EMC Converged Platforms

www.vce.com

VCE VxRail™ Appliance 3.0 Product Guide

Document revision 1.1

April 2016

Revision history

Date	Document revision	Description of changes
March 2016	1.0	Initial version
April 2016	1.1	Updated power specifications and appliance weight

Contents

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 deploy a VxRail™ Appliance. This document is designed for people familiar with:

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

The VCE Glossary provides terms, definitions, and acronyms that are related to VCE Systems.

To suggest documentation changes and provide feedback on this book, send an email to docfeedback@vce.com. Include the name of the topic to which your feedback applies.

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 the VxRail Manager Extension and access support resources without having to log in separately.

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
- Download the SolVe Desktop Procedure Generator
- Browse the VxRail Series community and support information
- Link your support account for access to resources from within VxRail Manager Extension

Procedure

1. Point your Web browser to emc.com/vxrailsupport (or support.emc.com).
2. Click **Register here**.
3. Fill in the required information. 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:

- Click the VxRail Manager Extension **Support** tab.
- Point your Web browser to emc.com/vxrailsupport (or support.emc.com).

Additional VxRail Series information is available through the SolVe desktop tool.

- Point your Web browser to https://solve.emc.com.

Accessing VCE documentation

Select the documentation resource that applies to your role.

Role	Resource
Customer	support.vce.com A valid username and password are required. Click **VCE Download Center** to access the technical documentation.
Cisco, EMC, VMware employee, or VCE Partner	partner.vce.com A valid username and password are required.
VCE employee	sales.vce.com/saleslibrary or vblockproductdocs.ent.vce.com

Architecture overview

Overview of the VxRail Series

The VCE 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 x86 hardware with the VxRail™ Manager software bundle, and support for other value-added software from VCE, EMC, and VMware.

The VxRail Manager software bundle includes the following:

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

The VxRail Appliance

The VCE VxRail Appliance includes the appliance hardware, VxRail Manager, EMC Secure Remote Services (ESRS), and access to qualified EMC software products.

Appliance hardware

The VxRail Appliance consists of four nodes in a 2U rackmount chassis. Each node has its own compute and storage resources.

The following VxRail Appliance models are available:

Table 1: VxRail Appliance models

VxRail Appliance with Hybrid Nodes	VxRail Appliance with All-flash Nodes	
• VxRail 60 • VxRail 120 • VxRail 160 • VxRail 200	• VxRail 120F • VxRail 160F • VxRail 200F • VxRail 240F • VxRail 280F	

A 10GbE switch and a workstation/laptop for the user interface are also required. (The VxRail 60 Appliance can be used with a 1GbE switch.)

VxRail Manager

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 EMC 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 EMC Online Support and eServices
- Access community resources such as the user forum and knowledgebase
- Use the VxRail™ Market to access qualified EMC software products

Storage and virtualization

The VxRail Series integrates VMware Virtual SAN and virtualization to provide a complete hyperconverged infrastructure.

Storage

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

Virtual SAN pools the VxRail Appliance's internal SSDs and HDDs on the ESXi hosts to present a single datastore for all hosts in the cluster. Virtual SAN uses a highly available, distributed, object-based architecture. Virtual SAN 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. Virtual SAN 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.

VxRail Appliance models

The following table lists the available VxRail Appliance models.

Model	Compute	Memory	Network interface
VxRail 60 (hybrid nodes)	1 × Intel Xeon Processor E5-2603 v3 6 cores per node	64 GB RAM	RJ45 Q-1GbE
VxRail 120 (hybrid nodes)	2 × Intel Xeon Processor E5-2620 v3 12 cores per node	128 GB RAM 192 GB RAM 256 GB RAM	RJ45 SFP+
VxRail 160 (hybrid nodes)	2 × Intel Xeon Processor E5-2630 v3 16 cores per node	256 GB RAM 512 GB RAM	RJ45 SFP+
VxRail 200 (hybrid nodes)	2 × Intel Xeon Processor E5-2660 v3 20 cores per node	256 GB RAM 512 GB RAM	RJ45 SFP+
VxRail 120F (all-flash nodes)	2 × Intel Xeon Processor E5-2620 v3 12 cores per node	256 GB RAM	RJ45 SFP+
VxRail 160F (all-flash nodes)	2 × Intel Xeon Processor E5-2630 v3 16 cores per node	256 GB RAM 512 GB RAM	RJ45 SFP+
VxRail 200F (all-flash nodes)	2 × Intel Xeon Processor E5-2660 v3 20 cores per node	256 GB RAM 512 GB RAM	RJ45 SFP+
VxRail 240F (all-flash nodes)	2 × Intel Xeon Processor E5-2680 v3 24 cores per node	256 GB RAM 512 GB RAM	SFP+
VxRail 280F (all-flash nodes)	2 × Intel Xeon Processor E5-2683 v3 28 cores per node	256 GB RAM 512 GB RAM	SFP+

Note: For storage capacity information, and for the most up to date product offerings, visit VCE.com.

Hybrid nodes use both hard-disk drive (HDD) storage and solid-state drive (SSD) storage. All-flash nodes use SSD storage only.

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 an appliance after you input the basic IP address information.

Automatic scale-out

The VxRail Series provides automated scale-out functionality by detecting a new VxRail Appliance on the network. When a new VxRail Appliance is powered on you can add it to your existing cluster or create a new cluster, replicating the configuration, and expanding the datastore in a cluster.

Node failure tolerance

The VxRail Series supports from 0 to 3 node failures, as defined by the VSAN FTT policy. The following table lists the minimum number of nodes in a cluster required to support a given number of node failures.

Number of node failures to tolerate	Number of replicas	Minimum number of VxRail Appliance nodes required
0	1	1
1	2	3
2	3	5
3	4	7

The VxRail Series implements the standard Virtual SAN 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 SSD can fail or as many as three HDDs on the same node can fail.
- 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.

VxRail Appliance cluster expansion

Your VxRail Appliance cluster can be scaled in single node increments from a minimum of four nodes up to a maximum of 64 nodes. The VxRail Manager automated installation and scale-out features make it easy to expand your cluster as your business demands grow.

Each VxRail Appliance holds up to four nodes. If the number of nodes in a cluster is not a multiple of four, you will 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. You must adhere to the following guidelines when deploying a mixed cluster:

- All appliances in the cluster must be running VxRail Manager version 3.5 or higher.
- First-generation appliances (sold under the VSPEX BLUE name) can be in the same cluster with VxRail Appliances, as long as they are running VxRail Manager version 3.5 or higher.
- Appliances using 1GbE networking (VxRail 60 Appliances) cannot be used in clusters with 10GbE networking.
- 6G hybrid nodes cannot be used in clusters with 12G all-flash nodes.

Work with your VCE, EMC, or partner representative when planning your cluster expansion.

Physical planning

Appliance power and cooling information

Table 1 contains specifications for the appliance power consumption and dissipation. Calculations based on this table are intended to provide maximum power and heat dissipation. EMC provides a power and weight calculator at http://powercalculator.EMC.com. Use this calculator to refine the power and heat values in the table below to more-closely match the specific appliance hardware configuration. Ensure that the appliance installation site meets the requirements for your configuration.

Table 2: Appliance power consumption and dissipation

Specification	VxRail 120	VxRail 160	VxRail 200
Power supplies	2 × 1600 W high efficiency redundant PSUs	2 × 1600 W high efficiency redundant PSUs	2 × 1600 W high efficiency redundant PSUs
AC line voltage	220V AC, 50/60Hz	220V AC, 50/60Hz	220V AC, 50/60Hz
Power consumption (operating maximum)	13347 KVA	1337 KVA	1486 KVA
Heat dissipation	4561.844 BTU/hr	4561.844 BTU/hr	5070.232 BTU/hr
Maximum inrush current	55 A per power supply unit up to one-quarter of AC cycle	55 A per power supply unit up to one-quarter of AC cycle	55 A per power supply unit up to one-quarter of AC cycle

Appliance dimensions and weight

Table 3: Appliance dimensions and weight

Dimension	Appliance	Appliance with rails
Form factor	2U chassis	2U chassis
Height	3.44 in (8.74 cm)	2.0 U (with or without bezel)
Depth	31.1 in (79 cm)	32.1 in (81.53 cm)
Width	17.48 in (43.4 cm) without cabinet latch brackets	18.99 in (48.23 cm) with cabinet latch brackets
Maximum weight	91.31 lb (41.42 kg)	102.34 lb (46.42 kg)

Operating and storage environment

The site must have air conditioning of the correct size and placement to maintain the specified temperature and relative humidity range listed in Table 3.

Table 4: Operating and storage environment

Specification	Description
Operating temperature	5°C to 35°C (41°F to 95°F)
Non-operating temperature	-40°C to 70°C (-40°F to 158°F)
Operating relative humidity	50% to 85% RH
Non-operating relative humidity	20% to 90% RH
Storage time (unpowered) Recommendation	Do not exceed 6 consecutive months of unpowered storage.

Appliance components and controls

The appliance has four server nodes that are accessible at the rear of the appliance. Server node 1 defines the default node type for the system.

1. Node 1
2. Node 2
3. Node 3
4. Node 4

Figure 1: Location of server nodes

Each of the four server nodes has a front control panel and designated disk drive group.

1. Node 1 disk drive group
2. Node 2 disk drive group
3. Node 3 disk drive group
4. Node 4 disk drive group
5. Node 1 front control panel
6. Node 2 front control panel
7. Node 3 front control panel
8. Node 4 front control panel
9. Product serial number tag (PSNT)

Figure 2: Node control and disk drive groups

Control panels for nodes 1 and 2 are on the left side and control panels for nodes 3 and 4 are on the right side. A fault with the associated node will cause the **Power** button with **Status** LED on the control panel to blink amber and blue.

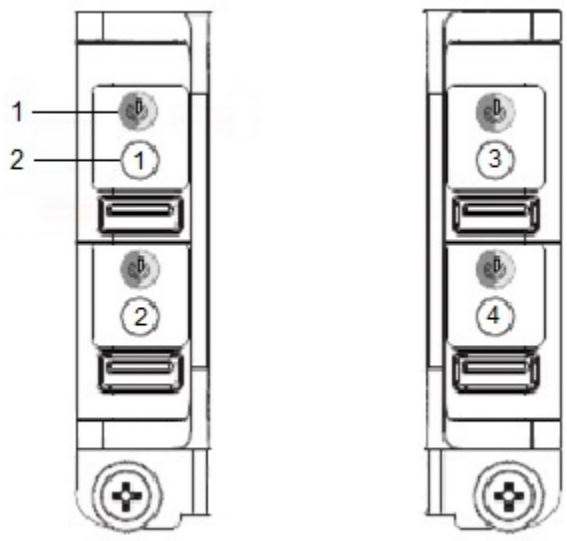


Figure 3: Node control panel controls and indicators

Table 5: Control panel controls and indicators description

No.	Name	Color	Status	Description
1	Power button with Status LED	Blue	On	System power on
			Off	System power off
		Amber	Blinking	DC off and fault
		Amber and Blue	Blinking	DC on and fault
2	ID button with LED	Blue	Blinking	Identification activated
			Off	No identification

Each node is equipped with a power button and three LED indicators, which are visible at the rear of the server. A fault with a node will cause the **Power** LED to blink blue, and the **Node Status** LED to blink amber on its front control panel.

Pressing the **ID** button on the front control panels will cause the **ID** LED on the respective node to blink.

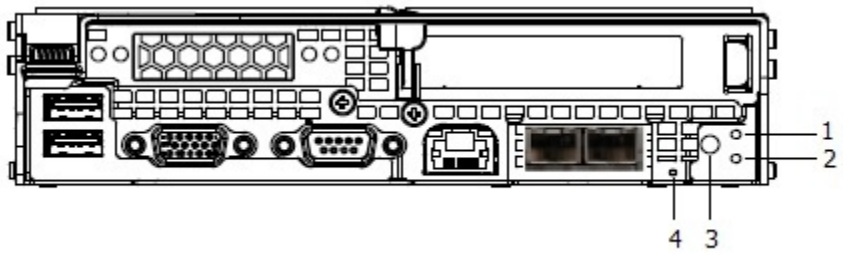


Figure 4: Node controls and indicators

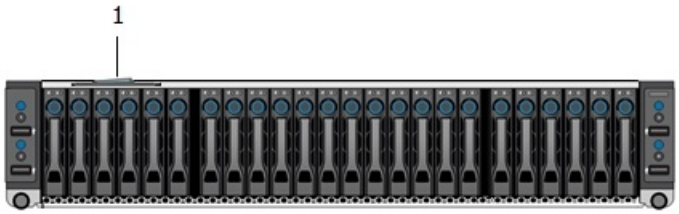
Table 6: Node controls and indicators description

No.	Name	Color	Status	Description
1	Power LED	Blue	On	System power on
			Off	Power off
		Blue	Blinking	Reports system health fault
2	Node Status LED		Off	Normal - system healthy
		Amber	Blinking	Reports system health fault
3	Power button			Press and hold more than four seconds to turn off node
4	ID LED	Blue	Blinking	Identification activated (from front control panel)
			Off	No identification

Locating your physical VxRail Appliance serial number

Follow these steps to locate your VxRail Appliance serial number.

About this task



1. Product serial number tag (PSNT)

Figure 5: VxRail Appliance product serial number tag (PSNT) location

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.

Network planning

Before your VxRail Appliance is installed, your 10GbE switch must be properly configured. (The VxRail 60 Appliance can be used with a 1GbE switch.) Work with your VCE, EMC, or partner representative to prepare your switch 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-installation Site Checklist

Before your appliance is installed, work with your VCE, EMC, or partner representative to complete the *VxRail Appliance Pre-installation Site Checklist*.

The *VxRail Appliance Pre-installation Site Checklist* is a site survey that help you gather the key information needed to successfully install your appliance.

10GbE switch networking

Your VxRail Appliance relies on your 10GbE switch 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 10GbE switch be configured properly for the VxRail Appliance to work.

Work with your VCE, EMC, or partner representative to ensure your switch is properly set up to work with your VxRail Appliance according to the instructions provided by your switch manufacturer.

Note: The VxRail 60 Appliance can be used with a 1GbE switch. All other VxRail Appliance models require a 10GbE switch.

Network requirements

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

10GbE switches

You must have one or more 10GbE switches:

- Two or more 10GbE switches are recommended for failover, and for installations with more than four appliances.
- Two switch ports are required for each node. A fully-populated appliance requires eight switch ports.

Note: The VxRail 60 Appliance can be used with a 1GbE switch. All other VxRail Appliance models require one or more 10GbE switches.

Cabling

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

- Two CAT6 or higher cables per node (these cables are included with RJ45-equipped appliances). A fully-populated appliance requires eight cables.

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

- Two compatible Twinax Direct-Attach-Copper (DAC) cables per node (these cables are not included; you must supply your own), or
- Two compatible fiber cables with appropriate transceivers per node (these cables and transceivers are not included; you must supply your own).
- A fully-populated appliance requires eight cables.

Servers

You must have a DNS server for network address resolution and ESRS support.

VxRail Appliance Network Configuration Table

Use the Network Configuration Table when planning and configuring your 10GbE switch 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 VCE, EMC, or partner representative to use the table during setup to keep track of your entries.

Table 7: Network Configuration Table

Row	Element	Category	Description	Example	Customer value
1	VxRail Appliance	Management VLAN ID (optionally modify)	Set a management VLAN on ESXi before you configure VxRail Appliance, otherwise management traffic will be untagged on the switch's Native VLAN	Native VLAN	
2		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	
3	System	Global settings	Time zone		
4			NTP server(s)		
5			DNS server(s)		
6		Active Directory (optional)	Domain		

Table 7: Network Configuration Table

Row	Element	Category	Description	Example	Customer value
7			Username		
8			Password		
9		HTTP Proxy Settings (optional)	IP Address		
10			Port		
11			Username		
12			Password		
13	Management	Hostnames	ESXi hostname prefix	host	
14			Separator	None	
15			Iterator	0X	
16			Top-level domain	localdomain.local	
17			vCenter Server hostname	vcenter	
18			VxRail Appliance hostname	vxrail	
19		Networking	ESXi starting address for IP pool	192.168.10.1	
20			ESXi ending address for IP pool	192.168.10.4	
21			vCenter Server IP address	192.168.10.101	
22			VxRail Appliance IP address	192.168.10.100	
23			Subnet mask	255.255.255.0	
24			Gateway	192.168.10.254	
25		Passwords	ESXi "root"		
26			vCenter Server & VxRail Manager "administrator@vsphere.local"		
27	vSphere vMotion		Starting address for IP pool	192.168.20.1	
28			Ending address for IP pool	192.168.20.4	
29			Subnet mask	255.255.255.0	

Table 7: Network Configuration Table

Row	Element	Category	Description	Example	Customer value
30			VLAN ID	20	
31	Virtual SAN		Starting address for IP pool	192.168.30.1	
32			Ending address for IP pool	192.168.30.4	
33			Subnet mask	255.255.255.0	
34			VLAN ID	30	
35	VM Networks		VM Network name and VLAN ID	Sales / 110	
36			VM Network name and VLAN ID	Marketing / 120	
37			...		
38			Unlimited number		
39	Solutions	Logging	vRealize Log Insight hostname	loginsight	
40			vRealize Log Insight IP address	192.168.10.102	
41			Syslog server (instead of Log Insight)		
42		VxRail Manager Extension	Primary VM IP address		

Licensing overview

The overall procedure for licensing 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 license on your appliance.

Note: Internet access is required for this process. EMC customers without Internet access at their site should work with their VCE, EMC, or partner representative to obtain their license.

Procedure

1. Locate your partner activation code (PAC).
2. Log into the activation portal and redeem your PAC to receive your 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 BYO (VLP) vSphere license requirements.
4. Enter your BYO (VLP) license key on the vCenter Web Client and apply it to your VxRail Appliance.

Licensing overview

The overall procedure for licensing 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 license on your appliance.

Note: Internet access is required for this process. EMC customers without Internet access at their site should work with their VCE, EMC, or partner representative to obtain their license.

Procedure

1. Locate your partner activation code (PAC).
2. Log into the activation portal and redeem your PAC to receive your 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 BYO (VLP) vSphere license requirements.
4. Enter your BYO (VLP) license key on the vCenter Web Client and apply it to your VxRail Appliance.

Locating your partner activation code (PAC)

When you buy a VxRail Appliance, VCE, EMC, or your partner will give you a unique partner activation code (PAC) that you can use to obtain your 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 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:
   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 license key. The license key must next be prepared for your VxRail Appliance, and then applied using the vSphere Web Client.

Activating a VLP license

After you redeem your partner activation code (PAC) and receive your vSphere Loyalty Program (VLP) 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 5.5 or vSphere 6.0, 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 VCE, 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	4 hosts and 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.

What to do next

For additional information on how to manage existing vSphere license keys in order to meet the Bring-Your-Own vSphere Licensing (VLP) requirements, work with your VCE, EMC, or partner representative. 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 license to your VxRail Appliance

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

Procedure

1. Log into the vSphere Web 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.

VxRail Manager administration

VxRail Manager lets you view and configure parameters on your VxRail Appliance.

VxRail Manager enables you to perform the following tasks:

- Create VMs
- View VMs
- View system health
- View system events

Creating virtual machines

VxRail Manager lets you create virtual machines (VMs) across the nodes on your VxRail Appliance, or multiple appliances in a cluster.

Procedure

1. Click **Create VM**. The create VM window is displayed.

2. Type a name for your VM in the **Enter VM Name** field.
3. Choose a guest operating system by doing one of the following:
   a. Click **Upload Image** to upload an ISO image from your local file system.
   b. Click **Mount NFS/CIFS** to upload an ISO image from network storage.
   c. Click Reuse an existing ISO to reuse an ISO image that you uploaded earlier.
4. Click **Upload image** in the right pane.

5 Select the Guest OS type and click **Continue**.

6 Select the VM size by clicking **Small**, **Medium**, or **Large**. For more information about VM size, see below.

7 Select the networks that you want the VM to connect to and click **Select VM Networks**.

8 Choose a security policy by clicking **No Policy**, **Risk Profile 3**, **Risk Profile 2**, or **Risk Profile 1**. For more information about security policies, see below.

9 Click **Create and start a new VM**. A progress screen is shown.

Results

After the virtual machine is created, the VxRail Manager user interface is displayed.

About VM sizes

You can select one of three sizes for each new VM.

- **Small:** Ideal for small, single-purpose servers and test machines.
- **Medium:** Designed for common small server applications or client desktops.
- **Large:** Ideal for dedicated larger server applications like databases.

The VM attributes for each size are tailored for the guest OS being used, as described in the following table.

Guest OS	VM size	CPUs	Cores	RAM (GB)	Disk (GB)
Windows XP	Small	1	1	1	16
	Medium	2	1	2	32
	Large	2	1	4	60
Windows 7 (64-bit)	Small	1	1	1	32
	Medium	2	1	4	40
	Large	2	1	8	60
Windows 8 (64-bit)	Small	1	1	2	32
	Medium	2	1	4	40
	Large	2	1	8	60
Windows 10 (64-bit)	Small	1	1	2	32
	Medium	2	1	4	40
	Large	2	1	8	60
Windows Server 2003 (64-bit)	Small	1	1	1	16

Guest OS	VM size	CPUs	Cores	RAM (GB)	Disk (GB)
	Medium	2	1	4	32
	Large	4	1	8	60
Windows Server 2008 (64-bit)	Small	1	1	1	40
	Medium	2	1	4	60
	Large	4	1	8	80
Windows Server 2012 (64-bit)	Small	1	1	1	40
	Medium	2	1	4	60
	Large	4	1	8	80
Red Hat Enterprise Linux 7 (64-bit)	Small	1	1	1	16
	Medium	2	1	2	24
	Large	4	1	6	32
Red Hat Enterprise Linux 6 (64-bit)	Small	1	1	1	16
	Medium	2	1	2	24
	Large	4	1	6	32
Red Hat Enterprise Linux 5 (64-bit)	Small	1	1	1	16
	Medium	2	1	2	24
	Large	4	1	6	32
Ubuntu Linux (64-bit)	Small	1	1	1	16
	Medium	2	1	2	24
	Large	4	1	6	32
CentOS 4/5/6 (64-bit)	Small	1	1	1	16
	Medium	2	1	2	24
	Large	4	1	6	32

About VM security policies

You can select one of four security policies for each new VM.

These profiles are a collection of Virtual Machine Advanced Settings, based on a particular risk profiles from the *VMware Security Hardening Guide*, http://www.vmware.com/security/hardening-guides.

The following table describes the four security policies:

VM security policy	Description
Risk profile 1	A risk profile for the highest security environments, designed for use with extremely sensitive data or in a highly regulated environment.
Risk profile 2	A risk profile for moderate security environments. Designed for use in sensitive environments, or for organizations that are subject to strict compliance rules.
Risk profile 3	A risk profile for basic security environments. This security policy uses best-practices guidelines that should be implemented in all environments.
No policy	No security configuration options are applied to the VM.

Note: By selecting a more secure policy, you will lose some virtual machine functionality such as automated tools, inability to shrink virtual machine disks, persistent mode only, no logging and performance information, blocked device interactions, and limited remote console connections. See the *VMware Security Hardening Guide* for more details.

Risk profile 1

Guidelines that should only be implemented in the highest security environments, for example top-secret government.

```
^ethernet[0-9]*.filter[0-9]*.name = null
isolation.bios.bbs.disable = true
isolation.device.connectable.disable = true
isolation.device.edit.disable = true
isolation.ghi.host.shellAction.disable = true
isolation.monitor.control.disable = true
isolation.tools.autoInstall.disable = true
isolation.tools.copy.disable = true
isolation.tools.copy.disable = true
isolation.tools.diskShrink.disable = true
isolation.tools.diskWiper.disable = true
isolation.tools.dispTopoRequest.disable = true
isolation.tools.dnd.disable = true
isolation.tools.getCreds.disable = true
isolation.tools.ghi.autologon.disable = true
isolation.tools.ghi.launchmenu.change = true
isolation.tools.ghi.protocolhandler.info.disable = true
isolation.tools.ghi.trayicon.disable = true
isolation.tools.guestDnDVersionSet.disable = true
isolation.tools.hgfsServerSet.disable = true
isolation.tools.memSchedFakeSampleStats.disable = true
isolation.tools.paste.disable = true
isolation.tools.setGUIOptions.enable = false
isolation.tools.trashFolderState.disable = true
isolation.tools.unity.disable = true
isolation.tools.unity.push.update.disable = true
isolation.tools.unity.taskbar.disable = true
isolation.tools.unity.windowContents.disable = true
```

```
isolation.tools.unity.windowContents.disable = true
isolation.tools.unityActive.disable = true
isolation.tools.unityInterlockOperation.disable = true
isolation.tools.vixMessage.disable = true
isolation.tools.vmxDnDVersionGet.disable = true
logging = false
RemoteDisplay.vnc.enabled = false
Security.AccountUnlockTime = 900
tools.guestlib.enableHostInfo = false
tools.setInfo.sizeLimit = 1048576
```

Risk profile 2

Guidelines that should be implemented for more sensitive environments, for example those handling more sensitive data, those subject to stricter compliance rules, and so on.

```
^ethernet[0-9]*.filter[0-9]*.name = null
isolation.device.connectable.disable = true
isolation.device.edit.disable = true
isolation.tools.autoInstall.disable = true
isolation.tools.copy.disable = true
isolation.tools.copy.disable = true
isolation.tools.diskShrink.disable = true
isolation.tools.diskWiper.disable = true
isolation.tools.dnd.disable = true
isolation.tools.paste.disable = true
isolation.tools.setGUIOptions.enable = false
log.keepOld = 10
log.rotateSize = 100000
RemoteDisplay.vnc.enabled = false
Security.AccountUnlockTime = 900
tools.guestlib.enableHostInfo = false
tools.setInfo.sizeLimit = 1048576
```

Risk profile 3

Guidelines that should be implemented in all environments.

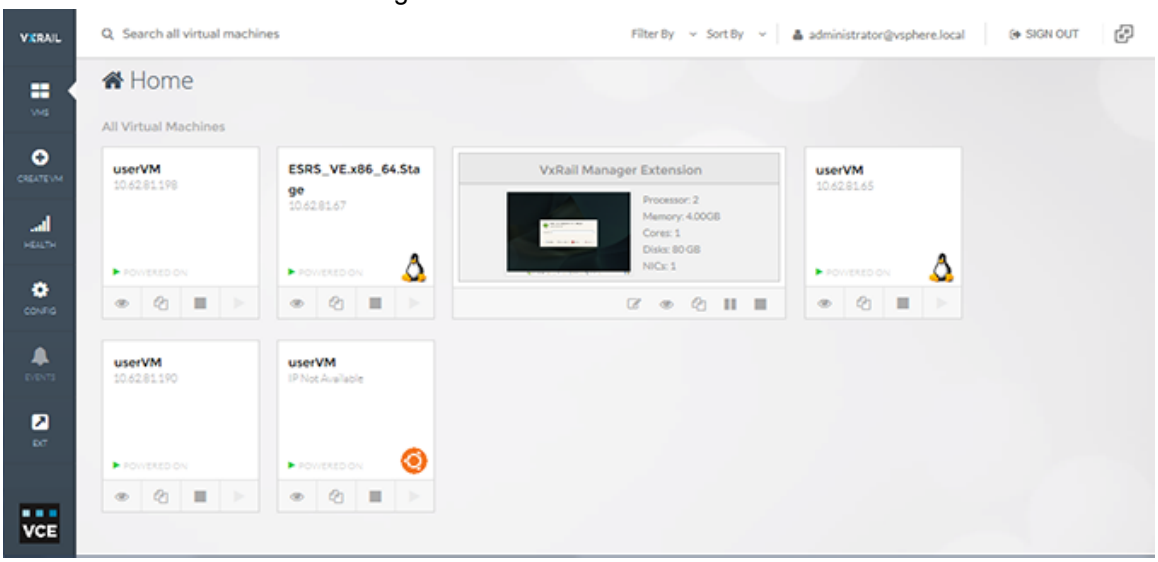
```
^ethernet[0-9]*.filter[0-9]*.name = null
isolation.device.connectable.disable = true
isolation.device.edit.disable = true
isolation.tools.copy.disable = true
isolation.tools.copy.disable = true
isolation.tools.diskShrink.disable = true
isolation.tools.diskWiper.disable  = true
isolation.tools.dnd.disable = true
isolation.tools.paste.disable = true
isolation.tools.setGUIOptions.enable = false
log.keepOld = 10
log.rotateSize = 100000
RemoteDisplay.vnc.enabled = false
Security.AccountUnlockTime = 900
tools.setInfo.sizeLimit = 1048576
```

Monitoring virtual machines

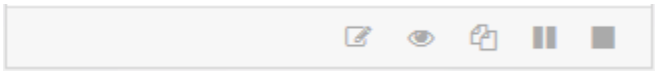
The VxRail Manager Dashboard lets you view all the VMs across the nodes on your VxRail Appliance, or multiple appliances in a cluster.

Procedure

1. Click **Dashboard** in VxRail Manager.



2. Use the **Search**, **Filter by**, and **Sort by** controls to display the VMs you want to view.
3. Click a VM to view or work with it.



The icons in the VM panel let you perform the following tasks:

- Install VMware tools
- Rename the VM
- Eject the guest OS ISO
- Open the VM's console
- Clone the VM
- Suspend the VM
- Delete the VM
- Power the VM on or off

Monitoring logical system health

You can view the health of the nodes in your VxRail Appliance using the VxRail Manager **Health > Logical** tab. This screen displays CPU, memory, and storage usage for your entire cluster, individual appliances, and individual nodes.

Procedure

1 Click **HEALTH** and then **Logical** to navigate to the VxRail Manager **Health > Logical** tab.

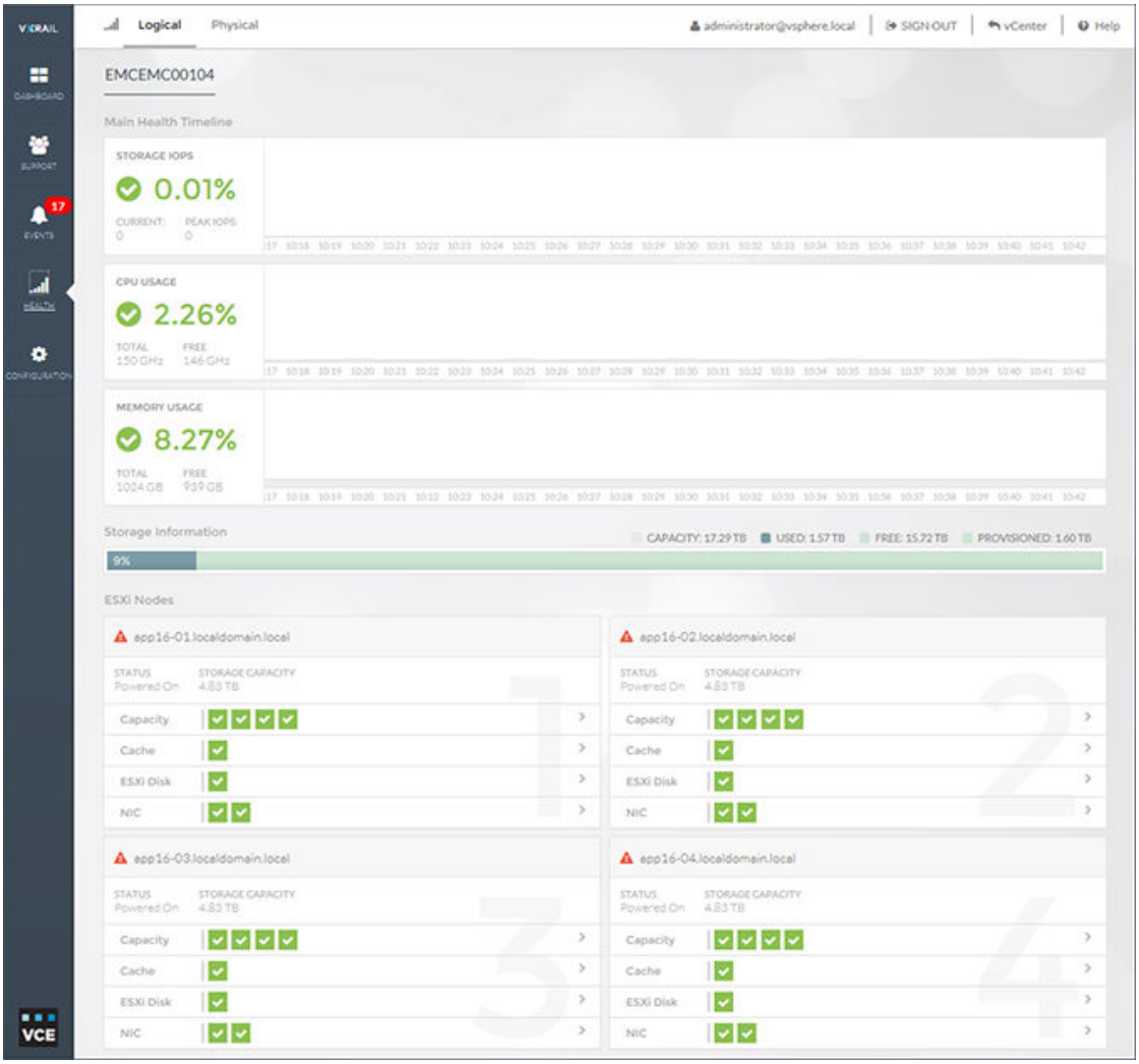


Figure 6: VxRail Manager Health > Logical screen

The color-coded status for storage IOPS, CPU usage, and memory usage indicates the following:

- Red: Over 85% used.
- Yellow: 75 to 85% used.
- Green: Less than 75% used.

2 Click an appliance name to view information about that appliance.

3 Scroll to view information about the main health timeline, storage use, and nodes.

4 Click the components of a node to view more information about the Capacity (HDD), Cache (SSD), ESXi disk, or NIC.

Results

Use the **Health > Physical** tab to view more information about hardware status and configuration.

Configuring logging

Log bundles combine diagnostic information for auditing and for performance tracking of VxRail Manager, vCenter, and ESXi.

About this task

You can generate a log bundle from the VxRail Manager **Config** screen. A log bundle can be uploaded to technical support as part of a support request.

By default, logging is set to vCenter Log Insight. You can select an alternative third-party syslog server. The following procedure describes how to access vCenter Log Insight.

Procedure

1 Point your browser to the configured IP address.

2 Enter the username. The default username is **`admin`**. However, if you ssh to Log Insight, the username is **`root`**.

3 Enter the password. The password is the one you specified for vCenter Server.

4 Configure your settings, as needed.

Generating and downloading diagnostic log bundles

You can generate and download diagnostic log bundles for a VxRail Appliance.

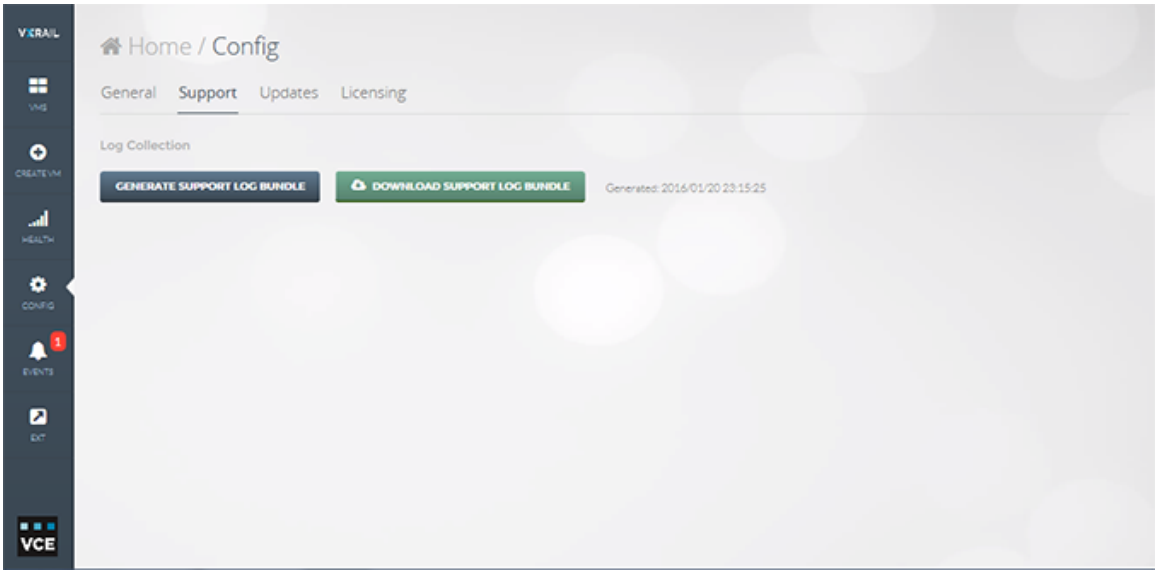
About this task

A log bundle combines diagnostic information for vCenter Server, ESXi, and VxRail Manager. You can upload bundles to technical support as part of a support request.

Procedure

1 In VxRail Manager, click **Config**.

2 Click **Support**.



3 In the **Log collection** section, click **Generate support log bundle** to create a new diagnostics log archive. The system will compile the log bundle. Compiling may take minutes or hours depending on the amount of data. When the log is complete, VxRail Manager downloads the bundle to your workstation. You can continue to use VxRail Manager during this time.

4 Click **Download support log bundle** to download the diagnostic archive to your local file system.

Selecting a language for VxRail Manager

You can specify the language that displays in the VxRail Manager interface.

About this task

VxRail Manager supports the following languages:

- English (default)
- French
- German
- Spanish
- Portuguese
- Korean
- Japanese
- Simplified Chinese

- Traditional Chinese

Procedure

1. In VxRail Manager, click **Config**.
2. In the **Choose your language** section, click the language you want.

Results

The user interface reloads with the new language settings.

Updating or patching VMware software

You can update and patch VMware software across all nodes on your VxRail Appliance, or multiple appliances across a cluster.

Before you begin

Before you begin, create a snapshot or backup copy of the vCenter Server virtual appliance. You can do this using the VMware vSphere Web Client.

About this task

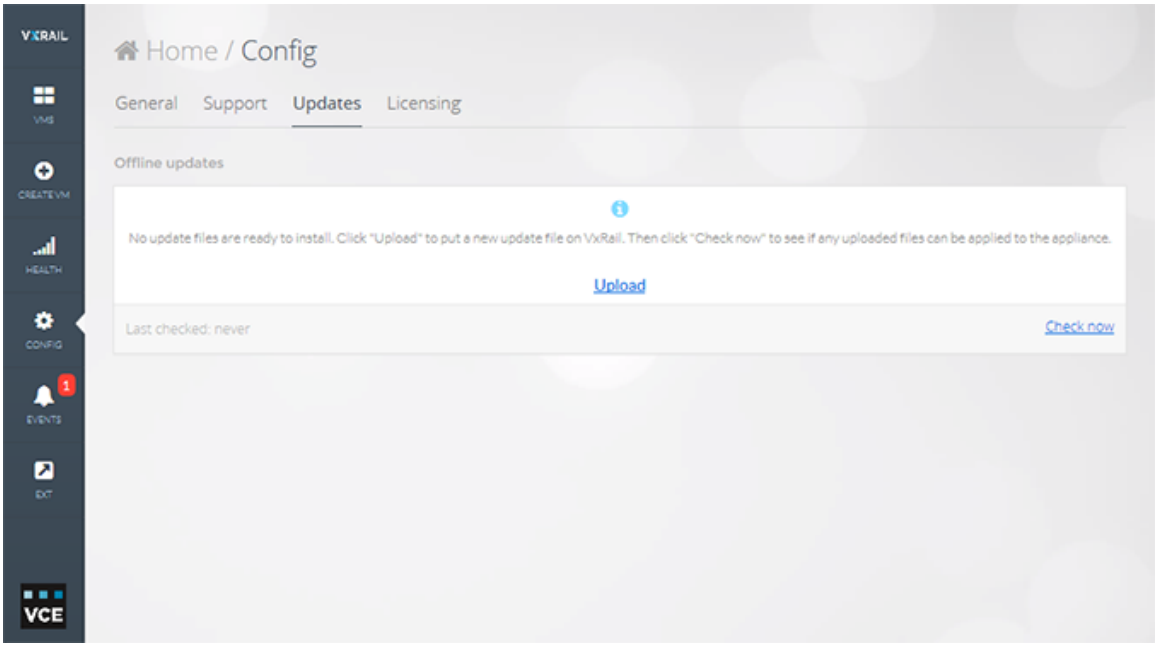
Software updates and patches are fully automated and non-disruptive. VxRail Manager automatically performs the multistage process of evacuating VMs from an ESXi host, putting the host into maintenance mode, applying the software upgrade or patch, exiting maintenance mode, and repeating this process for every node in a cluster.

Refer to the VxRail Appliance release notes for specific update instructions, release details, and related filenames.

Procedure

1. In VxRail Manager, click **Config**.

2 In the **Updates** tab, click **Upload**.



3 Browse to the directory with the components you will be updating.

- VXRAIL_<release-build>.zip
- VMware-vCenter-Server-Appliance-<release-build>-updaterepo>.zip (if applicable)
- ESXI<release-build>.zip (if applicable)

4 Select a file and click **Open**. Repeat for each component in the release. VxRail Manager uploads the files and displays confirmation messages.

5 Click **Check now**. If the VxRail Manager check succeeds, a **Yes/No** switch is displayed in the **Offline Updates** box.

6 Click the **Offline Updates** switch from **No** to **Yes**.

7 Click **Update**. VxRail Manager applies the selected update or patch. After the update is complete, you are disconnected from VxRail Manager. It can take up to 5 minutes for the new VxRail Manager software to initialize. It can take up to 15 minutes for the vCenter Server to reboot and for all of the services to initialize. The update time depends on the quantity of virtual machines, and might take a few hours to complete. However, the appliance will function normally during that time.

8 After VxRail Manager restarts, log in again.

Viewing the version number for VMware software

VxRail Manager lets you check the version number of VMware software in your VxRail Appliance.

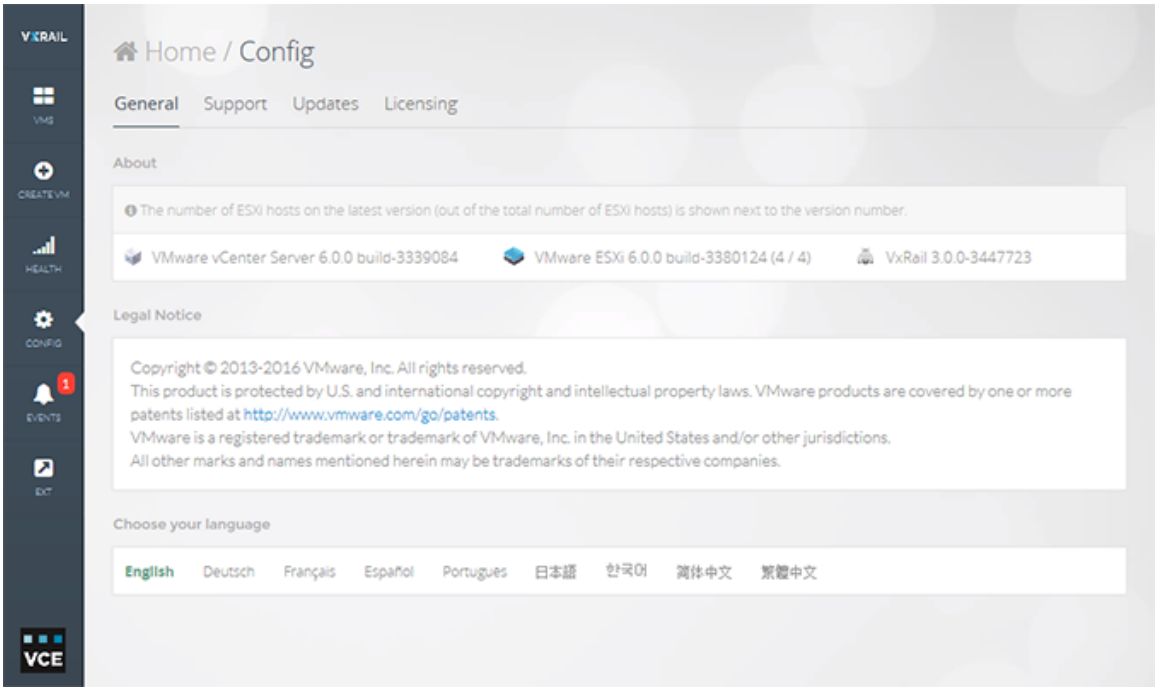
About this task

You can view the version number of the following software:

- vCenter Server
- ESXi
- VxRail Manager

Procedure

1. In VxRail Manager, click **Config**.
2. Refer to the **General** section to view the software version numbers.



Adding appliances to a VxRail Appliance cluster

VxRail Manager supports automated cluster scale-out for easy expansion. Work with your EMC, VCE, or partner representative to expand your VxRail Appliance cluster.

VxRail Manager automatically detects new VxRail Appliances as they come online.

Installing additional appliances

If you want to expand your VxRail Appliance cluster contact your EMC, VCE, or partner representative.

About this task

When a new appliance has been installed, VxRail Manager will automatically detect it and display the **New appliance detected** window.

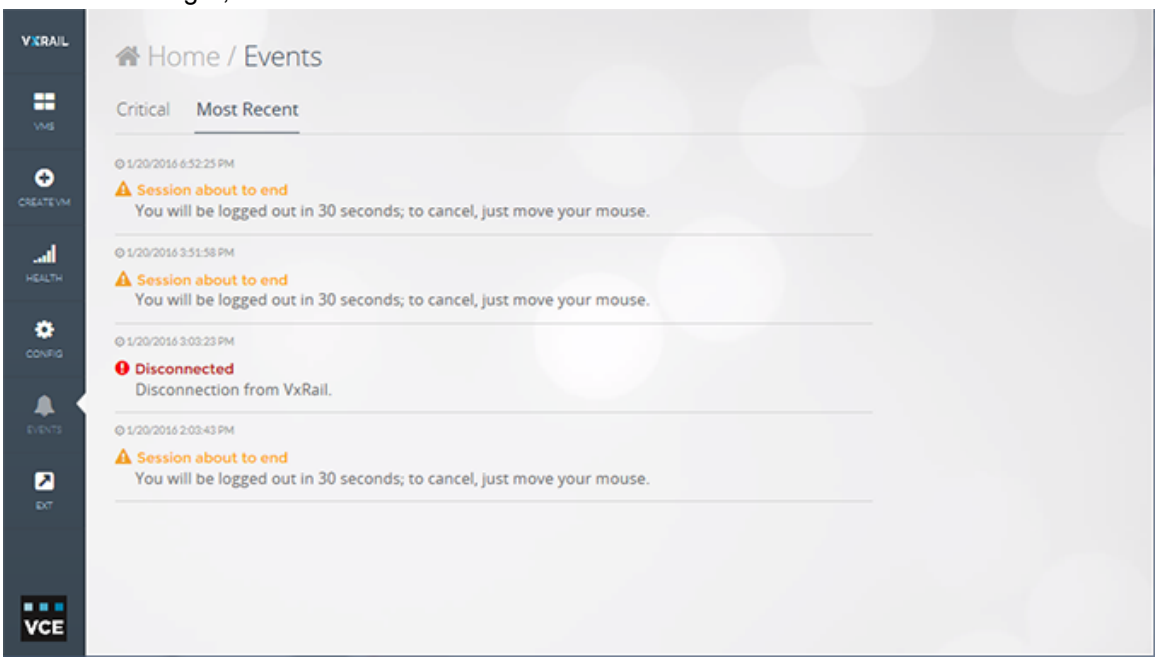
If you see the **New appliance detected** window, contact your EMC, VCE, or partner representative to complete the installation.

Viewing VxRail Manager events

You can view a list of system events from within VxRail Manager.

Procedure

1. In VxRail Manager, click **Events**.



2. Sort the events list by clicking **Most Recent** or **Critical**.
3. Scroll to view more events as needed.

VxRail Manager Extension administration

VxRail Manager Extension lets you view and configure additional parameters on your VxRail Appliance.

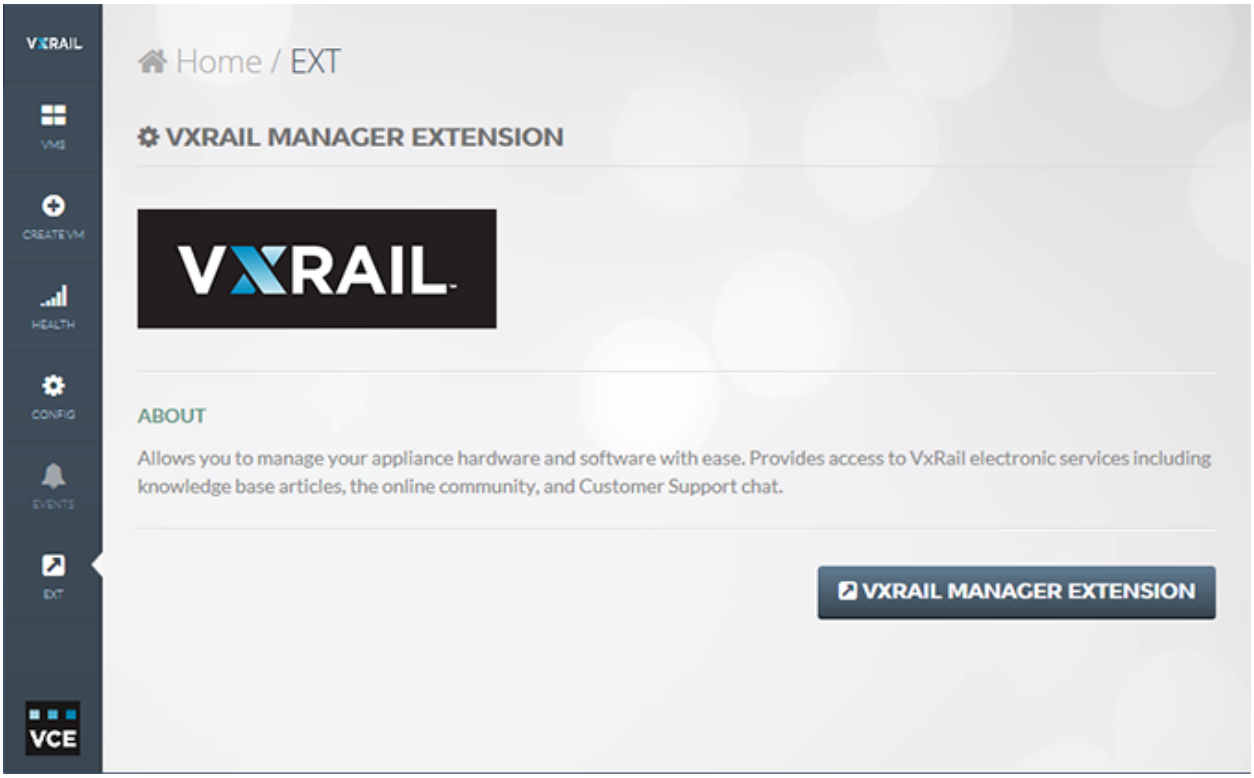
VxRail Manager Extension enables you to perform the following tasks:

- View appliance health and events
- Access support resources
- Manage appliance configuration and applications

Accessing VxRail Manager Extension

To access VxRail Manager Extension, click **VCE** on the VxRail Manager window. Then click VxRail Manager Extension.

About this task



Viewing the VxRail Manager dashboard

Click **DASHBOARD** to navigate to the VxRail Manager **Dashboard** tab.

About this task

The VxRail Manager dashboard shows system health and support resources at a glance, including expansion status, overall system health, support, community activity, and event history.

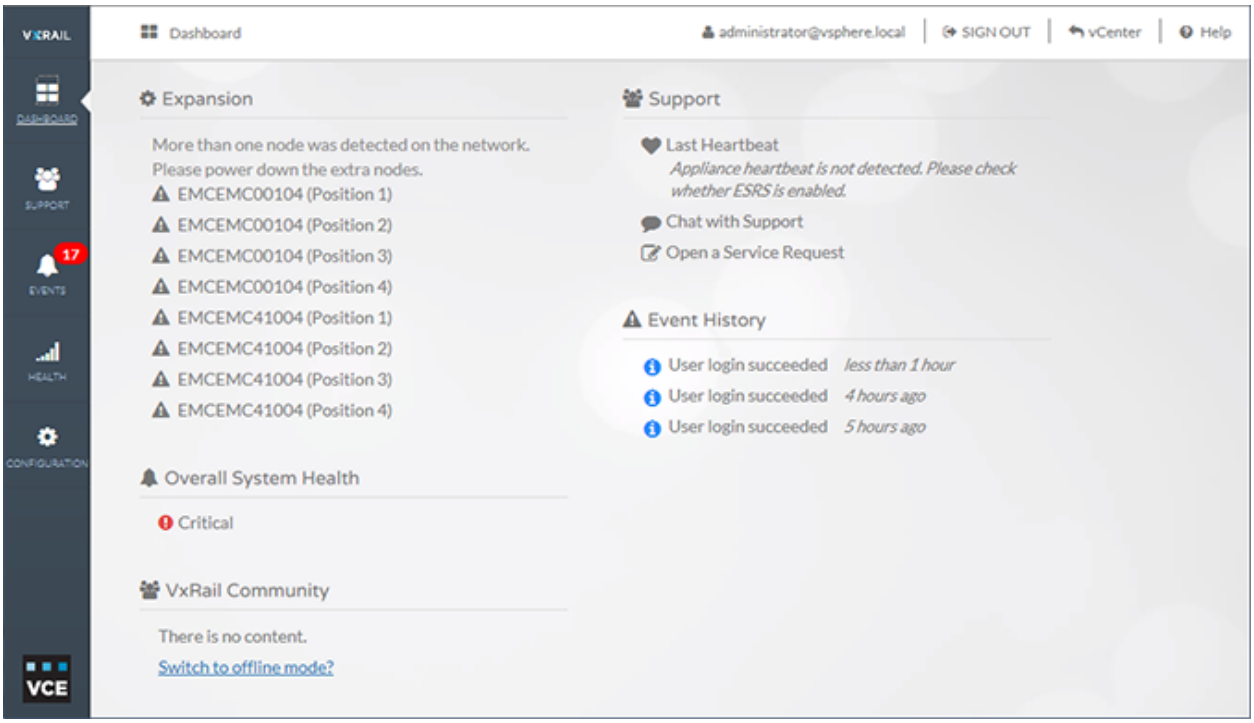


Figure 7: VxRail Manager Dashboard screen

Expansion

Expansion shows the status additional nodes being added to your VxRail Appliance or appliance cluster.

Overall 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 an EMC Secure Remote Services (ESRS) heartbeat was sent (only shown if ESRS 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.

Event History

Event history displays the most recent system events.

Support resources

The VxRail Manager **Support** tab displays support status information, as well as support resources and links.

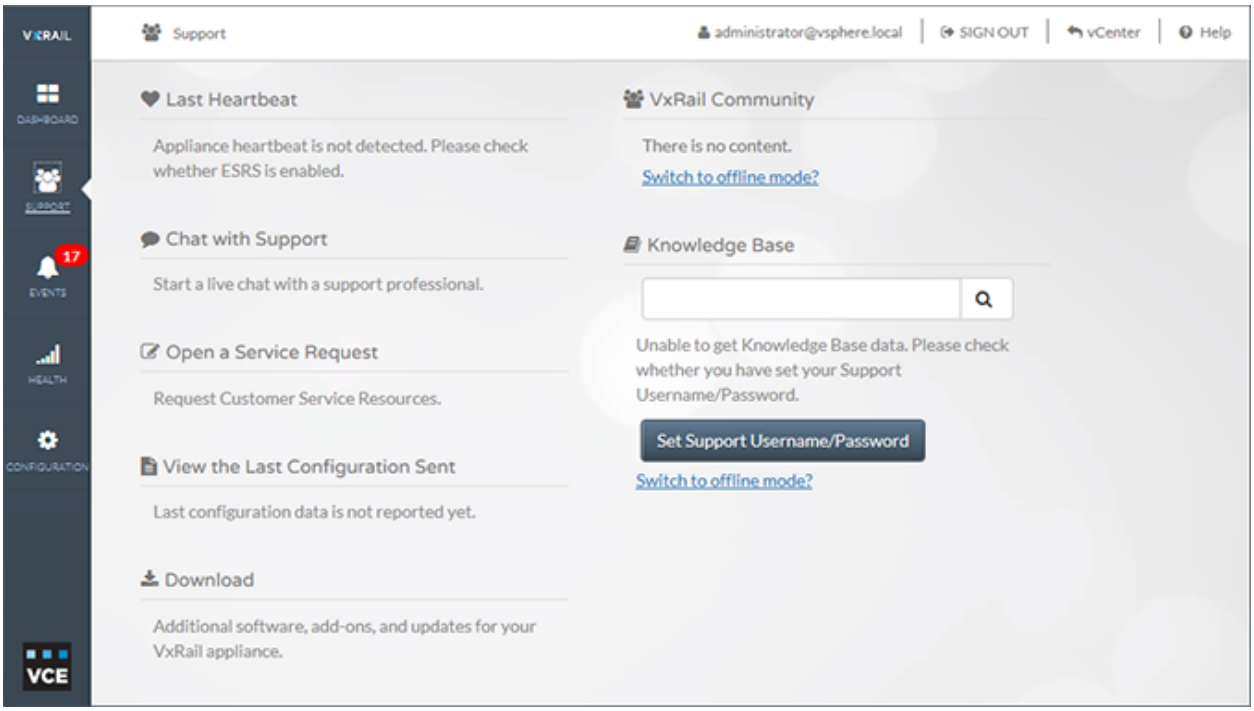


Figure 8: VxRail Manager Support screen

- **Last Heartbeat:** Displays the date and time of the last successful heartbeat sent by your VxRail Appliance using ESRS Connect Home. (ESRS must be installed and enabled.)
- **Chat with Support:** Opens a chat session with a support representative.
- **Open a Service Request:** Navigates to eServices where you can open a service request.

- **View the Last Configuration Sent:** Displays the most recent VxRail Appliance configuration data sent using ESRS Connect Home. (ESRS must be installed and enabled.)
- **Download:** Displays available applications and add-ons available for your VxRail Appliance.
- **VxRail Community:** Displays the most recent activity from the VxRail Series community forums.
- **Knowledge Base:** Lets you search the support knowledge base and access VxRail Series support articles.

Viewing EMC Secure Remote Support (ESRS) information

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

Before you begin

ESRS must be installed and enabled on your VxRail Appliance. You must have an support account before you activate ESRS. Enabling EMC Secure Remote Support (ESRS) (see page 52).

Procedure

1. Click **SUPPORT** in VxRail Manager to navigate to the **Support** tab.
2. Observe the date and time of the last ESRS communication in the **Last Heartbeat** section.
3. Click **View the Last Configuration Sent** to display the configuration data that was most recently sent to ESRS.

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 support.EMC.com.

About this task

The 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. Click **SUPPORT** in VxRail Manager to navigate to the **Support** tab.
2. 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. Click **SUPPORT** in VxRail Manager to navigate to the **Support** tab.
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. Click **SUPPORT** in VxRail Manager to navigate to the **Support** tab.
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. Click **SUPPORT** in VxRail Manager to navigate to the **Support** tab.
2. Type your search terms in the **Knowledge Base** search field and press Enter or click the magnifying glass icon. If you have not Linking your Online Support account to VxRail Manager (see page 51) 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.

Viewing system events

The VxRail Manager **Events** tab displays a list of current system events.

About this task

- **System Events:** The System Events list displays all of the VxRail Appliance events.
- **Event Details:** Displays information for the selected event in the **System Events** list.
- If there are critical events detected, the **EVENTS** icon displays the number of unread events, in red, in the navigation bar.

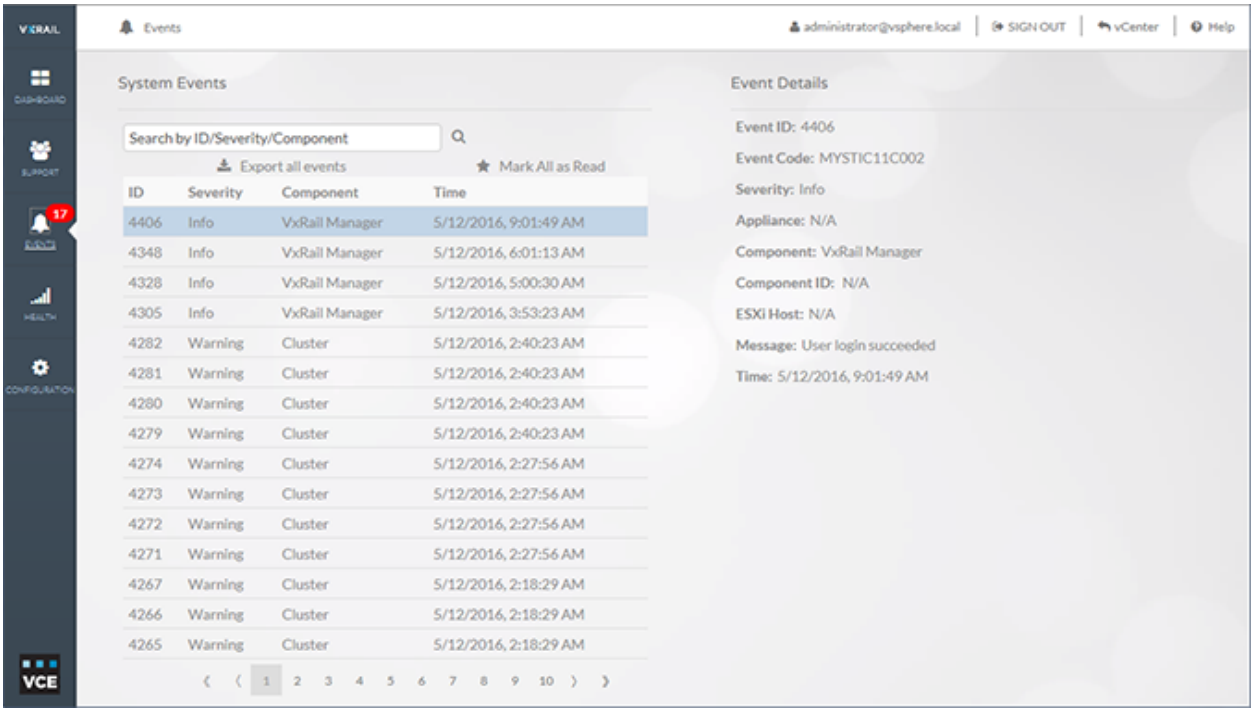


Figure 9: VxRail Manager Events screen

Procedure

1. Click **EVENTS** to navigate to the VxRail Manager **Events** tab.
2. Sort the events list as desired by clicking on a column heading. You can sort by **ID** number, **Severity**, or **Time** (including date).
3. Use the arrow buttons and scroll bars to navigate through the events list.
4. Click a row to view more information about an event.
   - New critical events are shown in red.
   - When you click an event, the red highlight is removed.
   - To set all critical events as "read", click **Mark All as Read**.
5. If a physical component is listed in the **Component** column, click its **Component ID** in the Event Details to view its status on the **Health > Physical** screen.
6. To download a list of events, click **Export all events**. An **events.csv** file is created and downloaded by your browser.

Viewing VxRail Appliance system configuration and applications

The VxRail Manager **Configuration** tab displays details about the applications installed on or available for your VxRail Appliance. **Configuration** also displays information and status about the physical configuration of your appliance.

- **General:** Information and settings for VxRail Manager, including:
  - VxRail Manager version
  - Linked Online Support account
  - Log collection
  - EMC Secure Remote Support (ESRS)
  - Network offline mode
  - Health monitoring suppression mode
  - System diagnostics
  - Cluster shutdown
  - User interface language

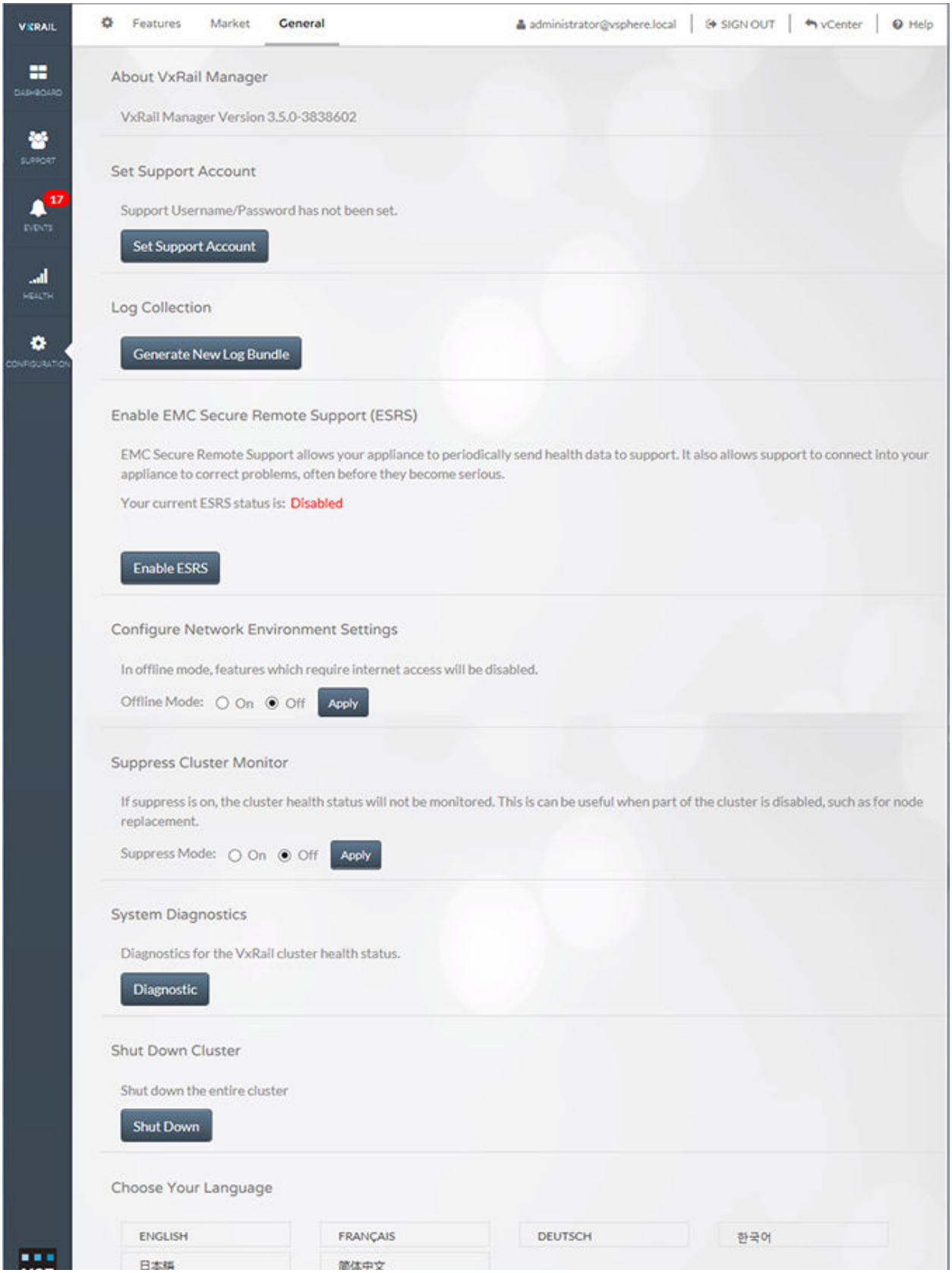
- **Features:** Descriptions, version information, and update controls for the applications and add-ons installed on the cluster.
- **Market:** Access to qualified applications and add-ons to install and run on your VxRail Appliance cluster.

Configuration General tab

The **General** tab of the **Configuration** window displays information and settings for your VxRail Appliance.

Use the **General** tab to view the following:

- **About VxRail Manager:** Displays the current version of VxRail Manager software running on your appliance.
- **Set Support Account:** Displays the linked Support account and allows you to link or change to a new account.
- **Log Collection:** Displays the most recent collected logs and allows you to generate a new log bundle.
- **Enable EMC Secure Remote Support:** Displays whether or not ESRS is enabled on your VxRail Appliance.
- **Configure Network Environment Settings:** Disable certain features in offline mode.
- **Suppress Cluster Monitor:** Disable system health monitoring for maintenance purposes.
- **System Diagnostics:** Run a complete system diagnostic report.
- **Shut Down Cluster:** Gracefully shut down the cluster.
- **Choose Your Language:** Select the language used in the VxRail Manager UI.



Viewing the VxRail Manager version number

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

Procedure

1. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **General.** The **General** tab is displayed.
3. Observe **About VxRail Manager** 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. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **General.** The **General** tab is displayed.
3. Click one of the following buttons:
   - **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.
4. Type your account credentials in the **Username** and **Password** fields. Leave both fields blank if you wish to unlink all accounts.
5. Click **Login**. VxRail Manager will log into your account and display that your account is in use.

Generating a diagnostic log bundle

Create and download a diagnostics log bundle for your cluster.

Procedure

1. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.

2 Click **General.** The **General** tab is displayed.

3 Click **Generate New Log Bundle**. VxRail Manager will gather diagnostics information and create a TAR file.

4 Click **Open** to view the file or **Save** to store it on your local machine.

Enabling EMC Secure Remote Support (ESRS)

ESRS provides secure, automated access between EMC and your VxRail Appliance. You must install and activate ESRS to enable some features in VxRail Manager.

Before you begin

You must have an Support account before you activate ESRS. To create an Support account, Registering for online support (see page 0).

Note: If you plan to set up ESRS, your Online Support account must be linked to VxRail Manager under the same party ID or it will not work properly.

Procedure

1 In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.

2 Click **General.** The **General** tab is displayed.

3 Verify the value of **Your current ESRS status is**.

- **Disabled:** ESRS is not activated.
- **Deployed:** ESRS has been installed but not activated.
- **Enabled:** ESRS is activated.

4 Do one of the following:

- If your ESRS status is **Disabled**, proceed to step 5.
- If your ESRS status is **Deployed**, skip to step 9.
- If your ESRS status is **Enabled**, skip to step 12.

5 Click **Enable ESRS**. The **Enable ESRS** window is displayed.

6 In the **IP** field, enter a valid IP address on the management network used by your VxRail Appliance. ESRS must be on the same management network as vCenter and VxRail Manager to receive alerts and broadcast them back to EMC.

7 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.

8 Click **Submit**. A status bar is displayed as ESRS is deployed on your system. When the process is complete, an access code is emailed to the address specified for your support account.

9 When your ESRS status is **Deployed**, click **Activate ESRS**. The **Enable ESRS** window is displayed.

10 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.

11 Click **Submit**. A status bar is displayed as ESRS is activated on your system. When the process is complete, your ESRS status shows **Enabled**.

12 When your ESRS status is **Enabled**, the process is complete.

13 If you want to reset ESRS on your system, click **Reset ESRS**. In the **Reset ESRS** dialog, click **Reset** to confirm. You can re-enable ESRS by following the steps in this procedure.

Setting Internet online/offline mode

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

About this task

Note: Some VxRail Manager features are disabled when the appliance Internet connection is disabled.

Procedure

1 In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.

2 Click **General**. The **General** tab is displayed.

3 In the **Configure Network Environment Settings** section, select one of the following:

- **Offline Mode On:** Internet access for your appliance is disabled.
- **Offline Mode Off:** Internet access for your appliance is enabled. This is the default setting.

4 Click **Apply**.

Results

When Internet access is disabled (**Offline Mode** set to **On**) some VxRail Manager features are disabled. A message is displayed for the disabled features.

Enabling and disabling cluster health monitoring

Follow these steps to set whether or not 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. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **General**. The **General** tab is displayed.
3. In the **Suppress Cluster Monitor** section, select one of the following:
   - **Suppress Mode On:** Cluster health is not monitored.
   - **Suppress Mode Off:** Cluster health is monitored and reported. This is the default setting.
4. Click **Apply**.

Results

When cluster health monitoring is disabled (**Suppress Mode** set to **On**) VxRail Manager displays a banner indicating that monitoring is suppressed. You can close the banner by clicking the **X** on the right side of the banner.

Running a complete system diagnostic

Follow these steps to run a complete system diagnostic report for your VxRail Appliance.

Procedure

1. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **General**. The **General** tab is displayed.
3. In the **System Diagnostic** section, click **Diagnostic**. VxRail Manager runs a system-wide diagnostic analysis of the appliance. The **System Diagnostic** window is displayed.
4. Observe the **Health check list** in the **System Diagnostic** window. Click items in the list to expand them for more information.
5. When you are finished with the diagnostic report click **Close**.

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 VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **General**. The **General** tab is displayed.
3. In the **Shut Down Cluster** section, click **Shut Down**. The **Shut Down Cluster** dialog box is displayed.
4. Click **Confirm** to continue shutting down. VxRail Manager begins the automated shut down process and displays the progress on the **Shutdown precheck list**.
5. When the shutdown precheck process successfully completes, click **Shutdown**.

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

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

Selecting a language for VxRail Manager

You can specify the language that displays in the VxRail Manager user interface.

About this task

The VxRail Manager user interface supports the following languages:

- English (default)
- French

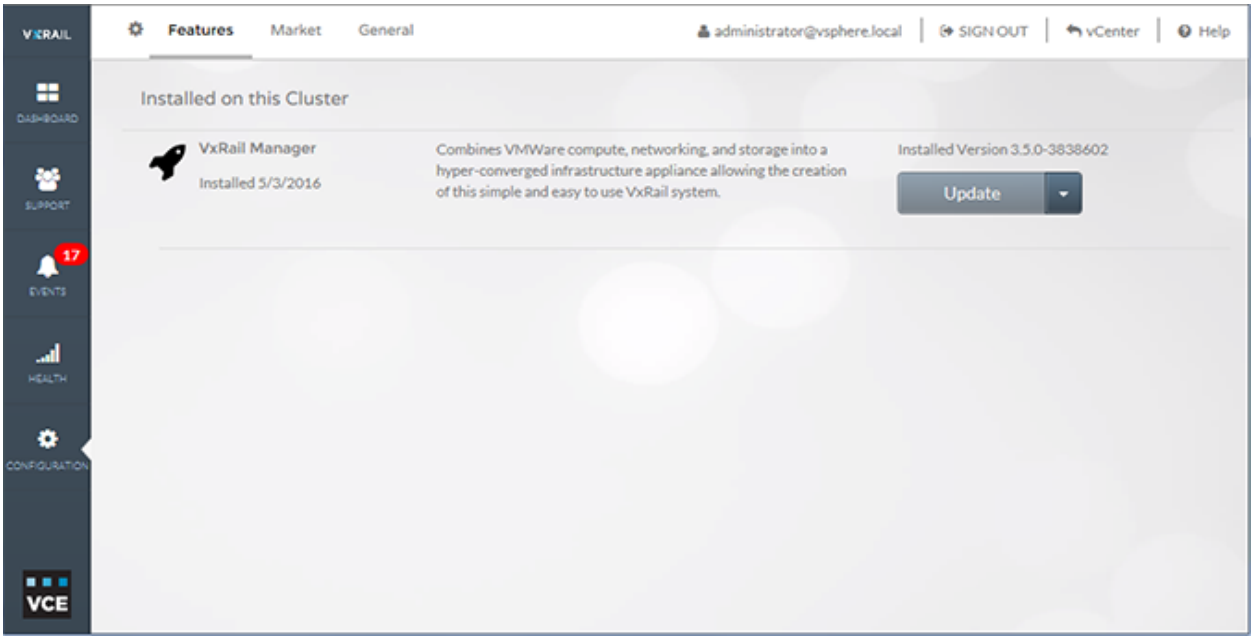
- German
- Korean
- Japanese
- Simplified Chinese

Procedure

1. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **General.** The **General** tab is displayed.
3. In the **Choose Your Language** section of the screen, click the language you want to use. The VxRail Manager user interface will immediately reload in the language you selected.

Config Features tab

The **Features** tab of the VxRail Manager **Configuration** window displays information about the applications and add-ons currently installed on your VxRail Appliance. It also allows you to download updates for those components.



Use the **Features** tab to view the following:

- **Installed on this Cluster:** The list displays the name, description, and installed version for the software and add-ons installed on your VxRail Appliance.
- **Software updates:** If an update is available for an application, an **Update** button is displayed.

When a new version of an application is available, **CONFIGURATION** in the left navigation bar displays a highlighted number.

Viewing installed applications

Use the **Features** tab on the **Configuration** window to view a list of installed applications and add-ons.

Procedure

1. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **Features**. The **Features** tab is displayed.
3. Scroll the **Installed on this Cluster** list, if necessary, to view all the applications and add-ons 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 **Update** button is also displayed.

Updating applications and add-ons

Use the **Features** tab on the **Configuration** window to install updates for the applications and add-ons installed on your VxRail Appliance.

About this task

When a new version of an application is available, **CONFIGURATION** in the left navigation bar displays a highlighted number. The **Update** button is also displayed for that application in the **Installed on this Cluster** list.

Procedure

1. In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.
2. Click **Features**. The **Features** tab is displayed.
3. Scroll the **Installed on this Cluster** list, if necessary, to view the applications and add-ons installed on your VxRail Appliance. If a newer version of an application is available, the **Update** button is displayed.
4. Click **Update** to view the options:
   - **Upload local version:** Allows you to upload a new version of the software from your local storage.
   - **Download:** Allows you to download a new version of the software.

   Not all applications will show both options.
5. Click the option you want. The software will be copied to your VxRail Appliance.

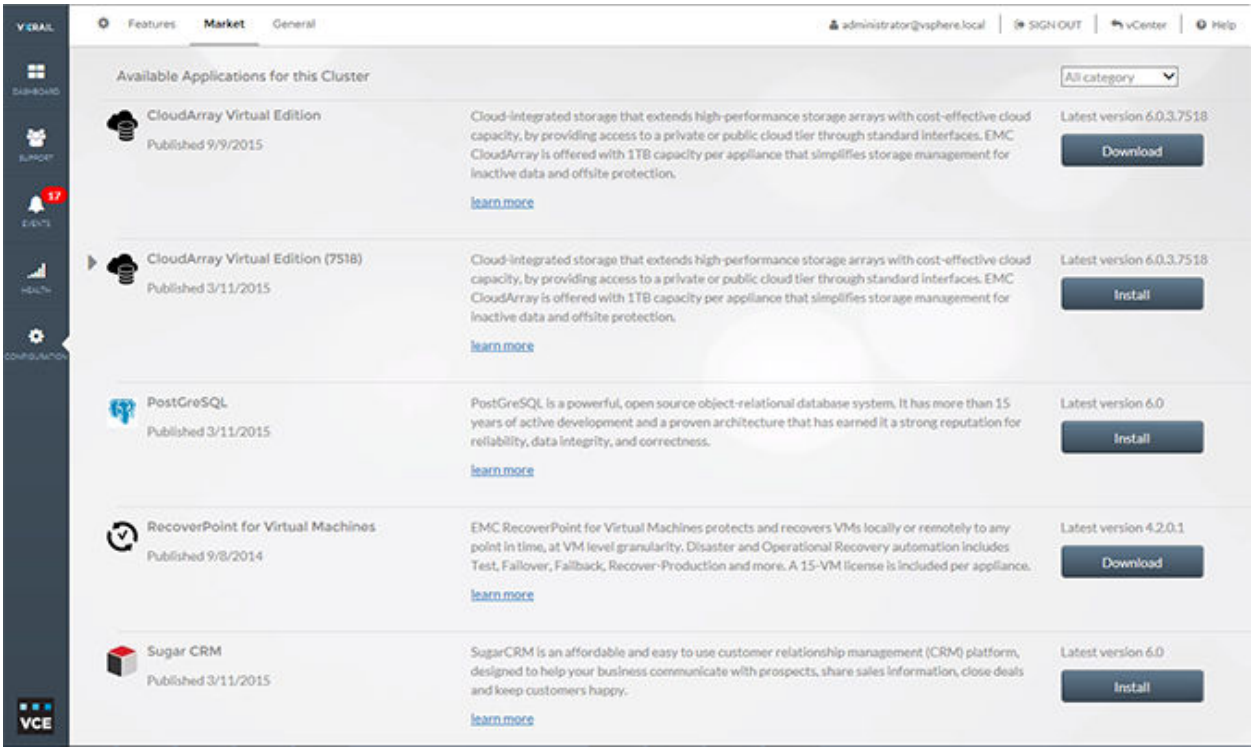
6 Click **Install** to install the software. When the installation is complete, the new version will be displayed in the **Installed on this Cluster** list.

Using the VxRail Market

The VxRail Market lets you download, install, and upgrade qualified EMC and VMware 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 In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.

2 Click **Market**. The **Market** tab is displayed.

3 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.

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

5 Click **Learn more** if you want to view information about the application. The application page opens in a separate browser tab.

6 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 (see page 59). You can install multiple instances of an application.

7 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 EMC or VMware software product from the VxRail Market.

Procedure

1 In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.

2 Click **Market**. The **Market** tab is displayed.

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

4 Click **Install** to install the application.

5 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.

6 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.

7 To install multiple instances of an application, repeat this procedure.

Managing applications and add-ons with VxRail Manager

Manage your installed EMC and VMware software products from the VxRail Market.

Procedure

1 In VxRail Manager click **CONFIGURATION**. The **Configuration** window is displayed.

2 Click **Market**. The **Market** tab is displayed.

3 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.

4 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.

5 For the selected application, do either of the following:

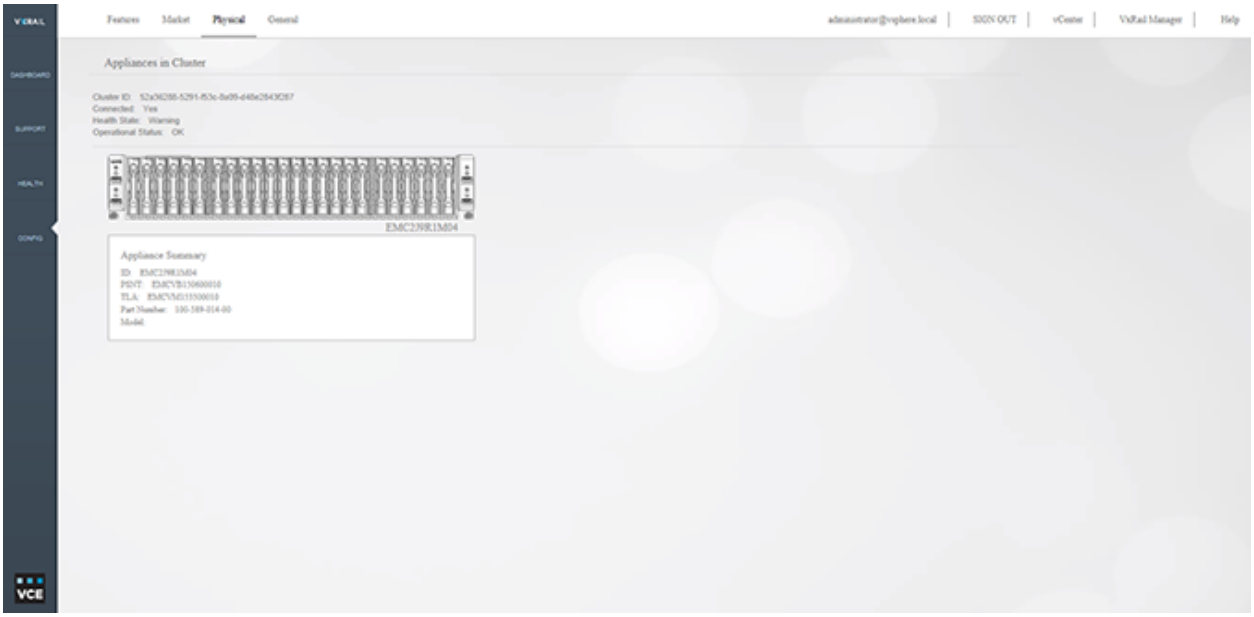
- Click **Open** to view the VM console.
- Click **Manage** to view the application's management interface. (Not every application has a management option.)

Viewing physical system health

The **Physical** tab of the VxRail Manager **Health** window 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** window **Physical** tab 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.

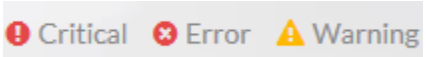


Viewing and locating hardware events

Quickly locate and identify critical events, errors, and warnings on any appliance in the cluster.

About this task

VxRail Manager displays status icons to indicate events that occur on your appliance.

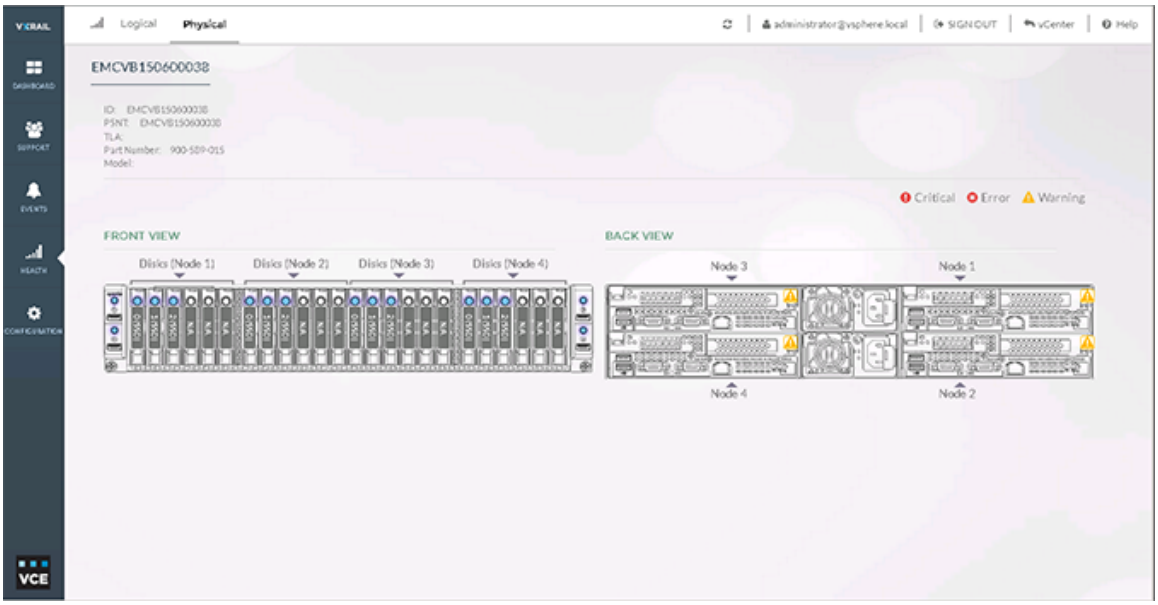


Procedure

1. In VxRail Manager click **HEALTH**. The **Health** window is displayed.
2. Click **Physical.** The **Physical** tab is displayed.

3 Observe **Appliances in Cluster**. A picture of each appliance in the cluster is shown.

4 If a status icon is displayed next to an appliance, click the appliance or the magnifying glass icon to see more information. The **Front View** and **Back View** of the appliance are displayed.



5 Click any appliance component to view more details.

- Click a **Disk** in the **Front 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.

6 If a status icon is displayed on any component, click it to view event details in the **Health** window. Use your browser's back button to return to the appliance view on the **Health > Physical** tab.

Viewing physical disk status

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

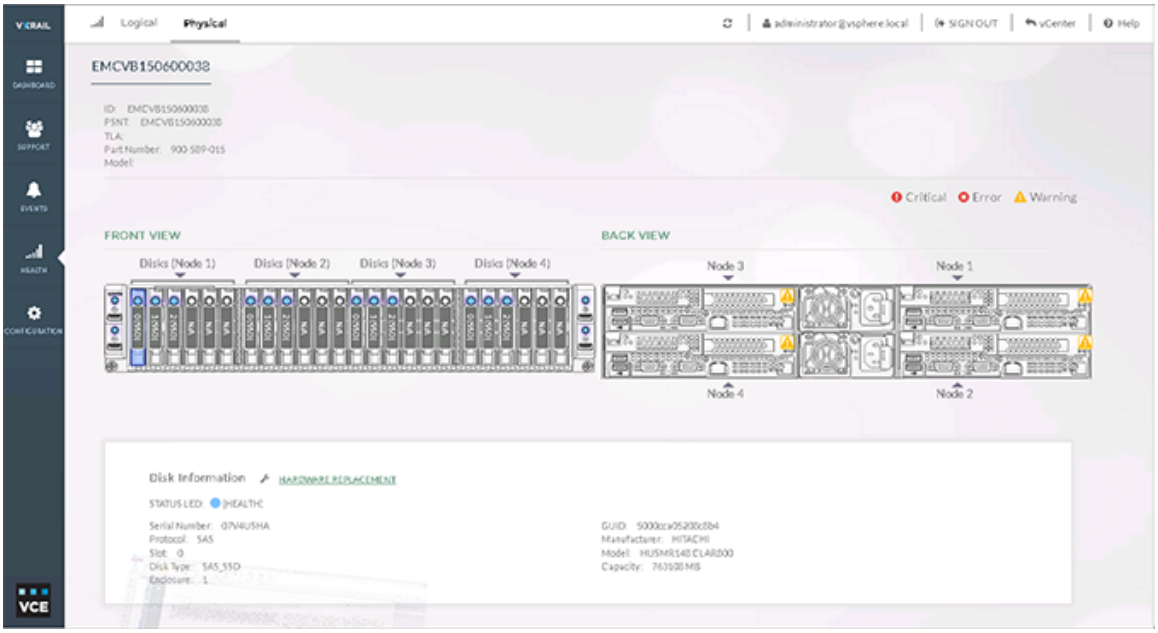
Procedure

1 In VxRail Manager click **HEALTH**. The **Health** window is displayed.

2 Click **Physical.** The **Physical** tab is displayed.

3 Click an appliance 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 disk.



5 If a status icon is displayed, click it to view event details in the **Health** window.

Results

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

- Status LED on/off
- Serial number
- Protocol
- Disk type
- Manufacturer

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

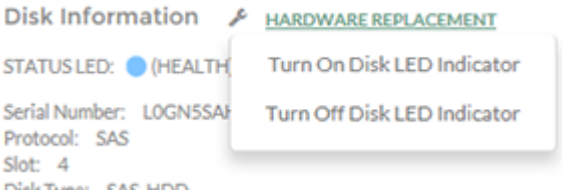
1 In VxRail Manager click **HEALTH**. The **Health** window is displayed.

2 Click **Physical**. The **Physical** tab is displayed.

3 Click an appliance 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 the wrench icon next to the **Disk Information** panel



title.

6 Select the action you want:

- **Turn On Disk Locator LED Indicator** starts flashing the disk LED.
- **Turn Off Disk Locator LED Indicator** stops flashing the disk LED.

Viewing physical node status

View compute, SATA DOM, and NIC status and information for any appliance node in a cluster.

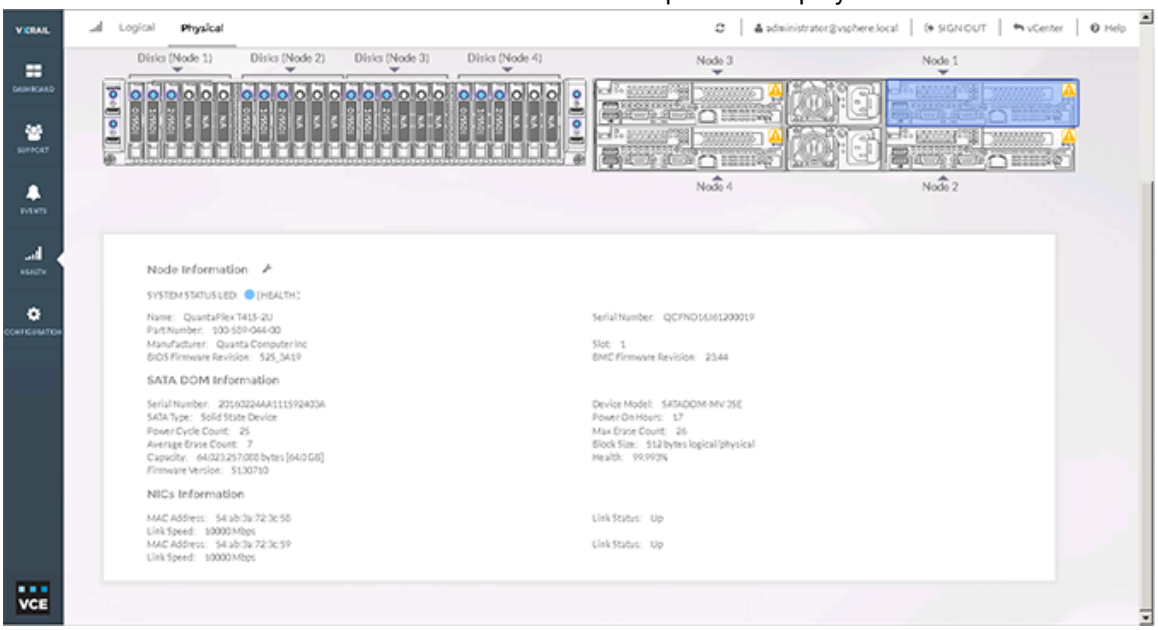
Procedure

1 In VxRail Manager click **HEALTH**. The **Health** window is displayed.

2 Click **Physical.** The **Physical** tab is displayed.

3 Click an appliance 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 If a status icon is displayed, click it to view event details in the **Events** window.

Results

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

- Status LED on/off
- Serial number
- BIOS firmware version
- SATA DOM 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

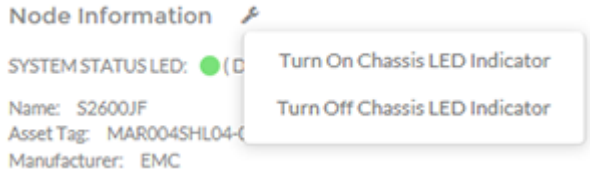
1 In VxRail Manager click **HEALTH**. The **Health** window is displayed.

2 Click **Physical.** The **Physical** tab is displayed.

3 Click an appliance 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 the wrench icon next to the **Node Information** panel



title.

6 Select the action you want:

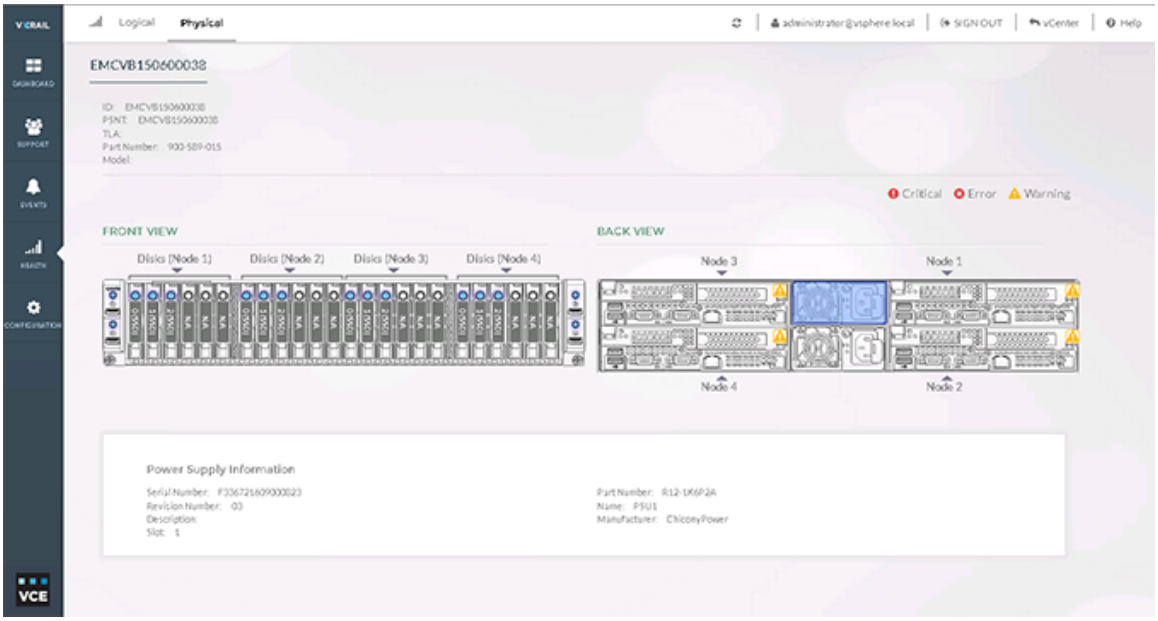
- **Turn On Chassis LED Indicator** starts flashing the chassis LED.
- **Turn Off Chassis LED Indicator** stops flashing the chassis LED.

Viewing power supply status

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

Procedure

1. In VxRail Manager click **HEALTH**. The **Health** window is displayed.
2. Click **Physical.** The **Physical** tab is displayed.
3. Click an appliance 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.



5. If a status icon is displayed, click it to view event details in the **Events** window.

Results

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

- Serial number
- Manufacturer

Updating VxRail Manager Extension software

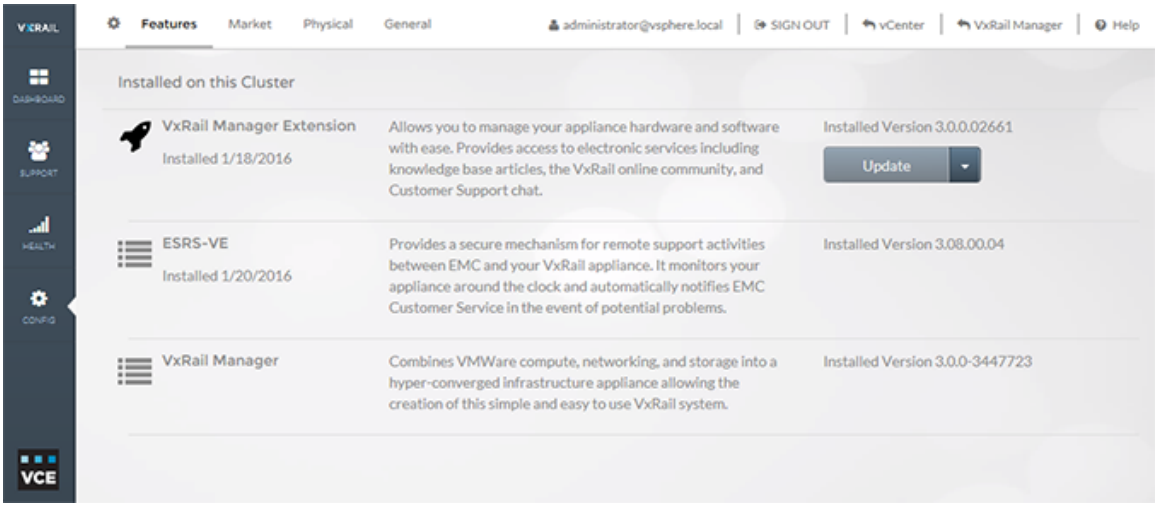
You can update your VxRail Manager Extension software when a new version becomes available.

About this task

Carefully read any release notes or readme files before you update your software.

Procedure

1. Download the VxRail Manager Extension update file from Online Support:
   a. In your Web browser, navigate to emc.com/vxrailsupport.
   b. Click **Downloads**.
   c. Select the update you want. For example, select **Upgrades** and the latest version of VxRail Manager Extension.
   d. Download the update file to your management PC.
2. Log into VxRail Manager Extension using the `root` (administrator) profile.
3. Click **Config** and then **Features**.



4. From the VxRail Manager Extension line, click **Update** and select **Upload local version**.
5. Browse to the location where you saved the upgrade file.
6. Select the upgrade file and click **Open**. VxRail Manager Extension uploads the file. When the upload is finished the **Update** button shows **Install**.
7. Click **Install**. A progress bar is shown while the update is installed. When the installation is complete, VxRail Manager Extension automatically reboots.
8. Log in to VxRail Manager Extension again after it reboots.

Replacing hardware

This section describes how to replace hard disk drives (HDDs), solid state drives (SSDs), and power supplies on your VxRail Appliance. Only qualified personnel should perform these procedures. For other hardware components, contact Customer Support to arrange for repair or replacement.

The EMC SolVe desktop tool also includes step-by-step procedures for replacing hardware components, as well as other tasks. To download the SolVe desktop tool, point your Web browser to https://solve.emc.com.

This section contains the following topics:

Replacing HDD and SSD drives

VxRail Manager provides automated assistance with replacing disks (HDDs and SSDs) in your VxRail Appliance.

Although VxRail Manager simplifies the replacement procedure, only qualified personnel should perform these procedures.

CAUTION To use the automated hardware replacement process, you must have a VMware Enterprise Plus license installed on your VxRail Appliance cluster. If your cluster is using a standard license, features such as DRS and automatic vMotion are disabled. With a standard license you must manually migrate all virtual machines off the affected node before replacing any hardware.

CAUTION

- Do not use vCenter Server, or any other tool, in conjunction with the automated hardware replacement process.
- Do not power on or power off any node unless directed to by the hardware replacement wizard.

Note:

- Using the automated HDD replacement workflow, only one HDD can be replaced at a time (with no other devices).
- Using the automated SSD replacement workflow, only one SSD can be replaced at a time (with no other devices).

The overall replacement procedure is described in the following steps. Refer to the following sections for detailed instructions.

1. To start the replacement procedure navigate to the VxRail Manager **Health > Physical** screen.
2. Click the drive you want to replace.
3. Click **HARDWARE REPLACEMENT** and follow the prompts.
4. Replace the device.

5 Power on the node.

6 Complete the replacement wizard prompts.

Preparing to replace drives in VxRail Manager

Follow this procedure to replace a hardware component from the VxRail Manager user interface.

Before you begin

> **CAUTION** To use the automated hardware replacement process, you must have a VMware Enterprise Plus license installed on your VxRail Appliance cluster. If your cluster is using a standard license, features such as DRS and automatic vMotion are disabled. With a standard license you must manually migrate all virtual machines off the affected node before replacing any hardware.

Procedure

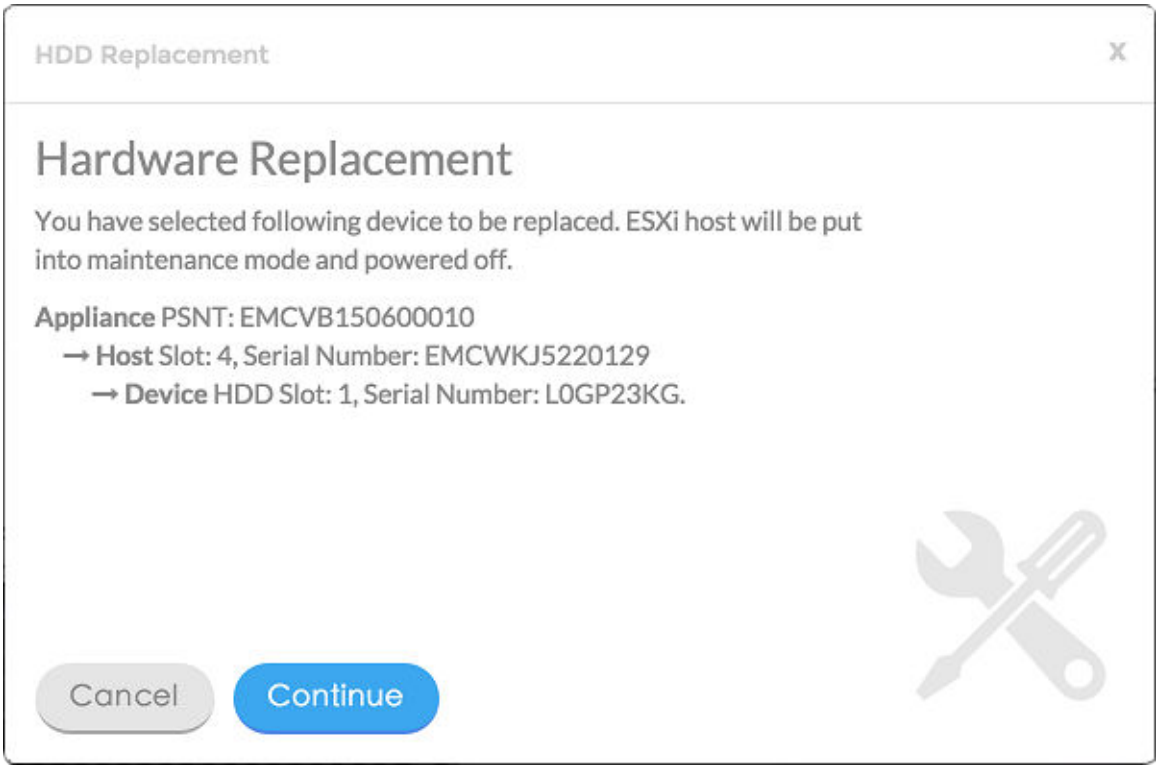
1 In VxRail Manager click **HEALTH**. The **Health** window is displayed.

2 Click **Physical**. The **Physical** tab is displayed.

3 Click an appliance 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 **HARDWARE REPLACEMENT** next to the **Disk Information** panel title. The **SSD Replacement** or **HDD Replacement** window is displayed, depending on the type of device you selected.



6 Click **Continue**.

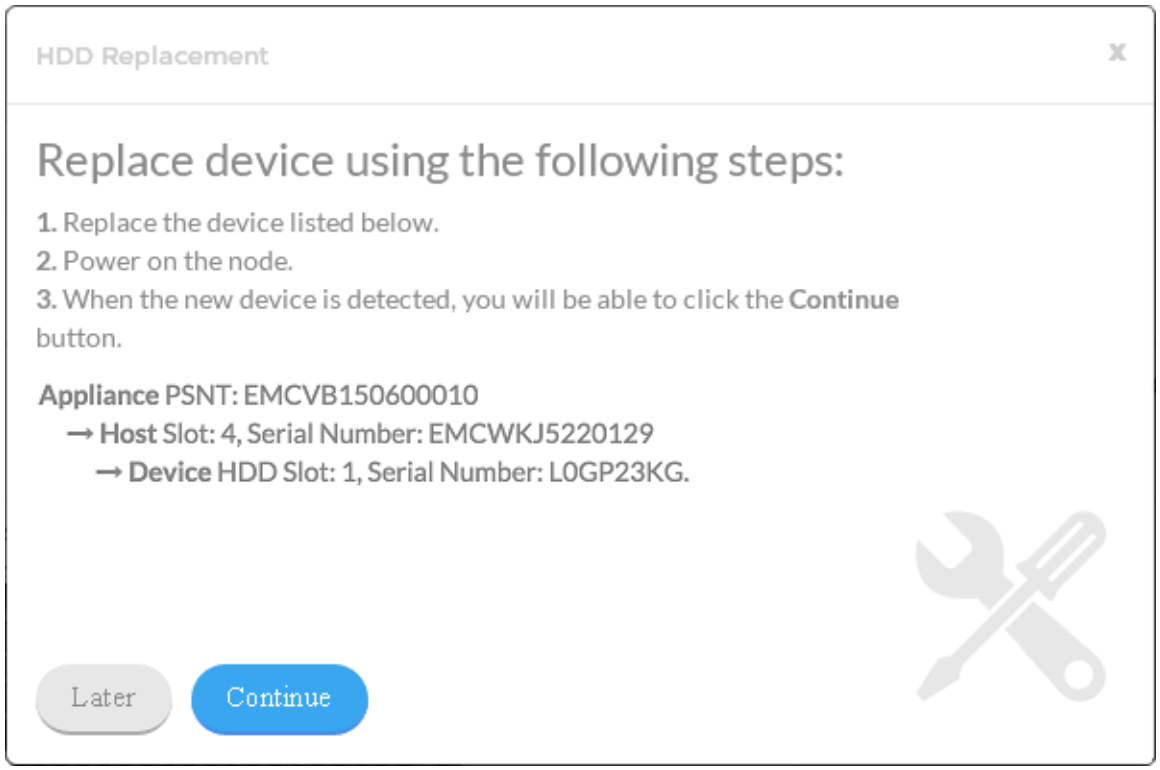
This step puts the corresponding ESXi host into maintenance mode and then powers it off. The host's locator LED is on and the other LEDs for the cluster are off. The VMs running on the host are migrated to other hosts in the cluster.

The window indicates that the hardware replacement is in progress.

Note: If your appliance is using a VMware standard license, the node may hang while trying to enter maintenance mode. If the **Hardware Replacement** window is displayed for long time, use the vCenter Web Client to check if the node has hung. You must manually migrate VMs to other nodes before going to the next step.

7 Click **Continue**.

A message is displayed listing the replacement steps.



8 Replace the hardware unit as described in the following sections.

Removing the bezel

About this task

NOTICE You must remove the bezel to gain access to the front of the appliance. The bezel is required for EMI compliance when the enclosure is powered up.

Procedure

1 If the bezel has a lock, insert the key that shipped with your enclosure into the lock, and turn the key to unlock the bezel.

2 Press the two latch buttons on the bezel surface to release the bezel from the cabinet.

3 Pull the bezel off the cabinet and put it on a clean, static-free surface.

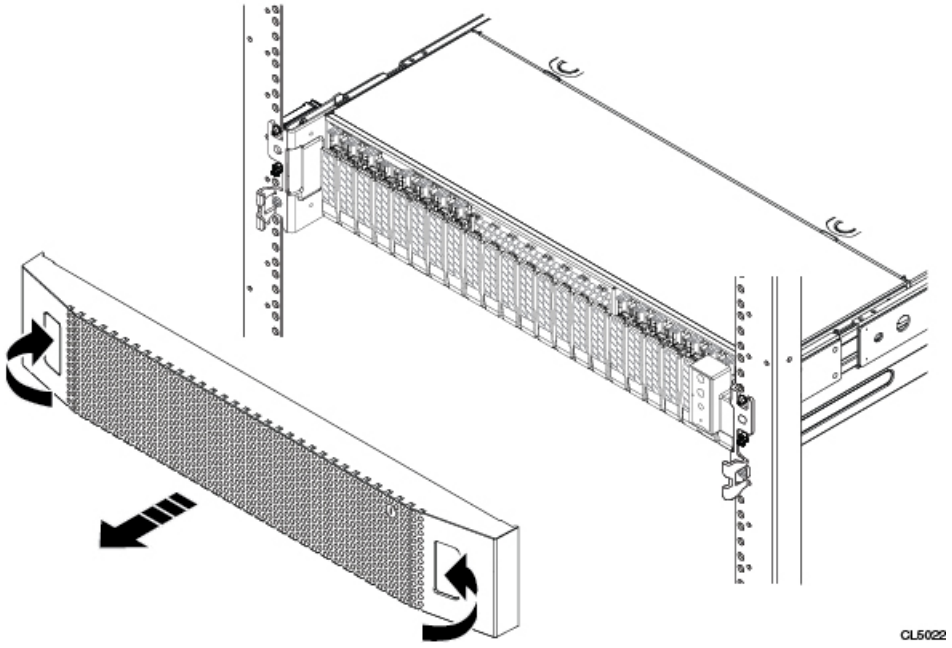


Figure 11: Removing bezel

Removing a disk drive tray from the appliance

About this task

WARNING Do not operate the system without all drive trays inserted into the chassis. All drive bays must be occupied by either a disk drive or an empty disk drive tray. Disk drives may be removed while the system is operational, but should be immediately replace by another disk drive or an empty disk drive tray.

Procedure

1 Press the disk drive tray release button.

2 Pull the disk drive tray release handle completely open.

WARNING Make sure the tray handle is in the fully open position before attempting to pull the tray out of the appliance. Damage may occur if the tray is not fully unlocked.

3 Pull the disk drive tray out of the server and place it on a clean, static-free surface.

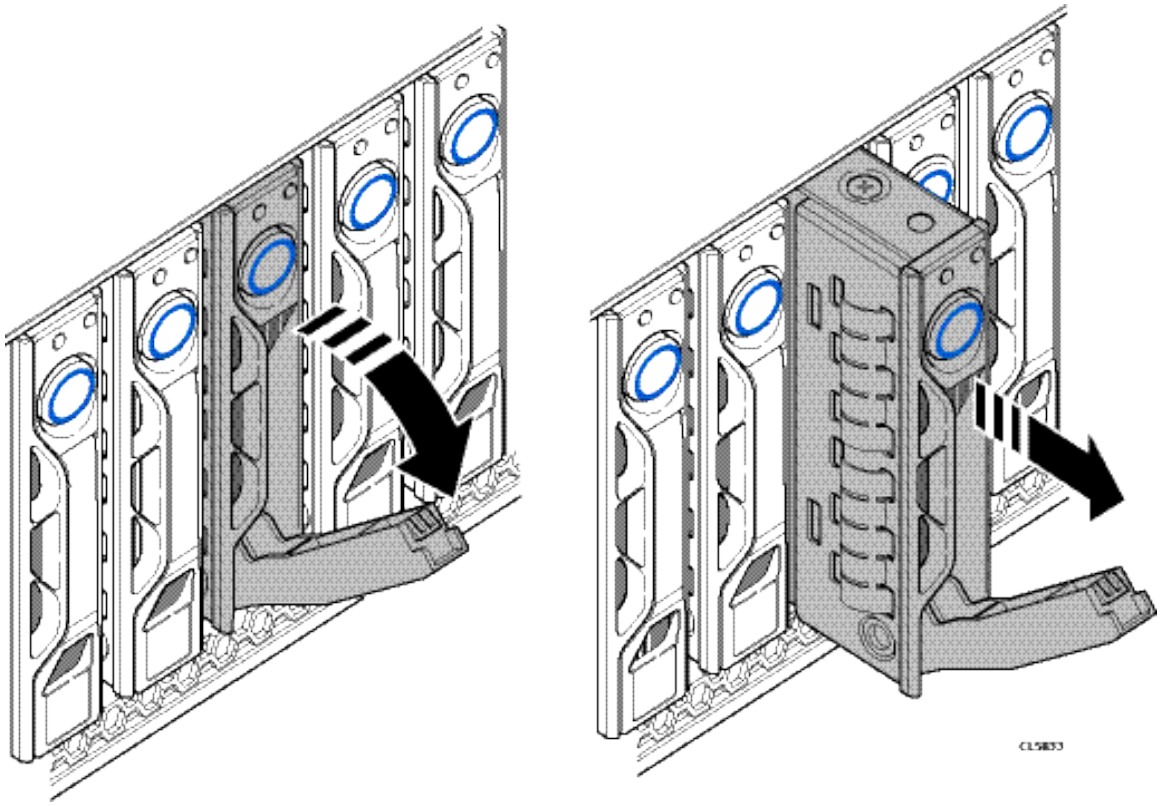


Figure 12: Pull the disk drive tray out of the appliance

Installing a disk drive tray into the appliance

About this task

Note: Save the packaging material to return the faulted disk drive.

Procedure

1 Unpack the replacement disk drive and place it on a clean, static-free surface.

2 Align the disk drive tray with the disk drive bay slot.

3 Insert the disk drive tray into the bay and push the tray in until it is fully inserted.

> **WARNING** Do not force the handle closed. If resistance is encountered, check the disk drive tray is properly inserted and the adjacent drive trays on either side are properly inserted.

4 Close the disk drive tray handle.

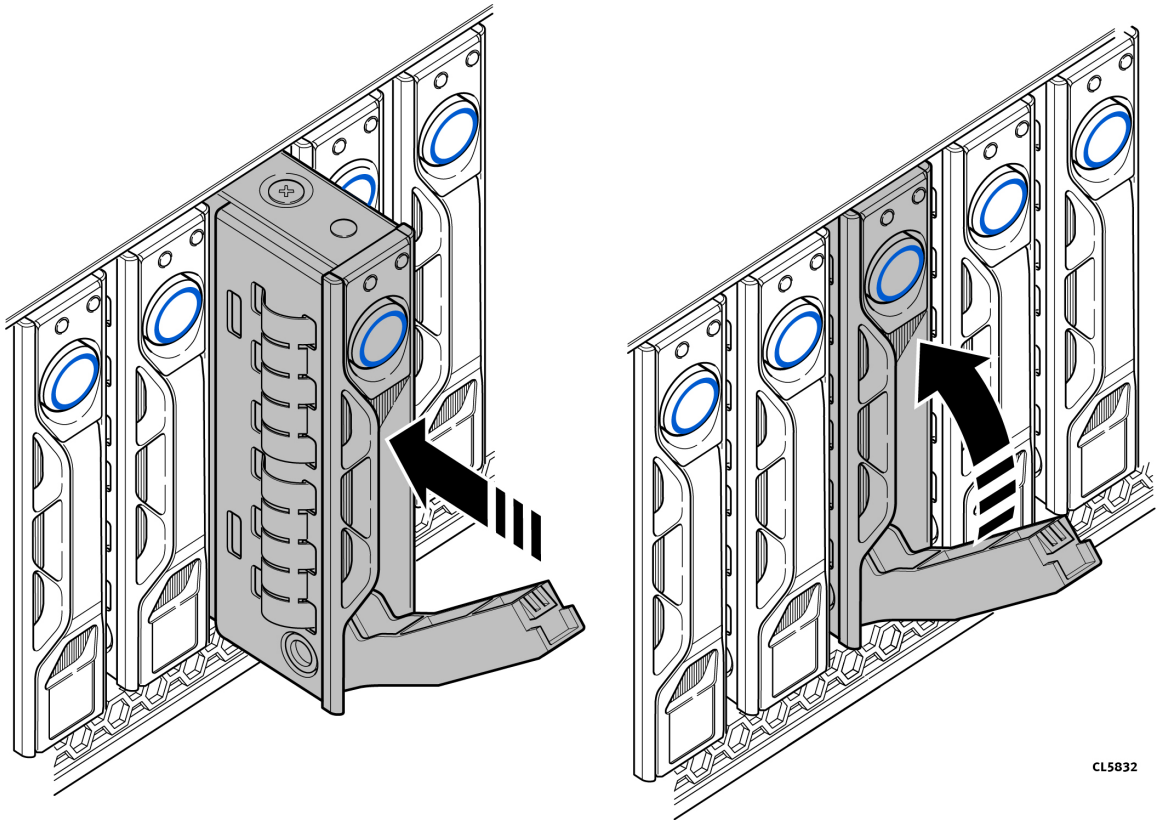


Figure 13: Installing the disk drive tray in the appliance

5 Using the shipping materials that the replacement disk drive shipped in, re-package the faulted disk drive and prepare the package for return shipping.

Installing the bezel

Procedure

1 Align the bezel with the appliance.

2 Gently push the bezel into place on the cabinet until it latches.

3 If the bezel has a lock, insert the key and turn the key to lock the bezel.

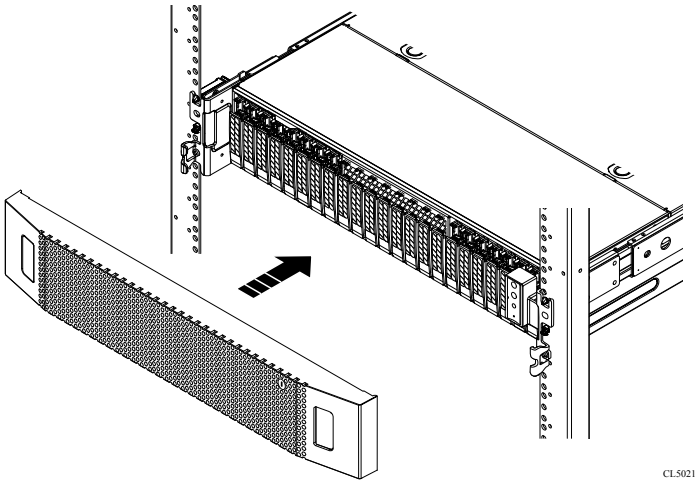


Figure 14: Installing bezel

Finishing up

After you replace a drive in your VxRail Appliance, follow these steps to complete the process.

Procedure

1 Power on the node in which you replaced the drive. After VxRail Manager detects the new device, the **Continue** button becomes active.

2 Click **Continue**.

3 Click **Restore ESXi Host** to take the ESXi host out of maintenance mode.

4 When the success message is displayed, click **Finish** to complete the process.

Out-of-band management

Before you begin

Follow these precautions before using the VxRail Appliance RMM port and BMC Web and remote console.

CAUTION Failure to follow these guidelines can cause your VxRail Appliance to operate incorrectly, and can cause data loss.

- Do not cycle power to the appliance using the BMC interface. VxRail Manager centrally manages all of the nodes in the appliance. You must follow the proper procedure to gracefully shut down and start up the VxRail Appliance. A hard power cycle through the BMC interface, without interfacing with VxRail Manager, may leave the appliance in an unknown state that could have negative consequences such as data unavailability or data loss.
- For information about fault tolerance, refer to VMware vSphere and VSAN high-availability (HA) configuration and management documentation.
- Only configure the RMM4 LAN settings. Do not modify any other BIOS or BMC settings in any way. Do not upgrade the BIOS or BMC firmware either. Configuration changes or version mismatches will cause your VxRail Appliance to stop operating.
- Use the BMC Web console and remote console solely for read-only monitoring purposes.

About the VxRail Appliance BMC interface and RMM port

Your VxRail Appliance offers a baseboard management controller (BMC) interface for monitoring the physical state of the appliance through an independent connection. The BMC interface is through an Intel Remote Management Module 4 (RMM4) port that provides access by way of a LAN or Internet connection.

When the VxRail Appliance is shipped from the manufacturer, the shared BMC interface (Baseboard LAN) is disabled and the dedicated BMC interface (the Intel RMM4 LAN port) is enabled.

You can access the BIOS/BMC through either a locally attached VGA monitor and keyboard or a remote console if the RMM port is assigned an address by your network DHCP.

The RMM port supports Ethernet speeds up to 100 Mbps. The switch you connect to the RMM port must also support 100 Mbps.

Note: For data traffic, the VxRail Appliance connects to a 10GbE switch. If your 10GbE switch does not support auto-negotiating down to 100 Mbps, a separate switch or interface card (if supported by

the 10GbE switch) is required for connecting to the RMM port. (The VxRail 60 Appliance can be used with a 1GbE switch.)

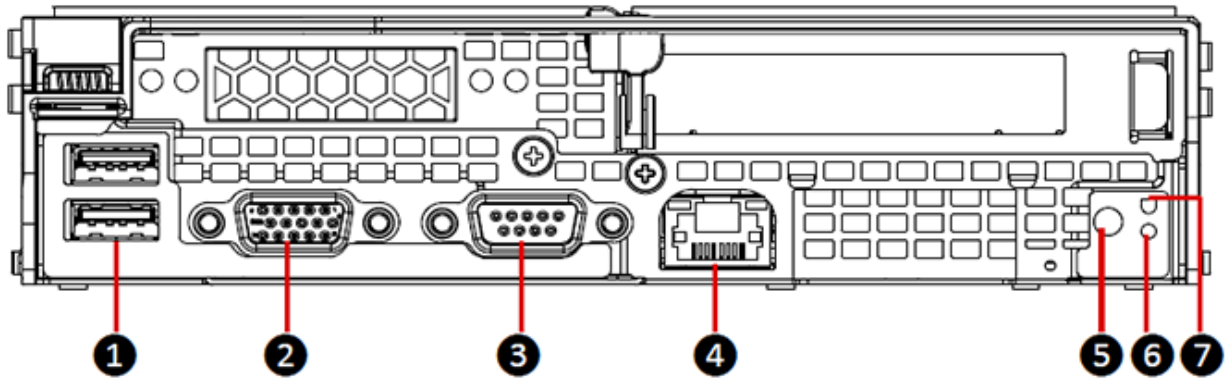


Figure 15: VxRail Appliance interface ports (RJ45 network connectors shown)

No.	Interface port or feature	Description
1	USB ports	Dual USB 3.0 ports for connecting USB devices.
2	VGA port	Standard VGA compatible, 15-pin display connector. Supports up to 1920 x 1200 resolution, 32 bpp at 60 Hz.
3	Serial port	Standard DB9 serial port.
4	RMM port (BMC interface)	Dedicated BMC Rj45 LAN port for remote management and control.
5	Power button	Press and hold for more than 4 seconds to power off the motherboard.
6	Mainboard status indicator	Off: normal. Flashing amber: BMC reports system health fault.
7	Power indicator	Off: power is off. Flashing blue: BMC reports system health fault.

Finding the RMM DHCP address

If your VxRail Appliance RMM port has been assigned an address by the DHCP server, use this procedure to find the IP address using a locally attached VGA display and keyboard.

Procedure

1. During the power-on self test (POST) press <F2> to enter BIOS Setup.
2. When prompted for a password, enter **`emcbios`**.
3. On the BIOS main screen, navigate to **Server Mgmt > BMC network configuration**.

4 Look for the IP Address in the**Station IP address** section.

The following example shows the assigned IP address for the dedicated BMC port is **192.168.101.011**.

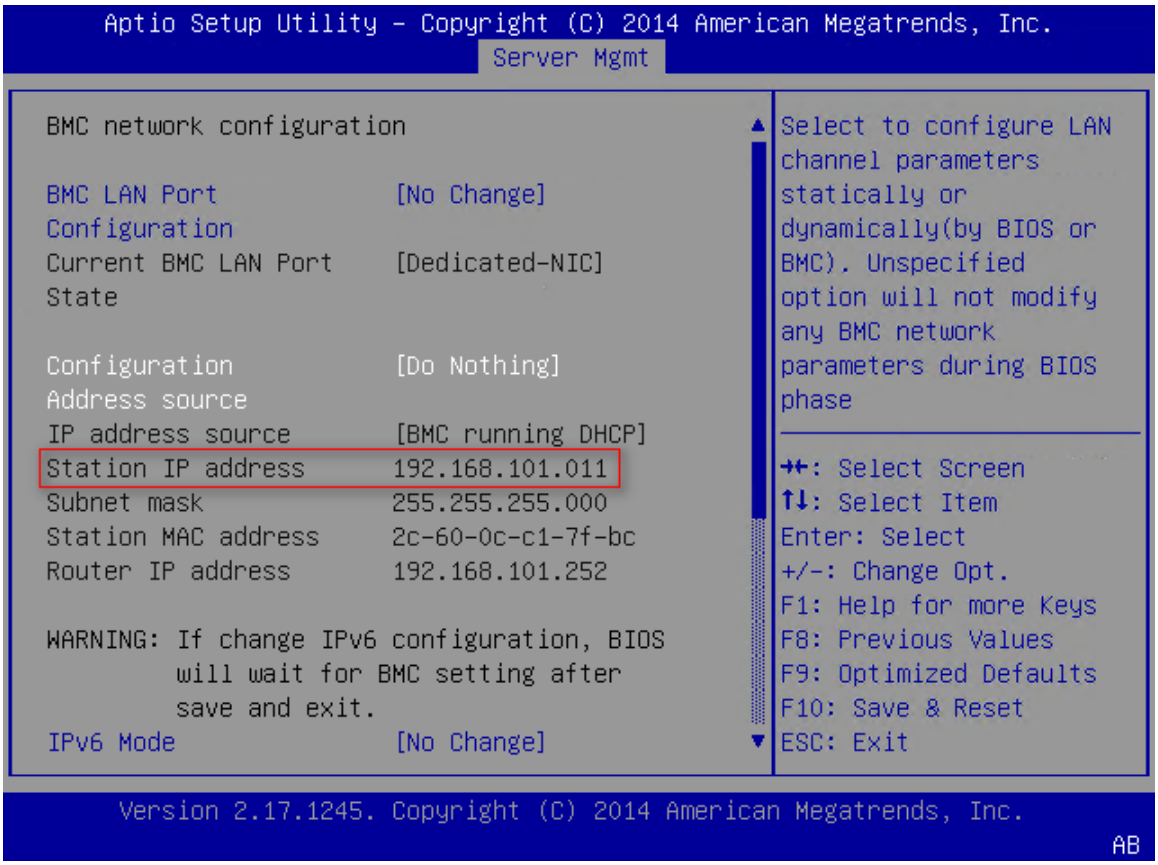


Figure 16: BMC LAN Configuration screen

Example

To access the Web console using a securely encrypted connection, you must use a browser that supports the HTTPS protocol. Strong security is only assured by using a cipher strength (encryption) of 128-bit. Some older browsers may not support strong 128-bit encryption. To use the remote console (KVM) window of your managed server, Java Runtime Environment (JRE) Version 6 Update 22, or higher, must be installed.

Using the BMC Web console to launch the remote console

When you know the RMM port IP address, you can log in and access the BMC Web console and remote console.

Procedure

1. Use your Web browser to navigate to the RMM port IP address. For example `http://192.168.101.11`.
2. Log into the BMC Web console by entering the following username and password:
   - Username: **admin**
   - Password: **admin**

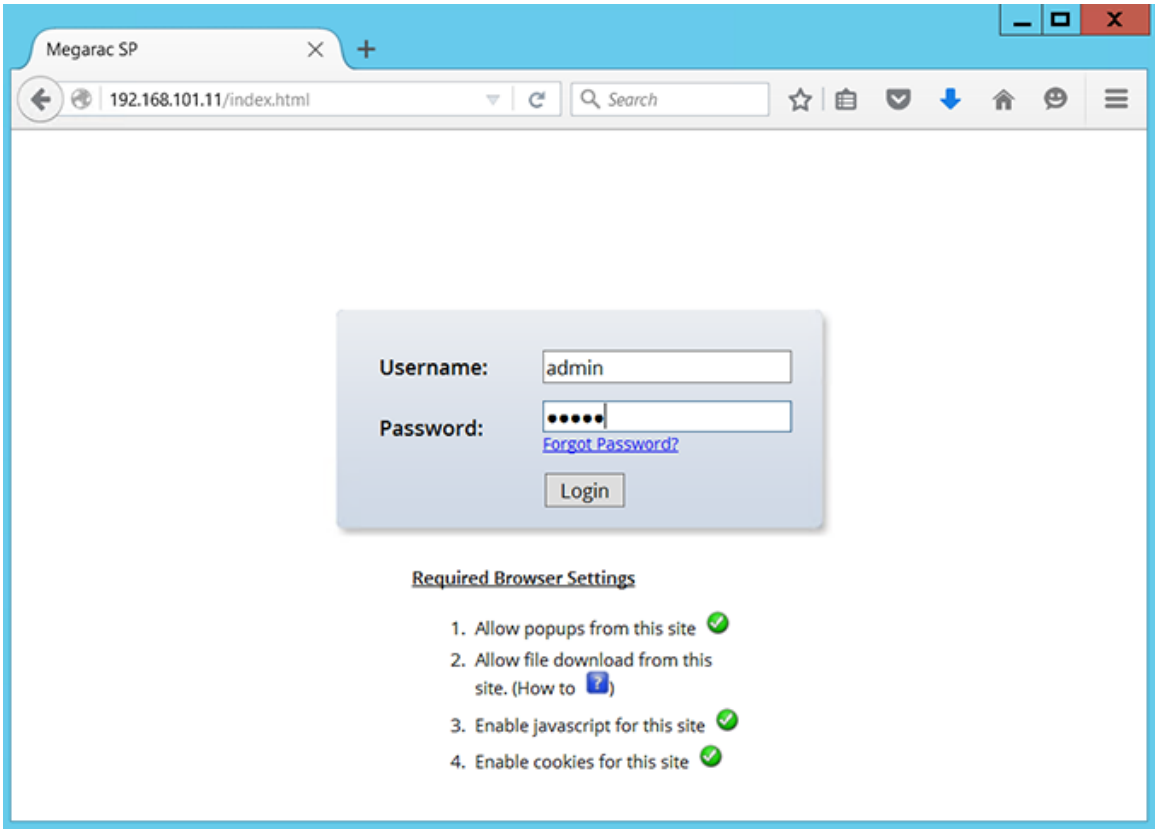


Figure 17: BMC Web console login screen

3 Navigate to **Remote Control > Console Redirection > Java Console**.

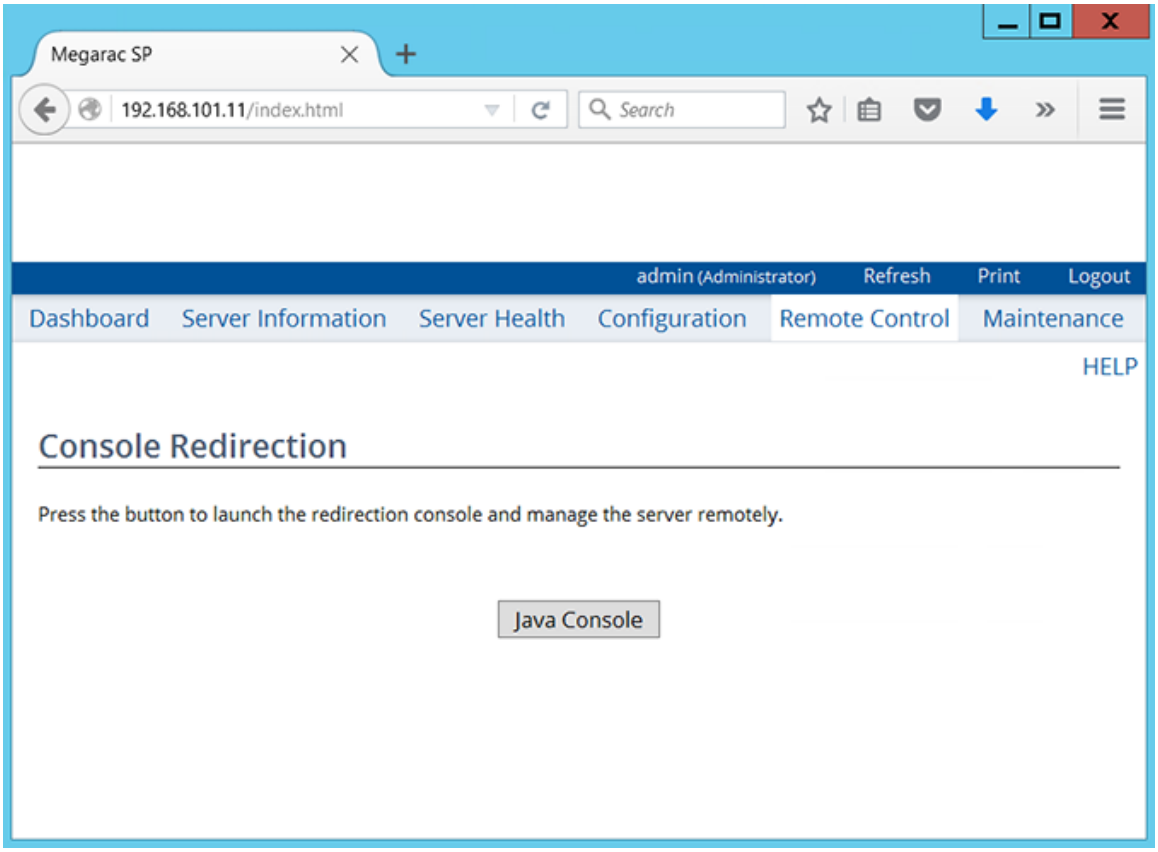


Figure 18: Console Redirection screen

When you click **Java Console** a window is displayed to download the Java Network Launch Protocol, jviewer.jnlp file. This in turn downloads the standalone Java application implementing the remote console. Both Microsoft Internet Explorer and Mozilla Firefox browsers are supported.

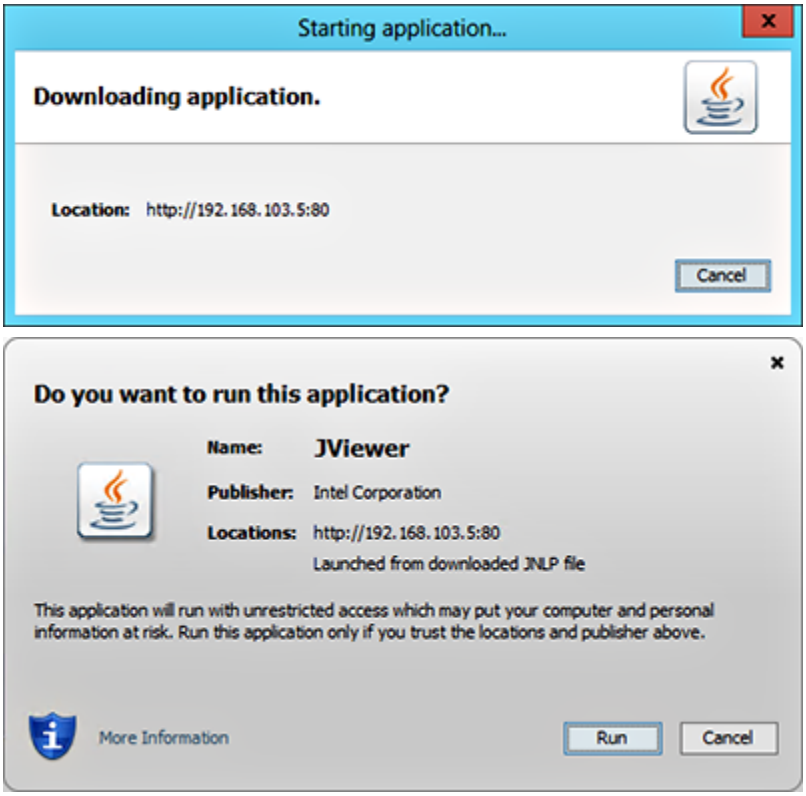


Figure 19: Java download and run windows

Note: Note the following:

- Java Runtime Environment (JRE; Version 6 Update 22, or higher) must be installed on the client before launching a JNLP file.
- The client browser must allow pop-up windows from the Integrated BMC Web console IP address.
- The remote console window is a Java Applet that establishes TCP connections to the Integrated BMC Web console. The protocol used to run these connections is a unique KVM protocol and not HTTP or HTTPS. This protocol uses ports #7578 for KVM, #5120 for CDROM media redirection, and #5123 for Floppy/USB media redirection. Your local network environment must permit these connections to be made. Your firewall and, if you have a private internal network, your NAT (network address translation) settings must be configured accordingly.

4 If the host is currently OFF, navigate to **Remote Control > Server Power Control**, select **Power ON Server** (the only option available), and click **Perform Action**.

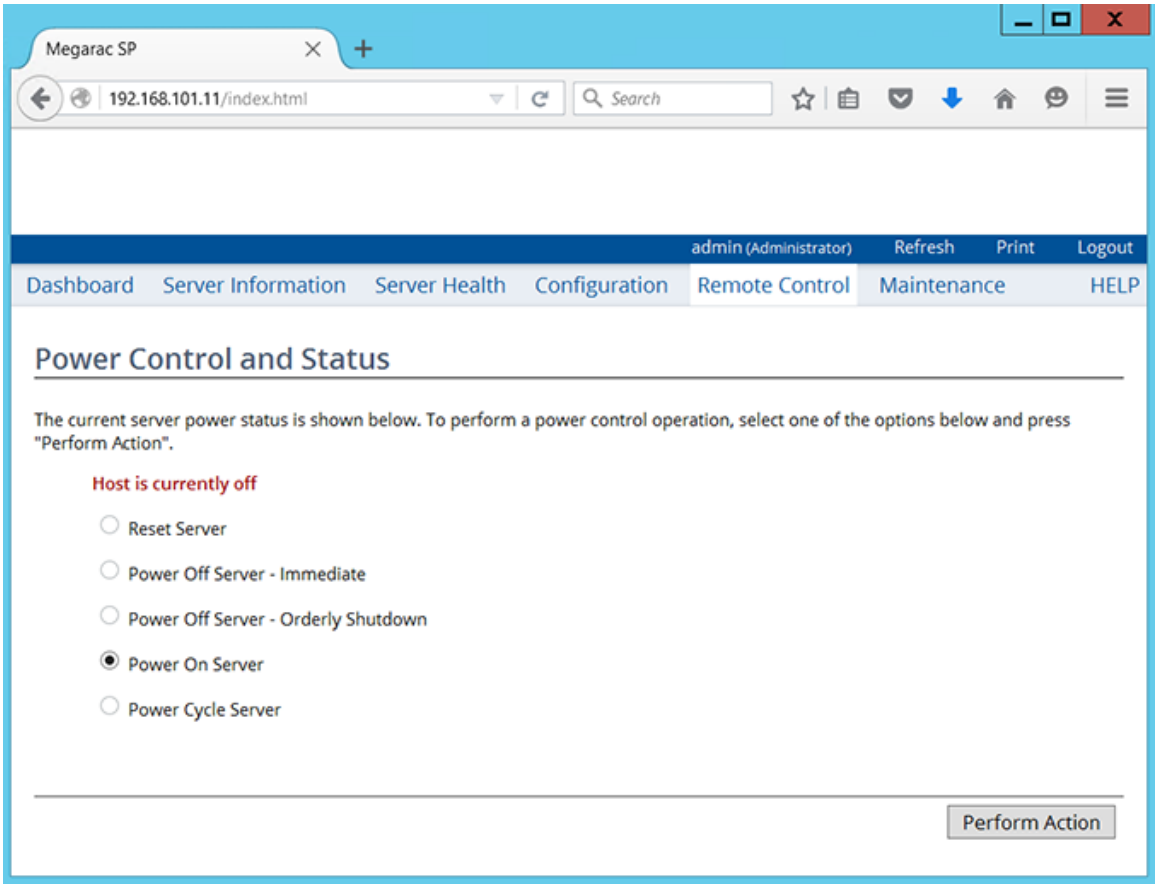


Figure 20: Power On Server selection

5

CAUTION Do not cycle power to the appliance using the BMC interface unless the node has previously been placed into maintenance mode and all VMs have been moved off of the node. VxRail Manager centrally manages all of the nodes in the appliance. You must follow the proper procedure to gracefully shut down and start up the VxRail Appliance. A hard power cycle through the BMC interface, without interfacing with VxRail Manager, may leave the appliance in an unknown state that could have negative consequences such as data unavailability or data loss.

When the server is ON, select **Reset Server**. Click **Perform Action**.

6 To view the BMC configuration, navigate to **Server Mgmt > BMC network configuration**.

EMC Converged Platforms

www.vce.com

About VCE

VCE, an EMC Federation Company, is the world market leader in converged infrastructure and converged solutions. VCE accelerates the adoption of converged infrastructure and cloud-based computing models that reduce IT costs while improving time to market. VCE delivers the industry's only **fully integrated and virtualized cloud infrastructure systems,** allowing customers to focus on business innovation instead of integrating, validating, and managing IT infrastructure. VCE solutions are available through an extensive partner network, and cover horizontal applications, vertical industry offerings, and application development environments, allowing customers to focus on business innovation instead of integrating, validating, and managing IT infrastructure.

For more information, go to http://www.vce.com.