an iSCSI, refer to the External Storage section of this Administration Guide and the VMware vSphere documentation.

The following table lists the iSCSI administrative tasks by VxRail Manager software release.

Table 18 iSCSI management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Connect to an iSCSI server	Yes	Yes	Yes	Yes	Yes	Yes	External Storage section of this Administration Guide

Log server management tasks

For step-by-step instructions on managing the log server, refer to SolVe Online for VxRail.

The following table lists the log server administrative tasks by VxRail Manager software release.

Table 19 Log server management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Point to a new external log server IP address	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

NFS management tasks

For step-by-step instructions on connecting to an NFS server, refer to the External Storage section of this Administration Guide and the VMware vSphere documentation.

The following table lists the NFS administrative tasks by VxRail Manager software release.

Table 20 NFS management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Connect to an NFS server	Yes	Yes	Yes	Yes	Yes	Yes	External Storage section of this Administration Guide

NTP server management tasks

For step-by-step instructions on managing network time protocl (NTP) servers, refer to SolVe Online for VxRail.

The following table lists the NTP server administrative tasks by VxRail Manager software release.

Table 21 NTP server management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Point to a new NTP server IP address	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

vSphere Distributed Switch (VDS) management tasks

For step-by-step instructions on managing the vSphere Distributed Switch (VDS) refer to SolVe Online for VxRail or the VMware vSphere documentation.

The following table lists the VDS administrative tasks by VxRail Manager software release.

Table 22 vSphere Distributed Switch (VDS) management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Add a new port group on default VDS	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation, "Add a Distributed Port Group"
Add a new port group on new VDS (Dell Node)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation "Add a Distributed Port Group"
Add a new VDS(Dell Node)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to vSphere Documentation , "Create a vSphere Distributed Switch"

Table 22 vSphere Distributed Switch (VDS) management tasks (continued)

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Change default VDS NIOC configuration	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change IP of vMotion Network	Not supported	Yes	Yes	Yes	Yes	Yes	Contact Support
Change IP of vSAN Network (VxRail Supplied vCenter)	Not supported	Yes	Yes	Yes	Yes	Yes	Contact Support
Change IP of vSAN Network (Customer Supplied vCenter)	Not supported	Yes	Yes	Yes	Yes	Yes	Contact Support
Change Physical NIC Ports of Management Traffic	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Change Physical NIC Ports of VM Network Traffic	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change Physical NIC Ports of vMotion Traffic	Yes	Yes	Yes	Yes	Not supported	Not supported	Refer to SolVe Online for VxRail
Change Physical NIC Ports of vSAN Traffic	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Change VLAN ID of Management, vCenter Server, and VxRail Management Network(VxRail Supplied vCenter)	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change VLAN ID of VM Networks	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change VLAN ID of vMotion	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change VLAN ID of vSAN Network	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Enable Jumbo Frame	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Enable network teaming LACP	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	
Rename default port groups	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

Table 22 vSphere Distributed Switch (VDS) management tasks (continued)

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Rename default VDS	Not supported	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Share network traffic with vSAN	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

VM folder management tasks

For step-by-step instructions on managing the VM folder, refer to SolVe Online for VxRail.

The following table lists the VM folder related administrative tasks by VxRail Manager software release.

Table 23 VM folder management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Rename the VM folder	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail

vSphere Standard Switch (VSS) management tasks

For step-by-step instructions on managing the vSphere Standard Switch (VSS), refer to the VMware vSphere documentation.

The following table lists the VSS related administrative tasks by VxRail Manager software release.

Table 24 vSphere Standard Switch (VSS) management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Add a new VSS (Dell Node)	Yes	Yes	Yes	Yes	Yes	Yes	Refer to the vSphere Documentation, "Create a vSphere Standard Switch"

VxRail Manager plugin/application management tasks

For step-by-step instructions on managing the VxRail Manager Plugin for VMware vCenter (or simply "VxRail Manager"), refer to SolVe Online for VxRail.

The following table lists the VxRail Manager plugin/application administrative tasks by VxRail Manager software release.

Table 25 VxRail Manager plugin/application management tasks

Task	4.0.1xx	4.0.200	4.0.3xx	4.0.400	4.5.x	4.7.xxx	Notes
Replace the VxRail Manager SSL Certificate	Not supported	Not supported	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the VxRail Manager VM Hostname and IP Address	Not supported	Yes	Yes	Yes	Yes	Yes	Contact Support
Change the VxRail VM name	Not supported	Not supported	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the VxRail Mystic account Password	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Change the VxRail root account Password	Yes	Yes	Yes	Yes	Yes	Yes	Refer to SolVe Online for VxRail
Backup and restore key VxRail Manager files for recovery purposes	Not supported	Not supported	Not supported	Yes	Yes	Yes	Refer to SolVe Online for VxRail

CHAPTER 7

External storage

Although each VxRail Appliance includes its own on-board storage resources, you can also use your appliance with external storage. Your VxRail Appliance supports NFS datastores and VMFS datastores over iSCSI. Using external storage doesn't affect VxRail features such as upgrades, reset, cluster shutdown and so on.

NFS and VMFS over iSCSI datastores

Your VxRail Appliance can be used with external storage with NFS datastores or VMFS over iSCSI datastores.

You may want to consider using external storage for workloads with high storage capacity requirements relative to the amount of required compute resources (CPU cores and RAM). External datastores allow you to scale VxRail Appliance compute resources separately from storage capacity. This can improved overall hardware usage levels. As a result it may be more cost-effective to use an external storage array such as Unity, VNX, Cloudarray, Isilon, or Windows/Linux storage services to provide additional storage for your VxRail Appliance cluster.

Note that external storage arrays must be managed separately. You cannot use the automated workflows in VxRail Manager for vSphere storage configuration and management with external datastores. Instead, you must use the vSphere Client to configure NFS and iSCSI on the ESXi hosts in the VxRail Appliance cluster, and to create NFS datastores and VMFS datastores over iSCSI on external arrays in the vCenter Server Appliance instance in the VxRail Appliance cluster. You must also use provisioning virtual machines on these external datastores in vCenter using the vSphere Client.

Refer to VMware vSphere documentation for details about using NFS and iSCSI storage with ESXi:

- Understanding Network File System Datastores
- About the Software iSCSI Adapter

Setting up external NFS storage for a VxRail Appliance

Follow these guidelines to set up your VxRail Appliance for use with an NFS datastore.

Before you begin

Many storage products provide NFS services, including including UNity, VNX, Isilon, CloudArray, and Windows/Linux NFS services. These guidelines assume that you have already installed and provisioned your VxRail Appliance cluster as well as your external NFS storage server.

About this task

The NFS datastore is created directly from vCenter on your VxRail Appliance cluster. A VLAN and a vSphere Distributed Switch (VDS) are used.

Refer to the VMware vSphere documentation, Set Up NFS Storage Environment, for details about NFS storage with ESXi.

Procedure

1. In the vSphere Client click **Hosts and Clusters**.

   In a VxRail Appliance cluster, NFS shared folders can be assigned to all connected nodes.

2. Click the cluster name in the list.

3. Click the **Related Objects** tab and then select **Datastores**.

4. Click the **Create a New Datastore** icon.

   The **New Datastore** window is displayed.

5. In the **Location** window type the datastore name and select the location for the datastore.

6. In the **Type** window select **NFS**.

7. In the **Select NFS version** window choose an NFS version.

8. In the **Name and configuration** window, specify necessary information to add the external NFS storage.

   For **Folder** enter the Export Path of external storage array.

9. In the **Host accessibility** window, select the hosts in the VxRail Appliance cluster that will mount the datastore.

   You can select any or all hosts in the cluster.

10. In the **Ready to complete** window, review your entries and then click Finish to complete the datastore creation.

    The new NFS datastore has been created.

Results

After the NFS datastore is created, you can:

- Provision VMs to the NFS datastore using the vSphere Client
- Perform standard operations such as Open Console, Power On, Shutdown VM, Suspend VM, and clone VM
- Migrate VMs between VxRail Appliance datastores and NFS datastores

NFS storage can take advantage of VMware Storage DRS features. In maintenance mode, VMs move to another node on the same NFS datastore automatically. The rebooted node is connected to the NFS datastore automatically.

Setting up external VMFS over iSCSI storage for a VxRail Appliance

Follow these guidelines to set up your VxRail Appliance for use with a VMFS datastore over iSCSI.

Refer to the VMware documentation, Configuring iSCSI Adapters and Storage, while setting up external iSCSI storage for your VxRail Appliance.

The general steps to configure iSCSI storage for VxRail include the following :

1. Set up the iSCSI network portgroup.
2. Set up an active software iSCSI adapter.
3. Configure multipath policy for the iSCSI storage device.
4. Create a new VMFS datastore over iSCSI.

All the steps are done using the vSphere Client. A software iSCSI adapter allows standard NICs to connect ESXi hosts to a remote iSCSI target on the IP network. A VLAN and vSphere distributed switch are used. For details please refer to the VMware documentation, About the Software iSCSI Adapter.

Set up the two iSCSI network portgroups

In the process of port binding, you create two virtual VMkernel adapters for each physical network. You then associate the VMkernel adapters with the software iSCSI storage adapter created in the following steps. Create the distributed port groups first.

About this task

ⓘ Note: The key is to avoid a network conflict with the VSAN. The uplink1/uplink2/vmnic0 description in the following procedure is suitable for most standard VxRail Appliance installations. Some VxRail Appliance models have extra Ethernet ports. You can use those

ports as an alternate configuration. Replace uplink1 and uplink2 with the proper uplink numbers according to the extra ports.

Procedure

1. Log in to the vSphere Client as an authorized user.

2. In the vSphere Client, click the home icon and go to the **Networking** configuration page.

3. Highlight **VMware HCIA Distributed Switch** and then right-click it to create a new distributed port group.

   The **New Distributed Port Group** window is displayed.

4. In the **Select name and location** window enter the port group name.

   A name containing "uplink1" is recommended.

5. In the **Configure settings** window enter the general properties and specify the related VLAN ID if you are using a VLAN.

6. In the **Ready to complete** window, review your entries and then click **Finish** to complete the port group creation.

   The new distributed port group is created.

7. In the **Home** list, right-click the new portgroup and select **Edit Settings**.

   The **Edit Settings** window is displayed.

8. If the port speed is 10Gb, change **Traffic Shaping** for the iSCSI portgroup as follows:

   - Set **Ingress traffic shaping: status** to **Enabled**, **Average bandwidth(kbit/s)** to **1048576**, **Peak bandwidth (kbit/s)** to **1048576**, and **Burst size (KB)** to **102400**.

   - Set **Egress traffic shaping: status** to **Enabled**, **Average bandwidth(kbit/s)** to **1048576**, **Peak bandwidth (kbit/s)** to **1048576**, and **Burst size (KB)** to **102400**.

9. Change **Teaming and failover** for the iSCSI portgroup as follows:

   - Keep **uplink1** as the **Active** uplink.

   - Move the other uplinks to **Unused**.

10. Create the second portgroup by repeating steps 3 through 9 with following value changes:

    - In step 4, a name containing "uplink2" is recommended.

    - In step 9, keep **uplink2** as the **Active** uplink.

Results

Set up of the two portgroups is complete.

Create two VMkernel adapters on the hosts in the cluster

Procedure

1. In the vSphere Client, click the home icon.

2. Select one of the hosts in the cluster.

3. Navigate to **Manage** > **Networking** > **VMkernel adapters**.

4. Click the **Add host networking** icon to add a VMkernel adapter with the first distributed port group you created.

   The **Add Networking** window is displayed.

5. In the **Select connection type** window select **VMkernel Network Adapter**.

6. In the **Select target device** window choose **Select an existing network** and click **Browse**.

7. Select the "uplink1"-related distributed portgroup you created in the previous steps.

8. In the **IPv4 settings** window select **Use the static IPv4 setting**.

   This is defined according to your network environment. Make sure the IP address is unique in the network and accessible to the iSCSI target server IP address.

9. In the **Ready to complete** window, review your entries and then click **Finish** to complete the VMkernel creation.

10. Create the second VMkernel adapter by repeating steps 4 through 9 with following value change:

    • In step 7, select the "uplink2"-related distributed portgroup.

Results

The two newly added VMkernel adapters are displayed and the detail info is shown in the lower panel. The network configuration for iSCSI on the host is finished.

Set up an active software iSCSI adapter

Before you begin

(i) **Note:** The external iSCSI storage should already be prepared as required for your environment. this procedure does not cover the details of creating volumes used as external iSCSI storage.

Procedure

1. In the left panel of the vSphere Client, click **vCenter** > **Hosts and Clusters** and select the ESXi host you previously configured.

2. Click **Manage** > **Storage** > **Storage Adapters** and click the **Add (+)** button to add a software iSCSI adapter.

3. In the **Add Software iSCSI Adapter** window, click **OK**.

   If needed, you can further configure the adapter in the **Adapter Details** section.

   The newly added storage adapter is displayed in the **Storage Adapters** list.

4. Click **Manage** > **Storage** > **Storage Adapters** and click **iSCSI Software Adapter**.

   The created iSCSI name is listed in the **Identifier** column and **Properties** tab of the lower panel. Its format is `iqn.1998-01.com.vmware:xxxxxx-xxxxx`. You can change the iSCSI name by clicking **Edit** in the **Properties** tab of the lower panel.

5. Click **Network Port Binding** and click the **Add (+)** button.

6. In the **Bind .. with VMkernel Adapter** window, select the VMkernel network adapter that created in the previous steps.

   The message "Due to recent configuration changes, a rescan of this storage adapter is recommended" is displayed.

7. Click the **Rescan the iSCSI Software Adapter** icon.

8. In the vSphere Client navigate to **Manage** > **Storage** > **Storage Adapters**.

9. Select the iSCSI software adapter you created and click **Targets** > **Dynamic Discovery**.

10. Click **Add**.

11. In the **Add Send Target Server** window specify the IP address of the iSCSI server and click **OK**.

    The message "Due to recent configuration changes, a rescan of this storage adapter is recommended" is displayed.

> (i) **Note:** We recommend that you do not change the host iSCSI name after adding iSCSI storage information.

12. Click the **Rescan the iSCSI Software Adapter** icon.

    The warning message disappears and the iSCSI Target server is displayed in the lower panel.

13. Click **Static Discovery** to show the full target name of the iSCSI storage.

Assign volumes on iSCSI storage

Procedure

1. Repeat the procedures "Create a VMkernel adapter on the hosts in the cluster" and "Set up an active software iSCSI adapter" on the other nodes in the cluster.

2. Configure your iSCSI storage to assign storage volume mapping with the iSCSI name for all hosts.

3. In the vCenter Client choose each host and navigate to **Manage** > **Storage** > **Storage Adapters**.

4. Click the **Rescan the iSCSI Software Adapter** icon.

Results

In the Devices tab, the new iSCSI volume is shown mapped to the ESXi host (iSCSI client).

Configure multipath for the iSCSI volumes

About this task

To avoid any negative influence on VSAN performance, you must set multipath policy to **Fixed** and set **Preferred Path** on **vmnic0**. If you are using the extra ports on your VxRail Appliance (if equipped), set **Preferred Path** as the appropriate vmnic according to the extra ports.

Procedure

1. In the vCenter Client choose each host and navigate to **Manage** > **Storage** > **Storage Device**.

2. Choose the iSCSI volume in the **Storage Devices** list.

3. In the **Properties** tab, click **Edit Multipathing...**.

    The **Edit Multipathing Policies** window is displayed.

4. Select **Fixed(VMware)** for **Path selection policy** and then select the row in which **Runtime Name** contains **C0**.

5. Click **OK**.

Results

In the **Properties** tab, the **Path Selection Policy** section shows **Fixed(VMware)** and **vmhbaxx:C0:Tx:Lx**.

Mount a new VMFS datastore over iSCSI

To make full use of the new iSCSI storage, create a new datastore. This datastore can be mounted to all the hosts in the cluster.

Procedure

1. In the vCenter Client select the cluster name.

2. Click **Related Objects** > **Datastores**, then click the **Add New Datastore** icon to create a new datastore over iSCSI.

   The **New Datastore** window is displayed.

3. In the **Type** window, select **VMFS**.

4. In the **Name and device selection** window specify the name for the datastore:

   a. Choose one of the ESXi hosts for **Select a host to view its accessible disks/Luns**.

   b. Select the available iSCSI volume in the lower table.

5. In the **Partition configuration** window, adjust the iSCSI datastore **Size**.

   It is recommended to set **Size** to **Use all available partitions**.

6. In the **Ready to complete** window, review your entries and then click **Finish** to complete the datastore creation.

   The datastore over iSCSI is listed. Its status is "Unknown".

7. Click the **Refresh** icon.

   The datastore status changes to "Normal".

8. In the **Storage** tab, check the connection status between the iSCSI datastore and the hosts.

Results

After the VMFS over iSCSI datastore is created, you can:

- Provision VMs to the VMFS datastore using the vSphere Client
- Perform standard operations such as Open Console, Power On, Shutdown VM, Suspend VM, and clone VM
- Migrate VMs between VxRail Appliance datastores and iSCSI datastores
- Protect iSCSI external storage access with redundant path

In maintenance mode, VMs move to another node on the same iSCSI datastore automatically. The rebooted node is connected to the iSCSI datastore automatically. The iSCSI volume is kept as Remote Disk.

The benefit from the iSCSI multipath configuration is that if the physical adapter vmnic0 is down, iSCSI IO switches to another vmnic without interruption. When vmnic0 is back online, iSCSI IO will switch back to vmnic0 without IO interruption.

External storage

CHAPTER 8

Replacing and adding hardware

You may be able to add or replace hardware components on your VxRail Appliance such as hard disk drives (HDDs), solid state drives (SSDs), power supplies, and so on. Only qualified personnel should perform these procedures. For some hardware components, you may need to contact Customer Support to arrange for repair or replacement.

Refer to the online support website or SolVe Online for VxRail for hardware-specific information.

Using SolVe Online for VxRail Series hardware tasks

Step-by-step hardware component tasks such as replacement and upgrade procedures are available through SolVe Online for VxRail.

⚠️ CAUTION To avoid potential data loss, refer to the VxRail Series procedures in SolVe Online before performing any hardware replacement or upgrade procedures.

Access SolVe Online for VxRail through your Web browser.

For more information about SolVe for VxRail, refer to KB 525271.

You must have an online support account to use SolVe.