OpenManage Integration for VMware vCenter Version 4.0.1

Web Client User's Guide

June 2017
Rev. A00

DELL EMC

Notes, cautions, and warnings

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

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

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

Contents

Chapter 1: Introduction 9
What's new in this release 9
OpenManage Integration for VMware vCenter features 9

Chapter 2: About Administration Console 11
Using Administration Portal 11
Registering vCenter server by non-administrator user 11
Registering a vCenter server 13
Uploading license to Administration Portal 15
Managing the virtual appliance 15
Setting up global alerts 19
Managing backup and restore 19
About vSphere client console 21

Chapter 3: Managing multiple appliances 23

Chapter 4: Accessing OpenManage Integration from web client 24
Navigating in VMware vCenter web client 24
Icons in web client 25
Locating software version 25
Refreshing screen content 25
Viewing Dell hosts 25
Viewing OpenManage Integration for VMware vCenter licensing tab 26
Accessing help and support 26
Downloading troubleshooting bundle 27
Resetting iDRAC 27
Opening online help 28
Launching Administration Console 28
Viewing log history 28
Viewing logs 29
Exporting log files 29

Chapter 5: OpenManage Integration for VMware vCenter licensing 30
Buying and uploading software license 30

Chapter 6: Appliance configuration for VMware vCenter 31
Configuration tasks through configuration wizard 31
Viewing configuration wizard welcome dialog box 31
Selecting vCenters 31
Creating connection profile 32
Scheduling inventory jobs 33
Running warranty retrieval jobs 34
Configuring events and alarms 34
Configuration tasks through settings tab 35

Appliance settings....35
vCenter settings....37

Chapter 7: Profiles....39
About connection profile....39
Viewing connection profiles....39
Creating connection profile....40
Modifying connection profile....41
Deleting connection profile....43
Testing connection profile....43
About chassis profile....43
Viewing chassis profiles....43
Creating chassis profile....44
Editing chassis profile....45
Deleting chassis profiles....45
Testing chassis profile....45

Chapter 8: Inventory and warranty management....46
Inventory jobs....46
Viewing host inventory....46
Viewing chassis inventory....47
Modifying inventory job schedules....48
Running inventory jobs....48
Running chassis inventory job now....49
Warranty jobs....49
Viewing warranty history....49
Viewing chassis warranty....50
Modifying warranty job schedules....50
Running host warranty job now....51
Running chassis warranty job now....51
Monitoring single host....51
Viewing host summary details....51
Viewing hardware details for a single host....53
Viewing storage details for a single host....55
About system event logs in web client....57
Viewing additional hardware details for a single host....58
Monitoring hosts on clusters and data centers....59
Viewing overview of data centers and clusters....59
Viewing hardware details for data centers and clusters....60
Viewing storage details for data center and clusters....62
Viewing additional hardware details for data center and clusters....63
Setting up physical server blink indicator light....65

Chapter 9: About firmware updates....66
Running the firmware update wizard for a single host....66
Running the firmware update wizard for clusters....68
Managing firmware update jobs....69

Chapter 10: Events, alarms, and health monitoring....71

About events and alarms for hosts....71
About events and alarms for chassis....72
Viewing chassis events....72
Viewing chassis alarms....72
Virtualization-related events....73
Proactive HA events....80
Viewing alarms and events setting....80
Viewing events....81
Hardware component health—Proactive HA....81
Configuring Proactive HA for Rack servers....81
Enabling Proactive HA on clusters....81
Overriding severity of health update notification....83
Launching management consoles....83
Launching Remote Access console (iDRAC)....83
Launching OMSA console....84
Launching the Chassis Management Controller console (CMC)....84

Chapter 11: Chassis management....85
Viewing chassis summary details....85
Viewing hardware inventory information for chassis....86
Viewing additional hardware configuration for chassis....88
Viewing associated host for chassis....89

Chapter 12: Deploying hypervisor....90
Device discovery....91
Manual discovery....91
Auto discovery in OpenManage Integration for VMware vCenter....91
Removing bare-metal server....94
Provisioning....94
Configuring hardware profile....95
Enabling CSIOR on reference server....95
Customizing reference server for creating hardware profile....96
Cloning new hardware profile....97
Managing hardware profiles....98
Creating hypervisor profile....98
Managing hypervisor profiles....99
Creating deployment templates....99
Managing deployment templates....99
About Deployment Wizard....100
VLAN support....100
Running Deployment Wizard....101
Managing deployment jobs using Job Queue....103
Deployment job timing....103
Downloading custom Dell ISO images....104

Chapter 13: About host, bare-metal, and iDRAC compliance....105
Reporting and fixing compliance for vSphere hosts....105
Fixing iDRAC license compliance for vSphere hosts....106
Using OMSA with 11th generation servers....106

Deploying OMSA agent on ESXi system..... 107
Setting up OMSA trap destination.....107
Reporting and fixing compliance for bare-metal servers..... 107
Fixing iDRAC license compliance for bare-metal servers.....108
Rechecking bare-metal server compliance.....108

Chapter 14: Security roles and permissions.....109
Data integrity.....109
Access control authentication, authorization, and roles.....109
Dell Operational role.....110
Dell Infrastructure Deployment role.....110
About privileges..... 110

Chapter 15: Troubleshooting.....112
Frequently Asked Questions (FAQ)..... 112
Why does server move to quarantine or maintenance mode when Proactive HA is turned on cluster?..... 112
RPM upgrade is unsuccessful when necessary vCenter privileges are not provided.....112
Why Export All button fails to export to .CSV file in Google chrome?..... 112
iDRAC license type and description are displayed incorrectly for non-compliant vSphere hosts..... 113
Dell icon is not displayed after unregistering vCenter from earlier OMIVV version and then registering same vCenter with later OMIVV version..... 113
Configuration wizard settings are overridden by default settings each time it is invoked.....113
Dell provider is not displayed as health update provider.....113
Why is inventory failing when performing firmware update task on ESXi 5.x host?.....114
Host inventory or test connection fails due to invalid or unknown iDRAC IP. How can I get a valid iDRAC IP?.....114
On running fix noncompliant vSphere hosts wizard, why the status of a specific host is displayed as "Unknown"? 114
Dell privileges that are assigned while registering the OMIVV appliance are not removed after unregistering OMIVV..... 114
Dell Management Center does not display all the relevant logs when trying to filter a severity category. How can I view all the logs?..... 115
How do I resolve error code 2000000 caused by VMware Certificate Authority (VMCA)?.....115
Firmware Update Wizard shows a message mentioning that the bundles are not retrieved from firmware repository. How can I continue with the firmware update?.....119
In Administration Console, why **Update Repository Path** is not set to default path after I reset appliance to factory settings?..... 119
Why firmware update for 30 hosts at cluster level fails..... 119
Why warranty and inventory schedule for all vCenters is not applying when selected from the job queue page?..... 119
What should I do when a web communication error in the vCenter web client appears after changing the DNS settings in OMIVV?.....119
Why does the settings page fail to load, if I navigate away and again go back to the settings page?..... 120
Why “Task cannot be scheduled for the time in the past” error in inventory schedule/warranty schedule page of Initial Configuration Wizard appear?.....120
Why installation date appears as 12/31/1969 for some of the firmware on the firmware page?.....120
Successive global refresh cause exception to be thrown in the recent task window. How can I resolve the error?.....120
Why is web client UI distorted for few Dell screens in IE 10?..... 120

Why am I not seeing OpenManage Integration icon in web client even if registration of plug-in to vCenter was successful?....120
Even if repository has bundles for selected 11G system, why is firmware update displaying that there are no bundles for firmware update?....121
Why is DNS configuration settings restored to original settings after appliance reboot if appliance IP and DNS settings are overwritten with DHCP values....121
Using OMIVV to update the Intel network card with firmware version of 13.5.2 is not supported....121
Using OMIVV to update Intel network network card from 14.5 or 15.0 to 16.x fails due to staging requirement from DUP....121
Why trying firmware update with invalid DUP, hardware update job status on vCenter console neither fails nor times-out for hours, although job status in LC prompts as 'FAILED'?....122
Why does Administration Portal display unreachable update repository location?....122
Why did system not enter maintenance mode when I performed one-to-many firmware update?....122
Why is chassis global health still healthy when some of power supply status has changed to critical?....122
Why is processor version displayed "Not Applicable" in processor view in system overview page?....122
Why exception is returned when I click finish after editing connection profile through web client?....122
Why connection profiles to which host belongs to when I create\edit connection profile in web GUI cannot be seen?....123
Why is select host window in web UI is blank on editing connection profile?....123
Why error message is displayed after clicking firmware link?....123
What generation of Dell servers does OMIVV configure and support for SNMP traps?....123
What vCenter servers are managed by OMIVV?....124
Does OMIVV support vCenter in linked mode?....124
What are required port settings for OMIVV?....124
What are minimum requirements for successful installation and operation of virtual appliance?....125
Why is password not changed for user used for bare-metal discovery after successfully applying hardware profile that has same user with new changed credentials in iDRAC user list?....126
Why am I unable to view new iDRAC version details listed on vCenter hosts and clusters page?....126
How can I test event settings by using OMSA to simulate temperature hardware Fault?....126
Although OMSA agent is installed on OMIVV host system, I still get error message that OMSA is not installed. How do I resolve this error?....126
Can OMIVV support ESXi with lockdown mode enabled?....127
When I tried to use lockdown mode, it fails....127
What setting should I use for UserVars.CIMoeMProviderEnable with ESXi 4.1 U1?....127
What do I do if creation of hardware profile fails if I am using reference server?....127
Why attempting to deploy ESXi on Blade server fails?....127
Why hypervisor deployments failing on Dell PowerEdge R210 II machines?....127
Why auto discovered systems are displayed without model information in Deployment wizard?....128
NFS share is set up with ESXi ISO, but deployment fails with errors mounting share location....128
How do I force removal of virtual appliance?....128
Entering a Password in the Backup Now Screen Receives an Error Message....128
In vSphere web client, clicking Dell server management portlet or Dell icon returns 404 error....128
What should I do as firmware update failed?....128
What should I do as vCenter registration failed?....129
Performance during connection profile test credentials is slow or unresponsive....129
Does OMIVV support VMware vCenter server appliance?....129
Why is firmware level not updated when I have performed firmware update with Apply on Next reboot option and system was rebooted?....129
Why is host still displayed under chassis even after removing host from vCenter tree?....129

In Administration Console, why **Update Repository Path** is not set to default path after I reset appliance to factory settings?....129
After backup and restore of OMIVV, why alarm settings are not restored? 130
Bare-metal deployment issues....130
Enabling auto discovery on newly purchased system....130

Chapter 16: Related Documentation....131
Accessing documents from the Dell EMC support site....131

1

Introduction

IT administrators use VMware vCenter as the primary console to manage and monitor VMware vSphere ESX/ESXi hosts. OpenManage Integration for VMware vCenter (OMIVV) enables you to manage the Dell hosts better from the VMware web client by providing enhanced capabilities for deployment, manage, monitor and upgrade.

Topics:

- What's new in this release
- OpenManage Integration for VMware vCenter features

What's new in this release

This release of OpenManage Integration for VMware vCenter provides the following features:

- Support for vSphere 6.5 and 6.0 U2
- Support for vSphere 6.5 Proactive HA and customize severity of the Dell host and chassis components
- Support for parallel firmware update jobs on multiple clusters
- Support for integration with vRealize Operations
- Support for OMSA 8.3 and OMSA 8.4
- Notification on the availability of latest version of OMIVV
- Support for up to 1000 hosts with a single vCenter instance or multiple vCenters
- Support for all 13th generation platforms

OpenManage Integration for VMware vCenter features

Following are the OpenManage Integration for VMware vCenter (OMIVV) appliance features:

Table 1. OMIVV features

Features	Description
Inventory	The inventory feature provides the following: • Dell PowerEdge server details, such as memory—quantity and type, NIC, PSU, processors, RAC, warranty information, server, cluster, and data center level view. • Chassis details, such as chassis management controller information, chassis power supply, KVM status, fan/thermal details, warranty information, empty switch/server details.
Monitor and send alerts	The monitoring and alerting includes the following functionalities: • Detect key hardware faults, and perform virtualization-aware actions. For example, migrate workloads or place host in maintenance mode. • Provide intelligence such as, inventory, events, alarms to diagnose server problems.
Firmware updates	Update Dell hardware to the most recent version of BIOS and firmware.

Table 1. OMIVV features

Features	Description
Deployment and provisioning	Create hardware profiles, hypervisor profiles, and remotely deploy OS on the bare-metal Dell PowerEdge servers by using VMware vCenter without using PXE.
Service Information	Retrieve warranty information for the Dell servers and its associated chassis from Dell's warranty database and allow for easy online warranty upgrading.
Security role and permissions	Integrate with standard vCenter authentication, rules, and permissions.

NOTE: From OMIVV 4.0 onwards, only VMware vSphere Web client is supported and the vSphere Desktop client is not supported.

NOTE: For vCenter 6.5 and later, the OMIVV appliance is available only for the flash version. The OMIVV appliance is not available for the HTML5 version.

2

About Administration Console

You can achieve the administration of OpenManage Integration for VMware vCenter and its virtual environment by using the following two administration portals:

- Web-based Administration Console
- Console view for an individual server (the virtual machine console of the OMIVV appliance)

Topics:

- Using Administration Portal

Using Administration Portal

You can use the administration portal to perform the following tasks:

- Register a vCenter server. See Registering a vCenter server.
- Modify vCenter login credentials. See Modifying the vCenter login credentials.
- Update SSL certificates. See Updating the SSL certificates for registered vCenter servers.
- Upload or buy a license. If you are using a demo license, the **Buy Software** link is displayed. By clicking this link, you can purchase a full-version license for managing multiple hosts. See Uploading license to the Administration Portal.
- Update OMIVV. See Updating virtual appliance repository location and virtual appliance on page 16.
- Generate troubleshooting bundle. See Downloading troubleshooting bundle on page 17.
- Restart OMIVV. See Restarting virtual appliance on page 15.
- Perform backup and restore. See Updating appliance through backup and restore on page 17.
- Configure alerts. See Setting up global alerts on page 19.

Registering vCenter server by non-administrator user

You can register vCenter servers for the OMIVV appliance with vCenter administrator credentials or a non-administrator user with the necessary privileges.

To enable a non-administrator user with the required privileges to register a vCenter server, perform the following steps:

1. To change the privileges selected for a role, add the role and select the required privileges for the role or modify an existing role.

   See VMware vSphere documentation for the steps required to create or modify a role and select privileges in the vSphere web client. To select all the required privileges for the role, see the Required privileges for non-administrator users.

   NOTE: The vCenter administrator should add or modify a role.

2. Assign a user to the newly created role after you define a role and select privileges for the role.

   See VMware vSphere documentation for more information on assigning permissions in the vSphere web client.

   NOTE: The vCenter administrator should assign permissions in the vSphere client.

   A vCenter server non-administrator user with the required privileges can now register and/or unregister vCenter, modify credentials, or update the certificate.
3. Register a vCenter server by using a non-administrator user with the required privileges. See Registering a vCenter server by a non-administrator user with the required privileges.
4. Assign the Dell privileges to the role created or modified in step 1. See Assigning Dell privileges to the role in vSphere web client.

A non-administrator user with the required privileges can now use the OMIVV features with the Dell hosts.

Required privileges for non-administrator users

To register OMIVV with vCenter, a non-administrator user requires the following privileges:

NOTE: While registering a vCenter server with OMIVV by a non-administrator user, an error message is displayed if the following privileges are not assigned.

- Alarms
  - Create alarm
  - Modify alarm
  - Remove alarm
- Extension
  - Register extension
  - Unregister extension
  - Update extension
- Global
  - Cancel task
  - Log event
  - Settings

  NOTE: Assign the following health update privileges, if you are using VMware vCenter 6.5:
- Health Update Provider
  - Register
  - Unregister
  - Update
- Host
  - CIM
    - CIM Interaction
  - Configuration
    - Advanced settings
    - Connection
    - Maintenance
    - Query patch
    - Security profile and firewall

    NOTE: Assign the following privileges, if you are using VMware vCenter 6.5:
    - Host.Config
      - Advanced settings
      - Connection
      - Maintenance
      - Query patch
      - Security profile and firewall
  - Inventory
    - Add host to cluster
    - Add standalone host
- Host profile
  - Edit
  - View
- Permissions
  - Modify permission
  - Modify role
- Sessions
  - Validate session
- Task
  - Create task
  - Update task

Registering vCenter server by non-administrator user with required privileges

You can register a vCenter server for the OMIVV appliance by using a non-administrator user with the required privileges. See Registering a vCenter server on page 13 for information on registering a vCenter server through a non-administrator user or as an administrator.

Assigning Dell privileges to existing role

You can edit an existing role to assign the Dell privileges.

NOTE: Ensure that you are logged in as a user with administrator privileges.

1. Log in to the vSphere web client with administrative rights.
2. Browse to **Administration → Roles** in the vSphere web client.
3. Select a vCenter server system from the **Roles provider** drop-down list.
4. Select the role from the **Roles** list, and click the  icon.
5. Select the following Dell privileges for the selected role and click **OK**:
   - Dell.Configuration
   - Dell.Deploy-Provisioning
   - Dell.Inventory
   - Dell.Monitoring
   - Dell.Reporting

   See Security roles and permissions for more information about the available OMIVV roles within vCenter.

The changes to permissions and roles take effect immediately. The user with necessary privileges can now perform the OpenManage Integration for VMware vCenter operations.

NOTE: For all vCenter operations, OMIVV uses the privileges of the registered user and not the privileges of the logged-in user.

NOTE: If specific pages of OMIVV are accessed with no Dell privileges assigned to the logged-in user, the 2000000 error is displayed.

Registering a vCenter server

You can register the OMIVV appliance after the OpenManage Integration for VMware vCenter is installed. OpenManage Integration for VMware vCenter uses the administrator user account or a non-administrator user account with necessary privileges for vCenter operations. OpenManage Integration for VMware vCenter supports up to 1000 hosts with a single vCenter instance or multiple vCenters, which are in linked mode.

To register a new vCenter server, perform the following steps:

1. Open **Administration Portal** from a supported browser.
   To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the left pane, click **VCENTER REGISTRATION**, and then click **Register a New vCenter Server**.
3. In the **REGISTER A NEW VCENTER** dialog box, under **vCenter Name**, perform the following steps:
   a. In the **vCenter Server IP or Hostname** text box, enter the vCenter IP address or FQDN of the host.

      NOTE: Dell recommends registering OMIVV with the VMware vCenter by using Fully Qualified Domain Name (FQDN). For all registrations, the host name of vCenter should be properly resolvable by the DNS server. The following are the recommended practices for using the DNS server:
      - Assign a static IP address and host name when you deploy an OMIVV appliance with a valid DNS registration. A static IP address ensures that during the system restart, the IP address of the OMIVV appliance remains same.
      - Ensure that OMIVV host name entries are present in both forward and reverse lookup zones in your DNS server.

   b. In the **Description** text box, enter a description (optional).

4. Under **vCenter User Account**, perform the following steps:
   a. In the **vCenter User Name** text box, enter the administrator's user name or a non-administrator user name with the required privileges.
   b. In the **Password** text box, enter the password.
   c. In the **Verify Password** text box, enter the password again.
5. Click **Register**.

After registering the vCenter server, OMIVV is registered as a vCenter plug-in, and "Dell OpenManage Integration" icon is visible in the vSphere web client from which you can access the OMIVV functionalities.

NOTE: For all vCenter operations, OMIVV uses the privileges of the registered user and not the privileges of the logged-in user.

User X with the necessary privileges registers OMIVV with vCenter and user Y has only Dell privileges. User Y can now log in to the vCenter and can trigger a firmware update task from OMIVV. While performing the firmware update task, OMIVV uses the privileges of user X to put the host into maintenance mode or reboot the host.

Modifying vCenter login credentials

The vCenter login credentials can be modified by a user with administrative privileges or a non-administrator user with necessary privileges.

1. To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the **Login** dialog box, type the password, and click **Login**.
3. In the left pane, click **VCENTER REGISTRATION**.
   The registered vCenter servers are displayed in the right pane of the **MANAGE VCENTER SERVER CONNECTIONS** window. To open the **MODIFY USER ACCT** window, under **Credentials**, click **Modify** for a registered vCenter.
4. Enter the vCenter **User name**, **Password**, and **Verify Password**; the passwords must match.
5. To change the password, click **Apply**, or to cancel the change, click **Cancel**.

NOTE: An error message is displayed, if the provided user credentials do not have necessary privileges.

Updating SSL certificates for registered vCenter servers

The OpenManage Integration for VMware vCenter uses the OpenSSL API to create the Certificate Signing Request (CSR) by using the RSA encryption standard with a 2048–bit key length. The CSR generated by OMIVV gets a digitally signed certificate from a trusted certification authority. The OpenManage Integration for VMware vCenter uses the digital certificate to enable SSL on the web server for secure communication.

If the SSL certificate is changed on a vCenter server, use the following steps to import the new certificate for OpenManage Integration for VMware vCenter:

1. To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the left pane, click **VCENTER REGISTRATION**.
   The registered vCenter servers are displayed in the right pane.
3. To update the certificate for a vCenter server IP or host name, click **Update**.

Uninstalling OpenManage Integration for VMware vCenter

To remove OpenManage Integration for VMware vCenter, unregister OMIVV from the vCenter server by using the Administration Console.

NOTE: Ensure that you do not unregister OMIVV from the vCenter server when an inventory, a warranty, or a deployment job is running.

1. To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the **VCENTER REGISTRATION** page, from the **vCenter Server IP or Hostname** table, click **Unregister**.

   NOTE: Since there can be more than one vCenter, ensure that you select the correct vCenter.

3. To confirm the unregistration of the selected vCenter server, in the **UNREGISTER VCENTER** dialog box, click **Unregister**.

NOTE: If you have enabled Proactive HA on clusters, ensure that Proactive HA is disabled on the clusters. For disabling Proactive HA, access the **Proactive HA Failures and Responses** screen of a cluster by selecting **Configure** > **Services** > **vSphere Availability**, and then clicking **Edit**. To disable Proactive HA:

In the **Proactive HA Failures and Responses** screen, clear the check box against **Dell Inc** provider.

Uploading license to Administration Portal

You can upload an OMIVV license to change the number of supported concurrent registered vCenter instances and managed hosts. You can also add licenses if you need to add more hosts by perform the following steps:

1. To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the **Login** dialog box, type the password.
3. In the left pane, click **VCENTER REGISTRATION**.
   The registered vCenter servers are displayed in the right pane.
4. Click **Upload License**.
5. In the **UPLOAD LICENSE** dialog box, click **Browse** to navigate to the license file, and then click **Upload**.

   NOTE: If the license file is modified or edited, the OMIVV appliance views it as corrupted and the license file does not work.

Managing the virtual appliance

The virtual appliance management enables you to manage the OpenManage Integration for VMware vCenter network, version, NTP, and HTTPS information, and enables an administrator:

- Restart the virtual appliance. See Restarting the virtual appliance.
- Update the virtual appliance and configure an update repository location. Updating the virtual appliance repository location and virtual appliance.
- Set up NTP servers. See Setting up the Network Time Protocol servers.
- Upload HTTPS certificates. See Uploading an HTTPS certificate.

In OpenManage Integration for VMware vCenter, perform the following steps to access the **APPLIANCE MANAGEMENT** page through the Administration Portal:

1. To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the **Login** dialog box, type the password.
3. To configure the appliance management section, in the left pane, click **APPLIANCE MANAGEMENT**.

Restarting virtual appliance

1. In the **APPLIANCE MANAGEMENT** page, click **Restart the Virtual Appliance**.
2. To restart the virtual appliance, in the **Restart Virtual Appliance** dialog box, click **Apply**, or to cancel, click **Cancel**.

Changing host name of virtual appliance

Perform the following steps:

1. In the **Appliance Management** page, click **Change Hostname**.
2. Enter an updated host name.
   Type the domain name in the format: *<hostname>*.
3. Click **Update Hostname**.
   The appliance host name is updated, and you return to the main menu.
4. To reboot the appliance, click **Reboot Appliance**.

NOTE: If you had registered any vCenter servers with the appliance, unregister and re-register all the vCenter instances.

NOTE: Ensure that you manually update all references to the virtual appliance across its environment such as provisioning server in iDRAC, DRM.

Updating virtual appliance repository location and virtual appliance

To ensure that all data is protected, perform a backup of the OMIVV database prior to an update of the virtual appliance. See Managing backup and restore on page 19.

1. In the **APPLIANCE UPDATE** section of the **APPLIANCE MANAGEMENT** page, verify the current and available version.

   NOTE: The OMIVV appliance requires internet connectivity to display available upgrade mechanisms and perform the RPM upgrade. Ensure that the OMIVV appliance has internet connectivity. Depending on the network settings, enable proxy and provide proxy settings, if the network needs proxy. See Setting up the HTTP proxy.

   NOTE: Ensure that the **Update Repository Path** is valid.

   For the available virtual appliance version, the applicable RPM and OVF virtual appliance upgrade mechanisms are displayed with a tick symbol. The following are the possible upgrade mechanism options, and you can perform either of the tasks for the upgrade mechanism:

   - If a tick symbol is displayed against RPM, you can do an RPM upgrade from the existing version to the latest available version. See Upgrading from an existing version to the latest version.
   - If a tick symbol is displayed against OVF, you can take a backup of the OMIVV database from the existing version, and restore it in the latest available appliance version. See Updating the appliance through backup, and restore.
   - If a tick symbol is displayed against both RPM and OVF, you can perform either of the mentioned options to upgrade your appliance. In this scenario, the recommended option is RPM upgrade.

2. To update the virtual appliance, perform the mentioned tasks for the upgrade mechanisms as applicable from the version of OMIVV.

   NOTE: Ensure that you log out from all web client sessions to the registered vCenter servers.

   NOTE: Ensure that you update all appliances simultaneously under the same Platform Service Controller (PSC) before logging in to any of the registered vCenter servers.

3. Click **APPLIANCE MANAGEMENT**, and verify the upgrade mechanisms.

Upgrading OMIVV from existing version to current version

1. In the **APPLIANCE MANAGEMENT** page, depending on your network settings, enable proxy and provide proxy settings if your network needs proxy. See Setting up HTTP proxy.
2. To upgrade the OpenManage Integration plug in from an existing version to the current version, perform one of the following steps:
   - Ensure that **Update Repository Path** is set to the path: http://linux.dell.com/repo/hardware/vcenter-plugin-x64/latest/. If the path is different, in the **Appliance Management** window, in the **APPLIANCE UPDATE** area, click **Edit** to update the path to http://linux.dell.com/repo/hardware/vcenter-plugin-x64/latest/ in the **Update Repository Path** text box. To save, click **Apply**.
   - If there is no internet connectivity, download all the files and folders from the http://linux.dell.com/repo/hardware/vcenter-plugin-x64/latest/ path and copy them to an HTTP share. In the **Appliance Management** window, in the **APPLIANCE UPDATE** section, click **Edit**, and then in the **Update Repository Path** text box, include the path to the off line HTTP share, and click **Apply**.
3. Compare the available virtual appliance version and current virtual appliance version and ensure that the available virtual appliance version is greater than the current virtual appliance version.
4. To apply the update to the virtual appliance, under **Appliance Settings**, click **Update Virtual Appliance**.
5. In the **UPDATE APPLIANCE** dialog box, click **Update**.
   After you click **Update**, you are logged off from the **ADMINISTRATION CONSOLE** window.
6. Close the web browser.

NOTE: After the RPM upgrade is complete, you can view the login screen in the OMIVV console. Open a browser, provide the `https:\\<ApplianceIP|hostname>` link, and navigate to the **APPLIANCE UPDATE** area. You can verify that the available and current virtual appliance versions are same.

Updating appliance through backup and restore

To update the OMIVV appliance from the OMIVV version x to version y, perform the following steps:

1. Take a backup of the database for the older release.
2. Power off the older OMIVV appliance from vCenter.

   NOTE: Do not unregister the OMIVV plug-in from vCenter. Unregistering the plug-in from vCenter removes all the alarms registered on vCenter by the OMIVV plug-in and all the customization that is performed on the alarms, such as actions, and so on.

3. Deploy the new OpenManage Integration version y OVF.
4. Power on the OpenManage Integration version y appliance.
5. Set up the network, time zone, and so on, for the version y appliance.

   NOTE: Ensure that the new OpenManage Integration version y appliance has the same IP address as the old appliance.

   NOTE: The OMIVV plug-in might not work properly if the IP address for the version y appliance is different from the IP address of the older appliance. In such a scenario, unregister and re-register all the vCenter instances.

6. Restore the database to the new OMIVV appliance. See Restoring the OMIVV database from a backup.
7. Verify the appliance. See the Installation verification in *OpenManage Integration for VMware vCenter Installation Guide* available at Dell.com/support/manuals.
8. Run the **Inventory** on all the registered vCenter servers.

   NOTE: Dell recommends that after the upgrade, you run the inventory again on all the hosts that the plug-in manages. To run the inventory on demand, see the Scheduling inventory jobs.

   NOTE: If the IP address of the new OMIVV version y is changed from the OMIVV version x, configure the trap destination for the SNMP traps to point to the new appliance. For 12th generation and higher generation servers, the IP change is fixed by running the inventory on these hosts. For hosts earlier than 12th generation that were compliant with earlier versions, the IP change is displayed as noncompliant and requires you to configure Dell OpenManage Server Administrator (OMSA). To fix vSphere host compliance issues, see Running the fix noncompliant vSphere hosts wizard.

Downloading troubleshooting bundle

You can use the troubleshooting bundle information to help you with troubleshooting or send the information to Technical Support. To get the troubleshooting information, perform the following steps:

1. In OpenManage Integration for VMware vCenter, click the **Help and Support** tab.
2. Under **Troubleshooting Bundle**, click **Create and Download Troubleshooting Bundle**.
3. Click the **Create** button.
4. To save the file, click **Download**.
5. In the **File Download** dialog box, click **Save**.
6. In the **Save As** dialog box, browse to where you want to save the file, and click **Save**.
7. To exit, click **Close**.

Setting up HTTP proxy

1. In the **APPLIANCE MANAGEMENT** page, scroll down to **HTTP PROXY SETTINGS**, and then click **Edit**.
2. Perform the following steps in edit mode:
   a. Select **Enabled** to enable the use of HTTP proxy settings.
   b. Enter the proxy server address in **Proxy Server Address**.
   c. Enter the proxy server port in **Proxy Server Port**.
   d. Select **Yes** to use proxy credentials.
   e. If using proxy credentials, enter the user name in **Username**.
   f. Type password in **Password**.
   g. Click **Apply**.

Setting up Network Time Protocol (NTP) servers

You can use Network Time Protocol (NTP) to synchronize the virtual appliance clocks to that of an NTP server.

1. In the **APPLIANCE MANAGEMENT** page, click **Edit** in the **NTP Settings** area.
2. Select **Enabled**. Enter the host name or IP address for a preferred and secondary NTP server and click **Apply**.

NOTE: It might take around 10 minutes for the virtual appliance clocks to synchronize with the NTP server.

Configuring deployment mode

Ensure that the following system requirements for the desired deployment modes are met:

Table 2. System requirements for deployment modes

Deployment modes	Number of hosts	Number of CPUs	Memory—in GB
Small	up to 250	2	8
Medium	up to 500	4	16
Large	up to 1000	8	32

NOTE: For any of the mentioned deployment modes, ensure that you reserve sufficient amount of memory resources to the OMIVV virtual appliance by using reservations. See vSphere Documentation for steps about reserving memory resources.

You can select an appropriate deployment mode to scale OMIVV to match the number of nodes in your environment.

1. In the **APPLIANCE MANAGEMENT** page, scroll down to **Deployment Mode**.
   The configuration values of the deployment mode such as **Small**, **Medium**, or **Large** is displayed and by default, the deployment mode is set to **Small**.
2. Click **Edit** if you want to update the deployment mode based on the environment.
3. In the **Edit** mode, select the desired deployment mode after ensuring that the prerequisites are met.
4. Click **Apply**.
   The allocated CPU and memory are verified against the required CPU and memory for the set deployment mode and either of the following situations happen:
   - If the verification fails, an error message is displayed.
   - If the verification is successful, the OMIVV appliance restarts and the deployment mode is changed after you confirm the change.
   - If the required deployment mode is already set, a message is displayed.
5. If the deployment mode is changed, confirm the changes, and then proceed with rebooting the OMIVV appliance to allow the deployment mode to be updated.

NOTE: During the OMIVV appliance boot up, the allocated system resource is verified against the set deployment mode. If the allocated system resources are less than the set deployment mode, the OMIVV appliance does not boot up to the login screen. To boot up the OMIVV appliance, shut down the OMIVV appliance, update the system resources to the existing set deployment mode, and follow the Downgrade deployment mode task.

Downgrading deployment mode

1. Log in to the Administration Console.
2. Change the deployment mode to the desired level.
3. Shut down the OMIVV appliance and change the system resources to the desired level.
4. Power on the OMIVV appliance.

Generating Certificate Signing Request

Ensure that you upload the certificate before registering OMIVV with the vCenter.

Generating a new Certificate Signing Request (CSR) prevents certificates that were created with the previously generated CSR from being uploaded to the appliance. To generate a CSR, do the following:

1. In the **APPLIANCE MANAGEMENT** page, click **Generate Certificate Signing Request** in the **HTTPS CERTIFICATES** area.
   A message is displayed stating that if a new request is generated, certificates created using the previous CSR can no longer be uploaded to the appliance. To continue with the request, click **Continue**, or to cancel, click **Cancel**.
2. If you continue with the request, in the **GENERATE CERTIFICATE SIGNING REQUEST** dialog box, enter the **Common Name**, **Organizational Name**, **Organizational Unit**, **Locality**, **State Name**, **Country**, and **Email** for the request. Click **Continue**.
3. Click **Download**, and then save the resulting certificate request to an accessible location.

Uploading HTTPS certificate

Ensure that the certificate uses PEM format.

You can use the HTTPS certificates for secure communication between the virtual appliance and host systems. To set up this type of secure communication, a CSR must be sent to a certificate authority and then the resulting certificate is uploaded using the Administration Console. There is also a default certificate that is self-signed and can be used for secure communication; this certificate is unique to every installation.

NOTE: You can use the Microsoft internet explorer, Firefox, Chrome to upload certificates.

1. In the **APPLIANCE MANAGEMENT** page, click **Upload Certificate** in the **HTTPS CERTIFICATES** area.
2. Click **OK** in the **UPLOAD CERTIFICATE** dialog box.
3. To select the certificate to be uploaded, click **Browse**, and then click **Upload**.
4. If you want to abort the upload, click **Cancel** to abort.

Restoring default HTTPS certificate

NOTE: If you want to upload a custom certificate for the appliance, ensure that you upload the new certificate prior to vCenter registration. If you upload the new custom certificate after vCenter registration, communication errors are displayed in the web client. To fix this issue, unregister, and re-register the appliance with the vCenter.

1. In the **APPLIANCE MANAGEMENT** page, click **Restore Default Certificate** in the **HTTPS CERTIFICATES** area.
2. In the **RESTORE DEFAULT CERTIFICATE** dialog box, click **Apply**.

Setting up global alerts

Alert management enables you to configure global settings for how alerts are stored for all vCenter instances.

1. To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the **Login** dialog box, type the password.
3. In the left pane, click **ALERT MANAGEMENT**. To enter new vCenter alert settings, click **Edit**.
4. Enter numeric values for the following fields:
   - **Maximum number of alerts**
   - **Number of days to retain alerts**
   - **Timeout for duplicate alerts (seconds)**
5. To save your settings, click **Apply**, or to cancel, click **Cancel**.

Managing backup and restore

Managing backup and restore is accomplished from the Administrative Console. The tasks on this page include:

- Configuring backup and restore
- Scheduling automatic backups
- Performing an immediate backup
- Restoring the database from backup

In OpenManage Integration for VMware vCenter, perform the following steps to access the **BACKUP AND RESTORE SETTINGS** page through the Administration Console:

1. To open Administration Portal, in the **Help and Support** tab of OpenManage Integration for VMware vCenter, click the link under **Administration Console** or start a web browser and provide the `https:\\<ApplianceIP|hostname>` url.
2. In the **Login** dialog box, type the password.
3. In the left pane, click **BACKUP AND RESTORE**.

Configuring backup and restore

The backup and restore function backs up the OMIVV database to a remote location from which it can be restored later. The profiles, templates, and host information are included in the backup. Dell recommends that you schedule automatic backups to guard against data loss.

NOTE: NTP Settings are not saved and restored.

1. In the **BACKUP AND RESTORE SETTINGS** page, click **Edit**.
2. In the highlighted **SETTINGS AND DETAILS** area, perform the following steps:
   a. In **Backup Location**, type the path of the backup files.
   b. In **Username**, type the user name.
   c. In **Password**, type the password.
   d. In **Enter the password used to encrypt backups**, type the encrypted password in the text box.
      The encryption password can contain alpha numeric characters and special characters, such as, "!@#$%*".
   e. In **Verify Password**, retype the encrypted password.
3. To save these settings, click **Apply**.
4. Configure the backup schedule. See Scheduling automatic backups.

After this procedure, configure a backup schedule.

Scheduling automatic backups

For more information about configuring the backup location and credentials, see Configuring backup and restore.

1. In the **BACKUP AND RESTORE SETTINGS** page, click **Edit Automatic Scheduled Backup**.
   The relevant fields are enabled.
2. To enable the backups, click **Enabled**.
3. Select the **Days for Backup** check boxes for the days of the week for which you want to run the backup.
4. In **Time for Backup (24 Hour, HH:mm)**, enter the time in HH:mm format.
   The **Next Backup** is populated with the date and time of the next scheduled backup.
5. Click **Apply**.

Performing immediate backup

1. In the **BACKUP AND RESTORE SETTINGS** page, click **Backup Now**.
2. To use location and encryption password from the backup settings, in the **BACKUP NOW** dialog box, select the **BACKUP NOW** check box.
3. Enter values for **Backup Location**, **Username**, **Password**, and **Password for Encryption**.
   The encryption password can contain alpha numeric characters and special characters, such as, "!, @, #, $, %, *". There is no length restriction.
4. Click **Backup**.

Restoring OMIVV database from backup

The restore operation causes the virtual appliance to reboot after restoration is complete.

1. Open the **BACKUP AND RESTORE SETTINGS** page. See the Managing backup, and restore.
2. In the **BACKUP AND RESTORE SETTINGS** page, click **Restore Now**.
3. In the **RESTORE NOW** dialog box, enter the path for **File Location** along with the backup .gz file in CIFS/NFS format.
4. Enter the **Username**, **Password**, and **Encryption Password** for the backup file.

The encryption password can contain alphanumeric characters and special characters, such as, “!, @, #, $, %, *”. There is no restriction on length.

5. To save your changes, click **Apply**.
   The appliance is rebooted.

NOTE: Ensure that you register the OMIVV appliance again if the appliance is reset to the factory settings.

About vSphere client console

The vSphere client console is found within the vSphere client on a virtual machine. The console works in close association with the Administration Console. You can use the console to perform the following tasks:

- Configuring network settings
- Changing the virtual appliance password
- Configuring NTP and setting the local time zone
- Rebooting the virtual appliance
- Resetting the virtual appliance to factory settings
- Logging out from console
- Using read-only user role

Opening OMIVV virtual machine console

1. From the vSphere web client **Home**, click **vCenter**.
2. In **Inventory Lists**, click **Virtual Machines**, and then select the OMIVV virtual appliance.
3. Perform one of the following steps:
   - In the **Object** tab, select **Action → Open Console**.
   - Right-click the virtual machine that you selected and select **Open Console**.

After opening the virtual machine console and providing the credentials (user name: admin and password: the password that you had set while deploying the appliance),you can configure the console.

Configuring network settings

You can change the network settings in the vSphere client console.

1. Open the virtual machine console. See Opening vSphere client console.
2. In the **Console** window, select **Configure Network**, and then press **ENTER**.
3. Enter the desired network settings under **Edit Devices** or under **Edit DNS**, then click **Save & Quit**. To abort any changes, click **Quit**.

Changing virtual appliance password

You can change the virtual appliance password in the vSphere web client by using the console.

1. Open the virtual machine console. See Opening vSphere client console.
2. In the **Console** window, use the arrow keys to select **Change Admin Password** and press **ENTER**.
3. In **Current Admin Password**, enter the value and press **ENTER**.
   The admin password should be at least eight characters and should include one special character, one number, one uppercase, and one lowercase.
4. Enter a new password for **Enter new Admin Password**, and press **ENTER**.
5. Retype the new password in **Please Confirm Admin Password**, and press **Enter**.

Configuring NTP and setting local time zone

1. Open the virtual machine console. See Opening vSphere client console.
2. To configure the OMIVV time zone information, click **Date/Time Properties**.
3. In the **Date and Time** tab, select **Synchronize date and time over the network**.

The **NTP Servers** window is displayed.

4. To add the NTP server IP or host name, click the **Add** button, and then press **TAB**.
5. Click **Time Zone**, select the applicable time zone, and then click **OK**.

Rebooting virtual appliance

1. Open the virtual machine console. See Opening vSphere client console.
2. Click **Reboot Appliance**.
3. To reboot the appliance, click **Yes**, or to cancel, click **No**.

Resetting virtual appliance to factory settings

1. Open the virtual machine console. See Opening vSphere client console.
2. Click **Reset Settings**.
   The following message is displayed:

```
All the settings in the appliance will be Reset to Factory Defaults and the appliance
will be rebooted. Do you still wish to continue?
```

3. To reset the appliance, click **Yes**, or to cancel, click **No**.
   If you click yes, the OMIVV appliance is reset to the original factory settings and all other settings and existing data is lost.

NOTE: When the virtual appliance is reset to factory settings, any updates that you had done on the network configuration are preserved; these settings are not reset.

Logging out from vSphere console

To log out from the vSphere console, click **Log out**.

Read-only user role

There is a read-only unprivileged user role with shell access for diagnostic purposes. The read-only user has limited privileges to run the mount. The read-only user's password is set as **readonly**. The user's password for the read-only user role was same as admin password in earlier OMIVV versions (OMIVV version 1.0 to version 2.3.1) and is changed from OMIVV version 3.0 onwards for security purposes.

3

Managing multiple appliances

You can manage and monitor multiple OMIVV appliances that you register with vCenter servers belonging to the same Platform Service Controller (PSC) and the same vCenter version.

Dell recommends you to perform a global refresh if page is cached.

1. In VMware vCenter home page, click the **OpenManage Integration** icon.
2. In **Navigator**, under the **Dell** group, click **OMIVV Appliances**.
3. In the **OMIVV Appliances** tab, view the following information and monitor appliances:

   NOTE: In the Dell appliance tab, the precedence of the appliances appearing in the list is predetermined and the highlighted appliance is the active appliance.

   - **Name**—displays a link using the IP address or FQDN for each OMIVV appliance. To view and monitor appliance-specific information, click a specific appliance name link. Clicking an appliance name link takes you to the main content pane of the OMIVV appliance. You can manage the OMIVV operations and monitor hosts, data centers, and clusters for the specific appliance.

     NOTE: A message box is displayed after clicking **Name** that prompts you to perform a global refresh on the cached pages if you are using multiple appliances.

     To know the appliance on which you are managing the OMIVV operations, perform the following actions:

     a. In OpenManage Integration for VMware vCenter, click the **Help and Support** tab.
     b. Under Administration Console, view the specific OMIVV appliance IP.
   - **Version**—displays version of each OMIVV appliance.
   - **Compliance Status**—specifies whether the appliance is compliant with the loaded plugin.

     NOTE: The complaince status of an appliance is displayed as **Not-compliant** when the OMIVV appliance is not complaint with the plugin and the **Name** link is disabled.
   - **Availability Status**—displays a status specifying if you can reach the appliance from the plugin and the required web services are running in the OMIVV appliance.

     NOTE: You can select an appliance when the appliance compliance status is **Complaint** and appliance availability status is **OK**.
   - **Registered vCenter Servers**—displays all vCenters that you can access for the logged-in session and are registered with appliances. If you register an appliance with multiple vCenters, the vCenters are displayed as an expandable and collapsible list. Clicking a vCenter link takes you to the **vCenter Servers** page where all the vCenters are listed in the Navigator pane.

4

Accessing OpenManage Integration from web client

When you log in to VMware vCenter after installing OMIVV, under the **Home** tab, the **OpenManage Integration** icon is located in the main content area under the **Administration** group. You can use the **OpenManage Integration** icon to navigate to the **OpenManage Integration for VMware vCenter** page. The **Dell** group is displayed in the **Navigator** pane.

VMware vCenter layout has the following three main panes:

Table 3. OpenManage Integration for VMware vCenter panes

Panes	Description
Navigator	Accesses different views in the console. The OpenManage Integration for VMware vCenter has a special group under the vCenter menu that serves as the primary access point for OpenManage Integration for VMware vCenter.
Main Content	Displays the views selected in the Navigator pane. The main content pane is the area where most of the content is displayed.
Notifications	Displays vCenter alarms, task and work in progress. The OpenManage Integration for VMware vCenter integrates with the alarm, event, and task systems in vCenter to display the information in the Notification pane.

Topics:

- Navigating in VMware vCenter web client
- Icons in web client
- Locating software version
- Refreshing screen content
- Viewing Dell hosts
- Viewing OpenManage Integration for VMware vCenter licensing tab
- Accessing help and support
- Viewing log history

Navigating in VMware vCenter web client

The **OpenManage Integration for VMware vCenter** is located in a special **Dell** group within VMware vCenter.

1. Log in to VMware vCenter.
2. In the VMware vCenter home page, click the **OpenManage Integration** icon.

   Here you can:

   - Manage OpenManage Integration for VMware vCenter connection profiles, product settings, view the summary page, and perform other tasks from the tabs in the main content pane.
   - Monitor hosts, data centers, and clusters from the Navigator pane, under **vCenter Inventory Lists**. Select the host, data center, or cluster that you want to investigate, and then on the **Objects** tab, click the object you choose to monitor.

Icons in web client

The product user interface uses many icon-based action buttons for the actions you take.

Table 4. Icon buttons defined

Icon buttons	Definition
	Add or create something new
	Add a server to a connection profile, data center, and cluster
	Abort a job
	Collapse a list
	Expand a list
	Delete an object
	Change a schedule
	Edit
	Purge a job
	Export a file
	Enable WBEM service

Locating software version

The software version is found on the OpenManage Integration for VMware vCenter **Getting Started** tab.

1. In VMware vCenter home page, click the **OpenManage Integration** icon.
2. In the OpenManage Integration for VMware vCenter **Getting Started** tab, click **Version Information**.
3. In the **Version Information** dialog box, view the version information.
4. To close the dialog box, click **OK**.

Refreshing screen content

Refresh a screen by using the VMware vCenter **Refresh** icon.

1. Select a page that you want to refresh.
2. In the VMware vCenter title bar, click the **Refresh (Ctrl+Alt+R)** icon.
   The **Refresh** icon is at the right of the Search area and looks like a clockwise arrow.

Viewing Dell hosts

When you want to quickly view only Dell hosts, in OpenManage Integration for VMware vCenter, in the Navigator pane, select **Dell Hosts**.

1. In VMware vCenter home page, click the **OpenManage Integration** icon.
2. In the **Navigator**, under **OpenManage Integration**, click **Dell Hosts**.
3. In the **Dell Hosts** tab, view the following information:

- **Host Name**—displays a link using the IP address for each Dell host. To view Dell host information, click a specific host link.
- **vCenter**—displays the vCenter IP address for this Dell host.
- **Cluster**—displays the cluster name, if the Dell host is in a cluster.
- **Connection Profile**—displays the name of the connection profile.

Viewing OpenManage Integration for VMware vCenter licensing tab

When you install OpenManage Integration for VMware vCenter license, the number of supported hosts and vCenter servers are displayed in this tab. You can also view the version of the OpenManage Integration for VMware vCenter at the top of the page.

The page under licensing displays the **Buy License** link.

The **License Management** section displays:
- **Product Licensing Portal (Digital Locker)**
- **iDRAC Licensing Portal**
- **Administration Console**

The OpenManage Integration for VMware vCenter **Licensing** tab displays the following information:

Licensing tab information	Description
Host Licenses	• Licenses Available Displays the number of available licenses • Licenses In Use Displays the number of licenses in use
vCenter Licenses	• Licenses Available Displays the number of available licenses • Licenses In Use Displays the number of licenses in use

Accessing help and support

To provide the information you need about your product, OpenManage Integration for VMware vCenter offers the **Help and Support** tab. In this tab, you can find the following information:

Table 5. Information in the help and support tab

Name	Description
Product Help	Provides the following links: • **OpenManage Integration for VMware vCenter Help** — provides a link to the product help, which is located inside the product. Use the table of contents or search to find the information that you need. • **About** — This link displays the **Version Information** dialog box. You can view the product version here.
Dell Manuals	Provides live links to: • **Server Manuals** • **OpenManage Integration for VMware vCenter Manuals**
Administration Console	Provides a link to the Administration Console.

Table 5. Information in the help and support tab

Name	Description
Additional Help and Support	Provides live links to: • **iDRAC with Lifecycle Controller Manuals** • **Dell VMware Documentation** • **OpenManage Integration for VMware vCenter Product Page** • **Dell Help and Support Home** • **Dell TechCenter**
Support Call Tips	Offers tips on how to contact Dell Support and route your calls correctly.
Troubleshooting Bundle	Provides a link to create and download the troubleshooting bundle. You can provide or view this bundle when you contact technical support. For more information, see Downloading the troubleshooting bundle.
Dell Recommends	Provides a link to Dell Repository Manager (DRM). Use DRM to find and download all firmware updates available for your system.
iDRAC Reset	Provides a link to reset iDRAC that can be used when iDRAC is not responsive. This reset performs a normal iDRAC reboot.

Downloading troubleshooting bundle

You can use the troubleshooting bundle information to help you with troubleshooting or send the information to Technical Support. To get the troubleshooting information, perform the following steps:

1. In OpenManage Integration for VMware vCenter, click the **Help and Support** tab.
2. Under **Troubleshooting Bundle**, click **Create and Download Troubleshooting Bundle**.
3. Click the **Create** button.
4. To save the file, click **Download**.
5. In the **File Download** dialog box, click **Save**.
6. In the **Save As** dialog box, browse to where you want to save the file, and click **Save**.
7. To exit, click **Close**.

Resetting iDRAC

You can find the reset iDRAC link on the **Help and Support** tab. Resetting iDRAC performs a normal iDRAC reboot. The iDRAC reboot does not reboot the host. After you perform a reset, it takes up to 2 minutes to return to a usable state. Use reset in cases where the iDRAC is not responsive in the OpenManage Integration for VMware vCenter.

NOTE: Dell recommends that you place the host in maintenance mode before resetting iDRAC. You can apply the reset action on a host that is part of a connection profile and has been inventoried at least once. The reset action might not return the iDRAC to a usable state. In such a scenario, a hard reset is required. To learn more about a hard reset, see iDRAC documentation.

While iDRAC is rebooting, you might view the following:

- A slight delay of communication error while the OpenManage Integration for VMware vCenter obtains its health status.
- All open sessions with iDRAC close.
- The DHCP address for iDRAC might change.

  If iDRAC uses DHCP for its IP address, there is a chance that the IP address changes. If the IP address changes, rerun the host inventory job to capture the new iDRAC IP address in the inventory data.

1. In the OpenManage Integration for VMware vCenter, click the **Help and Support** tab.
2. Under iDRAC Reset, click **Reset iDRAC**.

3. In the **iDRAC Reset** dialog box, under iDRAC Reset, type the host IP address/name.
4. To confirm that you understand the iDRAC reset process, select **I understand iDRAC reset. Continue iDRAC reset**.
5. Click **Reset iDRAC**.

Opening online help

You can open the online help from the **Help and Support** tab. You can search the document for help on understanding a topic or a procedure.

1. In OpenManage Integration for VMware vCenter, in the **Help and Support**, under **Product Help**, click **OpenManage Integration for VMware vCenter Help**.
   The online help content is displayed in the browser window.
2. Use the left-pane table of contents or search to find the topic of your choice.
3. To close the online help, click **X** at the top-right corner of the browser window.

Launching Administration Console

You can start OpenManage Integration for VMware vCenter from within the VMware vCenter web client, and open the Administration Console from the **Help and Support** tab.

1. In OpenManage Integration for VMware vCenter, in the **Help and Support** tab, under the **Administration Console**, click the link to the console.
2. In the **Administration Console** login dialog box, use the administrator password to log in.
   You can perform the following operations in the Administration console:
   - Register or unregister a vCenter, modify credentials, or update a certificate.
   - Upload the license.
   - View summary about the number of vCenters registered and available, and about maximum host license that are in use and available.
   - Restart the virtual appliance.
   - Update or upgrade to the latest version.
   - Display network settings (read only mode).
   - Configure HTTP proxy settings that connects to the Dell server for appliance upgrade or for connectivity to `http://downloads.dell.com/published/Pages/index.html`.
   - Configure NTP settings, which allow you to enable or disable NTP server, and configure preferred and secondary NTP server.
   - Generate a certificate signing request (CSR), upload a certificate, or restore the default certificate for the HTTPS certificates.
   - Configure global settings on how alerts are stored for all vCenter instances. You can configure the maximum numbers of alerts to be stored, numbers of days to retain them, and time out for duplicate alerts.
   - Configure global settings on how alerts are stored for all vCenter instances.
   - Initiate backup, or restore.
   - Configure backup location to a network share and the encryption password for the backed-up files (along with test network connection).
   - Schedule a recurring backup.

Viewing log history

The log page enables you to view the logs that OMIVV generates.

You can filter and sort the content on this page by using the two drop-down lists. The first drop-down list allows you to filter and view log details based on the following log types:

- All Categories
- Info
- Warning
- Error

The second drop-down list helps you to sort logs details based on the following date and time frequency:

- Last Week

- Last Month
- Last Year
- Custom Range
  - If you select **Custom Range**, you can specify the start and end date based on what you want to filter, and then click **Apply**.

The grid table displays the following information:

- Category — displays the type of log category
- Date and Time — displays the date and time of user action
- Description — displays a description of the user action

You can sort the data grid columns in ascending or descending order by clicking the column header. Use the **Filter** text box to search within your content. At the bottom of the page grid, the following information is displayed:

Table 6. Log history

Log information	Description
Total items	Displays the total count of all log items
Items per screen	Displays the number of log items on the displayed page. Use the drop-down box to set the number of items per page.
Page	Displays the page you are in while viewing the log information. You can also type a page number in the text box or use the **Previous** and **Next** buttons to navigate to the page you want.
Previous or Next buttons	Guides you to the next or previous pages
Export All icon	Exports log content to a CSV file

Viewing logs

1. In OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. In the **Log** tab, view the user actions logs for OpenManage Integration for VMware vCenter. For information about the displayed logs, see Log history.
3. To sort the data in the grid, click a column header.
4. To sort using categories or time blocks, use the drop-down lists preceding the grid.
5. To navigate between pages of log items, use the **Previous** and **Next** buttons.

Exporting log files

The OpenManage Integration for VMware vCenter uses a comma-separated values (CSV) file format for exporting information from data tables.

1. In OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. To export the log contents to a CSV file, in the lower right-hand corner of the screen, click the  icon.
3. In the **Select location for download** dialog box, browse to the location to save the log information.
4. In the **File name** text box, either accept the default name `ExportList.csv` or type your own file name with the .CSV extension.
5. Click **Save**.

5

OpenManage Integration for VMware vCenter licensing

The OpenManage Integration for VMware vCenter has two types of licenses:

- Evaluation license—when the OMIVV version 4.x appliance is powered on for the first time, an evaluation license is automatically installed. The trial version contains an evaluation license for five hosts (servers) managed by the OpenManage Integration for VMware vCenter. This is applicable only for 11th and later generations of the Dell servers and is a default license, which is for a 90 days trial period.
- Standard license—the full product version contains a standard license for up to 10 vCenter servers and you can purchase any number of host connections managed by OMIVV.

When you upgrade from an evaluation license to a full standard license, you will receive an email about the order confirmation, and you can download the license file from the Dell Digital store. Save the license .XML file to your local system, and upload the new license file by using the **Administration Console**.

Licensing presents the following information:

- Maximum vCenter Connection Licenses—up to 10 registered and in-use vCenter connections are allowed.
- Maximum Host Connection Licenses—the number of host connections that were purchased.
- In Use—the number of vCenter connection or host connection licenses in use. For host connection, this number represents the number of hosts (or servers) that have been discovered and inventoried.
- Available—the number of vCenter connections or host connection licenses available for future use.

NOTE: The standard license period is for three or five years only, and the additional licenses are appended to the existing license and not over written.

When you purchase a license, the .XML file (license key) is available for download through the Dell Digital store. If you are unable to download your license key(s), contact Dell Support by going to www.dell.com/support/softwarecontacts to locate the regional Dell Support phone number for your product.

Topics:

- Buying and uploading software license

Buying and uploading software license

You are running a trial license until you upgrade to a full product version. Use the **Buy License** link from the product to navigate to the Dell website and buy a license. After you buy it, upload it using the **Administration Console**.

NOTE: The **Buy License** option is displayed only if you are using a trial license.

1. In the OpenManage Integration for VMware vCenter, perform one of the following tasks:
   - In the **Licensing** tab, next to **Software License**, click **Buy License**.
   - In the **Getting Started** tab, under **Basic Tasks**, click **Buy License**.
2. Save the license file to a known location that you had downloaded from the Dell Digital store.
3. In a web browser, type the Administration Console URL.
   Use the format: `https://<ApplianceIPAddress>`
4. In the **Administration Console** login window, type the password and click **Login**.
5. Click **Upload license**.
6. In the **Upload License** window, to navigate to the license file, click **Browse**.
7. Select the license file, and then click **Upload**.

NOTE: The license file might be packaged inside a .zip file. Ensure that you unzip the .zip file and upload only the license .xml file. The license file is likely to be named based on your order number, such as 123456789.xml.

6

Appliance configuration for VMware vCenter

After you complete the basic installation of OMIVV and registration of the vCenters, the **Initial Configuration Wizard** is displayed when you click the OMIVV icon. You can proceed to configure the appliance by using one of the following methods:

- Configuring the appliance through the **Initial Configuration Wizard**.
- Configuring the appliance through the **Settings** tab in OMIVV.

You can use the **Initial Configuration Wizard** to configure the OMIVV appliance settings on first launch. For subsequent instances, use the **Settings** tab.

NOTE: The user interface in both the methods is similar.

Topics:

- Configuration tasks through configuration wizard
- Configuration tasks through settings tab

Configuration tasks through configuration wizard

NOTE: If you view a web communication error while performing OMIVV-related tasks after changing the DNS settings; clear the browser cache, and log out from the web client and then log in again.

By using the configuration wizard, you can view and perform the following tasks:

- View configuration wizard welcome page
- Select vCenters. See Selecting vCenters.
- Create a connection profile. See Creating a connection profile.
- Configure events and alarms. See the Configuring events and alarms.
- Schedule inventory jobs. See the Scheduling inventory jobs.
- Run a warranty retrieval job. See Running a warranty retrieval job.

Viewing configuration wizard welcome dialog box

To configure OMIVV after installing and registering with the vCenter, perform the following steps to view the **Initial configuration Wizard**:

1. In vSphere web client, click **Home**, and then click the **OpenManage Integration** icon.

   You can perform any one of the following options to access the initial configuration wizard:

   - The first time you click the **OpenManage Integration** icon, **Initial Configuration Wizard** is displayed automatically.
   - From **OpenManage Integration** > **Getting Started**, click **Start Initial Configuration Wizard**.
2. In the **Welcome** dialog box, review the steps, and then click **Next**.

Selecting vCenters

In the **vCenter Selection** dialog box, you can configure the following vCenters:

- A specific vCenter
- All registered vCenters

To access the **vCenter Selection** dialog box:

1. In the **Initial Configuration Wizard**, in the **Welcome** dialog box, click **Next**.
2. Select one vCenter or all registered vCenters from the **vCenters** drop-down list.

Select a vCenter that is not configured yet or if you have added a vCenter to your environment. The vCenter selection page allows you to select one or more vCenters to configure settings.

3. To proceed with the **Connection Profile Description** dialog box, click **Next**.

   NOTE: If you have multiple vCenter servers that are part of the same single sign-on (SSO), and if you choose to configure a single vCenter server, repeat steps 1 through 3 until you configure each vCenter.

Creating connection profile

Before using the Active Directory credentials with a connection profile, ensure that:

- The Active Directory user's account exist in Active Directory.
- The iDRAC and host are configured for Active Directory based authentication.

A connection profile stores the iDRAC and host credentials that OMIVV uses to communicate with the Dell servers. Each Dell server must be associated with a connection profile to be managed by OMIVV. You might assign multiple servers to a single connection profile. You can create a connection profile by using the configuration wizard or from the **OpenManage Integration for VMware vCenter** > **Settings** tab. You can log in to iDRAC and the host by using the Active Directory credentials.

NOTE: The Active Directory credential can be either same or separate for both iDRAC and the host.

NOTE: You cannot create a connection profile if the number of added hosts exceeds the license limit for creating a connection profile.

All hosts that are running ESXi 6.5 or later have the Web-Based Enterprise Management (WBEM) service disabled by default. OMIVV requires this service to be running for communicating with the host. This service can be enabled from the connection profile wizard. OMIVV uses WBEM service to properly synchronize ESXi host and iDRAC relationships.

1. In the **Connection Profile Description** dialog box, click **Next**.
2. In the **Connection Profile Name and Credentials** dialog box, enter the connection **Profile Name** and connection profile **Description**, which is optional.
3. In the **Connection Profile Name and Credentials** dialog box, under **iDRAC Credentials**, do either of the following actions, depending on configuring iDRAC with or without Active Directory:

   NOTE: The iDRAC account requires administrative privileges for updating firmware, applying hardware profiles, and deploying hypervisor.

   - The iDRACs that are already configured and enabled for Active Directory on which you want to use Active Directory, select **Use Active Directory**; otherwise scroll down to configure the iDRAC credentials.
     a. In Active Directory **User Name**, type the user name. Type the user name in one of these formats: `domain\username` or username@domain. The user name is limited to 256.
     b. In Active Directory **Password**, type the password. The password is limited to 127 characters.
     c. In **Verify Password**, type the password again.
     d. Depending on your requirement, perform one of the following actions:
        - To download and store the iDRAC certificate and validate it during all future connections, select **Enable Certificate Check**.
        - To not store and perform the iDRAC certificate check during all future connections, clear **Enable Certificate Check**.
   - To configure the iDRAC credentials without Active Directory, perform the following tasks:
     a. In **User Name**, type the user name. The user name is limited to 16 characters. See the iDRAC documentation for information about user name restrictions for the version of iDRAC that you are using.
     b. In **Password**, type the password. The password is limited to 20 characters.
     c. In **Verify Password**, type the password again.
     d. Perform one of the following actions:
        - To download and store the iDRAC certificate, and validate it during all future connections, select **Enable Certificate Check**.
        - To not store and perform the iDRAC certificate check during all future connections, clear **Enable Certificate Check**.
4. In **Host Root**, perform one of the following steps:
   - The hosts that are already configured and enabled for Active Directory on which you want to use Active Directory, select **Use Active Directory**, and perform the following steps; otherwise configure your host credentials:

a. In Active Directory **User Name**, type the user name. Type the user name in one of these formats: `domain\username` or username@domain. The user name is limited to 256 characters.

NOTE: For host user name and domain restrictions, see the following:

Host user name requirements:

- Between 1 and 64 characters long
- No nonprintable characters
- No Invalid characters, such as " / \ [ ] : ; | = , + * ? < > @

Host domain requirements:

- Between 1 and 64 characters long
- First character must be alphabetical
- Cannot contain a space
- No Invalid characters, such as " / \ [ ] : ; | = , + * ? < > @

b. In Active Directory **Password**, type the password. The password is limited to 127 characters.

c. In **Verify Password**, type the password again.

d. Perform one of the following actions:
   - To download and store the host certificate, and validate it during all future connections, select **Enable Certificate Check**.
   - To not store and perform the iDRAC certificate check during all future connections, clear **Enable Certificate Check**.

- To configure host credentials without Active Directory, perform the following tasks:

a. In **User Name**, the user name is **root**, which is the default user name and you cannot change the user name. However, if the Active directory is set, you can choose any Active directory user and not root.

b. In **Password**, type the password. The password is limited to 127 characters.

NOTE: The OMSA credentials are the same credentials that are used for the ESXi hosts.

c. In **Verify Password**, type the password again.

d. Perform one of the following actions:
   - To download and store the host certificate, and validate it during all future connections, select **Enable Certificate Check**.
   - To not store and perform the host certificate check during all future connections, clear **Enable Certificate Check**.

5. Click **Next**.
6. In the **Connection Profile Associated Hosts** dialog box, select the hosts for the connection profile and click **OK**.

NOTE: If you select hosts that are running ESXi 6.5 or later, ensure that you click the  icon for enabling the WBEM service on all those hosts.

7. To test the connection profile, select one or more hosts and click **Test Connection**.

NOTE: This step is optional and checks whether the host and iDRAC credentials are correct or not. Although this step is optional, Dell recommends you to test the connection profile.

NOTE: The test connection fails if the WBEM service is not enabled for hosts with ESXi 6.5 or later.

8. To complete the creation of profile, click **Next**.
Once you click next, all details that you provide in this wizard is saved and you cannot modify the details from the wizard. You can modify or create more connection profiles for this vCenter detail from the **Manage** > **Profiles Connection Profiles** page after completing the configuration from the configuration wizard. See Modifying connection profile on page 41.

NOTE: The servers that do not have either an iDRAC Express or Enterprise card, the iDRAC test connection result is not applicable for this system.

Scheduling inventory jobs

You can configure inventory schedule by using the configuration wizard or OpenManage Integration under the **OpenManage Integration** > **Manage** > **Settings** tab.

NOTE: To ensure that OMIVV continues to display updated information, Dell recommends that you schedule a periodic inventory job. The inventory job consumes minimal resources and does not degrade host performance.

NOTE: The chassis gets discovered automatically after the inventory for all the blades of the chassis are run. If the chassis is added to a chassis profile, the chassis inventory automatically runs. In an SSO environment with multiple vCenter servers, the chassis inventory runs automatically with every vCenter when the inventory for any vCenter is run at a scheduled time.

NOTE: The settings in this page are reset to default each time the configuration wizard is invoked. If you have previously configured a schedule for inventory, ensure that you replicate the previous schedule in this page before completing the wizard functions so that the previous schedule is not overridden by the default settings.

1. In the **Initial Configuration Wizard**, from the **Inventory Schedule** dialog box, select **Enable Inventory Data Retrieval**, if it is not enabled. By default, **Enable Inventory Data Retrieval** is enabled.
2. Under **Inventory Data Retrieval Schedule**, perform the following steps:
   a. Select the check box next to each day of the week that you want to run the inventory.
   By default, **all the days** are selected.
   b. In **Data Retrieval Time**, enter the time in HH:MM format.
   The time you enter is your local time. Therefore, if you want to run the inventory at the virtual appliance time zone, calculate the time difference between your local and virtual appliance time zone, and then enter the time appropriately.
   c. To apply the changes and continue, click **Next**.

   Once you click next, all details that you provide in this wizard is saved and you cannot modify the details from this wizard. You can modify inventory schedule details of the hosts from the **Manage** > **Settings** tab after completing the configuration from the configuration wizard. See Modifying inventory job schedules on page 48.

Running warranty retrieval jobs

The warranty retrieval job configuration is available from the Settings tab in OMIVV. In addition, you can also run or schedule warranty retrieval job from **Job Queue** > **Warranty**. The scheduled jobs are listed in the job queue. In an SSO environment with multiple vCenter servers, the chassis warranty runs automatically with every vCenter when the warranty for any vCenter is run. However, warranty does not automatically run if it is not added to chassis profile.

NOTE: The settings in this page are reset to default each time the configuration wizard is invoked. If you have previously configured a warranty retrieval job, ensure that you replicate that schedule warranty retrieval job in this page before completing the wizard functions so that the previous warranty retrieval is not overridden by the default settings.

1. In the **Warranty Schedule** dialog box, select **Enable Warranty Data Retrieval**.
2. In **Warranty Data Retrieval Schedule**, do the following:
   a. Select the check box next to each day of the week that you want to run the warranty.
   b. Enter the time in HH:MM format.
   The time you enter is your local time. Therefore, if you want to run the inventory at the virtual appliance time zone, calculate the time difference between your local and virtual appliance time zone, and then enter the time appropriately.
3. To apply the changes and continue, click **Next**, and then proceed with the **Event and Alarm** settings.
   Once you click next, all details that you provide in this wizard is saved and you cannot modify the details from the wizard. You can modify warranty job schedules from the **Settings** tab after completing the configuration from the configuration wizard. See Modifying warranty job schedules on page 50.

Configuring events and alarms

You can configure events and alarms by using the **Initial Configuration Wizard** or from the **Settings** tab for events and alarms. To receive events from the servers, OMIVV is configured as trap destination. For 12th generation hosts and later, ensure that the SNMP trap destination is set in iDRAC. For hosts earlier than 12th generation, ensure that the trap destination is set in OMSA.

NOTE: OMIVV supports SNMP v1 and v2 alerts for 12th generation hosts and later and supports only SNMP v1 alerts for hosts earlier than 12th generation.

1. In the **Initial Configuration Wizard**, under **Event Posting Levels**, select one of the following:
   - Do not post any events—block hardware events
   - Post all events—post all hardware events
   - Post only Critical and Warning events—post only critical or warning level hardware events

- Post only Virtualization-Related Critical and Warning Events—post only virtualization-related critical and warning event, which is the default event posting level

2. To enable all hardware alarms and events, select **Enable Alarms for Dell Hosts**.

   NOTE: The Dell hosts that have alarms enabled respond to some specific critical events by entering in to maintenance mode and you can modify the alarm, when required.

   The **Enabling Dell Alarm Warning** dialog box is displayed.
3. To accept the change, click **Continue**, or to cancel the change, click **Cancel**.

   NOTE: Ensure that you complete this step only if you select **Enable Alarms For Dell Hosts**.

4. To restore the default vCenter alarm settings for all managed Dell servers, click **Restore Default Alarms**.

   It might take up to a minute before the change takes effect.

   NOTE: After restoring the appliance, the events and alarms settings are not enabled even if the GUI shows as enabled. You can enable the **Events and Alarms** settings again from the **Settings** tab.

5. Click **Apply**.

Configuration tasks through settings tab

By using the settings tab, you can view and perform the following configuration tasks:

- Enable the OMSA link. See Enabling OMSA link.
- Configure warranty expiration notification settings. See the Configuring warranty expiration notification settings.
- Set up the firmware update repository. See Setting up the firmware update repository.
- Configure the latest appliance version notification. See Configuring the latest appliance version notification.
- Configure and view events and alarms. See the Configuring events and alarms.
- View data retrieval schedules for inventory and warranty. See the Viewing data retrieval schedules for inventory and warranty.

Appliance settings

In this section, configure the following for the OMIVV appliance:

- Warranty expiration notification
- Firmware update repository
- Latest appliance version notification
- Deployment credentials

Configuring warranty expiration notification settings

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Settings** tab, under **Appliance Settings**, click **Warranty Expiration Notification**.
2. Expand **Warranty Expiration Notification** to view the following:
   - **Warranty Expiration Notification**—whether the setting is enabled or disabled
   - **Warning**—number of days for the first warning setting
   - **Critical**—number of days for the critical warning setting
3. To configure warranty expiration thresholds for warning about warranty expiration, click the icon at the right side of **Warranty Expiration Notification**.
4. In the **Warranty Expiration Notification** dialog box, do the following:
   a. If you want to enable this setting, select the **Enable warranty expiration notification for hosts**. Selecting the check box enables warranty expiration notification.
   b. Under **Minimum Days Threshold Alert**, do the following:
      i. In the **Warning** drop-down list, select the number of days before you want to be warned of the warranty expiration.
      ii. In the **Critical** drop-down list, select the number of days before you want to be warned of the warranty expiration.
5. Click **Apply**.

Setting up firmware update repository

You can set up the firmware update repository on the OMIVV **Settings** tab.

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Settings** tab, under **Appliance Settings** at the right side of **Firmware Update Repository**, click the icon.
2. In the **Firmware Update Repository** dialog box, select one of the following:
   - **Dell Online**—you can access the location that uses the firmware update repository of Dell (Ftp.dell.com). The OpenManage Integration for VMware vCenter downloads selected firmware updates from the Dell repository and updates the managed hosts.

     NOTE: Based on the network settings, enable proxy settings if network needs proxy.
   - **Shared Network Folder**—you can have a local repository of the firmware in a CIFS-based or NFS-based network share. This repository can either be a dump of Server Update Utility (SUU) that Dell releases periodically or a custom repository created using DRM. This network share should be accessible by OMIVV.

     NOTE: If you are using CIFS share, the repository passwords cannot exceed 31 characters.
3. If you select **Shared Network Folder**, enter the **Catalog File Location** by using the following format:
   - NFS share for .XML file—host:/share/filename.xml
   - NFS share for .gz file—host:/share/filename.gz
   - CIFS share for .XML file—\\host\share\filename.xml
   - CIFS share for .gz file—\\host\share\filename.gz

   NOTE: If you are using CIFS share, OMIVV prompts you to enter the user name and password. The @, %, and , characters are not supported for use in shared network folder user names or passwords.
4. Click **Apply** after downloading is complete.

NOTE: It might take up to 20 minutes to read the catalog from the source and update the OMIVV database.

Configuring latest appliance version notification

To receive periodic notification about the availability of latest version (RPM, OVF, RPM/OVF) of OMIVV, perform the following steps to configure the latest version notification:

1. In the OpenManage Integration for VMware vCenter, on the **Manage → Settings tab**, under **Appliance Settings**, at the right side of **Latest Version Notification**, click the icon.
   By default, the latest version notification is disabled.
2. In the **Latest Version Notification and Retrieval Schedule** dialog box, perform the following actions:
   a. If you want to enable latest version notification, select the **Enable Latest Version notification** check box.
   b. Under **Latest Version Retrieval Schedule**, select the days of the week for this job.
   c. In **Latest Version Retrieval Time**, specify the required local time.
   The time you provide is your local time. Ensure that you calculate any time difference for running this task at a proper time on the OMIVV appliance.
3. To save the settings, click **Apply**, to reset the settings, click **Clear**, and to abort the operation, click **Cancel**.

Configuring deployment credentials

The deployment credentials allow you to set up credentials to communicate securely with a bare-metal system that is discovered using auto discovery until the OS deployment is complete. For secure communication with iDRAC, OMIVV uses deployment credentials from initial discovery until the end of the deployment process. Once the OS deployment process is successfully complete, OMIVV changes the iDRAC credentials as provided in the connection profile. If you change the deployment credentials, all newly discovered systems from that point onwards are provisioned with the new credentials. However, the credentials on servers that are discovered prior to the change of deployment credentials are not affected by this change.

NOTE: OMIVV acts as a provisioning server. The deployment credentials allow you to communicate with iDRAC that uses the OMIVV plug-in as a provisioning server in the auto discovery process.

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Settings** tab, under **Appliance Settings**, at the right side of **Deployment Credentials**, click the icon.

2. In **Credentials for Bare Metal Server Deployment**, under **Credentials**, enter the values for the following:
   - In the **User Name** text box, enter the user name.

     The user name should be 16 characters or less (only ASCII printable characters).
   - In the **Password** text box, enter the password.

     The password should be 20 characters or less (only ASCII printable characters).
   - In the **Verify Password** text box, enter the password again.

     Ensure that the passwords match.
3. To save the specified credentials, click **Apply**.

vCenter settings

In this section, configure the following vCenter settings:
- Enable the OMSA link. See Enabling the OMSA link.
- Configure events and alarms. See the Configuring events and alarms.
- Configure the data retrieval schedules for inventory and warranty. See the Viewing data retrieval schedules for inventory and warranty.

Enabling OMSA link

Install and configure an OMSA web server before enabling the OMSA link. See the *OpenManage Server Administrator Installation Guide* for the version of OMSA in use and for instructions on how to install and configure the OMSA web server.

NOTE: OMSA is only required on Dell PowerEdge 11th generation servers or earlier.

1. In the OpenManage Integration for VMware vCenter, on the **Manage** > **Settings** tab, under **vCenter Settings** and at the right side of the OMSA web server URL, click the icon.
2. In the **OMSA Web Server URL** dialog box, type the URL.

   Ensure that you include the complete URL, along with the HTTPS and port number 1311.

   https://<OMSA server IP or fqdn>:1311
3. To apply the OMSA URL to all vCenter servers, select **Apply these settings to all vCenters**.

   NOTE: If you do not select the check box, the OMSA URL is applied only to one vCenter.
4. To verify that the OMSA URL link that you provided works, navigate to the **Summary** tab of the host and check that the OMSA console link is live within the **Dell Host Information** section.

Configuring events and alarms

The Dell Management Center events and alarms dialog box enables or disables all hardware alarms. The current alert status is displayed on the vCenter alarms tab. A critical event indicates actual or imminent data loss or system malfunction. A warning event is not necessarily significant, but can indicate a possible future problem. The events and alarms can also be enabled by using the VMware Alarm Manager. The events are displayed on the vCenter tasks and events tab in the hosts and clusters view. To receive the events from the servers, OMIVV is configured as the SNMP trap destination. For 12th generation hosts and later, the SNMP trap destination is set in iDRAC. For hosts earlier than 12th generation, trap destination is set in OMSA. You can configure events and alarms using the OpenManage Integration for VMware vCenter from the **Management** > **Settings** tab. Under vCenter **Settings**, expand the **Events and Alarms** heading to display the vCenter alarms for Dell Hosts (Enabled or Disabled), and the event posting level.

NOTE: OMIVV supports SNMP v1 and v2 alerts for 12th generation hosts and later. For hosts earlier than 12th generation, OMIVV supports SNMP v1 alerts.

NOTE: To receive the Dell events, enable both alarms and events.

1. In the OpenManage Integration for VMware vCenter, on the **Manage** > **Settings** tab, under **vCenter settings**, expand **Events and Alarms**.

The current **vCenter Alarms for Dell Hosts** (Enabled or Disabled) or all vCenter alarms, and **Event Posting Level** are displayed.

2. Click the icon at the right side of **Events and Alarms**.
3. To enable all hardware alarms and events, select **Enable Alarms for all Dell Hosts**.

   NOTE: The Dell hosts that have alarms enabled respond to critical events by entering into maintenance mode and you can modify the alarm, as needed.

4. To restore the default vCenter alarm settings for all managed Dell servers, click **Restore Default Alarms**.
   This step can take up to a minute before the change takes effect and is available only if **Enable Alarms For Dell Hosts** is selected.
5. In **Event Posting Level**, select either "Do not post any events", "Post All Events", "Post only Critical and Warning Events", or "Post only Virtualization-Related Critical and Warning Events". For more information, see Events, alarms, and health monitoring.
6. If you want to apply these settings to all vCenters, select **Apply these settings to all vCenters**.

   NOTE: Selecting the option overrides the existing settings for all vCenters.

   NOTE: The option is not available, if you have already selected **All Registered vCenters** from the drop-down list on the **Settings** tab.

7. To save, click **Apply**.

Viewing data retrieval schedules for inventory and warranty

1. In the OpenManage Integration for VMware vCenter, on the **Manage** > **Settings** tab, under **vCenter Settings**, click **Data Retrieval Schedule**.
   On clicking, data retrieval schedule expands to expose the edit options for inventory and warranty.
2. Click the icon against **Inventory Retrieval** or **Warranty Retrieval**.
   In the **Inventory/Warranty Data Retrieval** dialog box, you can view the following information for inventory or warranty retrieval:
   - Whether the inventory and/or warranty retrieval option is enabled or disabled?
   - The weekdays for which it is enabled.
   - The time of day it is enabled.
3. To edit the data retrieval schedules, see the Modifying inventory job schedules or the Modifying warranty job schedules.
4. Click **Data Retrieval Schedule** again to contract the inventory and warranty schedules and display a single line.

7

Profiles

Credential Profiles allows you to manage and configure the connection profiles, and the chassis profiles while **Deployment Template** allows you to manage and configure hardware and hypervisor profiles.

Topics:

- About connection profile
- About chassis profile

About connection profile

The **Connection Profiles** tab lets you manage and configure connection profiles that contain credentials that are in use by the virtual appliance to communicate with the Dell servers. Associate each Dell server with only one connection profile for management by the OpenManage Integration for VMware vCenter. You can assign multiple servers to a single connection profile. After you run the **Initial Configuration Wizard**, you can manage connection profiles from OpenManage Integration for VMware vCenter by performing the following tasks:

- Viewing connection profile
- Creating a connection profile
- Modifying connection profile
- Deleting connection profile
- Testing connection profile

Viewing connection profiles

A connection profile must be created and/or exist before it can be viewed. After one or more connection profiles are created, they can be viewed in the **Connection Profiles** page. The OpenManage Integration for VMware vCenter uses the credentials provided in the profiles to communicate with Dell hosts.

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles** and then click **Credential Profiles**.
3. Expand **Credential Profiles** and click **Connection Profiles** tab.

   You can view all the connection profiles that you have created.

Table 7. Connection profile information

Connection profile fields	Description
Profile Name	Displays the name of the connection profile
Description	Displays a description, if provided
vCenter	Displays the FQDN or host name, or else IP address of the vCenter as per the context
Associated Hosts	Displays the hosts associated with the connection profile. If more than one, use the expand icon to display all.
iDRAC Certificate Check	Displays whether the iDRAC Certificate Check is enabled or disabled
Host Root Certificate Check	Displays whether the Host Root Certificate Check is enabled or disabled
Date Created	Displays the date when the connection profile was created
Date Modified	Displays the date when the connection profile was modified

Table 7. Connection profile information

Connection profile fields	Description
Last Modified By	Displays the details of the user who modified the connection profile

Creating connection profile

You can associate multiple hosts to a single connection profile. To create a connection profile, perform the following steps:

NOTE: The vCenter hosts that are listed during this procedure are authenticated by using the same Single Sign On (SSO). If you do not see a vCenter host, it might be on a different SSO or you might be using a VMware vCenter version that is less than version 5.5.

All hosts that are running ESXi 6.5 or later have the Web-Based Enterprise Management (WBEM) service disabled by default. OMIVV requires this service to be running for communicating with the host. This service can be enabled from the connection profile wizard. OMIVV uses WBEM service to properly synchronize ESXi host and iDRAC relationships.

1. In OpenManage Integration for VMware vCenter, from the **Manage** → **Profiles** → **Credential Profiles** → **Connection Profiles** tab, click the + icon.
2. In the **Welcome** page, click **Next**.
3. In the **Connection Profile** page, enter the following details:
   a. Under **Profile**, type the **Profile Name** and optional **Description**.
   b. Under **vCenter**, select vCenters from the drop-down list on which to create the profile.
   This option enables you to create one connection profile for each vCenter.
   c. In the **iDRAC Credentials** area, perform one of the following tasks:

   NOTE: The iDRAC account requires administrative privileges for updating firmware, applying hardware profiles, and deploying hypervisor.

   - For iDRAC that is already configured and enabled for Active Directory on which you want to use Active Directory, select **Use Active Directory**; otherwise skip to the next option.
     - In the **Active Directory User Name** text box, type the user name. Type the user name in one of the formats, such as `domain\username` or `username@domain`. The user name is limited to 256 characters. See the Microsoft Active Directory documentation for user name restrictions.
     - In the **Active Directory Password** text box, type the password. The password is limited to 127 characters.
     - In the **Verify Password** text box, type the password again.
     - For verifying the iDRAC certificate, select one of the following:
       - To download and store the iDRAC certificate and validate it during all future connections, select **Enable Certificate Check**.
       - To not perform any verification and not store the certificate, clear **Enable Certificate Check**.
   - To configure the iDRAC credentials without Active Directory, perform the following actions:
     - In the **User Name** text box, type the user name. The user name is limited to 16 characters. See the iDRAC documentation for information about user name restrictions for your version of iDRAC.

       NOTE: The local iDRAC account requires administrative privileges for updating firmware, applying hardware profiles, and deploying hypervisor.
     - In the **Password** text box, type the password. The password is limited to 20 characters.
     - In the **Verify Password** text box, type the password again.
     - For verifying the iDRAC certificate, select one of the following:
       - To download and store the iDRAC certificate and validate it during all future connections, select **Enable Certificate Check**.
       - To not perform any verification and not store the certificate, do not select **Enable Certificate Check**.

   d. In the **Host Root** area, do one of the following:
   - For hosts already configured and enabled for Active Directory on which you want to use Active Directory, select the **Use Active Directory** check box; otherwise skip to configure your host credentials.
     - In the **Active Directory User Name** text box, type the user name. Type the user name in either of the formats, such as `domain\username` or `username@domain`. The user name is limited to 256 characters. See the Microsoft Active Directory documentation for user name restrictions.
     - In the **Active Directory Password** text box, type the password. The password is limited to 127 characters.

- In the **Verify Password** text box, type the password again.
- For certificate check, select one of the following:
  - To download and store the host certificate and validate it during all future connections, select **Enable Certificate Check**.
  - To not perform any check and not store the host certificate, do not select **Enable Certificate Check**.

- To configure host credentials without Active Directory, perform the following actions:
  - In the **User Name** text box, the user name is root.

    The root user name is the default user name, and you cannot change it.

    NOTE: If Active Directory is set, you can choose any Active Directory user name and not root.
  - In the **Password** text box, type the password. The password is limited to 127 characters.
  - In the **Verify Password** text box, type the password again.
  - For certificate check, select one of the following:
    - To download and store the host certificate and validate it during all future connections, select **Enable Certificate Check**.
    - To not perform any check and not store the host certificate, do not select **Enable Certificate Check**.

NOTE: The OMSA credentials are the same credentials used for the ESXi hosts.

4. Click **Next**.
5. In the **Select Hosts** dialog box, select hosts for this connection profile and click **OK**.
6. In the **Associated Hosts** page, add one or more hosts for the connection profile, if necessary.

   To add hosts, click the icon, select hosts, and then click **OK**.

   NOTE: If you select hosts that are running ESXi 6.5 or later, ensure that you click the icon for enabling the WBEM service on all those hosts.
7. To test the connection profile, select one or more hosts and click the **Test Connection** icon.

   NOTE: This step is optional and verifies whether the host and iDRAC credentials are correct. Although this step is optional, Dell recommends you to test the connection profile.

   NOTE: The test connection fails if the WBEM service is not enabled for hosts with ESXi 6.5 or later.
8. To complete the profile creation, click **Next**.
   For servers that do not have either an iDRAC Express or Enterprise card, the iDRAC test connection result states **Not Applicable** for this system.

Modifying connection profile

After you create a connection profile, you can edit the profile name, description, associated hosts and iDRAC, and host credentials.

NOTE: The **vCenters** listed during this procedure are authenticated by using the same Single sign on (SSO). If you cannot view a vCenter host, it might be on a different SSO or you might be using a VMware vCenter version earlier than version 5.5.

NOTE: Ensure that you do not update a connection profile when an inventory, a warranty, or a deployment job is running.

NOTE: Ensure that you do not move a host that is associated with a connection profile to another connection profile or remove a host from a connection profile when an inventory, a warranty, or a deployment job is running.

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand **Credential Profiles**, and then click **Connection Profiles**.
4. Select a profile, and click the icon.
5. In the **Welcome** tab of the **Connection Profile** window, read the information and click **Next**.
6. In the **Name and Credentials** tab, perform the following steps:

a. Under **Profile**, type the **Profile Name** and **Description**, which is optional.
b. Under **vCenter**, view the associated hosts for this connection profile. See the note preceding about why you see the hosts displayed here.
c. Under **iDRAC Credentials**, perform one of the following steps:
   - For the iDRAC accounts that are already configured and enabled for Active Directory on which you want to use Active Directory, select **Use Active Directory**.
     - In the **Active Directory User Name** text box, type the user name. Type the user name in one of these formats; `domain\username` or `domain/username`, or `username@domain`. The user name is limited to 256 characters. See the Microsoft Active Directory Documentation for user name restrictions.
     - In the **Active Directory Password** text box, type the password. The password is limited to 127 characters.
     - In the **Verify Password** text box, type the password again.
     - For certificate check, select one of the following:
       - To download and store the iDRAC certificate and validate it during all future connections, select **Enable Certificate Check**.
       - To perform no check and not store the certificate, do not select **Enable Certificate Check**.
   - To configure the iDRAC credentials without Active Directory, enter the following:
     - **User Name**—type the user name in one of these formats, such as `domain\username`, or `domain@username`.

       The characters that are allowed for the user name are: `/` (forward slash), `&` (ampersand), `\` (backslash), `.` (period), `"` (quotation mark), `@` (at the rate), `%` (percent) (127 character limit).

       The domain can contain alphanumeric characters, such as `-` (dash), and `.` (period) (254 character limit). The first and last characters for domain must be alphanumeric.

     - **Password**—type the password.

       The characters that are not allowed for the password are: `/` (forward slash), `&` (ampersand), `\` (backslash), `.` (period), `"` (quotation mark).

     - **Verify password**—retype your password.
     - **Enable Certificate Check**—by default, the check box is clear. To download and store the iDRAC certificate and validate it during all future connections, select **Enable Certificate Check**. To perform no certificate check and not store the certificate, do not select the **Enable Certificate Check** check box.

       NOTE: Select **Enable Certificate Check** if you are using Active Directory.

d. Under **Host Root**, do the following tasks:
   - To access all the consoles associated with the Active Directory, select the **Use Active Directory** check box.
   - **User Name**—the default user name is root and cannot be modified. If **Use Active Directory** is selected, you can use any Active Directory user name.

     NOTE: The **User Name** is root and this entry cannot be modified if you do not select **Use Active Directory**. It is not compulsory for the iDRAC user to use the root credential, and it can be any administrator privilege if Active Directory is set.
   - **Password**—type the password.

     The following characters are not allowed for the password: `/` (forward slash), `&` (ampersand), `\` (backslash), `.` (period), `"` (quotation mark).

   - **Verify password**—retype your password.
   - **Enable Certificate Check**—by default, the check box is clear. To download and store the iDRAC certificate and validate it during all future connections, select **Enable Certificate Check**. To perform no certificate check and not store the certificate, clear the **Enable Certificate Check** check box.

     NOTE: Select **Enable Certificate Check** if you are using Active Directory.

     NOTE: The OMSA credentials are the same credentials as used for the ESXi hosts.

     NOTE: For hosts that do not have either an iDRAC Express or Enterprise card, the iDRAC test connection result states **Not Applicable** for this system.

7. Click **Next**.
8. In the **Select Hosts** dialog box, select hosts for this connection profile.
9. Click **OK**.

   The **Associated Host** dialog box lets you test the iDRAC and host credentials on the selected servers.

NOTE: If you select hosts that are running ESXi 6.5 or later, ensure that you click the icon for enabling the WBEM service on all those hosts.

10. Perform one of the following steps:
    - To create a connection profile without testing the credentials, click **Finish**.
    - To begin the test, select the hosts to check and then click the **Test Connection** icon. The other options are inactive.

      NOTE: The test connection fails if the WBEM service is not enabled for hosts with ESXi 6.5 or later.

      When the test is complete, click **Finish**.
    - To stop the tests, click **Abort All Tests**. In the **Abort Tests** dialog box, click **OK**, and then click **Finish**.

NOTE: The **Date Modified** and **Last Modified By** fields include changes that you perform through the web client interface for a connection profile. Any changes that the OMIVV appliance performs on the respective connection profile do not affect these two field details.

Deleting connection profile

NOTE: Ensure that you do not delete a connection profile that is associated with a host when an inventory, a warranty, or a deployment job is running.

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand **Credential Profiles**, click the **Connection Profiles** tab, and select the profiles to delete.
4. Click the icon.
5. To remove the profile, click **Yes** for the delete confirmation message, or to cancel the delete action, click **No**.

NOTE: OMIVV does not manage the hosts that are part of the connection profile that you deleted, until those hosts are added to another connection profile.

Testing connection profile

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand **Credential Profiles**, click the **Connection Profiles** tab, and select a connection profile.
4. In the **Test Connection Profile** dialog box, select the hosts you want to test, and then click the **Test Connection** icon.
   If you do not select a connection profile, running test connection takes some time.
5. To abort all selected tests and cancel the testing, click **Abort All Tests**. In the **Abort Tests** dialog box, click **OK**.
6. To exit, click **Cancel**.

About chassis profile

OMIVV can monitor all Dell Chassis associated with the Dell servers. A chassis profile is required to monitor the chassis. You can manage chassis profile by performing the following tasks:

- View chassis profile. See Viewing chassis profile.
- Create chassis profile. See Creating chassis profile.
- Edit chassis profile. See Editing chassis profile.
- Delete chassis profile. See Deleting chassis profile.
- Test chassis profile. See Testing chassis profile.

Viewing chassis profiles

Ensure that you create a chassis profile or a chassis profile exists before viewing.

After one or more chassis profiles are created, you can view them in the chassis profiles page.

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand **Credential Profiles** and click the **Chassis Profiles** tab.
   The chassis profiles are displayed.
4. To display all the associated chassis, click the icon, if multiple chassis are associated with the chassis profile.
5. In the **Chassis Profiles** page, view the chassis information.

Table 8. Chassis profile information

Chassis fields	Description
Profile Name	Displays the name of the chassis profile
Description	Displays a description, if provided
Chassis IP/Host Name	Displays the IP address of the chassis or the host name
Chassis Service Tag	Displays the unique identifier assigned to a chassis
Date Modified	Displays the date when the chassis profile was modified

Creating chassis profile

A chassis profile is required to monitor the chassis. A chassis credential profile can be created and associated with a single or multiple chassis.

You can log in to iDRAC and the host by using Active Directory credentials.

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand **Credential Profiles**, and click the **Chassis Profiles** tab.
4. In the **Chassis Profiles** page, click the icon to create a **New Chassis Profile**.
5. In the **Chassis Profile Wizard** page, do the following:
   In the **Name and Credentials** section, under **Chassis Profile**:
   a. In the **Profile Name** text box, enter the profile name.
   b. In the **Description** text box, enter description, which is optional.
   Under **the Credentials** section:
   a. In the **User Name** text box, type the user name with administrative rights, which is typically used to log in to the Chassis Management Controller.
   b. In the **Password** text box, type the password for the corresponding user name.
   c. In the **Verify Password** text box, enter the same password you have entered in the **Password** text box. The passwords must match.

   NOTE: The credentials can be a local or the Active Directory credentials. Before using the Active Directory credentials with a Chassis Profile, the Active Directory user's account must exist in Active Directory and the Chassis Management Controller must be configured for Active Directory based authentication.
6. Click **Next**.
   The **Select Chassis** page is displayed which shows all the available chassis.

   NOTE: Chassis are discovered and available to be associated with the chassis profile only after the successful inventory run of any modular host present under that chassis.
7. To select either an individual chassis or multiple chassis, select the corresponding check boxes next to the **IP/Host Name** column.
   If the selected chassis is already a part of another profile, then a warning message is displayed, stating that the selected chassis is associated with a profile.
   For example, you have a profile **Test** associated with Chassis A. If you create another profile **Test 1** and try to associate Chassis A to **Test 1**, a warning message is displayed.
8. Click **OK**.

The **Associated Chassis** page is displayed.

9. To test the chassis connectivity, select the chassis and click the **Test Connection** icon, which verifies the credentials, and the result is displayed in the **Test Result** column as **Pass** or **Fail**.
10. To complete the profile, click **Finish**.

Editing chassis profile

After you have created a chassis profile, you can edit the profile name, description, associated chassis, and credentials.

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand **Credential Profiles**, click the **Chassis Profiles** tab, and select a chassis profile.
4. Click the icon on the main menu.
   The **Edit Chassis Profile** window is displayed.
5. In **Chassis Profile**, you can edit the **Profile Name** and **Description**, which is optional.
6. Under the **Credentials** area, you can edit the **User Name**, **Password**, and **Verify Password**.
   The password that you type in **Verify Password** must be same as the one you entered in the **Password** field. The credentials entered must have administrator rights on the chassis.
7. To save the changes, click **Apply**.
   The **Associated Chassis** tab enables you to test the chassis and credentials on the selected chassis. Perform one of the following steps:
   - To begin the test, select either one chassis or multiple chassis to check and then click the **Test Connection** icon. The **Test Result** column displays whether the test connection is successful.
   - You can add or delete either one or multiple chassis to a chassis profile.

   NOTE: If the chassis are not inventoried, only the IP/host name and the Service tag are displayed. The fields **Chassis Name** and **Model** are displayed once the chassis is inventoried.

Deleting chassis profiles

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand **Credential Profiles**, and click the **Chassis Profiles** tab.
4. Select a chassis profile that you want to delete and click the icon.
   A warning message is displayed.
5. To proceed with deletion, click **Yes**, or to cancel deletion, click **No**.

   If all the chassis associated to a chassis profile is cleared or moved to different profiles, a delete confirmation message is displayed stating that the chassis profile does not have any associated chassis and is deleted. To delete the chassis profile, click **OK** for the delete confirmation message.

NOTE: OMIVV does not monitor the chassis that are associated with the chassis profiles that you have deleted, until those chassis are added to another chassis profile.

Testing chassis profile

1. In OpenManage Integration for VMware vCenter, click **Manage**.
2. Click **Profiles**, and then click **Credential Profiles**.
3. Expand the **Credential Profiles**, click the **Chassis Profiles** tab, and then select a single or multiple chassis profile to test. This action may take several minutes to complete.
4. In the **Test Chassis Profile** dialog box, select the chassis you want to test and then click the **Test Connection** icon.
5. To abort all selected tests and cancel the testing, click **Abort All Tests**. In the **Abort Tests** dialog box, click **OK**.
6. To exit, click **Cancel**.

8

Inventory and warranty management

After you configure OMIVV, you can monitor the inventory, warranty jobs, manage deployment jobs, and manage firmware update jobs under the **Monitor** tab. The inventory and warranty are set up in the **Initial Configuration Wizard** or from the **Settings** tab.

The job queue page manages the following jobs:

- Displaying the submitted server deployment or firmware update jobs.
- Refreshing the firmware update or deployment jobs, or inventory/warranty history queues.
- Scheduling an inventory or warranty job.
- Purging the firmware update or deployment job queue entries.

NOTE: To ensure the inventory/warranty contains up-to-date information, schedule the inventory/warranty job to run once a week at a minimum.

The tasks that you can perform in this page include:

- Managing deployment jobs
- Managing firmware update jobs
- Managing inventory jobs
- Managing warranty jobs

NOTE: For all the mentioned jobs, ensure that they are scheduled again if the appliance time is changed to a future date and reverted.

NOTE: For Basic Health Monitoring, ensure that you reboot the OMIVV appliance. For Extended Health Monitoring, ensure that you disable **Extended Monitoring**, and then enable it from the OMIVV Administration Console.

Topics:

- Inventory jobs
- Warranty jobs
- Monitoring single host
- Monitoring hosts on clusters and data centers
- Setting up physical server blink indicator light

Inventory jobs

The inventory jobs are set up by using the **Settings** tab or the **Initial Configuration Wizard**. Use the **Inventory History** tab to view all the inventory jobs. The tasks that you can perform from this tab include:

- Viewing hosts or chassis inventory
- Modifying inventory job schedules
- Running a chassis inventory job now

Viewing host inventory

A successfully completed inventory is required to gather the data. Once the inventory is complete, you can view the inventory results for the entire data center or for an individual host system. You can sort the columns of the inventory view in ascending and/or descending order.

NOTE: The following are several possible causes when the host data cannot be retrieved and displayed:

- The host is not associated with a connection profile, and therefore you cannot run an inventory job.
- An inventory job has not been run on the host to collect the data, and therefore there is nothing to display.
- The number of host licenses exceeds, and you must have additional licenses available for the inventory task to complete.

- The host does not have the correct iDRAC license required for 12th and later generation of Dell PowerEdge servers and hence, purchase the correct iDRAC license.
- The credentials might be wrong.
- The host might not be reachable.

To view the host inventory details:

1. In OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, expand **Inventory History**, and then click **Host Inventory**.
   The vCenter information is displayed in the upper grid.
3. To view the host information on a selected vCenter, select a vCenter to display all associated host details.
4. Review the host inventory information.

Table 9. vCenter, host information

vCenter	
vCenter	Displays vCenter address
Hosts Passed	Displays any hosts, which have passed
Last Inventory	Displays the date and time when the last inventory schedule was run
Next Inventory	Displays the date and time when the next inventory schedule will run
Hosts	
Host	Displays the host address.
Status	Displays the status. The options include: • Successful • Failed • In Progress • Scheduled
Duration (MM: SS)	Displays the duration of the job in minutes and seconds
Start Date and Time	Displays the date and time when the inventory schedule started
End Date and Time	Displays the time the inventory schedule ended

Viewing chassis inventory

A successfully completed inventory is required to gather the data. You can sort the columns of the inventory view in ascending and/or descending order.

1. In OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, expand **Inventory History**, and then click **Chassis Inventory**.
3. Review the chassis inventory information.

Table 10. Chassis information

Chassis inventory	
Chassis IP	Displays the chassis IP address
Service Tag	Displays the service tag of the chassis. The service tag is a unique identifier provided by the manufacturer for support and maintenance
Status	Displays the status of the chassis
Duration (MM: SS)	Displays the duration of the job in minutes and seconds

Table 10. Chassis information

Start Date and Time	Displays the date and time when the inventory schedule started
End Date and Time	Displays the time the inventory schedule ended

Modifying inventory job schedules

To ensure that there is up-to-date host information, schedule the inventory job to run at a minimum frequency of once a week. The inventory job consumes minimal resources and does not degrade host performance. You can change the inventory job schedule from the **Initial Configuration Wizard** or from the **Monitor** tab.

The inventory job schedule sets the time or day for running inventory jobs, such as:

- Weekly at a specific time and on selected days
- At a set time interval

To perform an inventory on host systems, create a connection profile that provides communication and authentication information.

1. In the OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, **Inventory History**, and then click **Host Inventory**.
3. Select a vCenter, and then click the  icon.
4. In the **Inventory Data Retrieval** dialog box, do the following:
   a. Under **Inventory Data**, select the **Enable Inventory Data Retrieval** check box.
   b. Under **Inventory Data Retrieval Schedule**, select the days of the week for your job.
   c. In the **Inventory Data Retrieval Time** text box, type the local time for this job.
   You might need to consider the time difference between job configuration and job implementation.
5. To save the settings, click **Apply**, to reset the settings, click **Clear**, and to abort the operation, click **Cancel**.
6. To run the job now, from the OpenManage Integration for VMware vCenter, on the **Monitor** > **Job Queue** tab, click **Inventory History** > **Hosts Inventory**.
7. Click  , and in the **Success** dialog box, click **Close**.

NOTE: When you run a modular host inventory, the corresponding chassis are discovered automatically. The chassis inventory runs automatically after host inventory if chassis is already part of a chassis profile.

After scheduling an inventory job now, the inventory job is now in a queue. You cannot run an inventory for a single host. An inventory job starts for all hosts.

Running inventory jobs

1. Once the **Configuration Wizard** is complete, inventory is triggered automatically for all hosts which are added to a Connection Profile. For a subsequent inventory run on-demand, click **Job Queue** > **Inventory** > **Run Now** to run an inventory job.
2. To see the status of the inventory job, click **Refresh**.
3. Navigate to the **Host and Cluster** view, click on any **Dell host**, then click the **OpenManage Integration** tab. The following information should be available:
   - Overview Page
   - System Event Log
   - Hardware Inventory
   - Storage
   - Firmware
   - Power Monitoring

   NOTE: Inventory job for hosts exceeding the license limit will be skipped and marked as Failed.

   The following host commands work within the OpenManage Integration tab:
   - Blink Indicator Light
   - Run Firmware Update Wizard

- Launch Remote Access
- Launch OMSA
- Launch CMC

Running chassis inventory job now

You can view and run a chassis inventory job in the **Chassis Inventory** tab.

1. In the OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, **Inventory History**, and then click **Chassis Inventory**.
   The list of chassis and its status for the last inventory job is displayed.
   NOTE: The scheduled chassis inventory is run the same time as the scheduled host inventory.
3. Click .
   The lists of updated inventoried chassis are displayed with the status against each chassis as **Success** or **Failure**.

Warranty jobs

Hardware warranty information is retrieved from Dell online and is displayed by OMIVV. The service tag of the server is used to gather warranty information about the server. The warranty data retrieval jobs are set up by using the **Initial Configuration Wizard**.

The tasks you can perform in this tab include:

- Viewing warranty history
- Modifying a warranty job schedule
- Running a hosts warranty job now
- Running a chassis warranty job now

Viewing warranty history

A warranty job is a scheduled task to get warranty information from `Support.dell.com` on all systems. You can sort the columns of the inventory view in ascending and/or descending order.

NOTE: The OMIVV appliance requires internet connectivity to extract warranty information. Ensure that the OMIVV appliance has internet connectivity. Depending on the network settings, OMIVV might require proxy information for internet reachability and fetch warranty information. The proxy details can be updated in the Administration Console. See Setting up HTTP proxy on page 17.

1. In the OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, and then click **Warranty History**.
3. Expand **Warranty History** to display **Hosts Warranty** and **Chassis Warranty**.
4. To view your corresponding warranty job history information, select**Hosts Warranty**, and then select a vCenter to display all associated hosts details.

Table 11. vCenter, hosts history information

vCenter history	
vCenters	Displays lists of vCenters
Hosts Passed	Displays the number of vCenter hosts that passed
Last Warranty	Displays the date and time when the last warranty job was run
Next Warranty	Displays the date and time when the next warranty job will run
Hosts history	

Table 11. vCenter, hosts history information

vCenter history	
Host	Displays the host address
Status	Displays the status. The options include: • Successful • Failed • In Progress • Scheduled
Duration (MM:SS)	Displays the duration of the warranty job in MM:SS
Start Date and Time	Displays the date and time when the warranty job started
End Date and Time	Displays the time the warranty job ended

Viewing chassis warranty

A warranty job is a scheduled task to get warranty information from `Support.dell.com` on all systems. You can sort the columns of the inventory view in ascending and/or descending order.

1. In the OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, and then click **Warranty History**.
3. Expand **Warranty History** to display **Hosts Warranty** and **Chassis Warranty**.
4. Click **Chassis Warranty**.
5. View the chassis warranty details.

Table 12. Chassis information

Chassis history	
Chassis IP	Displays the chassis IP address
Service Tag	Displays the service tag of the chassis. The service tag is a unique identifier provided by the manufacturer for support and maintenance
Status	Displays the status of the chassis
Duration (MM: SS)	Displays the duration of the warranty job in MM:SS
Start Date and Time	Displays the date and time when the warranty job started
End Date and Time	Displays the time the warranty job ended

Modifying warranty job schedules

The warranty jobs are originally configured in the **Initial Configuration Wizard**. You can modify warranty job schedules from the **Settings** tab.

1. In the OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, and then click **Warranty History**.
3. Expand **Warranty History** to display **Hosts Warranty** and **Chassis Warranty**.
4. To view your corresponding warranty job history information, select either **Hosts Warranty** or **Chassis Warranty**.
5. Click the  icon.
6. In the **Warranty Data Retrieval** dialog box, do the following:
   a. Under **Warranty Data**, select the **Enable Warranty Data Retrieval** check box.
   b. Under **Warranty Data Retrieval Schedule**, select the days of the week for the warranty job.
   c. In the **Warranty Data Retrieval Time** text box, type the local time for this job.

You might need to calculate the time difference required to run this job at the proper time.

7. Click **Apply**.

Running host warranty job now

Run a warranty job at least once a week.

1. In the OpenManage Integration for VMware vCenter, click the **Monitor** tab.
2. Click **Job Queue**, and then click **Warranty History**.
3. Expand **Warranty History** to display **Hosts Warranty** and **Chassis Warranty**.
4. To view your corresponding warranty job history information, select either **Hosts Warranty** or **Chassis Warranty**.
5. Select the warranty job you want to run, and then click the icon.
6. In the **Success** dialog box, click **Close**.
   A warranty job is now in queue.

NOTE: Chassis warranty is run automatically for all the chassis once the host warranty is run. In an SSO environment having multiple vCenters, the chassis warranty runs automatically with every vCenter when the warranty for any vCenter is run manually.

Running chassis warranty job now

Run a warranty job at least once a week.

1. In the OpenManage Integration for VMware vCenter, navigate to the **Monitor** > **Job Queue** tab.
2. To select the warranty job you want to run, click **Warranty History**, and then **Chassis Warranty**.
3. Click the icon.
4. In the **Success** dialog box, click **Close**.
   A warranty job is now in queue.

Monitoring single host

The OpenManage Integration for VMware vCenter enables you to view detailed information for a single host. You can access hosts in VMware vCenter from the Navigator pane, which displays all hosts for all vendors. To find more detailed information, click a specific Dell host. To view a list of Dell hosts, from OpenManage Integration for VMware vCenter, in the Navigator pane, click **Dell hosts**.

Viewing host summary details

You can view the host summary details for an individual host on the **Host Summary** page, where various portlets are displayed. Two of the portlets are applicable to the OpenManage Integration for VMware vCenter. The two portlets are:

- Dell Host Health
- Dell Host information

You can drag and drop the two portlets to the position you want and can format and customize the two portlets like other portlets as per your requirement. To view the host summary details:

1. In the OpenManage Integration for VMware vCenter, in the Navigator pane, click **Hosts**.
2. In the **Objects** tab, select the specific host you want to review.
3. Click the **Summary** tab.
4. View the host summary details:

Table 13. Host summary information

Table 13. Host summary information

Information	Description
Alternating system	Displays alerts for OpenManage Integration for VMware vCenter in a yellow box under the status area and preceding the portlets.
Notification area	Displays the Dell products integration information in the right side-panel area, where you can find information about: ● Recent Tasks ● Work In Progress ● Alarms The Dell alarm information is displayed in the notification area portlet.

5. Scroll down to view the Dell Server Management portlet.

Table 14. Dell server Management portlet (continued)

Information	Description
Service Tag	Displays the service tag for your Dell PowerEdge server. Use this ID when you call for support.
Model Name	Displays the server's model name.
Fault Resilient Memory	Displays the status of a BIOS attribute. The BIOS attribute is enabled in the BIOS during initial setup of the server and displays the memory operational mode of the server. Restart your system when you change the memory operational mode value. This is applicable for 12th generation of PowerEdge servers and later that support Fault Resilient Memory (FRM) option, running ESXi 5.5 or later version. The four different values of BIOS attribute are: ● Enabled and Protected: This value indicates that the system is supported and the operating system version is ESXi 5.5 or later and the memory operational mode in BIOS is set to FRM. ● Enabled and Not Protected: This value indicates that it supports the system with operating system version lesser than ESXi 5.5. ● Disabled: This value indicates that it supports valid systems with any operating system version and the memory operational mode in BIOS is not set to FRM. ● Blank: If memory operational mode in BIOS is not supported, the FRM attribute is not displayed.
Identification	Displays the following: ● Host name—Displays name of the Dell host ● Power State—Displays if power is ON or OFF ● iDRAC IP—Displays the iDRAC IP address ● Management IP—Displays the management IP address ● Connection Profile—Displays the connection profile name for this host ● Model—Displays the Dell server model ● Service Tag—Displays the Service tag for the server ● Asset Tag—Displays the Asset tag ● Warranty Days Left—Displays the days left for the warranty ● Last Inventory Scan—Displays the date and time of the last inventory scan
Hypervisor & Firmware	Displays the following:

Table 14. Dell server Management portlet

Information	Description
	• Hypervisor—Displays the Hypervisor version • BIOS Version—Displays the BIOS version • Remote Access Card Version—Displays the remote access card version
Management Consoles	The management consoles are used to launch external system management consoles, such as: • Launching the Remote Access Console (iDRAC)—launches the Integrated Dell Remote Access Controller (iDRAC) web user interface. • Launching OMSA console—launches the OMSA console to access the OpenManage Server Administrator user interface.
Host Actions	To blink at various time intervals, set up the physical server to blink at various time intervals. See Blink indicator light.

6. View the Dell Host Health portlet:

Table 15. Dell host health

Information	Description
Dell Host Health	Component health is a graphical representation of the status of all major host server components: Server Global status, Server, Power supply, Temperature, Voltages, Processors, Batteries, Intrusion, Hardware log, Power management, Power and Memory. The chassis health parameters are applicable for models VRTX version 1.0 and later, M1000e version 4.4 and later. For versions less than 4.3 only two health indicators are displayed, namely Healthy and Warning or Critical (Inverted triangle with an exclamatory mark in orange color). The overall health indicates the health based on the chassis with the least health parameter. The options include: • Healthy (green check mark)—component operating normally • Warning (yellow triangle with exclamation point)—component has a noncritical error. • Critical (red X)—component has a critical failure. • Unknown (question mark)—status is unknown for the component.

For example, if there are five healthy signs and one warning sign, the overall health is shown as warning.

Viewing hardware details for a single host

You can view hardware details for a single host on the **Dell Hosts Information** tab. For information to appear on this page, run an inventory job. The hardware views directly report data from OMSA and iDRAC. See Running inventory jobs.

1. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **Hosts**.
2. In the **Host** tab, select the specific host for which you want to view Hardware: `<Component Name>` details.
3. In the **Monitor** tab, select the **Dell Host Information** tab.

   On the Hardware: `<Component Name>` subtab, view the following information for each of the components.

Table 16. Hardware information for a single host

Table 16. Hardware information for a single host (continued)

Hardware: *Component*	Information
Hardware: FRU	• **Part Name**—displays the FRU part name • **Part Number**—displays the FRU part number • **Manufacturer**—displays the manufacturer's name • **Serial Number**—displays the manufacturer's serial number • **Manufacture Date**—displays the manufacture date
Hardware: Processor	• **Socket**—displays the slot number • **Speed**—displays the current speed • **Brand**—displays the processor brand • **Version**—displays the processor version • **Cores**—displays the number of cores in this processor

Hardware: Power Supply	• **Type**—displays the type of power supply. The power supply types include:
	  ○ UNKNOWN
	  ○ LINEAR
	  ○ SWITCHING
	  ○ BATTERY
	  ○ UPS
	  ○ CONVERTER
	  ○ REGULATOR
	  ○ AC
	  ○ DC
	  ○ VRM
	• **Location**—displays the location of the power supply, such as slot 1
	• **Output (Watts)**—displays the power in watts

Hardware: Memory	• **Memory Slots**—displays the Used, Total, and Available memory count • **Memory Capacity**—displays the Installed Memory, Total Memory Capacity, and Available Memory • **Slot**—displays the DIMM slot • **Size**—displays the memory size • **Type**—displays the memory type
Hardware: NICs	• **Total**—displays the total count of available network interface cards • **Name**—displays the NIC name • **Manufacturer**—displays only the manufacturer name • **MAC Address**—displays the NIC MAC address
Hardware: PCI Slots	• **PCI Slots**—displays the Used, Total, and Available PCI slots • **Slot**—displays the slot • **Manufacturer**—displays the manufacturer name of the PCI slot • **Description**—displays the description of the PCI device • **Type**—displays the PCI slot type • **Width**—displays the data bus width, if available
Hardware: Remote Access Card	• **IP Address**—display the IP address for the remote access card • **MAC Address**—displays the MAC address for the remote access card • **RAC Type**—displays the type of the remote access card

Table 16. Hardware information for a single host

Hardware: *Component*	Information
	• **URL**—displays the live URL for the iDRAC associated with this host

Viewing storage details for a single host

You can view storage details for a single host on the **Dell Hosts Information** tab. For information to appear on this page, run an inventory job. The hardware reports data directly from OMSA and iDRAC. See Running inventory jobs. The page displays different options depending on what is selected from the **View** drop-down list. If you select **Physical Disks**, another drop-down list is displayed. The next drop-down list is called Filter and enables you to filter the physical disk options. To view the storage details:

1. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **Hosts**.
2. In the **Objects** tab, select the specific host for which you want to view Storage: Physical Disk details.
3. In the **Monitor** tab, select the **Dell Host Information** tab.

   On the **Storage** subtab, view the following:

Table 17. Storage details for a single host

Component	Information
Storage	Displays the count of virtual disks, controllers, enclosures, and associated physical disks with the global hot spare and dedicated hot spare counts. When you select from the View drop-down list, the selected option is highlighted.
View	Displays the options that you want to view for this host: • Virtual Disks • Physical Disks • Controllers • Enclosures

Viewing storage details for the view option

The storage options on the **Host Storage** page depend on what you select from the **View** drop-down list.

Select either of the mentioned options from the View drop-down list and view the following:

Table 18. Storage details for a single host

Information	Description

Virtual Disks	• **Name**—displays the name of the virtual disk
	• **Device FQDD**—displays the FQDD
	• **Physical Disk**—displays on which physical disk the virtual disk is located
	• **Capacity**—displays the capacity of the virtual disk
	• **Layout**—displays the layout type of the virtual storage, which means the type of RAID that was configured for this virtual disk
	• **Media Type**—displays either SSD or HDD
	• **Controller ID**—displays the controller ID
	• **Device ID**—displays the device ID
	• **Stripe Size**—displays the stripe size, which is the amount of space that each stripe consumes on a single disk
	• **Bus Protocol**—displays the technology that the physical disks included in the virtual disk are using. The possible values are:
	  ○ SCSI
	  ○ SAS

Table 18. Storage details for a single host (continued)

Information	Description
	○ SATA ● **Default Read Policy**—displays the default read policy supported by the controller. The options include: ○ Read-Ahead ○ No-Read-Ahead ○ Adaptive Read-Ahead ○ Read Cache Enabled ○ Read Cache Disabled ● **Default Write Policy**—displays the default write policy supported by the controller. The options include: ○ Write-Back ○ Force Write Back ○ Write Back Enabled ○ Write-Through ○ Write Cache Enabled Protected ○ Write Cache Disabled ● **Cache Policy**—displays if cache policy is enabled
Physical Disks — When you select this option, the **Filter** drop-down list is displayed. You can filter physical disks based on the following options: ● All Physical Disks ● Global Hot Spares ● Dedicated Hot Spares ● The last option displays custom named virtual disks	● **Name**—displays the name of the physical disk ● **Device FQDD**—displays the device FQDD ● **Capacity**—displays the physical disk capacity ● **Disk Status**—displays physical disk status. The options include: ○ ONLINE ○ READY ○ DEGRADED ○ FAILED ○ OFFLINE ○ REBUILDING ○ INCOMPATIBLE ○ REMOVED ○ CLEARED ○ SMART ALERT DETECTED ○ UNKNOWN ○ FOREIGN ○ UNSUPPORTED ● **Configured**—displays whether the disk is configured ● **Hot Spare Type**—shows the hot spare type. The options include: ○ No—there is no hot spare ○ Global—an unused backup disk that is part of the disk group ○ Dedicated—an unused backup disk that is assigned to a single virtual disk. When a physical disk in the virtual disk fails, the hot spare is enabled to replace the failed physical disk without interrupting the system or requiring your intervention. ● **Virtual Disk**—displays the name of the virtual disk ● **Bus Protocol**—displays the bus protocol ● **Controller ID**—displays the controller ID ● **Connector ID**—displays the connector ID ● **Enclosure ID**—displays the enclosure ID ● **Device ID**—displays the device ID ● **Model**—displays the model number of the physical storage disk ● **Part Number**—displays the storage part number ● **Serial Number**—displays the storage serial number ● **Vendor**—displays the storage vendor name
Controllers	● **Controller ID**—displays the controller ID

Table 18. Storage details for a single host (continued)

Information	Description
	• **Name**—displays the name of the controller • **Device FQDD**—displays the FQDD of the device • **Firmware Version**—displays the firmware version • **Minimum Required Firmware**—displays the minimum required firmware. This column is populated if the firmware is out of date and a newer version is available • **Driver Version**—displays the driver version • **Patrol Read State**—displays the Patrol Read State • **Cache Size**—displays the cache size
Enclosures	• **Controller ID**—displays the controller ID • **Connector ID**—displays the connector ID • **Enclosure ID**—displays the enclosure ID • **Name**—displays the name of the enclosure • **Device FQDD**—displays the device FQDD • **Service Tag**—displays the service tag

About system event logs in web client

System event log (SEL) provides status information for hardware discovered by OMIVV and displays information based on the following criteria:

Status	There are several status icons: Informational (blue exclamation point), Warning (yellow triangle with exclamation point), Error (red X), and Unknown (a box with a ?).
Time (Server Time)	Indicates the time and date when the event occurred.
Search this page	Displays the specific message, server names, configuration settings, and so on.

The severity levels are defined as:

Info	OMIVV operation completed successfully.
Warning	OMIVV operation partially failed, and was partially successful.
Error	OMIVV operation failed.

You can save the log as an external CSV file. See Displaying system event logs for an individual host.

Displaying event logs for a single host

To display the events, perform the following steps:

1. To access the **Monitor** tab, and open the **System Event Log** subtab, perform either of the following steps:

Option	Description
From OMIVV	Perform the following steps in this option: a. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **Hosts**. b. In the **Objects** tab, double-click a specific host for which you want to view SEL log.
From the **Home** page	In the **Home** page, click **Hosts and Clusters**.

2. In the **Monitor** tab, select **Dell Host Information** > **System Event Log**.
   The recent system log entries provide the 10 most recent system event log entries.
3. To update the **System Event Log**, perform a global refresh.
4. To limit (filter) the number of event log entries, choose one of the following options:
   - In the search filter text box, to dynamically filter the log entries, enter a text string.
   - To clear the filter text box, click **X** and all the event log entries are displayed.

5. To clear all event log entries, click **Clear Log**.

   A message is displayed stating that all log entries are deleted after they are cleared and you can select one of the following options:

   - To agree to clear log entries, click **Clear Log**.
   - To cancel, click **Cancel**.

6. To export the event log to a .CSV file, click  .
7. To browse to the location and save the system event log, click **Save**.

Viewing additional hardware details for a single host

You can view the firmware, power monitoring, warranty status details for a single host on the **Dell Hosts Information** tab. For information to appear on this page, run an inventory job. The hardware views directly report the data from OMSA and iDRAC. See Running chassis inventory job now.

1. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **Hosts**.
2. In the **Objects** tab, select the specific host for which you want to view `<Component Name>` details.
3. In the **Monitor** tab, select the **Dell Host Information** tab.

   On the Hardware: `<Component Name>` subtab, view the following information for each of the components:

Table 19. Single host information (continued)

Component	Information
Firmware The host page lets you use the search, filter, and export a CSV file of firmware information	• **Name**—displays the name of all the firmware on this host • **Type**—displays the type of firmware • **Version**—displays the version of all the firmware on this host • **Installation Date**—displays the installation date
Power Monitoring **NOTE:** The host time, as used here, means the local time where the host is located.	• **General Information**—displays the Power Budget and Current Profile name • **Threshold**—displays the Warning and Failure thresholds in watts • **Reserve Power Capacity**—displays the Instant and Peak reserve power capacity in watts **Energy Statistics** • **Type**—displays the energy statistics type • **Measurement Start Time (Host Time)**—displays the date and time when the host began to consume power. • **Measurement Finish Time (Host Time)**—displays the date and time when the host stopped to consume power. • **Reading**—displays the average value of readings over a one-minute time period • **Peak Time (Host Time)**—displays the date and time of the host peak amps • **Peak Reading**—displays the System Peak Power statistic, which is the peak power consumed by the system (in watts)
Warranty **NOTE:** To view a warranty status, ensure that you run a warranty job. See Running a warranty retrieval job. The **Warranty Status** page enables you to monitor the warranty expiration date. The warranty settings control when server warranty information is retrieved from Dell	• **Provider**—displays the name of the provider for the warranty • **Description**—displays a description • **Start Date**—displays the start date of the warranty • **End Date**—displays the end date of the warranty • **Days Left**—displays the days left on the warranty • **Last Updated**—the last time the warranty was updated

Table 19. Single host information

Component	Information
online by enabling or disabling the warranty schedule, and then setting the Minimum Days Threshold alert.	

Monitoring hosts on clusters and data centers

The OpenManage Integration for VMware vCenter enables you to view detailed information for all hosts included in a data center or cluster. You can sort the data by clicking the data grid row header. The data center and cluster pages enable you to export information to a CSV file and offers filter or search functionality on the data grid.

Viewing overview of data centers and clusters

View the host details for data centers or clusters on the Dell Datacenter/Cluster Information tab. For information to appear on this page, run an inventory job. The data you view may vary depending on which view you are accessing the data. The hardware views directly reports data from OMSA and iDRAC. See Running inventory jobs.

NOTE: Data center and cluster pages enable you to export information to a CSV file and offers filter or search functionality on the data grid.

1. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **vCenter**.
2. Click **Datacenters** or **Clusters**.
3. In the **Objects** tab, select the specific data center or cluster for which you want to view host details.
4. In the **Monitor** tab, select the **Dell Datacenter/Cluster Information** > **Overview** tab, and view the details.

   NOTE: To display the full list of details, select a specific host from the data grid.

Table 20. Overview of data centers and clusters

Information	Description
Datacenter/Cluster Information	Displays the following: • Datacenter/cluster name • Number of Dell's managed hosts • Total energy consumption
Hardware Resources	Displays the following: • Total Processors • Total Memory • Virtual Disk Capacity
Warranty Summary	Displays the warranty status for the selected host. The status options include: • Expired warranty • Active warranty • Unknown warranty
Host	Displays the host name
Service Tag	Displays the host service tag
Model	Displays the Dell PowerEdge model
Asset Tag	Displays the asset tag, if configured
Chassis Service Tag	Displays the chassis service tag, if applicable
OS Version	Displays the ESXi OS version
Location	Blades only: Displays the slot location. For other, displays "Not Applicable"

Table 20. Overview of data centers and clusters

Information	Description
iDRAC IP	Displays the iDRAC IP address
Service Console IP	Displays the service console IP
CMC URL	Displays the CMC URL, which is the Chassis URL for Blade servers, or else, it displays, “Not Applicable”
CPUs	Displays the number of CPUs
Memory	Displays the host memory
Power State	Displays, if the host has power
Last Inventory	Displays the day, date, and time of the last inventory job
Connection Profile	Displays the name of the connection profile
Remote Access Card Version	Displays the remote access card version
BIOS Firmware Version	Displays the BIOS firmware version

Viewing hardware details for data centers and clusters

You can view hardware details for a single host on the **Dell Datacenter/Cluster Information** tab. For information to appear on this page, run an inventory job. The data center and cluster pages enable you to export information to a CSV file and offer filter or search functionality on the data grid. The data you view might vary depending on which view you are accessing the data. The hardware views directly report data from OMSA and iDRAC. See Running inventory jobs.

1. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **vCenter Inventory Lists**.
2. Click **Datacenters** or **Clusters**.
3. In the **Objects** tab, select the specific data center or cluster for which you want to view the component-specific details.
4. In the **Monitor** tab, select the **Dell Datacenter/Cluster Information** tab.

   On the Hardware: `<Component Name>` subtab, view the following information for each of the components.

Table 21. Hardware information for data centers and clusters (continued)

Hardware: *Component*	Information
Hardware: FRU	• **Host**—displays the host name • **Service Tag**—displays the service tag of the host • **Part Name**—displays the FRU part name • **Part Number**—displays the FRU part number • **Manufacturer**—displays the manufacturer’s name • **Serial Number**—displays the manufacturer’s serial number • **Manufacture Date**—displays the manufacture date
Hardware: Processor	• **Host**—displays the host name • **Service Tag**—displays the service tag of the host • **Socket**—displays the slot number • **Speed**—displays the current speed • **Brand**—displays the processor brand • **Version**—displays the processor version • **Cores**—displays the number of cores in this processor
Hardware: Power Supply	• **Host**—displays the host name • **Service Tag**—displays the service tag of the host • **Type**—displays the type of power supply. The power supply types include: ○ UNKNOWN

Table 21. Hardware information for data centers and clusters

Hardware: *Component*	Information
	○ LINEAR ○ SWITCHING ○ BATTERY ○ UPS ○ CONVERTER ○ REGULATOR ○ AC ○ DC ○ VRM • **Location**—displays the location of the power supply, such as slot 1 • **Output (Watts)**—displays the power in watts • **Status**—displays the status of the power supply. The status options include: ○ OTHER ○ UNKNOWN ○ OK ○ CRITICAL ○ NOT CRITICAL ○ RECOVERABLE ○ NOT RECOVERABLE ○ HIGH ○ LOW
Hardware: Memory	• **Host**—displays the host name • **Service Tag**—displays the service tag of the host • **Slot**—displays the DIMM slot • **Size**—displays the memory size • **Type**—displays the memory type
Hardware: NICs	• **Host**—displays the host name • **Service Tag**—displays the service tag of the host • **Name**—displays the NIC name • **Manufacturer**—displays only the manufacturer name • **MAC Address**—displays the NIC MAC address
Hardware: PCI Slots	• **Host**—displays the host name • **Service Tag**—displays the service tag of the host • **Slot**—displays the slot • **Manufacturer**—displays the manufacturer name of the PCI slot • **Description**—displays the description of the PCI device • **Type**—displays the PCI slot type • **Width**—displays the data bus width, if available
Hardware: Remote Access Card	• **Host**—displays the host name • **Service Tag**—displays the service tag of the host • **IP Address**—display the IP address for the remote access card • **MAC Address**—displays the MAC address for the remote access card • **RAC Type**—displays the type of the remote access card • **URL**—displays the live URL for the iDRAC associated with this host

Viewing storage details for data center and clusters

You can view the physical storage details for a data center or cluster on the **Datacenter/Cluster Information** tab. For information to appear on this page, run an inventory job. The data center and cluster pages enable you to export information to a CSV file and offers filter/search functionality on the data grid. The hardware views directly report data from OMSA and iDRAC. See Running inventory jobs.

1. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **vCenter Inventory Lists**.
2. Click **Datacenters** or **Clusters**.
3. In the **Objects** tab, select the specific data center or cluster.
4. In the **Monitor** tab, select the **Dell Datacenter/Cluster Information** tab and navigate to **Storage** > **Physical Disk/ Virtual Disk**.

   To display the full list of details, select a specific host from the data grid.

Table 22. Storage details for a data center and cluster (continued)

Storage: disks	Description

Physical Disk	• **Host**—displays the host name
	• **Service Tag**—displays the service tag of the host
	• **Capacity**—displays the physical disk capacity
	• **Disk Status**—displays physical disk status. The options include:
	  ○ ONLINE
	  ○ READY
	  ○ DEGRADED
	  ○ FAILED
	  ○ OFFLINE
	  ○ REBUILDING
	  ○ INCOMPATIBLE
	  ○ REMOVED
	  ○ CLEARED
	  ○ SMART ALERT DETECTION
	  ○ UNKNOWN
	  ○ FOREIGN
	  ○ UNSUPPORTED
	  NOTE: For more information about the meaning of these alerts, see the OpenManage Server Administrator Storage Management User's Guide at `dell.com/support`
	• **Model Number**—displays the model number of the physical storage disk
	• **Last Inventory**—displays the day, month, and time of the last inventory that was run
	• **Status**—displays the host status
	• **Controller ID**—displays the controller ID
	• **Connector ID**—displays the connector ID
	• **Enclosure ID**—displays the enclosure ID
	• **Device ID**—displays the device ID
	• **Bus Protocol**—displays the bus protocol
	• **Hot Spare Type**—shows the hot spare type. The options include:
	  ○ No—there is no hot spare
	  ○ Global—unused backup disk that is part of the disk group
	  ○ Dedicated—unused backup disk that is assigned to a single virtual disk. When a physical disk in the virtual disk fails, the hot spare is enabled to replace the failed physical disk without interrupting the system or requiring your intervention
	• **Part Number**—displays the storage part number
	• **Serial Number**—displays the storage serial number
	• **Vendor Name**—displays the storage vendor name

Virtual Disk	• **Host**—displays the name of the host

Table 22. Storage details for a data center and cluster

Storage: disks	Description

	• **Service Tag**—displays the service tag of the host
	• **Name**—displays the name of the virtual disk
	• **Physical Disk**—displays on which physical disk the virtual disk is located
	• **Capacity**—displays the capacity of the virtual disk
	• **Layout**—displays the layout type of the virtual storage. This means the type of RAID that was configured for this virtual disk
	• **Last Inventory**—displays the day, date and time the inventory was last run
	• **Controller ID**—displays the controller ID
	• **Device ID**—displays the device ID
	• **Media Type**—displays either SSD or HDD
	• **Bus Protocol**—displays the technology that the physical disks included in the virtual disk are using. The possible values are:
	  ○ SCSI
	  ○ SAS
	  ○ SATA
	• **Stripe Size**—displays the stripe size, which provides the amount of space that each stripe consumes on a single disk
	• Default Read Policy—displays the default read policy supported by the controller. The options include:
	  ○ Read-Ahead
	  ○ No-Read-Ahead
	  ○ Adaptive Read-Ahead
	  ○ Read Cache Enabled
	  ○ Read Cache Disabled
	• **Default Write Policy**—displays the default write policy supported by the controller. The options include:
	  ○ Write-Back
	  ○ Force Write Back
	  ○ Write Back Enabled
	  ○ Write-Through
	  ○ Write Cache Enabled Protected
	  ○ Write Cache Disabled
	• **Disk Cache Policy**—displays the default cache policy supported by the controller. The options include:
	  ○ Enabled—cache I/O
	  ○ Disabled—direct I/O

Viewing additional hardware details for data center and clusters

You can view the firmware, power monitoring, warranty status details for a data center and cluster on the **Dell Datacenter/ Cluster Information** tab. For information to appear on this page, run an inventory job. The data center and cluster pages enable you to export information to a CSV file and offers filter/search functionality on the data grid. The hardware views directly report the data from OMSA and iDRAC. See Running an inventory job now.

1. In OpenManage Integration for VMware vCenter, in the Navigator pane, click **vCenter**.
2. Click **Datacenters** or **Clusters**.
3. In the **Objects** tab, select the specific data center or cluster for which you want to view the host component details.
4. In the **Monitor** tab, select the **Dell Datacenter/Cluster Information** tab.

   On the `<Component Name>` subtab, view the following information for each of the components:

Table 23. Single host information

Table 23. Single host information

Component	Information
Firmware	• **Host**—displays the name of the host • **Service Tag**—displays the service tag of the host • **Name**—displays the name of all the firmware on this host • **Version**—displays the version of all the firmware on this host
Power Monitoring **NOTE:** To display the full list of details, select a specific host from the data grid.	• **Host**—displays the name of the host • **Service Tag**—displays the service tag of the host • **Current Profile**—displays power profile to maximize your system's performance and conserve energy • **Energy Consumption**—displays the energy consumption of the host • **Peak Reserve Capacity**—displays the peak power reserve capacity • **Power Budget**—displays the power cap for this host • **Warning Threshold**—displays your system's configure maximum value for temperature probe warning threshold • **Failure Threshold**—displays your system's configure maximum value for temperature probe failure threshold • **Instant Reserve Capacity**—displays the host instantaneous headroom capacity • **Energy Consumption Start Date**—displays the date and time when the host began to consume power • **Energy Consumption End Date**—displays the date and time when the host stopped to consume power • **System Peak Power**—displays the host peak power • **System Peak Power Start Date**—displays the date and time when the host peak power started • **System Peak Power End Date**—displays the date and time when the host peak power ended • **System Peak Amps**—displays the hosts peak amps • **System Peak Amps Start Date**—displays the starting date and time of the host peak amps • **System Peak Amps End Date**—displays the end date and time of the host peak amps

Warranty Summary
NOTE: To view a warranty status, ensure to run a warranty job. See Running a warranty retrieval job. The **Warranty Summary** page lets you monitor the warranty expiration date. The warranty settings control when server warranty information is retrieved from Dell online by enabling or disabling the warranty schedule, and then setting the Minimum Days Threshold alert.
	• **Warranty Summary**—the host warranty summary is displayed using icons to visually show the number of hosts in each status category
	• **Host**—displays the host name
	• **Service Tag**—displays the service tag of the host.
	• **Description**—displays a description.
	• **Warranty Status**—displays the warranty status of the host. Status options include:
	  ○ Active—the host is under warranty, and has not exceeded any threshold
	  ○ Warning—the host is Active, but exceeded the warning threshold
	  ○ Critical—same as warning, but for a critical threshold
	  ○ Expired—the warranty has expired for this host
	  ○ Unknown—OpenManage Integration for VMware vCenter does not get warranty status because the warranty job is not run, an error has occurred getting the data, or the system does not have a warranty
	• **Days Left**—displays the number of days left for the warranty

Setting up physical server blink indicator light

To help in locating a physical server in a large data center environment, you can set the front indicator light to blink for a set time period.

1. In OpenManage Integration for VMware vCenter, in the Navigator area, under Inventory Lists, click **Hosts**.
2. In the **Object** tab, double-click the host you want.
3. In the **Summary** tab, scroll down to the Dell Server Management portlet.
4. Under **Host Actions**, select **Blink Indicator Light**.
5. Choose one of the following:
   - To turn on the blink and set the time period, in the **Indicator Light** dialog box, click **Blink On**, and use the Timeout drop-down list to select the time-out increment, and then click **OK**.
   - To turn off the blink, in the **Indicator Light** dialog box, click **Blink Off**, and then click **OK**.

9

About firmware updates

The OMIVV appliance allows you to perform BIOS and firmware update jobs on the managed hosts. You can perform concurrent firmware update jobs across multiple clusters or non-clustered hosts. Running concurrent firmware update on two hosts of the same cluster is not allowed.

The following table lists the number of firmware update jobs that you can run simultaneously in various deployment modes, although you can schedule any number of firmware update jobs:

Table 24. Firmware update jobs in various deployment modes

Small deployment mode	Medium deployment mode	Large deployment mode
5	10	15

The following are the two methods by which you can perform firmware update:

- Single DUP—performs firmware update for iDRAC, BIOS, or LC by pointing directly to the DUP location (either CIFS or NFS share). The single DUP method can be used only at the host level.
- Repository—performs BIOS and all supported firmware updates. The method can be used at both the host level and cluster level. The following are the two locations of repository:
  - Dell Online—the location uses the firmware update repository of Dell (`ftp.dell.com`). The OpenManage Integration for VMware vCenter downloads selected firmware updates from the Dell repository and updates the managed hosts.

    NOTE: Based on the network settings, enable proxy settings, if the network needs proxy.
  - Shared Network Folder—you can have a local repository of the firmware in a CIFS-based or NFS-based network share. This repository can either be a dump of Server Update Utility (SUU) that Dell releases periodically or a custom repository created using DRM. This network share should be accessible by OMIVV.

    NOTE: If you are using CIFS share, the repository passwords cannot exceed 31 characters. Do not use the following characters in a password, such as `@`, `&`,`%`, `'`, `"`, `,`(comma), <, >.

  For information about setting up firmware update repository, see Setting up the firmware update repository.

The **Firmware Update Wizard** always checks for the minimum firmware levels for iDRAC, BIOS, and Lifecycle Controller, and attempts to update them to the required minimum versions. See *OpenManage Integration for VMware vCenter Compatibility Matrix* for more information about the minimum firmware levels for iDRAC, BIOS, and Lifecycle Controller. Once iDRAC, Lifecycle Controller, and BIOS firmware versions meet the minimum requirements, the firmware update process allows updates for all firmware versions including: iDRAC, Lifecycle Controller, RAID, NIC/LOM, Power Supply, BIOS, and so on.

Topics:

- Running the firmware update wizard for a single host
- Running the firmware update wizard for clusters
- Managing firmware update jobs

Running the firmware update wizard for a single host

To perform the firmware update for a single host, perform the following steps:

NOTE: During the firmware update process, Dell recommends not to delete the following:

- The host from vCenter for which the firmware update job is in progress.
- The connection profile of the host for which the firmware update job is in progress.

1. To access the firmware update wizard, in OpenManage Integration, click **Hosts** and perform either of the following actions:
   - Right-click a host, select **All OpenManage Integration Actions** > **Firmware Update**.
   - In the **Hosts** page, click a host, and then select **All OpenManage Integration Actions** > **Firmware Update**.
   - In the **Navigator** pane, select a host, and then click **Summary** > **Dell Host Information** > **Run Firmware Wizard**.

- In the **Navigator** pane, select a host, and then click **Monitor** > **Dell Host Information** > **Firmware** > **Run Firmware Wizard**.

OMIVV checks compliance of the host and whether any other firmware update job is in progress in any host within the same cluster. After the verification, the **Firmware Update** wizard is displayed and you can view the **Welcome** page.

NOTE: If you upgrade from an earlier version of OMIVV to the available version and there is already a firmware update job scheduled, you can launch the firmware update wizard on the same host after you back up the OMIVV database and restore it to the available version.

2. Click **Next**.

   The **Select Update Source** screen is displayed.

3. In the **Select Update Source** screen, select either of the following:
   - Select **Current repository location** and select the firmware update bundle from the **Select an Update Bundle** drop-down list.

     NOTE: 64-bit bundles are not supported for 11th generation hosts on all iDRAC versions, and 12th generation hosts with iDRAC version 1.51 and earlier.

     NOTE: OMIVV supports 32–bit and 64–bit bundles for firmware update. Apart from the mentioned bundles, OMIVV also creates a hybrid bundle when there are multiple bundles available in the catalog with same release ID.
   - To load a single firmware update from a file, select **Single DUP**. A single DUP can reside on a CIFS or NFS share that is accessible by the virtual appliance. Enter the **File Location** in one of the following formats:
     - NFS share — `<host>:/<share_path/FileName.exe`
     - CIFS share — `\\<host accessible share path>\<FileName>.exe`

       For CIFS share, OMIVV prompts you to enter the user name and password in a domain format that can access the share drive.

       NOTE: The @, %, and , characters are not supported for use in shared network folder user names or passwords.

4. If you select **Single DUP**, go to step 7.
5. Click **Next**.

   The **Select Components** screen is displayed that lists the firmware details for the components. The screen displays the details of components such as host name, Service Tag, model name, component, version, update version, criticality, reboot required (Yes/No), and other details for the selected host.

   NOTE: When you upgrade from an earlier version of OMIVV to the available version, the reboot required field displays “No” for all components, unless you refresh the firmware update repository.

6. Use the check boxes to select at least one component from the list, and then click **Next**.

   The components that are either in a downgrade or currently scheduled for update cannot be selected. You can filter comma-separated values from the content of the various components of the data grid by using the **Filter** field. You can also drag and drop columns within the component data grid. If you want to export from the wizard, use the **Export to CSV** button. If you select the **Allow Firmware downgrade** check box, select the components to be listed for downgrade.

   NOTE: If you select components that require a reboot, ensure that the vCenter environment is configured in such a way that the workloads can be migrated.

7. Click **Next**.

   The **Schedule Firmware Update** screen is displayed.

   a. Specify job name in the **Firmware Update Job Name** field and description in the **Firmware Update Description** field, which is optional.

      The firmware update job name is mandatory and ensures that you do not use a name that is already in use. If you purge the firmware update job name, you can reuse the job name again.

   b. Select either of the following options:
      - Select **Update Now** to start the firmware update job immediately.
      - To run the firmware update job later, select **Schedule Update**. You can schedule the firmware update job 30 minutes from the current time.
        - In the Calendar box, select the month and day.
        - In the Time text box, type the time in HH: MM. The time is the OMIVV appliance time.
      - To avoid a service interruption, select **Apply updates on next reboot**.
      - To apply the update and reboot even if the host is not in maintenance mode, select **Apply Updates, and Force Reboot without entering maintenance mode**. Dell does not recommend this method.

8. Click **Next**.

   The **Summary** page is displayed that provides details about all components for firmware update.

9. Click **Finish**.

The firmware update job takes several minutes to complete and the time varies based on the number of components included for the firmware update job. You can view the status of the firmware update jobs in the **Job Queue** page. To access the job queue page, in OpenManage Integration, select **Monitor** > **Job Queue** > **Firmware Updates**.. Once firmware update task is complete, the inventory runs automatically on the selected hosts and hosts exit automatically from maintenance mode based on an option selected in the **Schedule Firmware Update** screen.

Running the firmware update wizard for clusters

OMIVV allows you to perform BIOS and firmware updates on all hosts of a cluster. The wizard only updates hosts that are part of a connection profile and compliant in terms of firmware, CSIOR status, hypervisor, and OMSA status (11th generation servers only). OMIVV performs a cluster aware firmware update if Distribute Resource Scheduling (DRS) is enabled on the cluster, by migrating the workload when a host enters or exits maintenance mode.

Ensure that the following conditions are met before running the firmware update wizard:

- The firmware update repository is already set. For information about setting up firmware update repository, see Setting up the firmware update repository.
- There are no active firmware update jobs for any hosts under the cluster that you are updating.

NOTE: VMware recommends clusters to be built with identical server hardware.

NOTE: During the firmware update process, Dell recommends not to delete the following:

- The host/hosts of a cluster from vCenter for which the firmware update job is in progress.
- The connection profile of the host/hosts of a cluster for which the firmware update job is in progress.

1. To launch the Firmware Update wizard, in OpenManage Integration, click **Clusters** and perform either of the following substeps:
   - Click a cluster, select **Actions** > **All OpenManage Integration Actions** > **Firmware Update**.
   - In the **Objects** tab, select **Actions** > **All OpenManage Integration Actions** > **Firmware Update**.
   - Click a cluster, select **Monitor** > **Dell Cluster Information** > **Firmware**. In the **Firmware** screen, click the **Run Firmware Wizard** link.
   - Right-click a cluster, select **Actions** > **All OpenManage Integration Actions** > **Firmware Update**.

   The **Welcome** page of the firmware update wizard is displayed.
2. View the **Welcome** page, and click **Next**.
   The **Select Servers** screen is displayed.
3. In the **Select Servers** window, in the **Name** tree view, use the check boxes to select the hosts.
4. Click **Next**.

   The **Select Update Source** screen is displayed where you can select the bundles. The repository location is also displayed.
5. In the **Select Update Source** screen, select the model name of the selected hosts from the displayed list in the **Select Bundles** area.

   Each model of the selected host has a drop-down list next to the host name from which you can select the required bundle. Select at least one bundle for firmware update.

   NOTE: OMIVV supports 32–bit and 64–bit bundles for firmware update. Apart from these bundles, OMIVV also creates a hybrid bundle when there are multiple bundles available in the catalog with the same release ID.

   NOTE: 64-bit bundles are not supported for 11th generation hosts on all iDRAC versions, and 12th generation hosts with iDRAC version 1.51 and earlier.
6. Click **Next**.
   The **Select Components** screen is displayed. The screen displays the details of components such as cluster, model, host name, Service Tag, component, version, update version, criticality, reboot required (Yes/No), and other details for the selected host.
7. In the **Select Components** page, use the check boxes to select at least one component from the list, and click **Next** to proceed.
   You can filter comma-separated values from the content of the various components of the data grid by using the **Filter** field. You can also drag and drop columns within the component data grid. If you want to export from the wizard, use the **Export to CSV** button. By selecting the **Allow Firmware downgrade** check box, you can select a firmware version earlier than the current version.
8. In the **FW Update Information** page, view all the firmware update details.

9. Click **Next**.
   The **Schedule Firmware Update** screen is displayed.
   a. Enter the firmware update job name in the **Firmware Update Job Name** field.
      The firmware update job name is mandatory and does not use a name that is already in use. If you purge the firmware update job name, you can reuse it again.
   b. Enter the firmware update description in the **Firmware Update Description** field.
      The description is optional.
   c. Under **Schedule Firmware Updates**, select an option from the following:
      - To run the update job now, click **Update Now**.
      - To run the update job later, click **Schedule Update**, and then perform the following subtasks:
        i. In the **Calendar** box, select the month and day.
        ii. In the **Time** text box, type the time in HH:MM.
10. Click **Next**.
    The **Summary** page is displayed.
11. In the **Summary** page, click **Finish** and the **The firmware update job has been created successfully** message is displayed.

The firmware update job takes several minutes to complete and time varies based on the number of hosts that are selected and the number of components in each host. You can view the status of the firmware update jobs in the **Job Queue** page. To access the job queue page, in OpenManage Integration, select **Monitor** > **Job Queue** > **Firmware Updates**. . Once the firmware update task is complete, the inventory runs automatically on the selected hosts and hosts exit automatically from maintenance mode.

Managing firmware update jobs

To view information in this page, run a firmware update job for a cluster. See Running the firmware update wizard for clusters.

The page displays all the firmware update jobs. In this page you can view, refresh, purge, or abort your firmware update jobs.

1. From the OpenManage Integration, select **Monitor** > **Job Queue** > **Firmware Updates**.
2. To display the most recent information, click the **Refresh** icon.
3. View the status in the datagrid.
   The grid offers the following information about firmware update jobs:
   - Status
   - Scheduled Time
   - Name
   - Description
   - vCenter
   - Collection Size (number of servers on the firmware inventory job)
   - Progress Summary (progress details of the firmware update)
4. To view more details about a particular job, in the data grid for a particular job, select a job.
   Here you can find the following details:
   - Host Name
   - Status
   - Start Time
   - End Time
5. If you want to abort a scheduled firmware update that is not running, select the job you want to abort, and click  .

   NOTE: If you abort a firmware update job that is already submitted to iDRAC, the firmware might still get updated on the host, but OMIVV reports the job as canceled.

6. If you want to purge earlier firmware update jobs or scheduled firmware updates, click  .
   The **Purge Firmware Update Jobs** dialog box is displayed. You can only purge jobs that are canceled, successful, or failed and cannot purge scheduled or active jobs.
7. In the **Purge Firmware Update Jobs** dialog box, select **Older than**, and click **Apply**.
   The selected jobs are then cleared from the queue.

10

Events, alarms, and health monitoring

The goal of hardware management is to provide the system health status and up-to-date infrastructure information that an administrator needs to respond to critical hardware events without leaving the OMIVV plug-in or vCenter.

The data center and host system monitoring enables an administrator monitor infrastructure health by displaying hardware (server and storage) and virtualization-related events on the **Tasks** and **Events** tab in vCenter. Also, critical hardware alerts can trigger the OpenManage Integration for VMware vCenter alarms and few alarms defined for Dell virtualization-related events can move the managed host system to maintenance mode.

To receive events from servers, OMIVV is configured as a Trap destination on all monitored devices and the various destinations are as follows:

- SNMP Trap destination is set in iDRAC for 12th generation hosts and later.
- Trap destination is set in OMSA for hosts earlier than 12th generation.
- Trap destination is set in CMC for chassis.

NOTE: OMIVV supports SNMP v1 and v2 alerts for 12th generation hosts and later. For hosts earlier than 12th generation, OMIVV supports only SNMP v1 alerts.

To monitor, perform the following:

- Configure the **Event and Alarm** settings.
- Configure SNMP OMSA Trap destinations, if necessary.
- Use the **Tasks** and **Events** tab in vCenter to review event information.

Topics:

- About events and alarms for hosts
- About events and alarms for chassis
- Virtualization-related events
- Proactive HA events
- Viewing alarms and events setting
- Viewing events
- Hardware component health—Proactive HA
- Launching management consoles

About events and alarms for hosts

You can edit events and alarms from the OpenManage Integration for VMware vCenter within the **Manage** > **Settings** tab. From here, you can select the event posting level, enable alarms for Dell hosts, or restore default alarms. You can configure events and alarms for each vCenter or all at once for all registered vCenters.

The following are the four event posting levels:

Table 25. Event posting level (continued)

Event	Description
Do not post any events	Do not allow the OpenManage Integration for VMware vCenter forward any events or alerts into related vCenters.
Post all events	Post all events, including informal events, that the OpenManage Integration for VMware vCenter receives from managed Dell hosts into related vCenters.
Post only critical and warning events	Posts only events with either a Critical or Warning criticality into related vCenters.
Post only virtualization-related critical and warning events	Post virtualization-related events received from hosts into related vCenters. The virtualization-related events are events

Table 25. Event posting level

Event	Description
	that Dell selects to be most critical to hosts that run virtual machines.

When you configure the events and alarms, you can enable them. When enabled, the critical hardware alarms can trigger the OMIVV appliance to put the host system into a maintenance mode, and in certain cases, migrate the virtual machines to another host system. The OpenManage Integration for VMware vCenter forwards events received from managed Dell hosts, and creates alarms for those events. Use these alarms to trigger actions from vCenter, like a reboot, maintenance mode, or migrate.

For example, when a dual power supply fails and an alarm is created, the resulting action puts the machine into maintenance mode, which results in workloads being migrated to a different host in the cluster.

All hosts outside of clusters, or in clusters without VMware Distributed Resource Scheduling (DRS) enabled, can see virtual machines being shut down due to a critical event. DRS continuously monitors usage across a resource pool and intelligently allocates available resources among virtual machines according to business needs. To ensure that virtual machines are automatically migrated on critical hardware events, use clusters with DRS configured Dell alarms. The details of the on-screen message list the clusters on this vCenter instance that might be impacted. Ensure that you confirm that the clusters are impacted before enabling events and alarms.

If you ever need to restore the default alarm settings, you can do so with the **Reset Default Alarm** button. This button is a convenient option to restore the default alarm configuration without uninstalling and reinstalling the product. If any Dell alarm configurations have been changed since installation, those changes are reverted by using this button.

NOTE: To receive Dell events, ensure that you enable the events.

NOTE: The OpenManage Integration for VMware vCenter preselects the virtualization-related events that are essential to hosts successfully running the virtual machines. By default, the Dell host alarms are disabled. If Dell alarms are enabled, the clusters should use DRS to ensure that the virtual machines that send critical events are automatically migrated.

About events and alarms for chassis

The events and alarms corresponding to a chassis are shown only at the vCenter level. The events and alarms settings for hosts at every vCenter is also applicable at the chassis level. You can edit events and alarms settings from OpenManage Integration for VMware vCenter within the **Manage** > **Settings** tab. From here, you can select the event posting level, enable alarms for Dell hosts and chassis, or restore default alarms. You can configure events and alarms for each vCenter or for all registered vCenters at once.

Viewing chassis events

1. In the left pane, select vCenter, and click the vCenter servers.
2. Click a specific vCenter.
3. Click the **Monitor** > **Events** tab.
4. To view more event details, select a specific event.

Viewing chassis alarms

1. In the left pane, select vCenter, and click the vCenter servers.
2. Click a specific vCenter.
   The alarms are displayed. Only the first four alarms are displayed.
3. To view the complete list, click **Show All** to view the detailed list in the **Monitor** tab as **All Issues**.
4. In **Triggered Alarms**, click **Alarm** to view the alarm definition.

Virtualization-related events

The following table contains the virtualization-related critical and warning events, and includes event name, description, severity level, and recommended action.

Table 26. Virtualization events

Event name	Description	Severity	Recommended action
Dell-Current sensor detected a warning value	A current sensor in the specified system exceeded its warning threshold	Warning	No action
Dell-Current sensor detected a failure value	A current sensor in the specified system exceeded its failure threshold	Error	Put the system into maintenance mode
Dell-Current sensor detected a non-recoverable value	A current sensor in the specified system detected an error from which it cannot recover	Error	No action
Dell-Redundancy regained	Sensor Returned to Normal Value	Info	No action
Dell-Redundancy degraded	A redundancy sensor in the specified system detected that one of the components of the redundancy unit has failed but the unit is still redundant	Warning	No action
Dell-Redundancy lost	A redundancy sensor in the specified system detected that one of the components in the redundant unit has been disconnected, has failed, or is not present	Error	Put the system into maintenance mode
Dell-Power supply returned to normal	Sensor returned to Normal Value	Info	No action
Dell-Power supply detected a warning	A power supply sensor reading in the specified system exceeded a user definable warning threshold	Warning	No action
Dell-Power supply detected a failure	A power supply has been disconnected or has failed	Error	Put the system into maintenance mode
Dell-Power supply sensor detected a non-recoverable value	A power supply sensor in the specified system detected an error from which it cannot recover	Error	No action
Dell-Memory Device Status warning	A memory device correction rate exceeded an acceptable value	Warning	No action
Dell-Memory Device error	A memory device correction rate exceeded an acceptable value, a memory spare bank was activated, or a multibit ECC error occurred	Error	Put the system into maintenance mode
Dell-Fan enclosure inserted into system	Sensor returned to normal value	Info	No action

Table 26. Virtualization events (continued)

Event name	Description	Severity	Recommended action
Dell-Fan enclosure removed from system	A fan enclosure has been removed from the specified system	Warning	No action
Dell-Fan enclosure removed from system for an extended amount of time	A fan enclosure has been removed from the specified system for a user-definable length of time	Error	No action
Dell-Fan enclosure sensor detected a non-recoverable value	A fan enclosure sensor in the specified system detected an error from which it cannot recover	Error	No action
Dell-AC power has been restored	Sensor Returned to Normal Value	Info	No action
Dell-AC power has been lost warning	An AC power cord has lost its power, but there is sufficient redundancy to classify this as a warning	Warning	No action
Dell-An AC power cord has lost its power	An AC power cord has lost its power, and lack of redundancy requires this to be classified as an error	Error	No action
Dell-Processor sensor returned to a normal value	Sensor Returned to Normal Value	Info	No action
Dell-Processor sensor detected a warning value	A processor sensor in the specified system is in a throttled state	Warning	No action
Dell-Processor sensor detected a failure value	A processor sensor in the specified system is disabled, has a configuration error, or experienced a thermal trip	Error	No action
Dell-Processor sensor detected a non-recoverable value	A processor sensor in the specified system has failed.	Error	No action
Dell-Device configuration error	A configuration error was detected for a pluggable device in the specified system	Error	No action
Dell-Battery sensor returned to a normal value	Sensor Returned to Normal Value	Info	No action
Dell-Battery sensor detected a warning value	A battery sensor in the specified system detected that a battery is in a predictive failure state	Warning	No action
Dell-Battery sensor detected a failure value	A battery sensor in the specified system detected that a battery has failed	Error	No action
Dell-Battery sensor detected a nonrecoverable value	A battery sensor in the specified system detected that a battery has failed	Error	No Action
Dell-Thermal shutdown protection has been initiated	This message is generated when a system is configured for thermal shutdown due	Error	No action

Table 26. Virtualization events (continued)

Event name	Description	Severity	Recommended action
	to an error event. If a temperature sensor reading exceeds the error threshold for which the system is configured, the operating system shuts down and the system powers off. This event may also be initiated on certain systems when a fan enclosure is removed from the system for an extended period of time		
Dell-Temperature sensor returned to a normal value	Sensor Returned to Normal Value	Info	No action
Dell-Temperature sensor detected a warning value	A temperature sensor on the backplane board, system board, CPU, or drive carrier in the specified system exceeded its warning threshold	Warning	No action
Dell-Temperature sensor detected a failure value	A temperature sensor on the backplane board, system board, or drive carrier in the specified system exceeded its failure threshold value	Error	Put the system into maintenance mode
Dell-Temperature sensor detected a non-recoverable value	A temperature sensor on the backplane board, system board, or drive carrier in the specified system detected an error from which it cannot recover	Error	No action
Dell-Fan sensor returned to a normal value	Sensor Returned to Normal Value	Info	No action
Dell-Fan sensor detected a warning value	Fan Sensor reading in the host <x> exceeded a warning threshold value	Warning	No Action
Dell-Fan sensor detected a failure value	A fan sensor in the specified system detected the failure of one or more fans	Error	Put the system into maintenance mode
Dell-Fan sensor detected a nonrecoverable value	A fan sensor detected an error from which it cannot recover	Error	No action
Dell-Voltage sensor returned to a normal value	Sensor Returned to Normal Value	Info	No action
Dell-Voltage sensor detected a warning value	A voltage sensor in the specified system exceeded its warning threshold	Warning	No action
Dell-Voltage sensor detected a failure value	A voltage sensor in the specified system exceeded its failure threshold	Error	Put the system into maintenance mode
Dell-Voltage sensor detected a nonrecoverable value	A voltage sensor in the specified system detected an	Error	No action

Table 26. Virtualization events (continued)

Event name	Description	Severity	Recommended action
	error from which it cannot recover		
Dell-Current sensor returned to a normal value	Sensor Returned to Normal Value	Info	No action
Dell-Storage: storage management error	Storage management has detected a device independent error condition	Error	Put the system into maintenance mode
Dell-Storage: Controller warning	A portion of the physical disk is damaged	Warning	No action
Dell-Storage: Controller failure	A portion of the physical disk is damaged	Error	Put the system into maintenance mode
Dell-Storage: Channel Failure	Channel failure	Error	Put the system into maintenance mode
Dell-Storage: Enclosure hardware information	Enclosure hardware information	Info	No action
Dell-Storage: Enclosure hardware warning	Enclosure hardware warning	Warning	No action
Dell-Storage: Enclosure hardware failure	Enclosure hardware error	Error	Put the system into maintenance mode
Dell-Storage: Array disk failure	Array disk failure	Error	Put the system into maintenance mode
Dell-Storage: EMM failure	EMM failure	Error	Put the system into maintenance mode
Dell-Storage: power supply failure	Power supply failure	Error	Put the system into maintenance mode
Dell-Storage: temperature probe warning	Physical disk temperature probe warning, too cold or too hot	Warning	No action
Dell-Storage: temperature probe failure	Physical disk temperature probe error, too cold or too hot.	Error	Put the system into maintenance mode
Dell-Storage: Fan failure	Fan failure	Error	Put the system into maintenance mode
Dell-Storage: Battery warning	Battery warning	Warning	No action
Dell-Storage: Virtual disk degraded warning	Virtual disk degraded warning	Warning	No action
Dell-Storage: Virtual disk degraded failure	Virtual disk degraded failure	Error	Put the system into maintenance mode
Dell-Storage: Temperature probe information	Temperature probe information	Info	No action
Dell-Storage: Array disk warning	Array disk warning	Warning	No action
Dell-Storage: Array disk information	Array disk information	Info	No action
Dell-Storage: Power supply warning	Power supply warning	Warning	No action

Table 26. Virtualization events (continued)

Event name	Description	Severity	Recommended action
Dell-Fluid Cache Disk failure	Fluid cache disk failure	Error	Put the system into maintenance mode
Dell-Cable failure or critical event	Cable failure or critical event	Error	Put the system into maintenance mode
Dell-Chassis Management Controller detected a warning	Chassis Management Controller detected a warning	Warning	No action
Dell-Chassis Management Controller detected an error	Chassis Management Controller detected an error	Error	Put the system into maintenance mode
Dell-IO Virtualization failure or critical event	IO virtualization failure or critical event	Error	Put the system into maintenance mode
Dell-Link status warning	Link status warning	Warning	No action
Dell-Link status failure or critical event	Link status failure or critical event	Error	Put the system into maintenance mode
Dell-Security warning	Security warning	Warning	No action
Dell-System: Software configuration warning	System: Software configuration warning	Warning	No action
Dell-System: Software configuration failure	System: Software configuration failure	Error	Put the system into maintenance mode
Dell-Storage Security warning	Storage security warning	Warning	No action
Dell-Storage Security failure or critical event	Storage security failure or critical event	Error	Put the system into maintenance mode
Dell-Software change update warning	Software change update warning	Warning	No action
Dell-Chassis Management Controller audit warning	Chassis Management Controller audit warning	Warning	No action
Dell-Chassis Management Controller audit failure or critical event	Chassis Management Controller audit failure or critical event	Error	Put the system into maintenance mode
Dell-PCI device audit warning	PCI device audit warning	Warning	No action
Dell Power Supply audit warning	Power supply audit warning	Warning	No action
Dell-Power Supply audit failure or critical event	Power supply audit failure or critical event	Error	Put the system into maintenance mode
Dell-Power usage audit warning	Power usage audit warning	Warning	No action
Dell-Power usage audit failure or critical event	Power usage audit failure or critical event	Error	Put the system into maintenance mode
Dell-Security configuration warning	Security configuration warning	Warning	No action
Dell-Configuration: Software configuration warning	Configuration: Software configuration warning	Warning	No action
Dell-Configuration: Software configuration failure	Configuration: Software configuration failure	Error	Put the system into maintenance mode
Dell-Virtual Disk Partition failure	Virtual disk partition failure	Error	Put the system into maintenance mode

Table 26. Virtualization events (continued)

Event name	Description	Severity	Recommended action
Dell-Virtual Disk Partition warning	Virtual disk partition warning	Warning	No action
iDRAC events **NOTE:** For all Proactive HA enabled hosts that are part of a cluster, the following virtualization events are mapped to the Proactive HA events; except events, "The fans are not redundant" and "The power supplies are not redundant" are not mapped.			
The fans are redundant	None	Info	No action
Fan redundancy is lost	One of more fans have failed or have been removed or a configuration change occurred, which requires additional fans	Critical	Remove and reinstall failed fans or install additional fans
Fan redundancy is degraded	One of more fans have failed or have been removed or a configuration change occurred, which requires additional fans.	Warning	Remove and reinstall failed fans or install additional fans
The fans are not redundant	One of more fans have failed or have been removed or a configuration change occurred, which requires additional fans	Info	Remove and reinstall failed fans or install additional fans
The fans are not redundant. Insufficient resources to maintain normal operations	One of more fans have failed or have been removed or a configuration change occurred, which requires additional fans	Critical	Remove and reinstall failed fans or install additional fans
The power supplies are redundant	None	Info	No action
Power supply redundancy is lost	The current power operational mode is non-redundant because of a power supply exception, a power supply inventory change, or a system power inventory change. The system was previously operating in a power redundant mode	Critical	Check the event log for power supply failures. Review system configuration and power consumption
Power supply redundancy is degraded	The current power operational mode is non-redundant because of a power supply exception, a power supply inventory change, or a system power inventory change. The system was previously operating in a power redundant mode	Warning	Check the event log for power supply failures. Review system configuration and power consumption
The power supplies are not redundant	The current power supply configuration does not meet the platform requirements to enable redundancy. If a power supply fails the system may shut down.	Info	If unintended, review system configuration and power consumption and install power supplies accordingly. Check power supply status for failures

Table 26. Virtualization events (continued)

Event name	Description	Severity	Recommended action
The power supplies are not redundant. Insufficient resources to maintain normal operations	The system may power down or operate in a performance degraded state	Critical	Check the event log for power supply failures. Review system configuration and power consumption and upgrade or install power supplies accordingly
Internal Dual SD Module is redundant	None	Info	No action
Internal Dual SD Module redundancy is lost	Either one of the SD card or both the SD cards are not functioning properly	Critical	Replace the failed SD card
Internal Dual SD Module redundancy is degraded	Either one of the SD card or both the SD cards are not functioning properly	Warning	Replace the failed SD card
Internal Dual SD Module is not redundant	None	Info	Install additional SD card and configure for redundancy if redundancy is desired
Chassis events			
Power supply redundancy is lost	The current power operational mode is non-redundant because of a power supply exception, a power supply inventory change, or a system power inventory change. The system was previously operating in a power redundant mode	Critical	Check the event log for power supply failures. Review system configuration and power consumption
Power supply redundancy is degraded	The current power operational mode is non-redundant because of a power supply exception, a power supply inventory change, or a system power inventory change. The system was previously operating in a power redundant mode	Warning	Check the event log for power supply failures. Review system configuration and power consumption
The power supplies are redundant	None	Info	No action
The power supplies are not redundant	The current power supply configuration does not meet the platform requirements to enable redundancy. If a power supply fails the system may shut down.	Info	If unintended, review system configuration and power consumption and install power supplies accordingly. Check power supply status for failures
The power supplies are not redundant. Insufficient resources to maintain normal operations	The system may power down or operate in a performance degraded state	Critical	Check the event log for power supply failures. Review system configuration and power consumption and upgrade or install power supplies accordingly
Fan redundancy is lost	One of more fans have failed or have been removed or a configuration change	Critical	Remove and reinstall failed fans or install additional fans

Table 26. Virtualization events

Event name	Description	Severity	Recommended action
	occurred, which requires additional fans		
Fan redundancy is degraded	One of more fans have failed or have been removed or a configuration change occurred, which requires additional fans.	Warning	Remove and reinstall failed fans or install additional fans
The fans are redundant	None	Info	No action
The fans are not redundant	One of more fans have failed or have been removed or a configuration change occurred, which requires additional fans	Info	Remove and reinstall failed fans or install additional fans
The fans are not redundant. Insufficient resources to maintain normal operations	One of more fans have failed or have been removed or a configuration change occurred, which requires additional fans	Critical	Remove and reinstall failed fans or install additional fans

Proactive HA events

The following table contains the Proactive HA critical, normal, and warning events; includes health update id, component type, and description:

Table 27. Proactive HA events

Dell Inc provider event id	Component type	Description
DellServerFan	Fan	Fan redundancy event
DellServerPower	Power	Power redundancy event
DellServerIDSDM	Storage	IDSDM redundancy event
DellChassisFan	Fan	Chassis simulated Fan redundancy event
DellChassisPower	Power	Chassis simulated Power redundancy event

Viewing alarms and events setting

Once you configure alarms and events, you can view if the vCenter alarms for hosts are enabled and which event posting level is selected on the settings tab.

1. In OpenManage Integration for VMware vCenter, in the **Manage** > **Settings** tab, under **vCenter Settings**, expand **Events and Alarms**.

   The following details are displayed:
   - vCenter alarms for Dell hosts — Displays either **Enabled** or **Disabled**.
   - Event posting level
2. Configure events and alarms. See Configuring events and alarms.

To view the event posting levels, see About events and alarms.

Viewing events

Ensure that you configure events before you can view them in the **Events** tab. See Configuring events and alarms.

View the events for a host, cluster, or data center in the events tab.

1. In the OpenManage Integration for VMware vCenter Navigator, click **Hosts**, **Datacenter** or **Clusters**.
2. In the **Objects** tab, select a specific host, data center, or cluster for which you want to view events.
3. In the **Monitor** tab, click **Events**.
4. To view the event details, select a specific event.

Hardware component health—Proactive HA

Proactive HA is a vCenter (vCenter 6.5 and later) feature that works with OMIVV. When you enable Proactive HA, the feature safeguards your workloads by proactively taking measures during redundant component failures in a host.

NOTE: All hosts from the Dell PowerEdge 12th generation and later, and the ESXi versions v6.0 and later that are part of a connection profile and successfully inventoried are eligible for Proactive HA.

To assess the status of redundant host server components, the OMIVV appliance updates the host component health status change to the vCenter server. The available status states of the major host server components, such as power supply, fans, and internal dual SD module (IDSDM) are:

- Healthy (green check mark)—component operating normally.
- Warning (yellow triangle with exclamation point)—component has a noncritical error.
- Critical (red X)—component has a critical failure.

When OMIVV detects a component health status change (either through traps or polling), the health update notification of the component is forwarded with the status to the vCenter server. Based on the notification, the vCenter server takes either a manual or an automatic action, as configured by you. The vCenter server takes either of the following actions:

- Place host in quarantine mode
- Place host in maintenance mode

Configuring Proactive HA for Rack servers

To configure for Rack servers, perform the following steps:

1. Create a connection profile and associate hosts with connection profile. See Creating a connection profile.
2. Verify that hosts inventory is completed successfully. See Viewing hosts inventory.
3. Verify that the SNMP trap destination in iDRAC is set as the OMIVV appliance IP address.
4. Enable Proactive HA on a cluster. See Enabling Proactive HA on a cluster.

Configuring Proactive HA for Modular servers

To configure for Modular servers, perform the following steps:

1. Create a connection profile and associate hosts with connection profile. See Creating a connection profile.
2. Verify that hosts inventory is completed successfully. See Viewing hosts inventory.
3. Create a chassis profile for associated chassis. See Creating a chassis profile.
4. Verify that chassis inventory is completed successfully. See Viewing chassis inventory.
5. Launch CMC and verify that the trap destination for chassis is set as the OMIVV appliance IP address.
6. In **Chassis Management Controller**, go to **Setup** > **General**.
7. In the **General Chassis Settings** page, select **Enable Enhanced Chassis Logging and Events**.
8. Enable Proactive HA on a cluster. See Enabling Proactive HA on a cluster.

Enabling Proactive HA on clusters

Before enabling Proactive HA on clusters, ensure that the following conditions are met:

- A cluster with DRS enabled is created and configured in the vCenter console. To enable DRS on a cluster, see the VMware documentation.
- All hosts that are part of the cluster should be part of a connection profile and successfully inventoried.

1. In OpenManage Integration, click **Clusters**.
2. Under **Clusters**, click a cluster, select **Configure** > **vSphere Availability**, and then click **Edit**.
   The **Edit Cluster Settings** wizard is displayed.
3. Click **vSphere DRS** and select **Turn on vSphere DRS**, if not selected.
4. Click **vSphere Availability** and select **Turn on Proactive HA** , if not selected.
5. In the left pane, under **vSphere Availability**, click **Proactive HA Failures and Responses**.
   The **Proactive HA Failures and Responses** screen is displayed.
6. In the **Proactive HA Failure and Responses** screen, expand the **Automation Level**.
7. For the **Automation Level**, select **Manual** or **Automated**.
8. For the **Remediation**, select quarantine mode, maintenance mode, or a combination of both quarantine and maintenance mode based on severity status. See the VMware documentation for more information.
9. For the **Proactive HA provider**, use the check box to select the Dell provider for the cluster.
10. Click **edit** against the selected Dell provider.
    The **Edit Blocked Failure Conditions** dialog box for the Proactive HA provider is displayed.
11. To block a failure condition from posting events, use the check boxes to select events (generated through traps or polling) from the **failure conditions** table.

    You can filter the content of the failure conditions data grid by using the **Filter** field, or drag and drop columns within the failure conditions data grid. The failure conditions can be applied at a cluster level or host level.
12. To apply on all current and future hosts in the cluster, select the **Cluster-level** check box.
13. To apply on a host, use the check boxes to select a host from the **To be applied at** table for the partial failure provider.

    You can filter the content of the data grid by using the **Filter** field.
14. To apply the changes, in the **Edit Blocked Failure Conditions**, click **OK**, or to cancel, click **Cancel**.
15. To save the changes, click **OK**, or to cancel, click **Cancel**.

OMIVV can now forward the health update notification of components to the vCenter server through events from the Dell server. Based on the notification, the vCenter server takes a manual or automatic action that you have selected for **Remediation**.

Health polling for the Dell servers

Before OMIVV polls every one hour, ensure that the following conditions are met:

- A connection profile is assigned to the host.
- A successful completed inventory is available for the host system.

The following are the health polling events:

Table 28. Polling events

Event name	Severity	Recommended action
Polling: Fan redundancy is in normal state	Info	No action
Polling: Fan redundancy is in warning state	Warning	Replace fan
Polling: Fan redundancy is in critical state	Critical	Replace fan
Polling: Power redundancy is in normal state	Info	No action
Polling: Power redundancy is in warning state	Warning	Replace power supply unit
Polling: Power redundancy is in critical state	Critical	Replace power supply unit

Polling runs every hour, and you cannot configure the polling schedule. Polling is available as a fail-safe mechanism to cover the possibility of a trap loss.

NOTE: Polling does not provide redundancy information of the IDSDM component to the vCenter server.

Overriding severity of health update notification

You can configure to override the system severity of the Dell host and chassis components with customized severity, which is aligned to your environment. The default severity is same as the system severity.

The following are the severity levels:

- **Info**
- **Moderately Degraded**
- **Severely Degraded**

NOTE: You cannot customize the severity of components with the **Info** severity level.

1. In OpenManage Integration for VMware vCenter, from the **Manage** tab, click **Proactive HA Configuration** > **Proactive HA Events**.
2. In the **Proactive HA Events** page, view the iDRAC and CMC information for the list of the Dell host and chassis components.
   The upper and lower data grids display all the poll and Proactive HA events that include events id, event description, current system severity, and override severity of the host and chassis components.
   NOTE: The severity of the IDSDM component cannot be customized, and therefore IDSDM is not displayed in the event list.
3. To change severity of a host or chassis component, in the **Override Severity** column, select the desired status from the drop-down list.
4. Repeat step 6 for all the events that must be customized.
5. Perform any one of the following actions:
   a. To save the customization, click **Apply Changes**.
   b. To revert the overridden severity after selecting a severity level, click **Cancel**.
   c. To apply the default severity to the overridden severity, click **Reset To Default Severity**.

Launching management consoles

There are three management consoles that you can start from the Dell Server Management portlet. They include:

- To access the iDRAC user interface, start the Remote Access Console. See Launching the Remote Access console (iDRAC).
- To access the OpenManage Server Administrator user interface, start the OMSA console. Before starting OMSA console, OMSA URL should be configured in the Open Management Integration for VMware vCenter. See Launching the OMSA console.
- To access the chassis user interface, click the Blade chassis console. See Launching the Chassis Management Controller console (CMC).
  NOTE: If you are on a Blade system, start the CMC console to launch the Chassis Management Controller user interface. If you are not on a Blade system, the Chassis Management Controller user interface is not displayed.

Launching Remote Access console (iDRAC)

You can start the iDRAC user interface from the Dell Server Management portlet.

1. In OpenManage Integration for VMware vCenter, in the Navigator area, under Inventory Lists, click **Hosts**.
2. On the **Object** tab, double-click the host you want.
3. On the **Summary** tab, scroll down to the Dell Server Management portlet.
4. Click **Management Consoles** > **Remote Access Console (iDRAC)**.

Launching OMSA console

Before you can start the OMSA console, ensure that you set up the OMSA URL and install and configure the OMSA web server. You can set up the OMSA URL from the **Settings** tab.

NOTE: Install OMSA to monitor and manage Dell PowerEdge 11th generation servers by using OpenManage Integration for VMware vCenter.

1. In OpenManage Integration for VMware vCenter, in the Navigator area, under Inventory Lists, click **Hosts**.
2. In the **Object** tab, double-click the host you want.
3. In the **Summary** tab, scroll down to the **Dell Host Information**.
4. In the **Dell Host Information** section, click **OMSA Console**.

Launching the Chassis Management Controller console (CMC)

You can start the chassis user interface from the Dell Server Management portlet.

1. In OpenManage Integration for VMware vCenter, in the Navigator area, under Inventory Lists, click **Hosts**.
2. In the **Object** tab, double-click the blade server you want.
3. In the **Summary** tab, scroll down to the Dell Server Management portlet.
4. Click **Management Consoles** > **Chassis Management Controller Console (CMC)**.

11

Chassis management

OMIVV allows you to view additional information for chassis associated with the Modular servers. In the chassis information tab, you can view the chassis overview details for an individual chassis, information about hardware inventory, firmware and management controller, health of the individual chassis components, and chassis warranty information. The following three tabs are displayed for each chassis and varies for some chassis based on the models:

- Summary tab
- Monitor tab
- Manage tab

NOTE: To view all information, ensure that the chassis are associated with a chassis profile and chassis inventory is completed successfully. See the About chassis profile for more information.

Topics:

- Viewing chassis summary details
- Viewing hardware inventory information for chassis
- Viewing additional hardware configuration for chassis
- Viewing associated host for chassis

Viewing chassis summary details

You can view the chassis summary details for an individual chassis on the **Chassis Summary** page.

1. In the **Home** page, click **vCenter**.
2. In the left pane, under **OpenManage Integration**, click **Dell Chassis**.
3. In the left pane, select the corresponding chassis IP.
4. Click the **Summary** tab.

   The following information about the selected chassis is displayed:
   - Name
   - Model
   - Firmware version
   - Service tag
   - CMC

   NOTE: If you click the CMC link, the **Chassis Management Controller** page is displayed.

   NOTE: If you do not run the inventory job for the chassis, you can see only service tag and CMC IP address.

5. View the health status of the devices associated with the selected chassis.
   The main pane displays the overall health of a chassis. The valid health indicators are **Healthy**, **Warning**, **Critical**, **Not Present**. In the **Chassis Health** grid view, the health of each component is displayed. The chassis health parameters are applicable for models VRTX version 1.0 and later, M1000e version 4.4 and later. For versions less than 4.3, only two health indicators are displayed, such as Healthy and Warning or Critical (Inverted triangle with an exclamatory mark in orange color).

   NOTE: The overall health indicates the health based on the chassis with the least health parameter. For example, if there are 5 healthy signs and 1 warning sign, the overall health is shown as warning

6. View **CMC Enterprise** or **Express** with the license type and expiry date for a chassis.

   The mentioned details are not applicable for M1000e chassis.

7. Click the **Warranty** icon and view the number of remaining days and the days used for a host.
   If you have more than one warranty, the last day of the last warranty is considered to calculate the number of days left for warranty.
8. View the errors in the **Active Errors** table lists for a chassis, which are displayed in the **Chassis Health** page.

NOTE: For M1000e version 4.3 and earlier, the active errors are not displayed.

Viewing hardware inventory information for chassis

You can view information about the hardware inventory within the selected chassis. To view the information in this page, ensure that you run an inventory job and export a CSV file with the component information.

1. In the **Home** page, click **vCenter**.
2. In the left pane, under **OpenManage Integration**, click **Dell Chassis**.
3. In the left pane, select the corresponding chassis IP.
4. Click the **Monitor** tab.

   To view the relevant component information, navigate through OMIVV:

Table 29. Hardware inventory information (continued)

Hardware inventory: Component	Navigation through OMIVV	Information

Fans	Use either of the following methods:
	• In the **Overview** tab, click **Fans**.
	• In **Monitor** tab, expand the left pane, click **Hardware Inventory**, and then click **Fans**.
		Information about fans:
		• Name
		• Present
		• Power State
		• Reading
		• Warning Threshold
		• Critical Threshold
		  ○ Minimum
		  ○ Maximum

Power supplies	Use either of the following methods: • In the **Overview** tab, click **Power Supplies**. • In the **Monitor** tab, expand the left pane, click **Hardware Inventory**, and then click **Power Supplies**.	Information about power supplies: • Name • Capacity • Present • Power state

Temperature sensors	Use either of the following methods:
	• In the **Overview** tab, click **Temperature Sensors**.
	• In the **Monitor** tab, expand the left pane, click **Hardware Inventory**, and then click **Temperature Sensors**.
		Information about temperature sensors:
		• Location
		• Reading
		• Warning threshold
		  ○ Maximum
		  ○ Minimum
		• Critical threshold
		  ○ Maximum
		  ○ Minimum
		NOTE: For PowerEdge M1000e chassis, information about the temperature sensors is displayed only for chassis. For other chassis, information about the temperature sensors is displayed for chassis and associated modular servers.

I/O modules	Use either of the following methods: • In **Overview** tab, click **I/O Modules**.	Information about I/O modules: • Slot/Location • Present • Name

Table 29. Hardware inventory information

Hardware inventory: Component	Navigation through OMIVV	Information
	• In **Monitor** tab, expand the left pane, click **Hardware Inventory**, and then click **I/O Modules**.	• Fabric • Service Tag • Power Status To view additional information, select the corresponding I/O module and the following information is displayed: • Role • Firmware version • Hardware version • IP address • Subnet mask • Gateway • MAC address • DHCP enabled

PCIe	Use either of the following methods:
	• In the **Overview** tab, click **PCIe**.
	• In the **Monitor** tab, expand the left pane, click **Hardware Inventory**, and then click **PCIe**.
		Information about PCIe:
		• PCIe slot
		  ○ Slot
		  ○ Name
		  ○ Power status
		  ○ Fabric
		• Server slot
		  ○ Name
		  ○ Number
		To view additional information, select the corresponding PCIe and following information is displayed:
		• Slot type
		• Server mapping
		• Assignment status
		• Allocated slot power
		• PCI ID
		• Vendor ID
		NOTE: PCIe information is not applicable for M1000e chassis.

iKVM	Use either of the following methods: • In the **Overview** tab, click **iKVM**. • In the **Monitor** tab, expand the left pane, click **Hardware Inventory**, and then click **iKVM**.	Information about iKVM: • iKVM Name • Present • Firmware version • Front Panel USB/Video enabled • Allow access to CMC CLI **NOTE:** You can view information about the iKVM only for PowerEdge M1000e Chassis **NOTE:** The iKVM tab is displayed only if the chassis contains iKVM module.

Viewing additional hardware configuration for chassis

You can view information about the warranty, storage, firmware, management controller details within the selected chassis. To view the information in this page, ensure that you run an inventory job and export a .CSV file with the component information.

To view warranty, storage, firmware, management controller details for chassis, perform the following steps:

1. In the **Home** page, click **vCenter**.
2. In the left pane, under **OpenManage Integration**, click **Dell Chassis**.
3. In the left pane, select the corresponding chassis IP.
4. Click the **Monitor** tab.

   To see the information about warranty, storage, firmware, and management controller, navigate through OMIVV.

Table 30. Firmware details

Hardware configuration	Navigation through OMIVV	Information
Firmware	a. In the **Monitor** tab, click the double arrow mark and expand the left pane, and then click **Firmware**. b. In the **Monitor** tab, If you click **Launch CMC**, the **Chassis Management Controller** page is displayed.	Information about firmware: ● Component ● Current Version

Table 31. Management controller details

Hardware configuration	Navigation through OMIVV	Information
Management controller	a. In the **Monitor** tab, click the double arrow mark and expand the left pane, and then click **Management Controller**. b. In the **Management Controller** page, to view additional information, click the arrow mark and expand the left column.	Information about management controller: ● General ○ Name ○ Firmware Version ○ Last Update Time ○ CMC Location ○ Hardware Version ● Common Network ○ DNS Domain Name ○ Use DHCP for DNS ○ MAC Address ○ Redundancy Mode ● CMC IPv4 Information ○ IPv4 Enabled ○ DHCP Enabled ○ IP Address ○ Subnet Mask ○ Gateway ○ Preferred DNS Server ○ Alternate DNS Server

Table 32. Storage information

Hardware configuration	Navigation through OMIVV	Information
Storage	In the **Monitor** tab, click **Storage**.	Information about storage: ● Virtual Disks ● Controllers

Table 32. Storage information

Hardware configuration	Navigation through OMIVV	Information
		• Enclosures • Physical Disks • Hot Spares **NOTE:** When you click a highlighted link under storage, the **View** table displays the details for each highlighted item. In the view table, if you click each line item, additional information is displayed for each highlighted item. For M1000e chassis, if you have a storage module, the following storage details are displayed in a grid view without any additional information: • Name • Model • Service Tag • IP Address (Link to storage) • Fabric • Group Name • Group IP Address (link to storage group)

Table 33. Warranty information

Hardware configuration	Navigation through OMIVV	Information
Warranty	In the **Monitor** tab, click **Warranty**.	Information about warranty: • Provider • Description • Status • Start Date • End Date • Days Left • Last Updated **NOTE:** To view warranty status, ensure that you run a warranty job. See Running a warranty retrieval job.

Viewing associated host for chassis

You can view information about the associated host for the selected chassis on the **Manage** tab.

1. In the **Home** page, click **vCenter**.
2. In the left pane, under **OpenManage Integration**, click **Dell Chassis**.
3. In the left pane, select the corresponding chassis IP.
4. Click the **Manage** tab.

   The following information about the associated host is displayed:
   - Host Name (If you click the selected host IP, the details about the host is displayed.)
   - Service Tag
   - Model
   - iDRAC IP
   - Slot Location
   - Last Inventory

12

Deploying hypervisor

OMIVV allows you to configure the following components in the supported bare-metal servers along with deploying the hypervisor and adding it to the specified data center and cluster in a vCenter.

- Boot order setting
- RAID configuration
- BIOS configuration
- iDRAC configuration

You can create hardware profiles, hypervisor profiles on the bare-metal Dell PowerEdge servers by using VMware vCenter without using PXE.

To provision hardware and perform deployment, ensure that the physical servers appear in the Deployment Wizard. Ensure that all physical servers are as per the following requirements:

- Meet specific hardware support information that is available in the *OpenManage Integration for VMware vCenter Compatibility Matrix*.
- Meet minimum supported versions of iDRAC firmware, Lifecycle Controller, and BIOS. See the *OpenManage Integration for VMware vCenter Compatibility Matrix* for specific firmware support information.
- Configure NICs in PCI slots manually after the deployment. If you are using add-on NICs, the system must have the host LAN on Motherboard (LOMs) enabled and connected to network. OMIVV supports deployment by using only embedded or integrated LOMs.
- Meet the storage specifications of iDSDM. To know about the storage specifications of iDSDM, see the VMware documentation. Ensure that you enable the iDSDM from BIOS before you deploy the hypervisor with OMIVV. OMIVV allows deployment on iDSDM or local hard drives.
- Ensure that there is a route between the vCenter and iDRAC networks if vCenter and iDRAC are connected to different networks.
- Ensure that Collect System Inventory on Reboot (CSIOR) is enabled. Also, before initiating auto/manual discovery, ensure that retrieved data is current by completely powering off the system and then power on the system (hard reboot).
- Choose to order the Dell servers with auto discovery and handshake options preconfigured by the factory. If a server is not preconfigured with these options, manually enter the OMIVV IP address or configure your local network to provide this information.
- Ensure that the following conditions are met before initiating hypervisor deployment if OMIVV is not used for hardware configuration:
  - Enable the virtualization technology (VT) flag in BIOS.
  - Set the system's boot order to either a bootable virtual disk or iDSDM for operating system installation.
- Verify that the BIOS setting for VT is automatically enabled even if the BIOS configuration is not part of the hardware profile, if OMIVV is used for hardware configuration. The Express/Clone RAID configuration is required if a virtual disk is not already present on the target system.
- Ensure that the custom ESXi images that contain all the Dell drivers are available for deployment. You can find the correct images from `support.dell.com` by navigating to the **Dell Drivers & Downloads** page, and saving the custom images to a CIFS or NFS share location that OMIVV can access during the deployment process. For up-to-date list of supported ESXi versions for this release, see *OpenManage Integration for VMware vCenter Compatibility Matrix*. To use the correct images, see Downloading custom Dell ISO images.
- Ensure that you have BIOS mode selected in the reference hardware profile before applying the hypervisor profile as OMIVV only supports BIOS mode to autodeploy hypervisor on the target server. If there is no hardware profile selected, ensure that you manually configure the boot mode as BIOS and reboot the server before applying the hypervisor profile.

NOTE: If the BOOT mode in the target system is set to UEFI, OMIVV fails to deploy the OS.

If servers are from versions earlier than Dell PowerEdge 12th generation servers, the deployment process performs the following tasks:

- Installs the OMSA package on the target system.
- Automatically configures the SNMP trap destination in OMSA to point to OMIVV.

Topics:

- Device discovery

- Provisioning
- Configuring hardware profile
- Creating hypervisor profile
- Creating deployment templates
- About Deployment Wizard
- Deployment job timing
- Downloading custom Dell ISO images

Device discovery

Discovery is the process of adding supported Dell PowerEdge bare-metal server. After a server is discovered, you can use it for hypervisor and hardware deployment. See *OpenManage Integration for VMware vCenter Compatibility Matrix* for the list of the PowerEdge servers required for deployment. The network connectivity from the Dell bare-metal server's iDRAC to the OMIVV virtual machine is required.

NOTE: The hosts with existing hypervisors should not be discovered into OMIVV, instead they should be added to the vCenter. Add them to a connection profile, and then reconcile with the OpenManage Integration for VMware vCenter by using the host compliance wizard.

NOTE: If bare-metal servers were discovered earlier than OMIVV 4.0, ensure that you remove the machines from the bare-metal server list and rediscover them.

Manual discovery

You can manually add a bare-metal server that is not added by the discovery process. Once added, the server is displayed in the list of servers in the Deployment Wizard.

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, click the + icon.
   The **Add Server** dialog box is displayed.
2. In the **Add Server** dialog box, do the following:
   a. In the **iDRAC IP Address** text box, enter the iDRAC IP Address.
   b. In the **User Name** text box, enter the user name.
   c. In the **Password** text box, enter the password
3. Click **Add Server**.
   The task of adding the server might take few minutes to complete.

Auto discovery in OpenManage Integration for VMware vCenter

Auto discovery is the process of adding an 11th, 12th, or 13th generation of Dell PowerEdge bare-metal server. Once a server is discovered, use it for hypervisor and hardware deployment. Auto discovery is an iDRAC feature that removes the need of manually discovering a bare-metal server from OMIVV.

Auto discovery prerequisites

Before attempting to discover the 11th, 12th, or later generation Dell PowerEdge bare-metal servers, ensure that OMIVV has been already installed. The Dell 11th, 12th, 13th generation of PowerEdge servers with iDRAC Express or iDRAC Enterprise can be discovered into a pool of bare-metal servers. Ensure that there is network connectivity from the Dell bare-metal server's iDRAC to the OMIVV appliance.

NOTE: The hosts with existing hypervisors should not be discovered in to OMIVV, instead add the hypervisor to a connection profile, and then reconcile with OMIVV by using the Host Compliance Wizard.

For auto discovery to occur, the following conditions must be met:

- Power—ensure that you connect the server to the power outlet. The server need not be powered on.
- Network connectivity—ensure that the server's iDRAC has network connectivity and communicates with the provisioning server over port 4433. You can obtain the IP address by using a DHCP server or manually specify it in the iDRAC configuration utility.

- Additional network settings—ensure that you enable Get DNS server address from DHCP setting, if using DHCP, so that DNS name resolution can occur.
- Provisioning service location—ensure that iDRAC knows the IP address or host name of the provisioning service server. See Provisioning service location.
- Account access disabled—ensure that you enable the administrative account access to iDRAC and if there are any iDRAC accounts with administrator privileges, first disable them from within the iDRAC web console. Once auto discovery completes successfully, the administrative iDRAC account is re-enabled.
- Auto discovery enabled—ensure that the server's iDRAC has auto discovery enabled so that the auto discovery process can begin.

Provisioning service location

Use the following options to obtain the provisioning service location by iDRAC during auto discovery:

- Manually specified in the iDRAC—manually specify the location in the iDRAC configuration utility under LAN User Configuration, Provisioning Server.
- DHCP scope option—specify the location by using a DHCP scope option.
- DNS service record—specify the location by using a DNS service record.
- DNS known name—DNS server specifies the IP address for a server with the known name DCIMCredentialServer.

If the provisioning service value is not manually specified in the iDRAC console, iDRAC attempts to use the DHCP scope option value. If the DHCP scope option is not present, iDRAC attempts to use the service record value from DNS.

For detailed information about how to configure the DHCP scope option and DNS service record, see Dell Auto-Discovery Network Setup Specification at http://en.community.dell.com/techcenter/extras/m/white_papers/20178466.

Enabling or disabling administrative accounts on iDRAC

Before you set up auto discovery, disable all administrative accounts other than root. The root account should be disabled during the auto discovery procedure. Once you have successfully set up auto discovery, return to iDRAC GUI and re-enable the administrative accounts that were turned off, other than root.

NOTE: To guard against a failed auto discovery, you can enable a nonadmin account on iDRAC. The nonadmin account allows remote access when auto discovery fails.

1. In a browser, type the **iDRAC IP address**.
2. Log in to the **Integrated Dell Remote Access Controller GUI**.
3. Do one of the following:
   - For iDRAC6: In the left pane, select the **iDRAC Settings** > **Network/Security** > **Users** tab.
   - For iDRAC7: In the left pane, select the **iDRAC Settings** > **User Authentication** > **Users** tab.
   - For iDRAC8: In the left pane, select the **iDRAC Settings** > **User Authentication** > **Users** tab.
4. In the **Users** tab, locate any administrative accounts other than root.
5. To disable the account, under User ID, select the **ID**.
6. Click **Next**.
7. In the **User Configuration** page, under **General**, clear the **Enable User** check box.
8. Click **Apply**.
9. To re-enable each administrative account, repeat steps 1 through 8 after you have successfully set up auto discovery, but select the **Enable User** check box now, and click **Apply**.

Manually configuring PowerEdge 11th generation servers for auto discovery

Ensure that you have the iDRAC and host IP addresses.

If you have not ordered your bare-metal appliance to use auto discovery from the factory, you can set it up manually.

On successful auto discovery of bare-metal servers, a new administrator account is created or an existing account is enabled with the credentials returned by the handshake service. All the other administrative accounts that were disabled prior to auto discovery are not enabled. Ensure that you re-enable the administrator accounts after a successful auto discovery. See Enabling or disabling administrative accounts on iDRAC.

NOTE: If for some reason, the auto discovery did not complete successfully, there is no way to connect to iDRAC remotely. A remote connection requires you to enable a non-admin account on the iDRAC. If there is no non-admin enabled account present on the iDRAC, the only way to access the iDRAC is to log in to the box locally and enable the account on the iDRAC.

1. Enter the **iDRAC IP** address into a browser.
2. Log in to the **iDRAC Enterprise GUI**.
3. In the **Integrated Dell Remote Access Controller 6 — Enterprise** > **System Summary** tab, in the Virtual Console Preview, click **Launch**.
4. In the **Warning — Security** dialog box, click **Yes**.
5. In the iDRAC Utility Console, press **F12** once or twice.
   The **Authentication Required** dialog box is displayed.
6. In the **Authentication Required** dialog box, view the name that is displayed, and press **Enter**.
7. Enter **Password**.
8. Press **Enter**.
9. When the **Shutdown/Restart** dialog box is displayed, press **F11**.
10. The host restarts and the screen displays information about loading memory, then RAID, then when it shows iDRAC and prompts you to press CTRL + E, immediately press **CTRL + E**.
    If you view the following dialog box, the action is successful, else, go to the Power menu, Power Off and Power On again, and repeat this step.

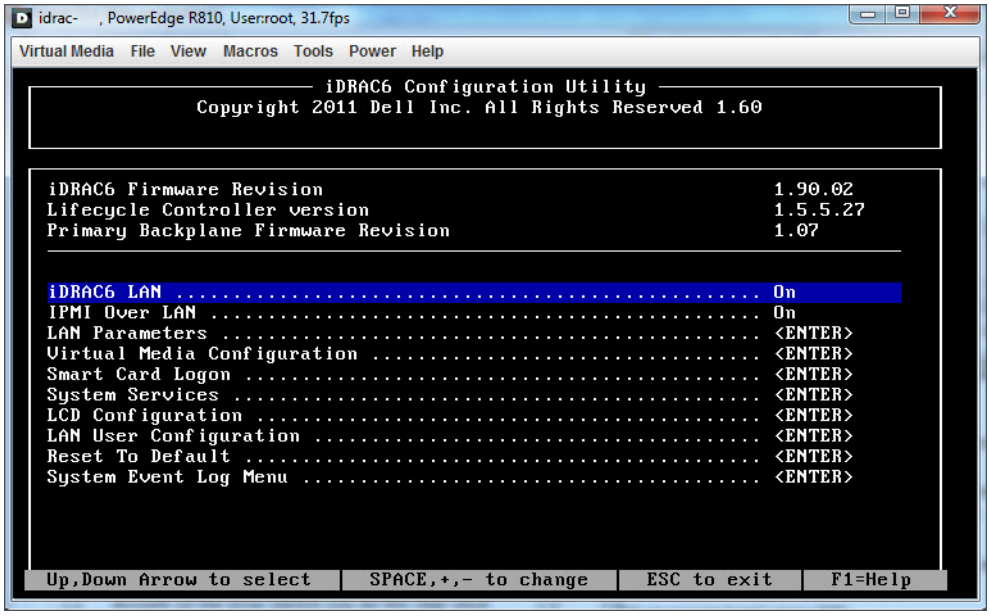

Figure 1. iDRAC configuration utility

11. In the iDRAC6 Configuration Utility, use the arrow keys to select **LAN Parameters**.
12. Press **Enter**.
13. If this host is a blade, to configure NIC, use the space bar to toggle the options to **Enabled**.
14. If you are using DHCP, use the arrow keys to select **Domain Name from DHCP**.
15. Use the space bar to toggle the option to **On**.
16. If you are using DHCP, use the arrow keys to navigate to the IPv4 settings and select **DNS Servers from DHCP**.
17. Use the spacebar to toggle the option to **On**.
18. To Exit, on your keyboard, press **ESC**.
19. Use the arrow keys to select **LAN User Configuration**.
20. Use the arrow Keys to select **Provisioning Server**.
21. Press **Enter**.
22. Enter the IP address of the host.
23. Press **ESC**.
24. Use arrow keys to select **Account Access**.
25. Use the space bar to toggle the option to **Disable**.

26. Use the arrow keys to select **Auto-Discovery**.
27. Use the space bar to toggle the option to **Enabled**.
28. From your keyboard, press **ESC**.
29. Press **ESC** again.

Manually configuring PowerEdge 12th and later generation servers for auto discovery

Ensure that you have an iDRAC address.

When you order servers from Dell, you can ask for the auto discovery feature to be enabled on the servers after you provide the provisioning server IP address. The provisioning server IP address should be the IP address of OMIVV. Therefore, after you receive the servers from Dell, when you power on the servers after mounting and connecting the iDRAC cable, the servers get auto discovered and listed in the first page of the Deployment Wizard.

NOTE: For auto discovered servers, the credentials that are provided under **Manage** > **Settings** > **Deployment Credentials** is set as admin credentials and is used for further communication with the server, until the OS deployment is completed. After a successful OS deployment, the iDRAC credentials that are provided in the associated connection profile are set.

To enable auto discovery manually on the target machine, perform the following steps for 12th and later generation servers:

1. To go to system setup, boot/reboot the target system and press F2 during the initial boot.
2. Go to **iDRAC Settings** > **User Configuration** and disable the root user. Ensure that there are no other users with active administrator privileges on the iDRAC address when you are disabling the root user.
3. Click **Back**, and click **Remote Enablement**.
4. Set **Enable Auto-Discovery** as **Enabled** and **Provisioning Server** as the IP address of the OMIVV.
5. Save the settings.
   The server is auto discovered upon next server boot. After successful auto discovery, the root user gets enabled, and the **Enable Auto-Discovery** flag is disabled automatically.

Removing bare-metal server

You can manually remove a server that has been auto discovered or manually added.

1. In OpenManage Integration for VMware vCenter, click the **Manage** > **Deployment** tab.
2. In the **Bare Metal Servers** page, select the servers and click ✖.

Provisioning

All auto/manually discovered complaint bare-metal systems are available to OMIVV for hardware provisioning and hypervisor deployment. To prepare for provisioning and deployment, do the following:

Table 34. Preparing for deployment

Steps	Description
Create a hardware profile	Contains the hardware settings gathered from a reference server that is used to deploy new servers. See Customizing reference server to create hardware profile.
Create a hypervisor profile	Contains the hypervisor installation information needed for ESXi deployment. See Creating a hypervisor profile.
Create a deployment template	Optionally contains a hypervisor profile, or both hardware and hypervisor profiles. You can save and reuse these profiles as needed for all available data center servers. **NOTE:** Only hardware profile deployment is not supported.

Once the deployment template is created, use the deployment wizard to gather the information necessary to create a scheduled job that provisions server hardware and deploys new hosts in vCenter. For information about running the deployment wizard, see Running the deployment wizard. Lastly, view the job status through job queue and change the pending deployment jobs.

Configuring hardware profile

To configure server hardware settings, create a hardware profile. A hardware profile is a configuration template that you can apply to newly discovered infrastructure components and it requires the following information:

Table 35. Requirements for creating hardware profile

Requirements	Description
Boot order	The boot order is the boot device sequence and hard drive sequence that you can edit only if the boot mode is set to BIOS.
BIOS settings	The BIOS settings include memory, processor, SATA, integrated devices, serial communications, embedded server management, power management, system security, and miscellaneous settings. **NOTE:** The OpenManage Integration for VMware vCenter enables certain BIOS settings under the Processor group in the BIOS on all deployed servers, regardless of the settings on the reference server. Before using a reference server to create a hardware profile, the reference server must have the CSIOR setting enabled and rebooted to provide accurate inventory and configuration information.
iDRAC settings	The iDRAC settings include network, user list, and user configuration.
RAID configuration	The RAID configuration displays the current RAID topology on the reference server at the time the hardware profile was extracted. **NOTE:** There are 2 RAID configuration options configured in the hardware profile: 1. Apply RAID1 + create a dedicated hot spare, as applicable—use this option if you want to apply default RAID configuration settings to the target server. 2. Clone RAID configuration from the reference server—use this option if you want to clone the reference server setting. See Customizing reference server for creating hardware profile.

The tasks for creating hardware profiles include:

- Enabling CSIOR on a reference server
- Customizing reference server to create a hardware profile
- Cloning a hardware profile

Enabling CSIOR on reference server

Before creating a hardware profile by using a reference server, enable the Collect System Inventory On Reboot (CSIOR) setting, and reboot the server to provide accurate inventory and configuration information.

There are two methods for enabling CSIOR:

Table 36. Methods for enabling CSIOR

Method	Description
Locally	Uses an individual host by using the Dell Lifecycle Controller United Server Configurator (USC) user interface.
Remotely	Uses a WS-Man script. For more information on scripting this functionality, see *Dell TechCenter* and *DCIM Lifecycle Controller Management Profile*.

To enable CSIOR locally on a reference server:

1. Power on the system, and during POST, press **F2** to start USC.
2. Select **Hardware Configuration** > **Part Replacement Configuration**.
3. Enable the **Collect System Inventory on Reboot** setting, and exit USC.

Customizing reference server for creating hardware profile

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates** > **Hardware Profiles**.
2. Click the icon.
3. In the **Hardware Profile Wizard**, click **Next** on the **Welcome** page and do the following:
   - In the **Profile Name** text box, enter the profile name.
   - In the **Description** text box, type a description. The description is optional.
4. Click **Next**.
   The **Reference Server** dialog box is displayed. You can either select reference servers from the dialog box directly or through the browse button in the reference server window.
5. Select a reference server by performing either of the following substeps:
   - In the **Reference Server** dialog box, choose the right reference server, and click the **Select** link against the reference server.

     The **Extract Confirmation** dialog box that states extracting the settings is displayed. To extract the hardware configuration from reference server, in the **Extract Confirmation** dialog box, click **Yes**, and the extracting is completed in few minutes.
   - In the **Reference Server** page, click **Browse** to select a compliant reference server that is managed and successfully inventoried by OMIVV, or a compliant bare-metal server.

     To extract the hardware configuration from reference server, in the **Extract Confirmation** dialog box, click **Yes**.

   The selected Server name, iDRAC IP address, model, and Service Tag are displayed in the **Reference Server** page.
6. In the **Reference Server** page, to customize the reference server settings, click **Customize Reference Server Settings**, and choose the following settings that can be optionally included and customized:
   - **RAID Settings**
   - **BIOS Settings**
   - **Boot Order**
   - **iDRAC Settings**
     - **Network Settings**
     - **User List**
7. In the **RAID Configuration** window, select one of the following, and click **Next**:
   - **Apply RAID1 + create a dedicated hot spare, if applicable**—use this option, if you want to apply default RAID configuration settings to the target server. The RAID configuration task defaults to RAID1 on the first two drives of the integrated controller that are RAID1 capable. Also, a dedicated hot-spare for the RAID1 array is created, if a candidate drive that meets the RAID criteria exists.
   - **Clone RAID configuration from the reference server as shown below**—use this option, if you want to clone the reference server setting.
8. In the **BIOS Settings** page, to include BIOS setting information in the profile, expand a category to display the setting options, and click **Edit** to update one of the following:
   - **System Information**
   - **Memory Settings**
   - **Processor Settings**
   - **SATA Settings**
   - **UEFI Boot Settings**
   - **One-Time Boot**
   - **Integrated Devices**
   - **Slot Disablement**
   - **Serial Communication**
   - **System Profile Settings**
   - **System Security**
   - **Miscellaneous Settings**

   Once all updates are made for a category, to save the changes, click **Next**, or to cancel the changes, click **Cancel**.

NOTE: For detailed BIOS information, including setting options and explanations, see the *Hardware Owner's Manual* for the selected server.

9. In the **Boot Order** page, do the following and click **Next**:
   a. To display boot order options, expand **Boot Order**, and then click **Edit** to make the following updates:
      i. In the **Boot Mode** list, select `BIOS` or `UEFI`.
      ii. In the **View** list, under **Boot Device Sequence**, to change the displayed boot device sequence, select the device, and click either **Move Up** or **Move Down**.
      iii. Select **Enable Boot Sequence Retry** so that the server automatically retries the boot sequence.
      iv. To apply the changes, click **OK**, or to cancel the changes, click **Cancel**.
   b. To display the hard drive sequence options, Expand **Hard Drive Sequence**, and click **Edit**. Update the following:
      i. To change the displayed hard drive sequence, select the device and click either **Move Up** or **Move Down**.
      ii. To apply the changes, click **OK**, or to cancel the changes, click **Cancel**.

NOTE: For Dell 13th generation PowerEdge servers, only the current boot mode details are displayed for the hardware profiles.

NOTE: The operating system deployment from OMIVV fails, if the BOOT mode in the target machine is set to UEFI.

10. In the **iDRAC Settings** page, do the following:
    a. Expand a category to display the setting options, and click **Edit**:
       Update one of the following:
       - **Network Settings**
       - **Network**
       - **Virtual Media**
    b. Under iDRAC local **User List**, do one of the following:
       - **Add User**—manually enter an iDRAC user and the required information. When finished, to apply the changes, click **Apply**, or to cancel, click **Cancel**
       - **Delete User**—delete the selected user. To select a user, use the mouse, and click **Delete**. To confirm the deletion, click **Yes**.
       - **Edit User**—manually edit an iDRAC user's information. When finished, to apply the settings, click **Apply**, or to cancel, click **Cancel**.

    Once all updates are made for a category, to save the changes, click **Next**, or to cancel the changes, click **Cancel**.

    NOTE: For detailed iDRAC information, including setting options and explanations, see the *iDRAC User's Guide* for the selected server.

11. Click **Next**.
12. In the **Summary** page, click **Finish**.

The profile is automatically saved, and is displayed in the **Hardware Profiles** window.

Cloning new hardware profile

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates** > **Hardware Profiles**.
2. Click the  icon.
3. In the **Hardware Profile Wizard**, click **Next** on the **Welcome** page and perform the following actions:
   - In the **Profile Name** text box, enter the profile name.
   - In the **Description** text box, enter `Description`. The description is optional.
4. Click **Next**.
5. To select a reference server that is compliant, managed by vCenter, and successfully inventoried by the Dell OpenManage plugin, in the **Reference Server** page, click **Browse**.
6. To extract all hardware settings from the reference server, click the **Clone Reference Server Settings** option.
7. Click **Next**.
   Extracting the settings takes several minutes to complete.

8. Click **Next**.
   The settings are populated, and the selected server's name, the iDRAC IP address, and service tag are displayed in the reference server window.

The profile is saved and displayed in the **Hardware Profiles** window under **Available Profiles**.

Managing hardware profiles

The hardware profiles define hardware configuration of a server by using a reference server. From OpenManage Integration for VMware vCenter, there are several management actions that you can perform on existing hardware profiles, including:

- Viewing or editing hardware profile
- Deleting hardware profile

Viewing or editing hardware profile

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates** > **Hardware Profiles**.
   The hardware profiles are displayed.
2. To edit a profile, select a profile, and click .
3. In the **Hardware Profile** wizard, to configure with different values, click **Edit**.
4. To apply changes, click **Save**, or to cancel changes, click **Cancel**.

Deleting hardware profile

NOTE: Deleting a hardware profile that is part of a running deployment task might cause the deletion task to fail.

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates** **Hardware Profiles**.
2. Select a profile, and click .
3. To remove the profile, in the confirmation dialog box, click **Yes**, or to cancel, click **No**.

Creating hypervisor profile

To deploy and configure ESXi to a server, create a hypervisor profile. A hypervisor profile requires the following information:

- A Dell customized ISO software media location on an NFS or CIFS share
- A vCenter instance that manages the deployed hosts, and an optional host profile
- The destination cluster or data center where the plug-in deploys servers in vCenter

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates** > **Hypervisor Profiles**.
2. In the **Hypervisor Profiles** page, click the icon.
3. In the **Hypervisor Profile** dialog box, do the following subtasks:
   - In the **Profile Name** text box, enter the profile name.
   - In the **Description** text box, enter description, which is an optional entry.
4. Under **Choose the Reference ISO Path and Version**, in the **Installation Source (ISO)** text box, type the path to the hypervisor share location.
   A copy of the hypervisor image is modified to permit a scripted installation. The reference ISO location can be in one of the following formats:
   - `NFS format: host:/share/hypervisor.iso`
   - `CIFS format: \\host\share\hypervisor.iso`

   If using a CIFS share, enter the **User Name**, **Password**, and **Verify Password**. Ensure that the passwords match.
5. In the **Select a version** list, select an ESXi version.
   All servers deployed using this hypervisor profile has this image, and if the servers are from versions earlier than 12th generation, the latest recommended version of OMSA is also installed.

6. To verify the path and authentication, click **Begin Test** under **Test Settings**.
7. Click **Apply**.

Managing hypervisor profiles

There are several management actions that you can perform on existing hypervisor profiles, including:

- Viewing or editing hypervisor profiles
- Deleting hypervisor profiles

Viewing or editing hypervisor profiles

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates** > **Hypervisor Profiles**.
   The hypervisor profiles are displayed.
2. Select a profile, and click the icon.
3. In the **Hypervisor Profile** dialog box, provide updated values.
4. To apply changes, click **Save**, or to cancel changes, click **Cancel**.

Deleting hypervisor profile

NOTE: Deleting a hypervisor profile that is part of a running deployment task can cause the task to fail.

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates** > **Hypervisor Profiles**.
2. Select a profile, and click the icon.
3. In the confirmation dialog box, to remove the profile, click **Delete**, or to cancel, click **Cancel**.

Creating deployment templates

A deployment template contains either a hardware profile, a hypervisor profile, or both. The deployment wizard uses this template to provision server hardware and deploy hosts within vCenter.

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates**.
2. Click the icon.
3. In the **Deployment Template** dialog box, enter a name for the template.
4. Enter **Description** for the deployment template, which is optional.
5. Select a **Hardware Profile** or **Hypervisor Profile**.
6. To apply profile selections and save changes, click **Save**. To cancel, click **Cancel**.

Managing deployment templates

From the OpenManage Integration, there are several management actions you can perform on existing deployment templates, including:

- Viewing or editing deployment templates
- Deleting deployment templates

Viewing or editing deployment templates

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates**.
   The deployment template profiles are displayed.
2. In the **Deployment Template** page, select a template, click the icon.

3. To change, enter the new name of the template and click **Apply**.
   Ensure that the template has a unique name.

Deleting deployment templates

1. In OpenManage Integration for VMware vCenter, on the **Manage** > **Deployment** tab, select **Deployment Templates**.
2. In the **Deployment Template** page, select a template, and click the ✖ icon.
3. To confirm the template deletion, click **Delete** on the message box, or to cancel, click **Cancel**.

About Deployment Wizard

The Deployment Wizard describes the deployment process, which is as follows:

- Selecting compliant bare-metal servers.
- Selecting a deployment template, which consists of hardware and hypervisor profiles.
- Selecting the installation target (hard disk or iDSDM).

  When you deploy hypervisor, you can deploy to an Internal Dual SD Module. The Internal Dual SD Module should be enabled from BIOS, before you deploy a hypervisor with OMIVV.

- Selecting the connection profile to be associated with the host.
- Assigning the network details for each host.
- Selecting the vCenter, destination data center or cluster, and an optional host profile.
- Scheduling the server deployment jobs to run.

NOTE: If you're deploying a hardware profile only, then the Server Identification, Connection Profile, network detail options of the deployment wizard are skipped and you directly go to the **Schedule Deployment** page.

NOTE: For trial/evaluation license, you can use Deployment Wizard as long as the license does not expire.

VLAN support

OMIVV supports hypervisor deployment to a routable VLAN and you can configure VLAN support in the Deployment Wizard. In this portion of the Deployment Wizard, there is an option to specify use of VLANs and to specify a VLAN ID. When a VLAN ID is provided, it is applied to the hypervisor's management interface during deployment and tags all traffic with the VLAN ID.

Ensure that the VLAN provided during deployment communicates with both the virtual appliance and the vCenter server. The deployment of a hypervisor to a VLAN that cannot communicate to one or both of these destinations causes the deployment to fail.

If you have selected multiple bare-metal servers in a single deployment job and want to apply the same VLAN ID to all servers, in the server identification portion of the Deployment Wizard, use **Apply settings to all selected servers**. This option enables you to apply the same VLAN ID along with the other network settings to all the servers in that deployment job.

NOTE: OMIVV does not support a multihomed configuration. Adding a second network interface to the appliance for communication with a second network causes problems for the workflow involving hypervisor deployment, server compliance, and firmware updates.

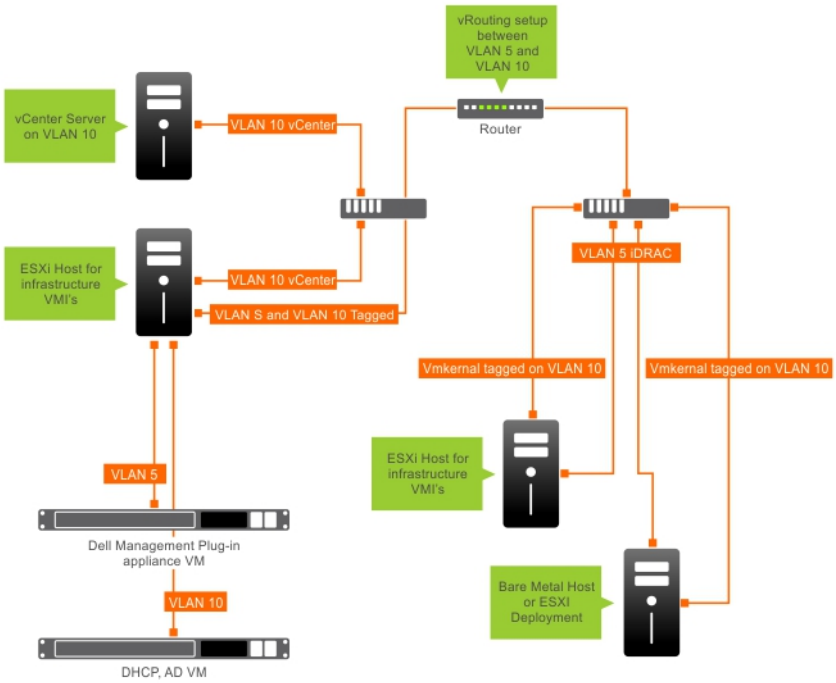

Figure 2. VLAN network.

In this example network, the OMIVV appliance is on VLAN 5, while the vCenter and the VMkernal of the ESXi hosts being deployed are on VLAN 10. Since OMIVV does not support multi-VLAN homing, VLAN 5 must route to VLAN 10 for all systems to communicate to each other correctly. If routing is not enabled between these VLANs, the deployment fails.

Running Deployment Wizard

Ensure that you create a deployment template with hardware profile and hypervisor profile, and connection profile for the vCenter before running the deployment wizard.

To run the deployment wizard:

1. In the OpenManage Integration for VMware vCenter, select the **Manage** > **Deployment** tab.
2. In the **Bare Metal Servers** window, click the **Run Deployment Wizard** link.
   The Deployment Wizard **Welcome** page is displayed.
3. In the **Welcome** page, view the information and click **Next**.
4. In the **Select the servers for deployment** page, to assign compliant bare-metal servers to a deployment job, click the check boxes next to the list of servers.
5. Click **Next**.
6. In the **Select Template/Profile** page, perform the following substeps:
   a. Under **Deployment Template**, to assign a deployment template to the selected servers, select an existing deployment template from **Select Deployment Template**.

      You can select one of the following deployment templates from the drop-down list:
      - If you select a hardware profile only deployment template that only configures server hardware, go to step 10.
      - If you select hypervisor profile deployment template that deploys a hypervisor, continue from step 6 (b) onwards.

        NOTE: If you select hardware profile only deployment, you are automatically prompted to include information for the **Schedule Deployment** page.

   b. Under **Hypervisor Installation**, select either of the following options:
      - **Hard Disk**—deploys a hypervisor on the hard drive.
      - **Internal Dual SD Module**—deploys a hypervisor on the IDSDM.

        NOTE: If an IDSDM is available on at least one of the selected servers, the **Internal Dual SD Module** option is enabled. If not, only the **Hard Disk** option is available.

If any of the selected servers do not support an IDSDM, or an IDSDM is not present during deployment, perform one of the following actions:

- Select **Deploy the hypervisor to the first hard disk for servers that do not have an available Internal Dual SD Module** check box, if you want to deploy a hypervisor on the first hard disk of the servers.

  CAUTION: If you select this option and deploy the hypervisor on the first hard disk drive of the servers, all the data on the disk drives are erased.
- To skip the deployment on the selected servers and continue with hypervisor deployment on the next server, clear **Deploy the hypervisor to the first hard disk for servers that do not have an available Internal Dual SD Module**.

c. Under **Credential Profile**, perform either of the following actions:

- Select the **Use this Credential Profile for all Servers** option button, and to assign all servers to the same existing profile, select the connection profile from the drop-down list.
- Click the **Select a Connection Profile for each Server** option button, and then select an individual connection profile for each server from the drop-down list.

7. Click **Next**.
   The **Server Identification** page is displayed.

   The server identification can be provided in two ways:
   - Enter networking information (IP address, subnet mask, and gateway)—a fully qualified domain name for the host name is mandatory. The use of *localhost* for the FQDN is not supported. The FQDN is used when adding the host to vCenter.
   - Use Dynamic Host Configuration Protocol (DHCP) to configure IP addresses, subnet mask, gateway IP, host name, and preferred/alternate DNS servers—the DHCP assigned IP address is used when adding the host to vCenter. When using DHCP, Dell recommends that an IP reservation for selected NIC MAC addresses is used.

   NOTE: Use a Fully Qualified Domain Name (FQDN) for host name instead of localhost. Starting with ESXi 5.1, a value of localhost impairs the OMIVV plug-in from processing events sent from the host. Create a DNS record that resolves the IP address with the FQDN. For SNMP alerts from ESXi 5.1 to be identified correctly, configure the DNS server to support reverse lookup requests. The DHCP reservations and DNS host names must be in place and verified before the deployment job is scheduled to run.

8. In the **Server Identification** page, do the following:
   The page provides the option to specify a VLAN ID. When a VLAN ID is provided, it is applied to the management interface of hypervisor during deployment and tags all traffic with the VLAN ID. Server Identification assigns new names and network identification to deployed servers. See VLAN support.

   a. To expand and view individual server information, under **Selected Servers**, click .
   b. Under **Host Name and NIC**, enter a **Fully Qualified Host Name** for the server.
   c. In the **NIC for Management Tasks** drop-down list, select the NIC for managing the server.
   d. Enter IP addresses, subnet mask, default gateway, and DNS details, or select the **Obtain using DHCP** check box.
   e. If deploying to a network that requires a VLAN ID, select the **VLAN** check box and then enter the **VLAN ID**.
      For the VLAN ID, use the numbers 1 through 4094. VLAN ID 0 is reserved for tagging the priority of frames.
   f. Repeat steps a through h for all servers to be deployed, or select the **Apply settings to all selected servers** check box.
      If you select the **Apply settings to all selected servers**, enter FQDN name and IP address for the other servers.

      NOTE: While specifying FQDN name for servers, ensure to provide unique host names for each server.

9. Click **Next**.
10. In the **Schedule Deployment** page, perform the following actions:
    a. Enter a **Job Name** and **Job Description**.
    b. For **vCenter Settings**, enter the following:
       i. In **vCenter Instance**, select the server instance that manages a host after deployment.
       ii. In **vCenter Destination Container**, click **Browse** to search for vCenter destinations.
       iii. In **vCenter Host Profile**, select a profile that encapsulates host configuration and helps to manage host configuration, which is optional.
    c. Determine when to run a deployment job by selecting a job schedule:
       i. Select **Schedule Deployment Job**
          - Use the calendar control to select the date.
          - Enter the time.

ii. To start the job immediately, select **Run Deployment Job Now**.

To go to the job queue after the deployment job starts, select **Go to the Job Queue after the job is submitted**.

11. Click **Finish**.

After the deployment wizard tasks are complete, you can manage deployment jobs by using **Job Queue**. .

Managing deployment jobs using Job Queue

1. In the OpenManage Integration for VMware vCenter, on the **Monitor** > **Job Queue** tab, click **Deployment Jobs**.
   The following details about deployment jobs are displayed in the upper grid:
   - Name
   - Description
   - Scheduled Time
   - Status
   - Collection Size
   - Progress Summary
2. To update **Deployment Jobs Details**, click the **Refresh** icon.
3. To display deployment job details, which contains detailed information about the servers included in the deployment job, select a deployment job in the upper grid.
   The following details are displayed in the lower grid:
   - Service tag
   - iDRAC IP address
   - Job status
   - Deployment job details (more information available on mouse hover)
   - Start and End time

   You can view entire information about a deployment job as a text pop-up by selecting the job and hovering your cursor on the **Details** column for the deployment job.
4. To abort the deployment job, click the  icon.
5. When the message is displayed, click **Abort Job** to abort, or to cancel, click **Do Not Abort Job**.
6. To display the **Purge Deployment Job Queue** window, click  . Select the **Older than date and job Status**, and click **Apply**.
   The selected jobs are then cleared from the queue.

Deployment job timing

The provisioning and deploying bare-metal servers can take between 30 minutes to several hours to complete, depending on several factors. When starting a deployment job, it is recommended that you plan your deployment time according to the guidelines provided. The amount of time it takes to complete provisioning and deployment varies with deployment type, complexity, and number of deployment jobs running simultaneously. The following table provides the approximate time a deployment job can take. The deployment jobs are run in batches of up to five concurrent servers to improve time for the overall deployment job. The exact number of concurrent jobs depends on available resources.

Table 37. Approximate deployment time

Deployment type	Approximate time per deployment
Hypervisor only	Between 30 minutes to 130 minutes
Hypervisor and hardware profiles	1 to 4 hours

Server states within deployment sequence

When an inventory job is run, the auto/maually discovered bare-metal systems are classified in different states to help determine if the server is new to the data center or has a pending deployment job scheduled. The administrators can use these states to determine if a server should be included in a deployment job. The following are the states:

Table 38. Server states in the deployment sequence

Server state	Description
Unconfigured	The server has contacted OMIVV and is waiting to be configured.
Configured	The server is configured with all hardware information that is required for a successful hypervisor deployment.

Downloading custom Dell ISO images

The custom ESXi images that contain all Dell drivers are required for deployment.

1. Navigate to `support.dell.com`.
2. Under **Browse for a product**, click **View products**.
3. Under **Select a product**, click **Servers, Storage, & Networking** and select **PowerEdge**.
4. Click a Dell PowerEdge server model.
5. Click **Drivers & Downloads** page of the server model.
6. Click the **Change OS** link, and select an ESXi system you want.
7. Click **Enterprise Solutions**.
8. In the **Enterprise Solutions** list, select the required version of ISO, and then click **Download**.

13

About host, bare-metal, and iDRAC compliance

To manage hosts and bare-metal servers with OMIVV, each must meet certain minimum criteria. If not compliant, they are not managed properly by OMIVV. OMIVV displays details about the noncompliance on a bare-metal or a host, and allows you to fix the noncompliance, where applicable.

In each case, you can view and fix the compliance issues by running one of the following:

- To view and fix vSphere host compliance issues, see Running the fix noncompliant vSphere hosts wizard.
- To view and fix bare-metal servers that have compliance issues, see Running the fix noncompliant bare-metal server wizard.

Topics:

- Reporting and fixing compliance for vSphere hosts
- Using OMSA with 11th generation servers
- Reporting and fixing compliance for bare-metal servers

Reporting and fixing compliance for vSphere hosts

A host is noncompliant when:

- The host is not assigned to a connection profile.
- The Collect System Inventory on Reboot (CSIOR) is disabled or has not been run, which requires a manual reboot.
- The OMSA agent is not installed, is out of date, or not configured properly. An ESXi host reboot is required, if OMSA is installed or updated.

CAUTION: Hosts in Lockdown Mode do not appear in compliance checks, even if they are noncompliant. They do not display because their compliance status cannot be determined. Make sure to check the compliance of these systems manually. In such a scenario, a warning message is displayed.

You can run the fix noncompliant vSphere hosts wizard to fix noncompliant hosts. Some noncompliant ESXi hosts require reboots. An ESXi host reboot is required, if OMSA must be installed or updated. In addition, a reboot is required on any host that has never run CSIOR. If you select to automatically reboot an ESXi host, the following actions take place:

- For a CSIOR status fix:

  If CSIOR has never run on the host, CSIOR is set to **ON** on the host, and then the host is set into maintenance mode and rebooted.

- For hosts that does not have OMSA installed, or is running an unsupported version of OMSA:
  - OMSA is installed on the host.
  - The host is set to maintenance mode and rebooted.
  - After reboot is complete, OMSA is configured for the changes to take effect.
  - The host comes out of maintenance mode.
  - The inventory is run to refresh data.
- For an OMSA status fix where supported version of OMSA is installed, but needs to be configured:
  - OMSA is configured on the host.
  - The inventory is run to refresh data.

To view and fix the noncompliant hosts:

1. In OpenManage Integration for VMware vCenter, from the **Manage** tab, click **Compliance** > **vSphere Hosts**.
   a. In the **vSphere Hosts** page, view the list of noncompliant hosts.

      A table is displayed that lists the noncompliant hosts along with the host IP or host name, model, connection profile, the CSIOR status, OMSA status, hypervisor, and the iDRAC license status.
   b. To view further details of a noncompliant host, select a noncompliant host.
   c. To swap the columns within the table, drag and drop columns within the data grid.

2. To fix noncomplaint hosts, click **Fix non-compliant vSphere Hosts**.

   The **Fix Non-compliant vSphere Hosts** wizard is launched. This is a dynamic wizard and only those pages are displayed that are related to the selected noncompliant hosts.

   If all the selected noncompliant hosts are CSIOR-compliant, you can view the **Turn On CSIOR** page in the wizard.
3. In the **Fix Non-compliant vSphere Hosts** wizard, click **Next** in the **Welcome** page.
4. In the **Select vSphere Hosts to Fix Compliance wizard** page, select the check boxes for the hosts you want to fix.
5. Click **Next**.
   A warning message is displayed, if there are selected hosts that are not assigned to a connection profile and prompts you to either continue with the compliance wizard or cancel the fix compliance wizard. To fix the connection profile noncompliance, do any one of the following:
   - To exclude the hosts without the connection profile assigned to it from the compliance wizard, click **Continue Compliance Wizard**.
   - To exit the wizard and fix the systems from the **Connection Profile** page, click **Cancel**. See Creating a connection profile. After connection profile is created, you can return to the wizard.
6. If you click **Continue Compliance Wizard** for the warning message, in the **Turn On CSIOR** window, select the check boxes to turn on **CSIOR** for the selected hosts.
7. Click **Next**.
8. In the **Fix OMSA** window, select the check boxes to fix **OMSA** for the selected hosts.
9. Click **Next**.
10. In the **Reboot Hosts** window, view the ESXi hosts that must be rebooted.

    An ESXi host reboot is required, if OMSA is installed or updated. In addition, a reboot is required on any host that has never run CSIOR. Do one of the following:
    - If you want to automatically put hosts in maintenance mode and reboot when required, select the **Automatically put hosts in maintenance mode and reboot whenever required** check box.
    - If you want to reboot manually, reboot the host after installing OMSA, configure OMSA manually or through the compliance wizard once the host is running and if OMSA is not configured, and run the inventory again. See Running Inventory Jobs.
11. Click **Next**.
12. In the **Summary** window, review the actions that take place on the noncompliant hosts.
    Manual reboots are required for actions in the summary page to take effect.
13. Click **Finish**.

Fixing iDRAC license compliance for vSphere hosts

The vSphere hosts listed in the vSphere host compliance pages are noncompliant because they do not have a compatible iDRAC license. The table displays the status of the iDRAC license. You can click a noncomplaint host to view more details such as, how many days are remaining for the iDRAC license, and then you can update it, as required. If the **Run inventory job** link is disabled from the **vSphere Hosts** page, there are no vSphere hosts that are noncompliant due to the iDRAC license.

1. In OpenManage Integration for VMware vCenter, from the **Manage** tab, click **Compliance** > **vSphere Hosts**.
2. Select a host where **iDRAC License Status** is **Non-compliant**.
3. If license is out of date, click the **Purchase/Renew iDRAC License** link.
4. Log in to the **Dell License Management** page and update or purchase a new iDRAC license.
   Use the information in this page to identify and update your iDRAC.
5. After you install an iDRAC license, run an inventory job for the vSphere host and return to this page after the inventory job is successfully complete for the host to be compliant.

Using OMSA with 11th generation servers

To manage the Dell PowerEdge 11th generation servers, OMIVV requires OMSA to be running on them. For an 11th generation host that is deployed though OMIVV, OMSA is installed automatically. For 11th generation hosts that you deploy manually, you can choose either of the following:

- Install and configure OMSA using OMIVV. See Setting up OMSA trap destination on page 107.
- Install and configure OMSA manually. See Deploying OMSA agent on ESXi system on page 107.

NOTE: When deploying the OMSA agent using OMIVV, OMIVV starts the HttpClient service and enables port 8080 and releases after ESXi 5.0 to download OMSA VIB and install it. Once the OMSA installation is completed, the service automatically stops and the port is closed.

NOTE: Apart from the preceding options, you can use the web client host compliance, which installs and configures the OMSA agent.

Deploying OMSA agent on ESXi system

Install the OMSA VIB on an ESXi system to gather inventory and alert information from the systems.

NOTE: OpenManage agents are required on Dell hosts that are earlier than Dell PowerEdge 12th generation servers. Install OMSA by using OpenManage Integration for VMware vCenter or install OMSA manually to hosts before installing OpenManage Integration for VMware vCenter. The details of manually installing the OMSA agents are available at http://en.community.dell.com/techcenter/systems-management/w/wiki/1760.openmanage-server-administrator-omsa.aspx

1. If OMSA is not installed, install the vSphere command line tool (vSphere CLI) from **http://www.vmware.com**.
2. Enter the following command:

```
Vihostupdate.pl -server <IP Address of ESXi host> -i -b <OMSA version X.X>
```

NOTE: It might take a few minutes for OMSA to install. This command requires you to reboot the host after it completes.

Setting up OMSA trap destination

All 11th generation of hosts must have OMSA configured.

NOTE: OMSA is only required for the Dell servers earlier than 12th generation Dell PowerEdge servers.

To set up an OMSA trap destination:

1. Navigate to the OMSA agent from a web browser by providing the `https://<HostIP>:1311/` as its URL.
2. Log in to the interface, and select the **Alert Management** tab.
3. Select **Alert Actions** and make sure that any events to be monitored have the **Broadcast Message** option set, so that the events are posted.
4. Select the **Platform Events** option at the top of the tab.
5. Click the grey **Configure Destinations** button, and click the **Destination** link.
6. Select the **Enable Destination** check box.
7. Enter the OMIVV appliance IP address in the **Destination IP Address** field.
8. Click **Apply Changes**.
9. Repeat step 1 to step 8 to configure extra events.

Reporting and fixing compliance for bare-metal servers

A bare-metal server is noncompliant when:

- It is not a supported server.
- It does not have a supported iDRAC license (iDRAC Express is the minimum requirement).
- It does not have supported versions of iDRAC, BIOS, or LC.
- LOM or rNDC is not present.

To view and fix the list of noncompliant bare-metal servers:

1. In OpenManage Integration for VMware vCenter, select the **Manage** > **Deployment** tab.
   a. In the **Bare Metal Servers** page, view the list of noncompliant servers.

A table is displayed that lists the noncompliant servers along with the Service Tag, model, iDRAC IP, server status, compliance status, and the iDRAC license status.

b. To view further details of a server, select a noncompliant server.

c. To export the noncomplaint information of a server to a .CSV file, in the right-hand corner of the table, click the  icon.

d. To filter the content of the data grid, click the **Filter** field.

e. To swap the columns within the table, drag and drop columns within the data grid.

2. To fix noncomplaint servers, click **Fix non-compliant servers**.
3. In the **Fix bare metal Compliance** wizard, click **Next** in the **Welcome** page.
4. In the **Fix Compliance** page, select the check boxes for the servers you want to fix.

   The noncomplaint servers are listed and the firmware component for which it is noncompliant is displayed. The listed noncompliant servers requires updating at least one of the following firmware components:

   - iDRAC IP

     NOTE: From OMIVV, you cannot fix bare-metal servers where the iDRAC licenses are noncompliant. Ensure that you upload supported iDRAC license to those servers outside OMIVV, and then click **Recheck Licensed Server**. See Rechecking bare-metal server compliance on page 108.

   - BIOS
   - LC
5. Click **Next**.
6. In the **Summary** window, review the actions that take place on the firmware components of noncompliant bare-metal servers.
7. Click **Finish**.

Fixing iDRAC license compliance for bare-metal servers

The bare-metal servers listed in the **Bare Metal Servers** page are noncompliant because they do not have a compatible iDRAC license. A table displays the status of the iDRAC license. You can click a noncomplaint bare-metal server to view more details such as, how many days are remaining for the iDRAC license, and then you can update it, as required. If the **Recheck Licensed Server** link is enabled in the **Bare Metal Servers** page, there are bare-metal servers that are noncompliant due to the iDRAC license.

1. In OpenManage Integration for VMware vCenter, select the **Manage** > **Deployment** tab.
   In the **Bare Metal Servers** page, view the list of noncompliant servers that is displayed in a table.
2. Select a bare-metal server where **iDRAC License Status** is **Non-compliant** or **Unknown**.
3. If license is out of date, click the **Purchase/Renew iDRAC License** link.
4. Log in to the **Dell License Management** page and update or purchase a new iDRAC license.
   Use the information in this page to identify and update your iDRAC.
5. After you install an iDRAC license, click **Recheck Licensed Server**.

Rechecking bare-metal server compliance

For servers that you have made complaint outside of the OMIVV plug-in, run the following manual server compliance recheck:

1. In OpenManage Integration for VMware vCenter, from the **Manage** > **Deployment** tab, click **Recheck Licensed Server**.
2. In the **Non-Compliant Servers** window, to refresh the list, click **Refresh**.
3. To run recheck, click **Recheck Licensed Server**.

If you successfully fixed your system, the list refreshes and the system are listed as **Compliant**. If not, it remains listed as **Non-compliant**.

14

Security roles and permissions

The OpenManage Integration for VMware vCenter stores user credentials in an encrypted format. It does not provide any passwords to client applications to avoid any improper requests. The backup database is fully encrypted by using custom security phrases, and hence data cannot be misused.

By default, users in the Administrators group have all the privileges. The Administrators can use all the functions of the OpenManage Integration for VMware vCenter within VMware vSphere web client. If you want a user with necessary privileges to manage the product, do the following:

1. Create a role with necessary privileges
2. Register a vCenter server by using the user
3. Include both the Dell roles, Dell operational role and Dell infrastructure deployment role.

Topics:

- Data integrity
- Access control authentication, authorization, and roles
- Dell Operational role
- Dell Infrastructure Deployment role
- About privileges

Data integrity

The communication between the OpenManage Integration for VMware vCenter, Administration Console, and vCenter is accomplished by using SSL/HTTPS. The OpenManage Integration for VMware vCenter generates an SSL certificate that is used for trusted communication between vCenter and the appliance. It also verifies and trusts the vCenter server's certificate before communication and the OpenManage Integration for VMware vCenter registration. The console tab of OpenManage Integration for VMware vCenter uses security procedures to avoid improper requests while the keys are transferred back and forth from the Administration Console and back-end services. This type of security causes cross-sites request forgeries to fail.

A secure Administration Console session has a 5-minutes idle time-out, and the session is only valid in the current browser window and/or tab. If you try to open the session in a new window or tab, a security error is prompted that asks for a valid session. This action also prevents the user from clicking any malicious URL that can attack the Administration Console session.

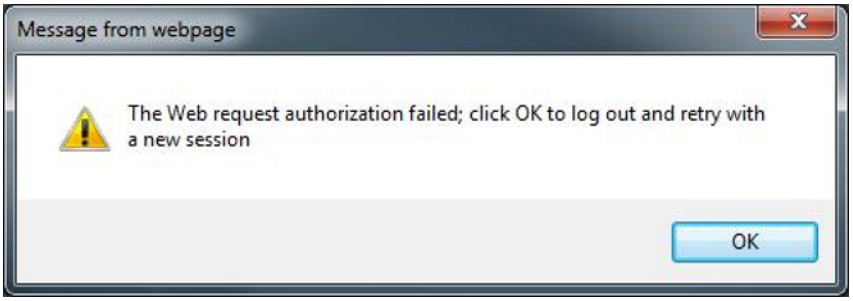

Figure 3. Security error message

Access control authentication, authorization, and roles

To perform vCenter operations, OpenManage Integration for VMware vCenter uses the current user session of web client and the stored administration credentials for the OpenManage Integration. The OpenManage Integration for VMware vCenter uses the vCenter server's built-in roles and privileges model to authorize user actions with the OpenManage Integration and the vCenter managed objects (hosts and clusters).

Dell Operational role

The role contains the privileges/groups to accomplish appliance and vCenter server tasks including firmware updates, hardware inventory, restarting a host, placing a host in maintenance mode, or creating a vCenter server task.

This role contains the following privilege groups:

Table 39. Privilege groups

Group name	Description
Privilege group — Dell.Configuration	Perform Host-related tasks, Perform vCenter-related tasks, Configure SelLog, Configure ConnectionProfile, Configure ClearLed, Firmware Update
Privilege group — Dell.Inventory	Configure inventory, Configure warranty retrieval, Configure readonly
Privilege group — Dell.Monitoring	Configure monitoring, monitor
Privilege group — Dell.Reporting (Not used)	Create a report, Run a report

Dell Infrastructure Deployment role

The role contains the privileges related to the hypervisor deployment features.

The privileges this role provides are Create Template, Configure HW Configuration Profile, Configure Hypervisor Deployment Profile, Configure Connection Profile, Assign Identity, and Deploy.

Privilege Group — Dell.Deploy-Provisioning	Create Template, Configure HW Configuration Profile, Configure Hypervisor Deployment Profile, Configure Connection Profile, Assign Identity, Deploy

About privileges

Every action performed by the OpenManage Integration for VMware vCenter is associated with a privilege. The following sections list the available actions and the associated privileges:

- Dell.Configuration.Perform vCenter-related tasks
  - Exit and enter maintenance mode
  - Get the vCenter user group to query the permissions
  - Register and configure alerts, for example enable/disable alerts on the event settings page
  - Post events/alerts to vCenter
  - Configure event settings on the event settings page
  - Restore default alerts on the event settings page
  - Check DRS status on clusters while configuring alerts/events settings
  - Reboot host after performing update or any other configuration action
  - Monitor vCenter tasks status/progress
  - Create vCenter tasks, for example firmware update task, host configuration task, and inventory task
  - Update vCenter task status/progress
  - Get host profiles
  - Add host to data center
  - Add host to cluster
  - Apply profile to host
  - Get CIM credentials
  - Configure hosts for compliance
  - Get the compliance tasks status
- Dell.Inventory.Configure ReadOnly
  - Get all vCenter hosts to construct the vCenter tree while configuring connection profiles
  - Check if the host is a Dell server when the tab is selected

    - Get the vCenter's Address/IP
    - Get host IP/Address
    - Get the current vCenter session user based on the vSphere client session ID
    - Get the vCenter inventory tree to display the vCenter inventory in a tree structure.
- Dell.Monitoring.Monitor
    - Get host name for posting the event
    - Perform the event log operations, for example get the event count, or change the event log settings
    - Register, unregister, and configure events/alerts — Receive SNMP traps and post events
- Dell.Configuration.Firmware Update
    - Perform firmware update
    - Load firmware repository and DUP file information on the firmware update wizard page
    - Query firmware inventory
    - Configure firmware repository settings
    - Configure staging folder and perform update by using the staging feature
    - Test the network and repository connections
- Dell.Deploy-Provisioning.Create Template
    - Configure HW Configuration Profile
    - Configure Hypervisor Deployment Profile
    - Configure Connection Profile
    - Assign identity
    - Deploy
- Dell.Configuration.Perform host-related tasks
    - Blink LED, Clear LED, Configure OMSA URL from the Dell Server Management tab
    - Launch OMSA Console
    - Launch iDRAC Console
    - Display and clear SEL log
- Dell.Inventory.Configure Inventory
    - Display system inventory in the Dell Server Management tab
    - Get storage details
    - Get power monitoring details
    - Create, display, edit, delete, and test connection profiles on the connection profiles page
    - Schedule, update, and delete inventory schedule
    - Run inventory on hosts

15

Troubleshooting

Use this section to find answers to troubleshooting questions. This section includes:

- Frequently asked questions (FAQ)
- Bare-metal deployment issues on page 130

Topics:

- Frequently Asked Questions (FAQ)
- Bare-metal deployment issues

Frequently Asked Questions (FAQ)

This section contains some common questions and solutions.

Why does server move to quarantine or maintenance mode when Proactive HA is turned on cluster?

The server was likely part of the Proactive HA cluster previously and received a warning or critical Proactive HA health update then. Also, the server might have been removed from the Proactive HA cluster before it received a normal health update. vCenter caches the last known health update of a server even when the server is not included in the Proactive HA cluster. In this state, if the server is reintroduced in to the Proactive HA cluster, vCenter applies the Proactive HA remediation policy set for that cluster to the server until the Dell provider reinitializes the server to its current health status. This normally takes a few minutes.

Version affected: 4.0.1 and later

RPM upgrade is unsuccessful when necessary vCenter privileges are not provided

When you perform an RPM upgrade and the necessary privileges are not assigned to the vCenter user registered with OMIVV, the RPM upgrade is unsuccessful.

Resolution: To successfully complete the upgrade, you can provide the **Modify Cluster** privilege under **Host** > **Inventory** to the vCenter user registered with OMIVV, and then restart the OMIVV appliance.

Version affected: 4.0 and later

Why Export All button fails to export to .CSV file in Google chrome?

After registering a vCenter server, if you add a host and create a connection profile, and then view the inventory details of the host, the **Export All** button returns a failure. The **Export All** button does not export the information to a .CSV file.

NOTE:

In all versions of the Google chrome browser, the **Export All** button does not export the information to a .CSV file in **Incognito mode**.

Resolution: To export information to a .CSV file by using the **Export All** button in the Google chrome, disable the **Incognito mode** in chrome browser.

Version affected: 4.0

iDRAC license type and description are displayed incorrectly for non-compliant vSphere hosts

If a host is noncomplaint when CSIOR is disabled or has not been run, iDRAC license information is displayed incorrectly although valid iDRAC license is available. Hence, you can view the host in vSphere hosts list, but when you click the host for details, the information in **iDRAC License Type** is displayed as empty and **iDRAC License Description** is displayed as "Your license needs to be upgraded".

Resolution: To fix this issue, enable CSIOR on a reference server.

Version affected: 4.0

Dell icon is not displayed after unregistering vCenter from earlier OMIVV version and then registering same vCenter with later OMIVV version

If you unregister an earlier OMIVV version with vCenter server, and then register a later OMIVV version with the same vCenter server, there is an entry in the vsphere-client-serenity folder, which is old data from the earlier OMIVV version. Hence, the Dell icon is not displayed after registering the later OMIVV version as old data specific to the earlier OMIVV version exists in the vsphere-client-serenity folder of the vCenter appliance.

Resolution: Perform the following steps:

1. Go to `/etc/vmware/vsphere-client/vc-packages/vsphere-client-serenity` folder in the vCenter appliance and see that old data exists, such as:
   - com.dell.plugin.OpenManage_Integration_for_VMware_vCenter_WebClient-3.0.0.197
2. Manually delete the folder corresponding to the earlier OMIVV version.
3. Restart the vSphere web client service on the vCenter server.

Version affected: All

Configuration wizard settings are overridden by default settings each time it is invoked

After you configure inventory, warranty retrieval schedules; events and alarms in the initial configuration wizard and then relaunch the configuration wizard again, the previous inventory and warranty retrieval schedules are not retained. The inventory and warranty schedules are reset to the default settings each time the configuration wizard is invoked, whereas the events and alarms retain the updated settings.

Resolution/Workaround: Replicate the previous schedule in the inventory and warranty schedule pages before completing the wizard functions so that the previous schedule is not overridden by the default settings.

Version affected: 3.0 and later

Dell provider is not displayed as health update provider

When you register a vCenter server with OMIVV and then upgrade the vCenter server version, such as from vCenter 6.0 to vCenter 6.5, the Dell provider is not displayed in the **Proactive HA provider** list.

Resolution: You can upgrade a registered vCenter for non-administrator users or administrator users. To upgrade to the latest version of the vCenter server, see the VMware Documentation and then perform either of the following options, as applicable:

- For non-administrator users:
  1. Assign extra privileges to non-administrator users, if necessary. See Required privileges for non-administrator users on page 12.
  2. Reboot the registered OMIVV appliance.
  3. Log out from web client and then log in again.
- For administrator users:

1. Reboot the registered OMIVV appliance.
2. Log out from web client and then log in again.

The Dell provider is now listed in the **Proactive HA provider** list.

Version affected: 4.0

Why is inventory failing when performing firmware update task on ESXi 5.x host?

After registering a vCenter server, if you perform firmware update task on an ESXi 5.x host and select iDRAC as the component from the **Select Component** screen, the ESXi in the host might not be synchronized with the new iDRAC IP, thereby resulting in an invalid iDRAC IP provided to OMIVV. Hence, you cannot run inventory successfully on that host.

Resolution: To resolve this issue, restart the sfcdb daemon on the ESXi host. See https://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2077693 for more information.

Version affected: 4.0

Host inventory or test connection fails due to invalid or unknown iDRAC IP. How can I get a valid iDRAC IP?

The host inventory or test connection fails due to invalid or unknown iDRAC IP and you receive messages such as "network latencies or unreachable host", "connection refused", "operation has timed out", "WSMAN", "no route to host", and "IP address: null".

1. Open the iDRAC virtual console.
2. Press F2 and navigate to **Troubleshooting Options**.
3. In **Troubleshooting Options**, navigate to **Restart Management Agents**.
4. To restart the management agents, press F11.

A valid iDRAC IP is now available.

NOTE: Host inventory can also fail when WBEM service is not enabled. See Creating connection profile on page 40 for more information about WBEM service.

On running fix noncompliant vSphere hosts wizard, why the status of a specific host is displayed as "Unknown"?

When you run the fix noncompliant vSphere hosts wizard to fix noncompliant hosts, the status of a specific host is displayed as "Unknown". The unknown status is displayed when iDRAC is not reachable.

Resolution: Verify the iDRAC connectivity of the host and ensure that inventory is run successfully.

Version affected: 4.0

Dell privileges that are assigned while registering the OMIVV appliance are not removed after unregistering OMIVV

After registering vCenter with an OMIVV appliance, several Dell privileges are added to the vCenter privilege list. Once you unregister vCenter from the OMIVV appliance, the Dell privileges are not removed.

NOTE: Although the Dell privileges are not removed, there is no impact to any OMIVV operations.

Version Affected: 3.1

Dell Management Center does not display all the relevant logs when trying to filter a severity category. How can I view all the logs?

When you select a severity category to filter the log data by choosing **All Categories** from the drop-down, all the logs belonging to specific category are displayed accurately. However, if you filter by choosing **Info** from the drop-down, the Firmware update logs are not displayed and only the task initiation logs are displayed.

Resolution: To view all the logs in Dell Management Center, select **All Categories** from the Filter drop-down.

Version Affected: 3.1

How do I resolve error code 2000000 caused by VMware Certificate Authority (VMCA)?

When you run the vSphere certificate manager and replace the vCenter server or Platform Controller Service (PSC) certificate with a new CA certificate and key for vCenter 6.0, OMIVV displays error code 2000000 and throws an exception.

Resolution: To resolve the exception, you should update the ssl Anchors for the services. The ssl Anchors can be updated by running the `ls_update_certs.py` scripts on PSC. The script takes the old certificate thumbprint as the input argument and the new certificate is installed. The old certificate is the certificate before the replacement and the new certificate is the certificate after the replacement. Visit http://kb.vmware.com/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=2121701 and http://kb.vmware.com/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=2121689 for more information.

Updating the ssl Anchors in Windows vSphere 6.0

1. Download the lstoolutil.py.zip file from http://kb.vmware.com/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=2121701.
2. Copy the lstoolutil.py file to the `%VMWARE_CIS_HOME%"\VMware Identity Services\lstool\scripts\` folder.

NOTE: Do not replace the lstoolutil.py file if you are using vSphere 6.0 Update 1.

You can use the following relevant procedures to update the ssl Anchors:

- Updating the ssl Anchors for vCenter installed on Windows operation system: Replace the certificates on vCenter Windows installation by using vSphere Certificate Manager utility. See Replacing the certificates on vCenter Windows installation on page 115.
- Updating the ssl Anchors for the vCenter server appliance: Replace the certificates on vCenter server appliance by using vSphere Certificate Manager utility. See Replacing the certificates on the vCenter server appliance on page 116.

The output obtained from the mentioned procedures should display `Updated 24 service (s)` and `Updated 26 service (s)` respectively. If the output displayed is `Updated 0 service (s)`, the old certificate thumbprint is incorrect. You can perform the following steps to retrieve the old certificate thumbprint. Also, use the following procedure to retrieve the old certificate thumbprint, if **vCenter Certificate Manager** is not used to replace the certificates:

NOTE: Run the `ls_update_certs.py` with the old thumbprint obtained.

1. Retrieve the old certificate from the Managed Object Browser (MOB). See Retrieving the old certificate from Managed Object Browser (MOB) on page 117.
2. Extract the thumbprint from the old certificate. See Extracting thumbprint from the old certificate on page 118.

Version Affected: 3.0 and later, vCenter 6.0 and later

Replacing the certificates on vCenter Windows installation

Perform the following steps if vSphere Certificate Manager utility is used to replace the certificates on vCenter Windows installation:

1. Connect to External Platform Services Controller through remote desktop connection.
2. Open command prompt in administrative mode.
3. Create the `c:\certificates` folder by using the following command: `mkdir c:\certificates`

4. Retrieve the old certificate by using the following command: `"%VMWARE_CIS_HOME%"\vmafdd\vecs-cli entry getcert --store BACKUP_STORE --alias bkp___MACHINE_CERT --output c:\certificates\old_machine.crt`
5. Retrieve the old certificate thumbprint by using the following command: `"%VMWARE_OPENSSL_BIN%" x509 -in C:\certificates\old_machine.crt -noout -sha1 -fingerprint`

   NOTE: The retrieved certificate thumbprint is in the following format: `SHA1 Fingerprint=13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88`

   The thumbprint is a sequence of numbers and alphabets which appears as follows:`13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88`

6. Retrieve the new certificate by using the following command: `"%VMWARE_CIS_HOME%"\vmafdd\vecs-cli entry getcert --store MACHINE_SSL_CERT --alias __MACHINE_CERT --output c:\certificates\new_machine.crt`
7. Perform the following steps:
   a. Run `ls_update_certs.py` by using the following command. `"%VMWARE _PYTHON_BIN%" ls_update_certs.py --url`
   b. Replace psc.vmware.com by Lookup_Service_FQDN_of_Platform_Services_Controller and the 13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88 thumbprint with the thumbprint obtained in step 5 by using the following command: `https://psc.vmware.com/lookupservice/sdk --fingerprint 13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88 --certfile c:\certificates\new_machine.crt --user Administrator@vsphere.local --password Password`

      NOTE: Ensure to provide valid credentials.

8. Log out and log in to the vCenter Web client after all the services are updated successfully.

OMIVV now launches successfully.

Replacing the certificates on the vCenter server appliance

Perform the following steps if vSphere Certificate Manager utility is used to replace the certificates on the vCenter server appliance:

1. Log in to the External Platform Services Controller appliance through console or a secure shell (SSH) session.
2. Run the following command to enable accessing the Bash shell: `shell.set --enabled true`
3. Type **`shell`** and press **Enter**.
4. Create folders or certificates by using the following command: `mkdir /certificates`
5. Retrieve the old certificate by using the following command: `/usr/lib/vmware-vmafd/bin/vecs-cli entry getcert --store BACKUP_STORE --alias bkp___MACHINE_CERT --output /certificates/old_machine.crt`
6. Retrieve the old certificate thumbprint by using the following command: `openssl x509 -in /certificates/old_machine.crt -noout -sha1 -fingerprint`

   NOTE: The retrieved certificate thumbprint is in the following format: `SHA1 Fingerprint=13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88`

   The thumbprint is a sequence of numbers and alphabets which appears as follows:`13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88`

7. Retrieve the new certificate by using the following command:`/usr/lib/vmware-vmafd/bin/vecs-cli entry getcert --store MACHINE_SSL_CERT --alias __MACHINE_CERT --output /certificates/new_machine.crt`
8. Run the following command to change the directory: `cd /usr/lib/vmidentity/tools/scripts/`
9. Perform the following steps:
   a. Run `ls_update_certs.py` by using the following command. `python ls_update_certs.py --url`
   b. Replace psc.vmware.com by Lookup_Service_FQDN_of_Platform_Services_Controller and the 13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88 thumbprint with the thumbprint obtained in step 6 by using the following command: `https://psc.vmware.com/lookupservice/sdk --fingerprint`

```
13:1E:60:93:E4:E6:59:31:55:EB:74:51:67:2A:99:F8:3F:04:83:88 --certfile /certificates/
new_machine.crt --user Administrator@vsphere.local --password "Password"
```

NOTE: Ensure to provide valid credentials.

10. Log out and log in to the vCenter Web client after all the services are updated successfully.

OMIVV now launches successfully.

Retrieving the old certificate from Managed Object Browser (MOB)

You can retrieve the old certificate for the vCenter server system by connecting to Platform Service Controller (PSC) by using the Managed Object Browser (MOB).

To retrieve the old certificate, you should find the sslTrust field of the ArrayOfLookupServiceRegistrationInfo managed object by performing the following steps:

NOTE: In this guide, the `C:\certificates\` folder location is used to store all certificates.

1. Create the `C:\certificates\` folder on PSC by using the following command: `mkdir C:\certificates\`.
2. Open the following link in a browser: `https://<vCenter FQDN|IP address>/lookupservice/mob?moid=ServiceRegistration&method=List`
3. Log in with the `administrator@vsphere.local` user name and provide the password when prompted.

   NOTE: If you are using a custom name for vCenter Single Sign-On (SSO) domain, use that user name and password.

4. In **filterCriteria**, modify the value field to show only the tags **<filtercriteria></filtercriteria>** and click **Invoke Method**.
5. Search for the following hostnames depending on the certificates that you are replacing:

Table 40. Search criteria information

Trust anchors	Search criteria
vCenter server	Use Ctrl+F to search, vc_hostname_or_IP.example.com on the page
Platform Services Controller	Use Ctrl+F to search, psc_hostname_or_IP.example.com on the page

6. Locate the value of the corresponding sslTrust field. The value of the sslTrust field is Base64 encoded string of the old certificate.
7. Use the following examples when updating the Platform Services Controller or vCenter Server trust anchors.

   NOTE: The actual string is shortened significantly to improve legibility.

   - For vCenter server

Table 41. vCenter server example

Name	Type	Value
url	anyURI	https://vcenter.vmware.local:443/sdk

   - For Platform Services Controller

Table 42. Platform Services Controller example

Name	Type	Value
url	anyURI	https://psc.vmware.local/sts/STSService/vsphere.local

8. Copy the content of the sslTrust field into a text document and save the document as `old_machine.txt`.
9. Open the `old_machine.txt` in a text editor.
10. Append the following at the starting and end of the `old_machine.txt` file respectively:

```
-----BEGIN CERTIFICATE-----
-----END CERTIFICATE-----
```

11. Save `old_machine.txt` now as `old_machine.crt`.

You can now extract the thumbprint from this certificate.

Extracting thumbprint from the old certificate

You can extract the thumbprint from the old certificate and upload it to the Platform Services by using the following options:

- Extract the thumbprint by using a Certificate Viewer Tool. See Extracting the certificate thumbprint by using a Certificate Viewer tool on page 118.
- Extract the thumbprint by using a command line on the appliance. See Extracting Thumbprint by using the command line on page 118.

Extracting the certificate thumbprint by using a Certificate Viewer tool

Perform the following steps to extract the certificate thumbprint:

1. In Windows, double-click the `old_machine.txt` file to open it in Windows Certificate Viewer.
2. In Windows Certificate Viewer, select the **SHA1 Thumbprint** field.
3. Copy the thumbprint string into a plain text editor and replace the spaces with colons or remove the spaces from the string. For example, the thumbprint string can appear as either of the following:
   - ea87e150bb96fbbe1fa95a3c1d75b48c30db7971
   - ea:87:e1:50:bb:96:fb:be:1f:a9:5a:3c:1d:75:b4:8c:30:db:79:71

Extracting Thumbprint by using the command line

You can see the following sections for extracting thumbprint by using the command line on the appliance and Windows installation.

Extracting thumbprint by using the Command Line on the vCenter server appliance

Perform the following steps:

1. Move or upload the old_machine.crt certificate to PSC in the `C:\certificates\old_machine.crt` location that is created in step 1 of retrieving the old certificate procedure. You can use Windows Secure Copy (WinSCP) or another SCP client to move or upload the certificate.
2. Log in to the External Platform Services Controller appliance through Secure Shell (SSH).
3. Run the following command to enable accessing the Bash shell: `shell.set --enabled true`.
4. Type `shell` and press **Enter**.
5. Run the following command to extract the thumbprint: `openssl x509 -in /certificates/old_machine.crt -noout -sha1 -fingerprint`

NOTE: The thumbprint appears as a sequence of numbers and letters after the equal sign, which is as follows: `SHA1 Fingerprint= ea:87:e1:50:bb:96:fb:be:1f:a9:5a:3c:1d:75:b4:8c:30:db:79:71`

Extracting thumbprint by using the Command Line on Windows installation

Perform the following steps:

1. Move or upload the old_machine.crt certificate to PSC in the `C:\certificates\old_machine.crt` location that is created in step 1 of retrieving the old certificate procedure. You can use Windows Secure Copy (WinSCP) or another SCP client to move or upload the certificate.
2. Connect to External Platform Services Controller through remote desktop connection.
3. Open command prompt in administrative mode.
4. Run the following command to extract the thumbprint: `"%VMWARE_OPENSSL_BIN%" x509 -in c:\certificates\old_machine.crt -noout -sha1 -fingerprint`

NOTE: The thumbprint appears as a sequence of numbers and letters after the equal sign, which is as follows: `SHA1 Fingerprint=09:0A:B7:53:7C:D9:D2:35:1B:4D:6D:B8:37:77:E8:2E:48:CD:12:1B`

Run the ls_update_certs.py with the old thumbprint. Log out and log in to the vCenter Web client after the services are updated successfully. The Dell plug-in launches successfully.

Firmware Update Wizard shows a message mentioning that the bundles are not retrieved from firmware repository. How can I continue with the firmware update?

In Web client, when you are running the Firmware Update wizard for a single host, the **Select Components** screen displays the firmware details for the components. If you select the desired firmware updates and click **Back** twice to arrive at the **Welcome** page and then click **Next**, a message is displayed mentioning that the bundles are not retrieved from firmware repository in the **Select Update Source** screen.

Resolution: You can select the desired firmware updates and click **Next** to continue with the firmware update.

Version Affected: 3.0 and later

In Administration Console, why Update Repository Path is not set to default path after I reset appliance to factory settings?

After you reset the appliance, go to the **Administration Console**, and then click **APPLIANCE MANAGEMENT** in the left pane. In the **Appliance Settings** page, the **Update Repository Path** is not changed to the default path.

Resolution: In **Administration Console**, manually copy the path in the **Default Update Repository** field to the **Update Repository Path** field.

Why firmware update for 30 hosts at cluster level fails

VMware recommends you to build clusters with identical server hardware. For firmware update at a cluster level with the number of hosts that is near the maximum limit for a cluster (as recommended by VMware) or composed of different models of Dell servers, use vSphere web client.

Why warranty and inventory schedule for all vCenters is not applying when selected from the job queue page?

Navigate to **Dell Home** > **Monitor** > **Job Queue** > **Warranty/Inventory History** > **Schedule**. Select a vCenter and select the modify schedule button. When a dialog is displayed, you can view a check box with the **Apply to All Registered vCenters** message. When you select the check box and press **Apply**, the setting is applied to a particular vCenter that you had initially selected and not all vCenters. The **Apply to All Registered vCenters** is not applicable when warranty or inventory schedule is modified from the **Job Queue** page.

Resolution: Use the modify warranty or inventory schedule from the job queue only to modify the selected vCenter.

Versions Affected: 2.2 and later

What should I do when a web communication error in the vCenter web client appears after changing the DNS settings in OMIVV?

If you see any kind of web communication error in the vCenter web client while doing any OMIVV-related tasks after changing the DNS settings, do either of the following:

- Clear the browser cache.
- Log out and then log in from web client.

Why does the settings page fail to load, if I navigate away and again go back to the settings page?

For vSphere v5.5, in web client, if you navigate away and go back to the **Settings** page, the page might fail to load and the spinner continues to spin. The failure to load is a refresh issue and the page is not refreshing correctly.

Resolution: Click the global refresh and the screen refreshes correctly.

Versions Affected: 2.2 and 3.0

Why "Task cannot be scheduled for the time in the past" error in inventory schedule/warranty schedule page of Initial Configuration Wizard appear?

In web client, the error "Task cannot be scheduled for the time in the past" appears:

- if you select 'All registered vCenters' in the Initial Configuration wizard, and there are some vCenters with no hosts.
- when vCenters where some have inventory or warranty tasks already scheduled.
- when some vCenters with no inventory or warranty schedule set yet.

Resolution: Run the setting of inventory and warranty schedule separately again from the **Settings** page for the vCenters.

Versions Affected: 2.2 and later

Why installation date appears as 12/31/1969 for some of the firmware on the firmware page?

In web client, the installation date appears as 12/31/1969 for some firmware items on the firmware page for a host. If the firmware installation date is not available, the old date is displayed.

Resolution: If you see this old date for any firmware component, consider that the installation date is not available for it.

Versions Affected: 2.2 and later

Successive global refresh cause exception to be thrown in the recent task window. How can I resolve the error?

If you try to press the refresh button repeatedly, the VMware UI might throw an exception.

Resolution: You can dismiss this error and can continue.

Version Affected: 2.2 and later

Why is web client UI distorted for few Dell screens in IE 10?

Sometimes when a popup dialog is displayed, the data in the background might become white and is distorted.

Resolution: Close the dialog box; the screen returns back to normal.

Version Affected: 2.2 and later

Why am I not seeing OpenManage Integration icon in web client even if registration of plug-in to vCenter was successful?

OpenManage Integration icon is not displayed in the web client unless the vCenter web client services are restarted or the box is rebooted. When you register the OpenManage Integration for VMware vCenter appliance, the appliance is registered with both the desktop client and the web client. If you unregister the appliance and then either re-register the same version or register a new version of the appliance, it successfully registers with both clients, but the Dell icon may not appear in the web

client. This is due to a caching issue from VMware. To clear the issue, ensure that you restart the web client service on the vCenter Server. Then the plug-in is displayed in the UI.

Resolution: Restart the web client service on the vCenter server.

Version Affected: 2.2 and later

Even if repository has bundles for selected 11G system, why is firmware update displaying that there are no bundles for firmware update?

When I add a host to the connection profile in lockdown mode, the inventory kicks off but failed stating that “No Remote Access Controller was found or Inventory is not supported on this host.” Inventory is supposed to work for a host in lockdown mode.

If you put the host in lockdown mode or remove a host from lockdown mode, ensure that you wait for 30 minutes before performing the next operation. If you use a 11G host for firmware update, the firmware update wizard does not display any bundles even if the repository has bundles for that system. This occurs because the 11G host might have not been configured for OMSA to send traps to OpenManage Integration.

Resolution: Ensure that the host is compliant by using the host compliance wizard of the OpenManage Integration web client. If it is not compliant, use the Fix Host Compliance to get it compliant.

Version Affected: 2.2 and later

Why is DNS configuration settings restored to original settings after appliance reboot if appliance IP and DNS settings are overwritten with DHCP values

There is a known defect where statically assigned DNS settings are replaced by values from DHCP. This can happen when DHCP is used to obtain IP settings, and DNS values are assigned statically. When the DHCP lease is renewed or the appliance is restarted, the statically assigned DNS settings are removed.

Resolution: Statically assign IP settings when the DNS server settings are different from DHCP.

Version Affected: All

Using OMIVV to update the Intel network card with firmware version of 13.5.2 is not supported

There is a known issue with the Dell PowerEdge 12th generation servers and some Intel network cards with the firmware version of 13.5.2. Updating some models of Intel network cards at this version of firmware fails when the firmware update is applied by using the Lifecycle Controller. Customers with this version of firmware must update the network driver software by using an operating system. If the Intel network card has a version of firmware other than 13.5.2, you can update using OMIVV. For more information, see http://en.community.dell.com/techcenter/b/techcenter/archive/2013/03/20/intel-network-controller-card-with-v13-5-2-firmware-cannot-be-upgraded-using-lifecycle-controller-to-v13-5-6.aspx

NOTE: Note: When using one-to-many firmware update, avoid selecting Intel network adapters that are at version 13.5.2, as the update fails and stops the update task from updating remaining servers.

Using OMIVV to update Intel network network card from 14.5 or 15.0 to 16.x fails due to staging requirement from DUP

This is a known issue with NIC 14.5 and 15.0. Ensure that you use the custom catalog to update the firmware to 15.5.0 before updating the firmware to 16.x.

Version Affected: All

Why trying firmware update with invalid DUP, hardware update job status on vCenter console neither fails nor times-out for hours, although job status in LC prompts as 'FAILED'?

When the invalid DUP is picked for firmware update, the status of the task in the vCenter console window remains 'In Progress' but the message is changed to the reason of failure. This is a known VMware defect and will be fixed in the future releases of VMware vCenter.

Resolution: The task must be canceled manually.

Version Affected: All

Why does Administration Portal display unreachable update repository location?

If you provide an unreachable Update Repository path, the "Failed: Error while connecting to the URL…. " error message is displayed on the top of the Appliance Update view. However, the Update Repository Path is not cleared to the value before update.

Resolution: Move out of this page to another page and ensure that the page is refreshed.

Version Affected: All

Why did system not enter maintenance mode when I performed one-to-many firmware update?

Some firmware updates do not require rebooting the host. In that case, the firmware update is performed without putting the host into maintenance mode.

Why is chassis global health still healthy when some of power supply status has changed to critical?

The global health of the chassis about the power supply is based on the redundancy policies and whether the chassis power needs are satisfied by the PSU that are still online and functional. So even if some of the PSU is out of power, the overall power requirement of the chassis are met. So the global health of the chassis is Healthy. For more details on the Power Supply and Power Management look in the user's Guide for Dell PowerEdge M1000e Chassis Management Controller Firmware document.

Why is processor version displayed "Not Applicable" in processor view in system overview page?

In PowerEdge 12th Generation Dell servers and higher generations, the processor version is in the Brand column. In lower generation servers, processor version is shown in the Version column.

Why exception is returned when I click finish after editing connection profile through web client?

This happens when the vCenter server is registered to the appliance through IP instead of FQDN. The connection profile can be edited through the web client.

Resolution: Re-registering the vCenter server to the same appliance does not solve this. A new setup registered with FQDN is required.

Why connection profiles to which host belongs to when I create\edit connection profile in web GUI cannot be seen?

This happens when the vCenter server is registered to the appliance through IP instead of FQDN. Re-registering the vCenter server to the same appliance does not solve this issue. A new setup registered with FQDN is required.

Why is select host window in web UI is blank on editing connection profile?

This happens when the vCenter server is registered to the appliance through IP instead of FQDN. Re-registering the vCenter server to the same appliance does not solve this issue. A new setup registered with FQDN is required.

Why error message is displayed after clicking firmware link?

If you have a slow network speed (9600BPS), you may get a communication error message. This error message may display when you click the firmware link in the vSphere Client for the OpenManage Integration for VMware vCenter. It happens when the connection times out while trying to obtain the software inventory list. Microsoft Internet Explorer initiates this time out. For the Microsoft Internet Explorer versions 9/10, the default “Receive Time out” value is set to 10 seconds. Fix this issue by using the following steps:

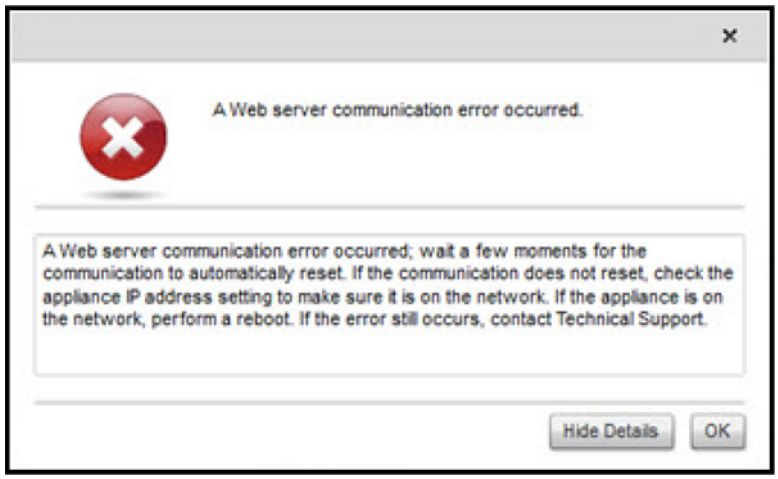

Figure 4. Firmware link communication error

1. Open Microsoft Registry Editor (Regedit).
2. Navigate to the following location:
   KHEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Internet Settings
3. Add a DWORD value for ReceiveTimeout.
4. Set the value to 30 seconds (30000).
   This value must be a higher value in your environment
5. Exit Regedit.
6. Restart Internet Explorer.

   NOTE: Opening a new Internet Explorer window is not enough. Restart the Internet Explorer browser.

What generation of Dell servers does OMIVV configure and support for SNMP traps?

OMIVV supports OMSA SNMP traps on pre-12th generation servers and the iDRAC traps on 12th generation servers.

What vCenter servers are managed by OMIVV?

OMIVV manages only registered vCenter servers in either linked mode or not in a linked mode.

Does OMIVV support vCenter in linked mode?

Yes, OMIVV supports up to 10 vCenter servers either in a linked mode or not in a linked mode. For more information about how OMIVV works in linked mode, see the white paper, *OpenManage Integration for VMware vCenter: Working in Linked Mode* at www.dell.com.

What are required port settings for OMIVV?

NOTE: When deploying the OMSA agent by using the **Fix non-compliant vSphere hosts** link available from the **Compliance** window in OMIVV, OMIVV starts the http client service and enables port 8080 on releases after ESXI 5.0 to download the OMSA VIB and install it. After the OMSA VIB installation is complete, the service automatically stops and the port is closed.

Use the following port settings for OMIVV:

Table 43. Virtual appliance ports

Port number	Protocols	Port type	Max. Encryption Level	Direction	Usage	Configurable
21	FTP	TCP	None	Out	FTP command client	No
53	DNS	TCP	None	Out	DNS client	No
80	HTTP	TCP	None	Out	Dell Online Data Access	No
80	HTTP	TCP	None	In	Administration Console	No
162	SNMP Agent	UDP	None	In	SNMP Agent (server)	No
11620	SNMP Agent	UDP	None	In	SNMP Agent (server)	No
443	HTTPS	TCP	128–bit	In	HTTPS server	No
443	WSMAN	TCP	128–bit	In/Out	iDRAC/OMSA communication	No
4433	HTTPS	TCP	128–bit	In	Auto Discovery	No
2049	NFS	UDP	None	In/Out	Public Share	No
4001–4004	NFS	UDP	None	In/Out	Public Share	No
11620	SNMP Agent	UDP	None	In	SNMP Agent (server)	No

Table 44. Managed nodes

Port number	Protocols	Port type	Max. Encryption Level	Direction	Usage	Configurable
162, 11620	SNMP	UDP	None	Out	Hardware events	No
443	WSMAN	TCP	128–bit	In	iDRAC/OMSA communication	No

Table 44. Managed nodes

Port number	Protocols	Port type	Max. Encryption Level	Direction	Usage	Configurable
4433	HTTPS	TCP	128–bit	Out	Auto Discovery	No
2049	NFS	UDP	None	In/Out	Public Share	No
4001–4004	NFS	UDP	None	In/Out	Public Share	No
443	HTTPS	TCP	128–bit	In	HTTPS server	No
8080	HTTP	TCP		In	HTTP server; downloads the OMSA VIB and fixes non-compliant vSphere hosts	No
50	RMCP	UDP/TCP	128–bit	Out	Remote Mail Check Protocol	No
51	IMP	UDP/TCP	N/A	N/A	IMP Logical Address Maintenance	No
5353	mDNS	UDP/TCP		In/Out	Multicast DNS	No
631	IPP	UDP/TCP	None	Out	Internet Printing Protocol (IPP)	No
69	TFTP	UDP	128–bit	In/Out	Trivial File Transfer	No
111	NFS	UDP/TCP	128–bit	In	SUN Remote Procedure Call (Portmap)	No
68	BOOTP	UDP	None	Out	Bootstrap Protocol Client	No

What are minimum requirements for successful installation and operation of virtual appliance?

The following settings outline the minimum appliance requirements:

- Google chrome, version 28 and later
- Microsoft Internet Explorer, version 9 and 10
- Mozilla Firefox, version 22 and later
- Reserved memory—2 GB

  NOTE: For optimal performance, Dell recommends 3 GB.
- Disk—44 GB
- CPU—2 virtual CPUs

Why is password not changed for user used for bare-metal discovery after successfully applying hardware profile that has same user with new changed credentials in iDRAC user list?

The password of the user used from discovery is not changed to the new credential if only hardware profile template is selected for deployment. This is done intentionally so that the plug-in is able to communicate with the iDRAC for future use in deployment needs.

Why am I unable to view new iDRAC version details listed on vCenter hosts and clusters page?

Resolution: After successful completion of a firmware update task in the vSphere web client, refresh the **Firmware Update** page and verify the firmware versions. If the page displays the old versions, go to the **Host Compliance** page in OpenManage Integration for VMware vCenter, and check the CSIOR status of that host. If CSIOR is not enabled, enable CSIOR and reboot host. If CSIOR is already enabled, log in to the iDRAC console, reset iDRAC, wait for few minutes, and then refresh the **Firmware Update** page.

How can I test event settings by using OMSA to simulate temperature hardware Fault?

To ensure that events are functioning correctly, perform the following steps:

1. In the OMSA user interface, navigate to **Alert Management** > **Platform Events**.
2. Select the **Enable Platform Event Filter Alerts** check box.
3. Scroll down to the bottom, and click **Apply Changes**.
4. To ensure that a specific event is enabled, such as temperature warning, from the tree on the left, select **Main System Chassis**.
5. Under **Main System Chassis**, select **Temperatures**.
6. Select the **Alert Management** tab, and select **Temperature Probe Warning**.
7. Select the **Broadcast a Message** check box, and select **Apply Changes**.
8. To cause the temperature warning event, from the tree view on the left, select **Main System Chassis**.
9. Select **Temperatures** under **Main System Chassis**.
10. Select the **System Board Ambient Temp** link, and select the **Set to Values** option button.
11. Set the **Maximum Warning Threshold** to a value preceding the current listed reading.
    For example, if the current reading is 27, set the threshold to **25**.
12. Select **Apply Changes**, and the temperature warning event is generated.

    To cause another event, restore the original settings by using the same **Set to Values** option. Events are generated as warnings, and then to a normal state. If everything is working properly, navigate to the **vCenter Tasks & Events** view; a temperature probe warning event should be displayed.

    NOTE: There is a filter for duplicate events; if you try to trigger the same event too many times in a row, you only receive one event. To see all events, allow at least 30 seconds between events.

Although OMSA agent is installed on OMIVV host system, I still get error message that OMSA is not installed. How do I resolve this error?

To resolve this issue on an 11th generation server:

1. Install **OMSA** with the **Remote Enablement** component on the host system.

2. If you are using the command line to install OMSA, ensure that you specify the**-c option**. If OMSA is already installed, reinstall it with the -c option and restart the service:

```
srvadmin-install.sh -c
srvadmin-services.sh restart
```

   For an ESXi host, ensure that you install **OMSA VIB** by using the **VMware Remote CLI tool**, and reboot the system.

Can OMIVV support ESXi with lockdown mode enabled?

Yes, lockdown mode is supported in this Release on hosts ESXi 5.0 and later.

When I tried to use lockdown mode, it fails

When I added a host to the connection profile in lockdown mode, the inventory started, but failed stating that “No Remote Access Controller was found or Inventory is not supported on this host.”

If you put the host in lockdown mode or remove a host from lockdown mode, ensure that you wait for 30–minutes before performing the next operation in OMIVV.

What setting should I use for UserVars.CIMoeMProviderEnable with ESXi 4.1 U1?

Set **UserVars.CIMoemProviderEnabled** to 1.

What do I do if creation of hardware profile fails if I am using reference server?

Check to ensure that minimum recommended versions of the iDRAC firmware, the Lifecycle Controller firmware, and BIOS are installed.

To ensure that the data retrieved from the reference server is current, enable **Collect System Inventory On Restart (CSIOR)**, and restart the reference server prior to extraction of data.

Why attempting to deploy ESXi on Blade server fails?

1. Ensure that the **ISO location (NFS path)** and staging **folder paths** are accurate.
2. Ensure that the **NIC** selected during assignment of server identity is on the same network as the virtual appliance.
3. If using **static IP address**, ensure that the network information provided (including subnet mask and Default Gateway) is accurate. Also, ensure that the IP address is not already assigned on the network.
4. Ensure that at least one **Virtual Disk** is seen by the system.

   ESXi also installs to an internal RIPS SD card.

Why hypervisor deployments failing on Dell PowerEdge R210 II machines?

A timeout issue on the Dell PowerEdge R210 II systems produces a hypervisor deployment failure error due to the failure of the BIOS to boot from the attached ISO.

Resolution: Manually install hypervisor on the machine.

Why auto discovered systems are displayed without model information in Deployment wizard?

This usually indicates that the firmware version installed on the system does not meet the recommended minimum requirements. Sometimes, a firmware update may not have registered on the system.

Resolution: Cold booting the system or reseating the Blade fixes this issue. The newly enabled account on the iDRAC must be disabled, and auto discovery reinitiated to provide model information and NIC information to OMIVV.

NFS share is set up with ESXi ISO, but deployment fails with errors mounting share location

To find the solution:

1. Ensure that the iDRAC is able to ping the appliance.
2. Ensure that your network is not running too slow.
3. Ensure that the ports: 2049, 4001 - 4004 are open and the firewall is set accordingly.

How do I force removal of virtual appliance?

1. Go to **Https://<vcenter_serverIPAddress>/mob**
2. Enter the VMware vCenter admin credentials.
3. Click **Content**.
4. Click **ExtensionManager**.
5. Click **UnregisterExtension**.
6. Enter the extension key to unregister com.dell.plugin.openManage_integration_for_VMware_vCenter, and then click the **Invoke method**.
7. Enter the extension key to unregister com.dell.plugin.OpenManage_Integration_for_VMware_vCenter_WebClient, and then click **Invoke method**.
8. In the vSphere web client, turn off OMIVV and delete it. The key to unregister must be for the web client.

Entering a Password in the Backup Now Screen Receives an Error Message

If you are using a low resolution monitor, the Encryption Password field is not visible from the BACKUP NOW window. You must scroll down the page to enter the encryption password.

In vSphere web client, clicking Dell server management portlet or Dell icon returns 404 error

Check if the OMIVV appliance is running; if not, then restart it from the vSphere web client. Wait for a few minutes for the virtual appliance web service to start, and then refresh the page. If the error continues, try to ping the appliance by using the IP address or fully qualified domain name from a command line. If the ping does not resolve, review your network settings to ensure that they are correct.

What should I do as firmware update failed?

Check the virtual appliance logs to see if the tasks timed out. If so, iDRAC must be reset by performing a cold reboot. After the system is up and running, check to see if the update was successful by either running an inventory or by using the **Firmware** tab.

What should I do as vCenter registration failed?

vCenter registration can fail due to communication issues, therefore if you are experiencing these issues, a solution is to use a static IP address. To use a static IP address, in the Console tab of the OpenManage Integration for VMware vCenter, select **Configure Network** > **Edit Devices** and enter the correct **gateway** and **FQDN** (fully qualified domain name). Enter the DNS server name under Edit DNS Config.

NOTE: Ensure that the virtual appliance can resolve the DNS server you entered.

Performance during connection profile test credentials is slow or unresponsive

The iDRAC on a server has only one user (for example, only *root*) and the user is in a disabled state, or all users are in a disabled state. Communicating to a server in a disabled state causes delays. To fix this issue, you can either fix the disable state of the server, or reset iDRAC on the server to re-enable the root user to default setting.

To fix a server in a disabled state:

1. Open the Chassis Management Controller console, and select the disabled server.
2. To automatically open the iDRAC console, click **Launch iDRAC GUI**.
3. Navigate to the user list in the iDRAC console, and click one of the following:
   - iDRAC6: Select **iDRAC settings** > **Network/Security tab** > **Users tab**.
   - iDRAC7: Select **iDRAC settings** > **Users tab**.
   - iDRAC8: Select **iDRAC settings** > **Users tab**.
4. To edit the settings, in the User ID column, click the link for the admin (root) user.
5. Click **Configure User**, and then click **Next**.
6. In the **User Configuration** page for the selected user, select the check box next to Enable user, and then click **Apply**.

Does OMIVV support VMware vCenter server appliance?

Yes, OMIVV supports the VMware vCenter Server appliance since v2.1.

Why is firmware level not updated when I have performed firmware update with Apply on Next reboot option and system was rebooted?

To update firmware, run the inventory on the host after the reboot is completed. Sometimes, where the reboot event does not reach the appliance, the inventory is not automatically triggered. In such situation, you must rerun the inventory manually to get the updated firmware versions.

Why is host still displayed under chassis even after removing host from vCenter tree?

The hosts under the chassis are identified as part of the chassis inventory. After a successful chassis inventory, the host list under the chassis is updated. Therefore, even if the host is removed from the vCenter tree, the host is displayed under the chassis until the next chassis inventory is run.

In Administration Console, why Update Repository Path is not set to default path after I reset appliance to factory settings?

After you reset the appliance, go to the **Administration Console**, and then click **APPLIANCE MANAGEMENT** in the left pane. In the **Appliance Settings** page, the **Update Repository Path** is not changed to the default path.

Resolution: In **Administration Console**, manually copy the path in the **Default Update Repository** field to the **Update Repository Path** field.

After backup and restore of OMIVV, why alarm settings are not restored?

Restoring the OMIVV appliance backup does not restore all the Alarm settings. However, in the OpenManage Integration for VMware GUI, the **Alarms and Events** field displays the restored settings.

Resolution: In the OpenManage Integration for VMware GUI, in the **Manage** > **Settings** tab, manually change the**Events and Alarms** settings.

Bare-metal deployment issues

This section deals with issues found during the deployment process.

Auto discovery and handshake prerequisites

- Prior to running auto discovery and handshake, ensure that iDRAC and Lifecycle Controller firmware and BIOS versions meet the minimum recommendations.
- CSIOR must have run at least once on the system or iDRAC.

Hardware configuration failure

- Before initiating a deployment task, ensure that the system has completed CSIOR and is not in the process of rebooting.
- BIOS configuration should be run in clone mode so that the reference server is an identical system.
- Some controllers do not allow creation of a RAID 0 array with one drive. This feature is supported only on high-end controllers, and the application of such a hardware profile can cause failures.

Enabling auto discovery on newly purchased system

The auto discovery feature of a host system is not enabled by default; instead, enablement must be requested at the time of purchase. If auto discovery enablement is requested at the time of purchase, DHCP is enabled on the iDRAC and admin accounts are disabled. It is not necessary to configure a static IP address for the iDRAC. It gets one from a DHCP server on the network. To use the auto discovery feature, a DHCP server or a DNS server (or both) must be configured to support the discovery process. CSIOR should already be run during the factory process.

If auto discovery was not requested at the time of purchase, it can be enabled as follows:

1. During the boot routine, press **Ctrl+E**.
2. In the iDRAC setup window, enable the NIC (blade servers only).
3. Enable Auto-Discovery.
4. Enable DHCP.
5. Disable admin accounts.
6. Enable **Get DNS server address from DHCP**.
7. Enable **Get DNS domain name from DHCP**.
8. In the **Provisioning Server** field, enter:

```
<OpenManage Integration virtual appliance IPaddress>:4433
```

16

Related Documentation

In addition to this guide, you can access the other guides available at `Dell.com/support/manuals`. Click **Choose from all products**. In the **All product** dialog box, click **Software and Security** > **Virtualization Solutions**. Click **OpenManage Integration for VMware vCenter 4.0.1** to access the following documents:

- *OpenManage Integration for VMware vCenter Version 4.0.1 Web Client Installation Guide*
- *OpenManage Integration for VMware vCenter Version 4.0.1 Release Notes*
- *OpenManage Integration for VMware vCenter Version 4.0.1 Compatibility Matrix*

You can find the technical artifacts including white papers at **delltechcenter.com**. On the Dell TechCenter Wiki home page, click **Systems Management** > **OpenManage Integration for VMware vCenter** to access the articles.

Topics:

- Accessing documents from the Dell EMC support site

Accessing documents from the Dell EMC support site

You can access the required documents in one of the following ways:

- Using the following links:
  - For Dell EMC Enterprise Systems Management, Dell EMC Remote Enterprise Systems Management, and Dell EMC Virtualization Solutions documents — www.dell.com/esmmanuals
  - For Dell EMC OpenManage documents — www.dell.com/openmanagemanuals
  - For iDRAC documents — www.dell.com/idracmanuals
  - For Dell EMC OpenManage Connections Enterprise Systems Management documents — www.dell.com/OMConnectionsEnterpriseSystemsManagement
  - For Dell EMC Serviceability Tools documents — https://www.dell.com/serviceabilitytools
- From the Dell EMC Support site:
  1. Go to https://www.dell.com/support.
  2. Click **Browse all products**.
  3. From **All products** page, click **Software**, and then click the required link from the following:
     - **Analytics**
     - **Client Systems Management**
     - **Enterprise Applications**
     - **Enterprise Systems Management**
     - **Mainframe**
     - **Operating Systems**
     - **Public Sector Solutions**
     - **Serviceability Tools**
     - **Support**
     - **Utilities**
     - **Virtualization Solutions**
  4. To view a document, click the required product and then click the required version.
- Using search engines:
  - Type the name and version of the document in the search box.