The Dell EMC Devices Supported by Dell EMC OpenManage Essentials (OME)

This Dell EMC technical white paper provides information about the various Dell EMC devices for which discovery, inventory, and classification operations are supported by Dell EMC OpenManage Essentials (OME).

Abstract

This Dell EMC technical white paper provides information about the various Dell EMC devices for which discovery, inventory, and classification operations are supported by Dell EMC OpenManage Essentials.

November 2018

Revisions

Date	Description
September 2015	OpenManage Essentials 2.1 release
September 2016	OpenManage Essentials 2.2 release
June 2017	OpenManage Essentials 2.3 release
November 2018	OpenManage Essentials 2.5 release

Acknowledgements

This technical white paper is produced by the following members of the Dell EMC Server Engineering team:

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Others—None

Contents

1 Executive summary

OpenManage Essentials (OME) enables the management and monitoring of various discovered Dell devices in a single centralized console.

With OME, you can discover and inventory to manage devices present in your network. The scope of this technical white paper is limited to the complete support of MX Chassis, VxFlex Ready Nodes, Dell EMC EqualLogic Groups, Dell EMC NAS Appliances, Disk Backup Appliances, VxRail Appliances, XC Series Appliances, SonicWALL Firewall, PowerConnect W-Series, Brocade Fibre Channel, Dell EMC Compellent Arrays, Dell EMC Networking Switches, KVM, PDU, and UPS, in addition to the devices supported in the previous versions of OME

2 Introduction

The purpose of this technical white paper is to describe the complete support of Dell devices in OpenManage Essentials (OME). This technical white paper covers the following topics:

- Device discovery, inventory, and classification
- Device health
- Warranty Information
- Start application
- Monitor devices (alerts)
- Troubleshooting

For a complete list of supported device models, see the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* at **dell.com/openmanagemanuals**.

3 Protocols supported by OpenManage Essentials

- OpenManage Essentials (OME) can discover and receive alerts from Dell EMC EqualLogic Groups, Dell EMC NAS Appliances, SonicWALL Firewall, PowerConnect W-Series, Brocade Fibre Channel, Dell EMC Compellent Arrays, Dell EMC Networking Switches, KVM, PDU, and UPS devices by using SNMP protocol.
- VxFlex Ready Nodes, Disk Backup Appliances, VxRail Appliances, and XC Series Appliances can be discovered by using WS-Man protocol and support SNMP alerts.
- MX Chassis can be discovered by using REST protocol and support SNMP alerts.
- SNMP protocol versions V1, V2, and V3 are currently supported.
- You must configure the SNMP protocol on all the target devices and set the management station IP address to the system where OME is installed.
- Although the previously specified settings are not required on all these devices, it is recommended to check for the SNMP configuration before performing discovery or inventory operations.
- Receipt of SNMP traps or alerts is also supported for these devices in OME.
- The Troubleshooting section provides guidance about ensuring that a target device is configured correctly to be managed by OME.

Following table shows the recommended protocols to discover different types of devices:

Table 1 Recommended protocols for device discovery

Device Type	Recommended Protocol
MX Chassis	REST
VxFlex Ready Nodes	WS-Man
VxRail Appliances	WS-Man
XC Series Appliances	WS-Man
Disk Backup Appliances	WS-Man
Dell EMC Networking Switches	SNMP
Dell EMC EqualLogic Groups	SNMP
Dell EMC NAS Appliances	SNMP
SonicWALL Firewall	SNMP
PowerConnect W-Series	SNMP
Brocade Fibre Channel	SNMP
Dell EMC Compellent Arrays	SNMP
KVM	SNMP
PDU	SNMP
UPS	SNMP

4 Discover, inventory, and classify Dell EMC devices in OpenManage Essentials

To discover an MX chassis, VxFlex Ready nodes, Dell EMC EqualLogic groups, Dell EMC NAS appliances, Disk Backup appliances, VxRail appliances, XC Series appliances, SonicWALL firewall, PowerConnect W-Series, Brocade fibre channel, Dell EMC Compellent arrays, Dell EMC networking switches, KVM, PDU, or UPS by using OME, do the following:

1. Start OpenManage Essentials.
2. Navigate to **Manage → Discovery and Inventory**.
3. In the left pane, click **Add Discovery Range**.
4. Enter the IP address or host name and subnet mask, and then click **Add**.
5. If you are entering the IP range, select the **Save as Group** check box.
6. Enter the group name in **Group Name**, and then click **Add**.
7. Click **Next**.

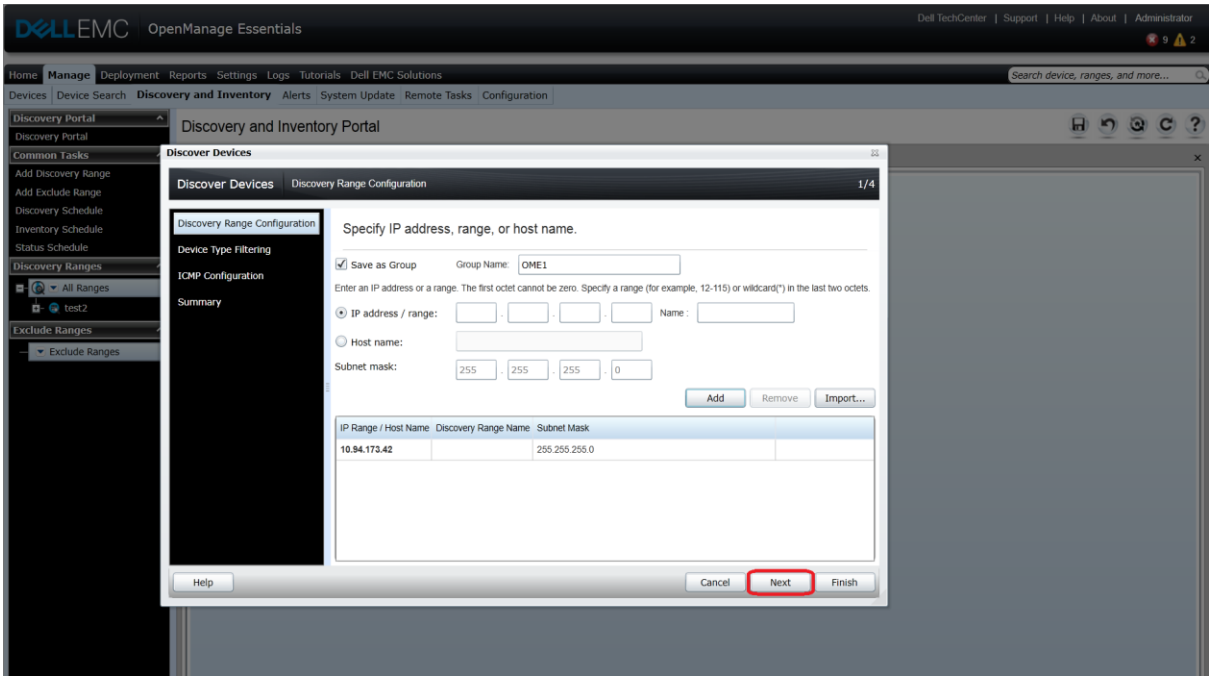

Figure 1 Discovery Range Configuration

8. On the **Device Type Filtering** page, select specific device types for guidance in determining which protocols are required to manage them, and then click **Next**.

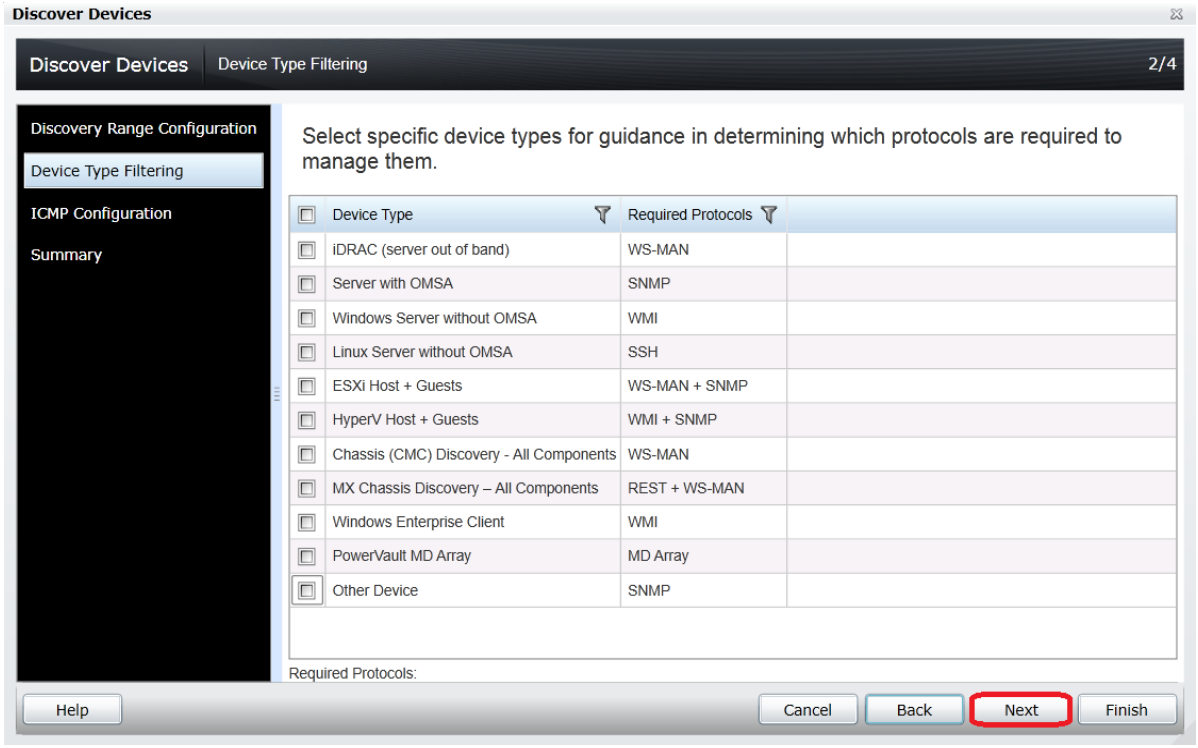

Figure 2 Device Type Filtering page

9. On the **ICMP Configuration** page, click **Next**.

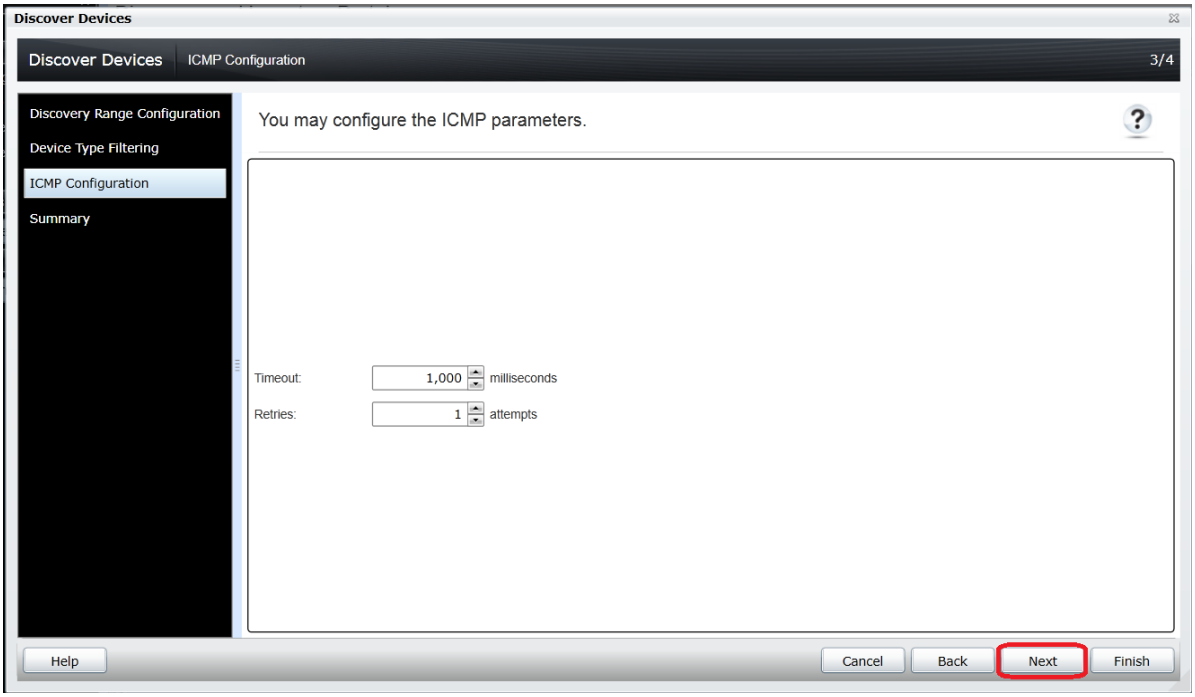

Figure 3 ICMP Configuration page

10. On the **REST Configuration** page, enter the user ID and password, and then click **Next**.

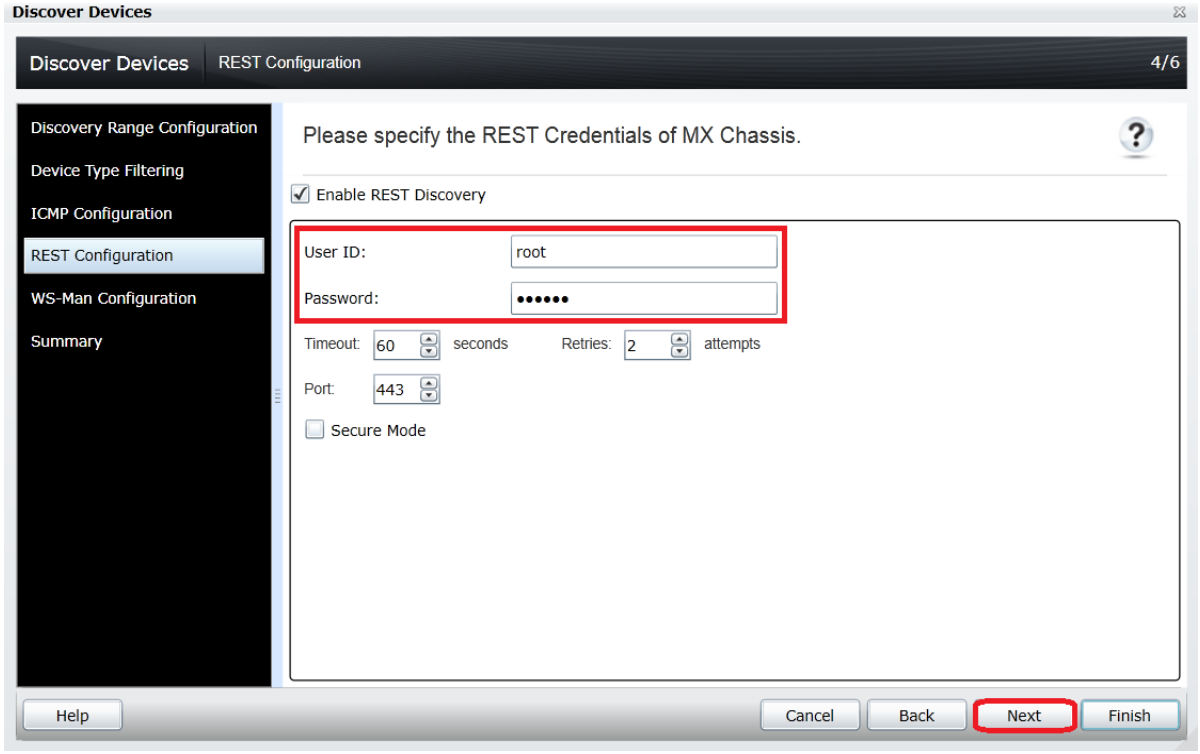

Figure 4 REST Configuration page for MX Chassis

11. On the **WS-Man Configuration** page, enter user ID and password, and then click **Finish**.

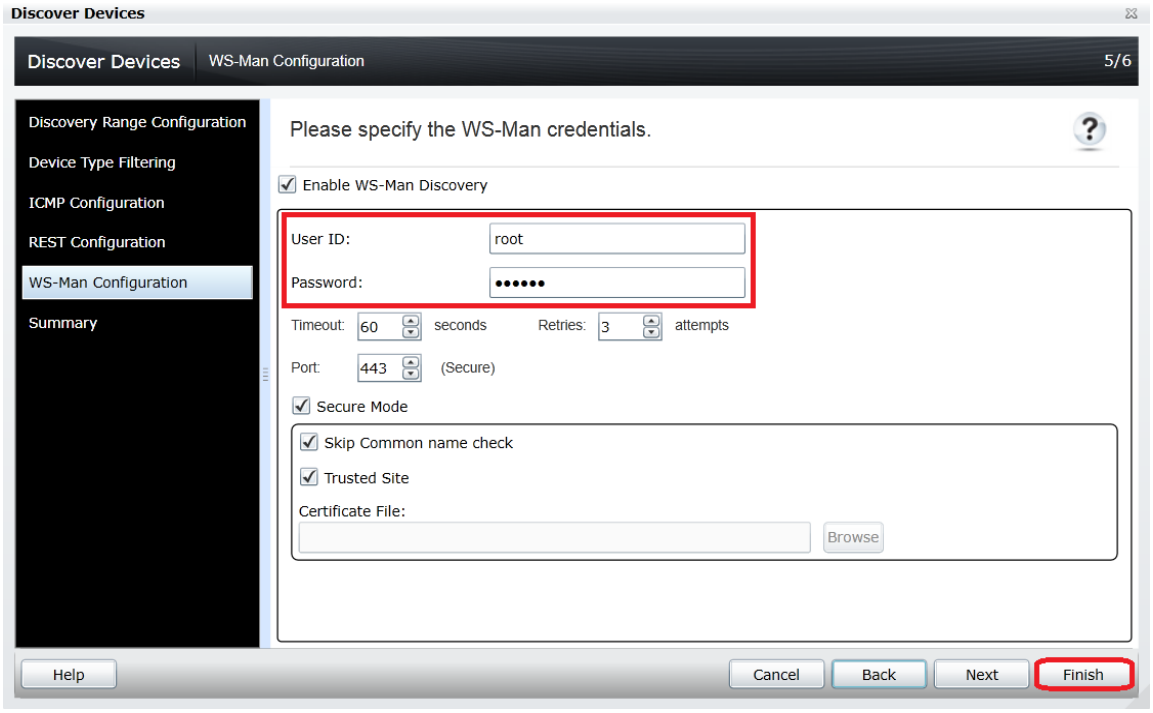

Figure 5 WS-Man Configuration page

12. On the **SNMP Configuration** page, ensure that the **Get community** field has `public` as the attribute, and then click **Finish**.

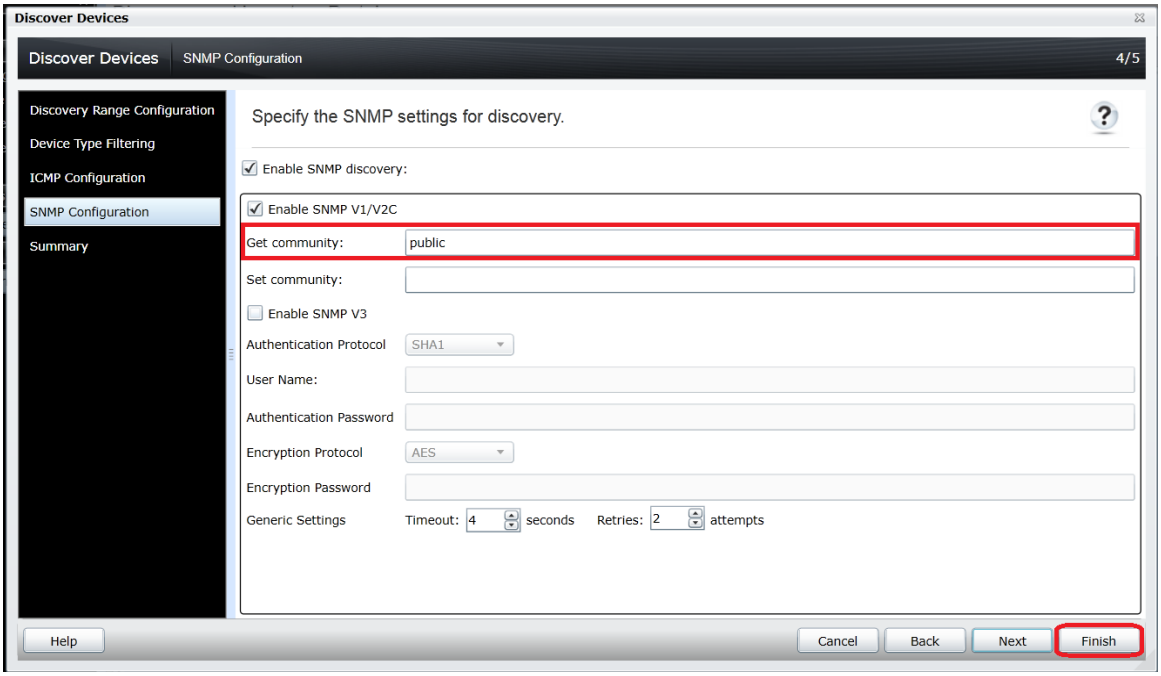

Figure 6 SNMP Configuration page

4.1 View Dell EMC MX Chassis data in OpenManage Essentials

The MX Chassis devices are classified under **All Devices → Modular Systems → PowerEdge MX7000** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the sample screen shot.

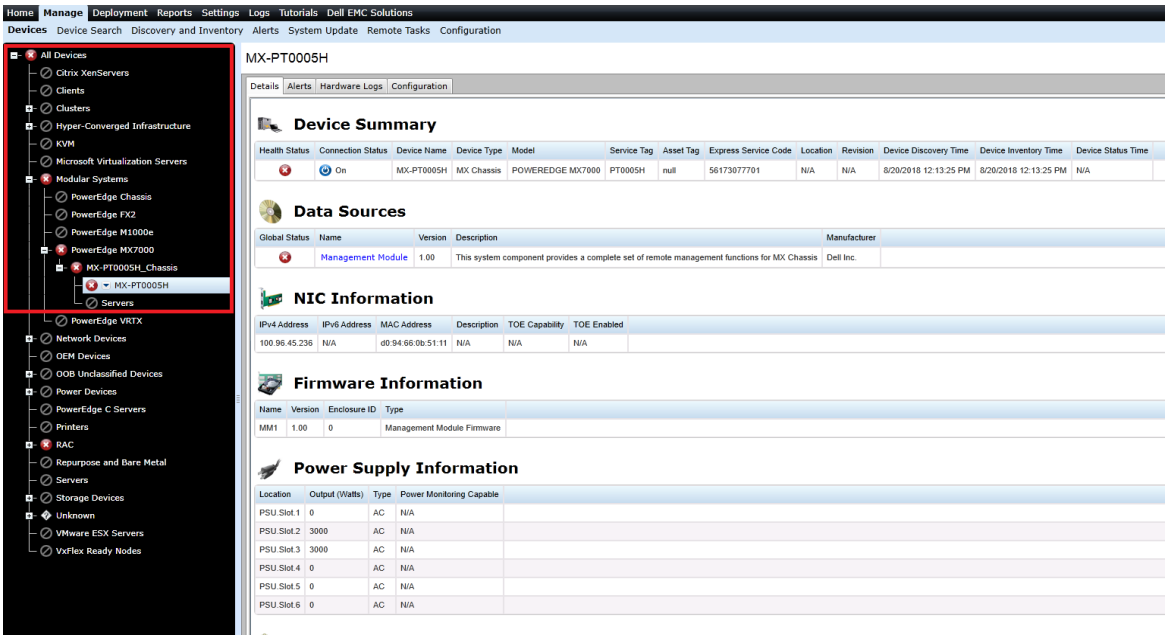

Figure 7 MX Chassis Classification and Inventory

Note—OME 2.5 supports only the discovery of stand-alone or lead MX chassis. It does not support member chassis discovery without lead chassis. If member chassis is discovered without lead chassis then application logs will show a log indicating "`discover <Lead_Service_Tag>`".

Supported Models

Refer to the Table 6 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

4.2 View VxFlex-ready nodes in OpenManage Essentials

The VxFlex-ready nodes are classified under **All Devices → VxFlex Ready Nodes** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the sample screen shot.

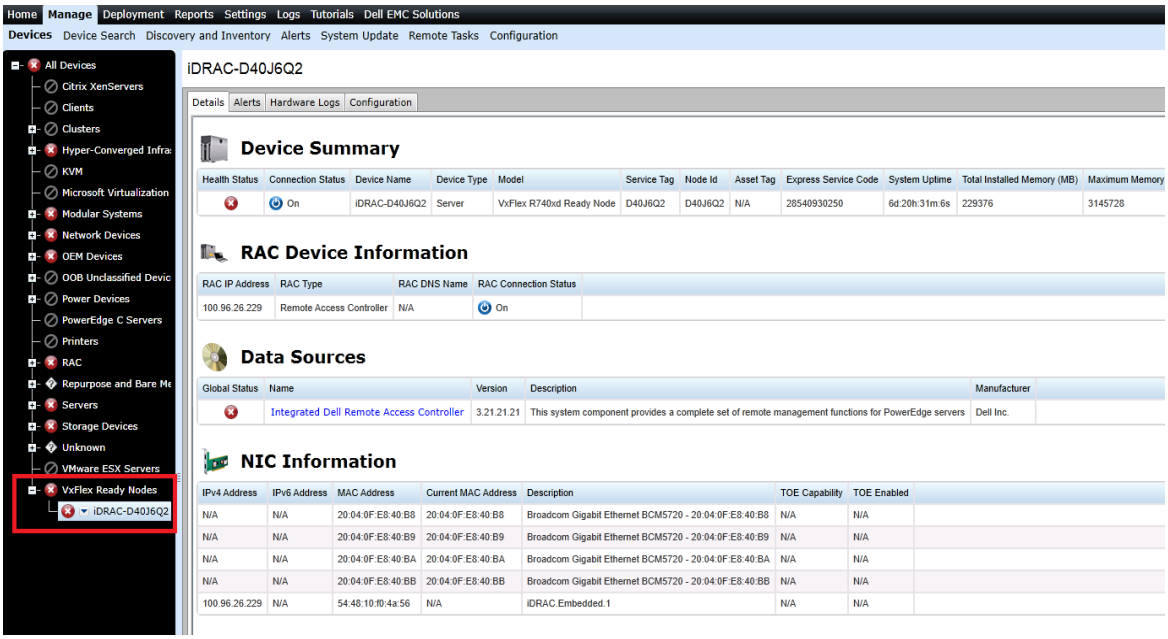

Figure 8 VxFlex Ready Nodes Classification and Inventory

4.3 View VxRail appliances in OpenManage Essentials

VxRail appliances are classified under **All Devices → Hyper-Converged Infrastructure → VxRail** in the device tree. You can click the discovered device to see all the inventoried tables.

4.3.1 VxRail appliance with the Application Management URL

If the virtual application management URL is available on the appliance, a sub-group (ClusterIP) will be created under VxRail and appliances belonging to the same cluster will be grouped together. A new application launch point VxRail Manager will also be available.

Classification and inventory for VxRail Appliance with Application Management URL is shown in the sample screen shot.

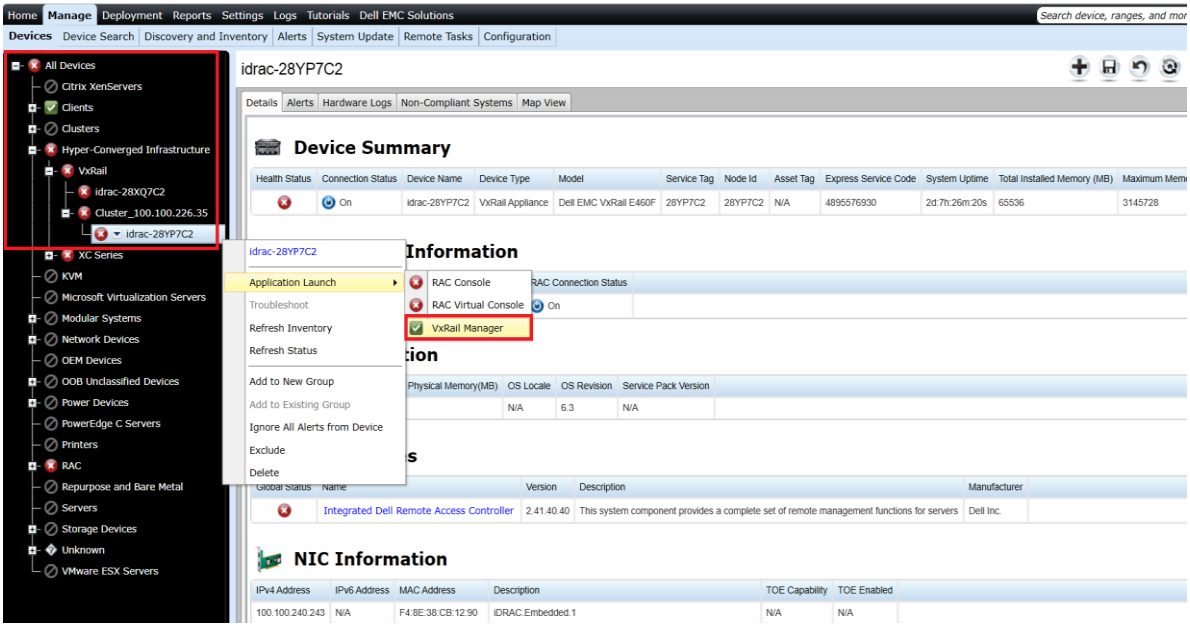

Figure 9 VxRail Appliance with Application Management URL Classification and Inventory

4.3.2 VxRail appliance without the Application Management URL

Classification and inventory for VxRail Appliance without Application Management URL is shown in the sample screen shot.

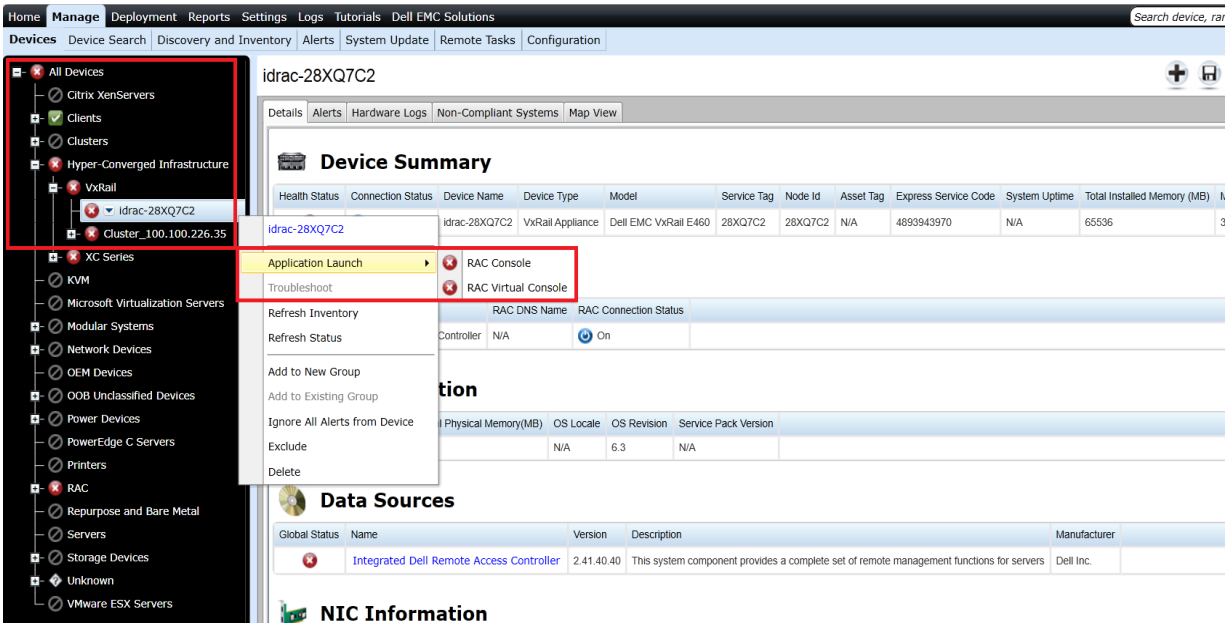

Figure 10 VxRail Appliance without Application Management URL Classification and Inventory

4.3.3 VxRail appliance models supported by OpenManage Essentials

Refer to the Table 4 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

4.4 View XC Series appliances in OpenManage Essentials

The XC series appliances are classified under **All Devices → Hyper-Converged Infrastructure → XC Series** in the device tree. You can click the discovered device to see all the inventoried tables.

4.4.1 XC Series appliance with the Application Management URL

If virtual application management URL is available on the appliance then a sub-group **(Cluster_IP)** will be created under XC Series and appliances belonging to the same cluster will be grouped together. A new application launch point (**PRISM**) will also be available.

Classification and inventory for XC Series Appliances with Application Management URL is shown in the sample screen shot.

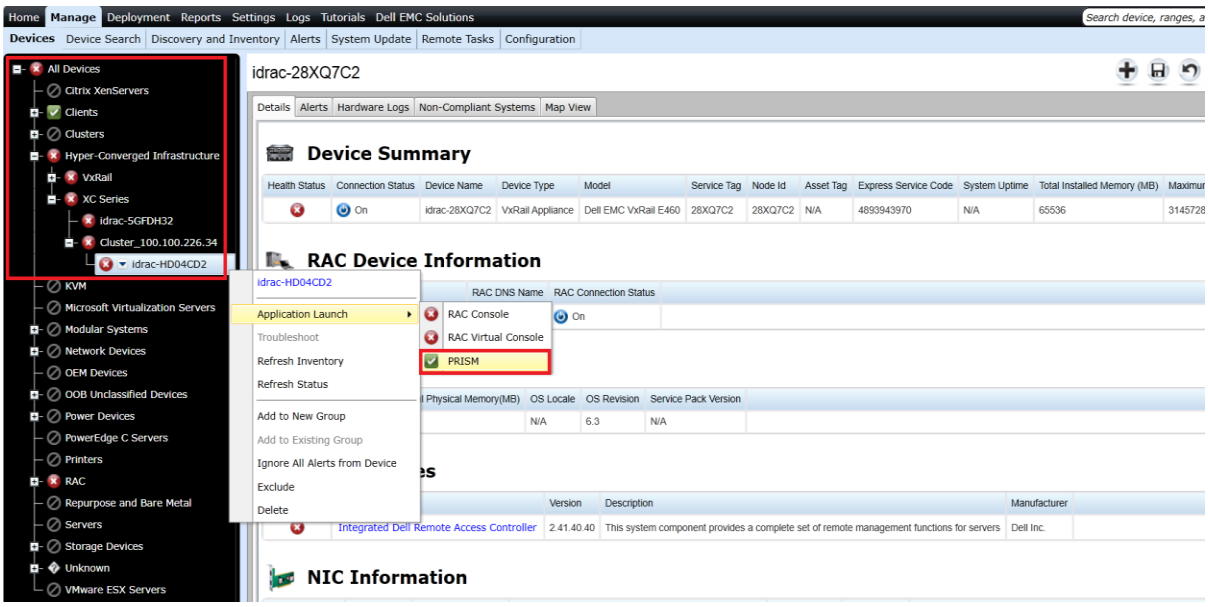

Figure 11 XC Series Appliance with Application Management URL Classification and Inventory

4.4.2 XC Series Appliance without the Application Management URL

Classification and inventory for XC Series Appliance without Application Management URL is shown in the sample screen shot.

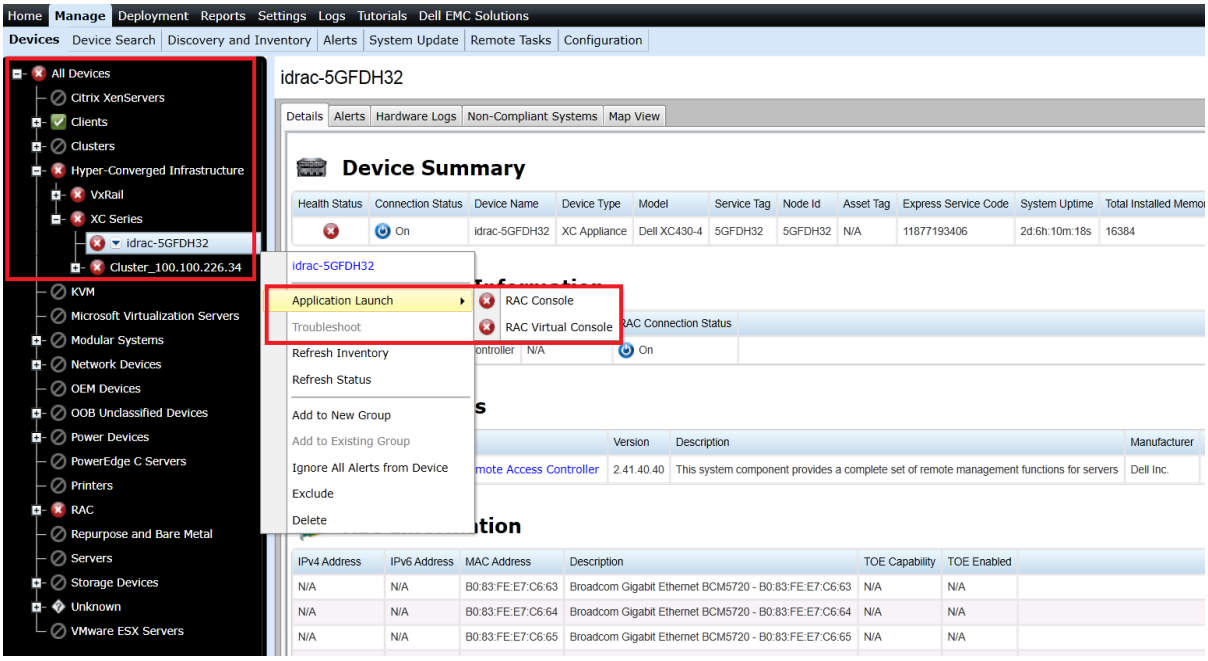

Figure 12 XC Series Appliance without Application Management URL Classification and Inventory

4.4.3 XC Series models supported by OpenManage Essentials

Refer to the Table 5 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

4.5 View Disk Backup appliances in OpenManage Essentials

The Disk backup appliances are classified under **All Devices → RAC/Server** in the device tree. The device type is Server. Click the discovered device to see all the inventoried tables as shown in the sample screen shot.

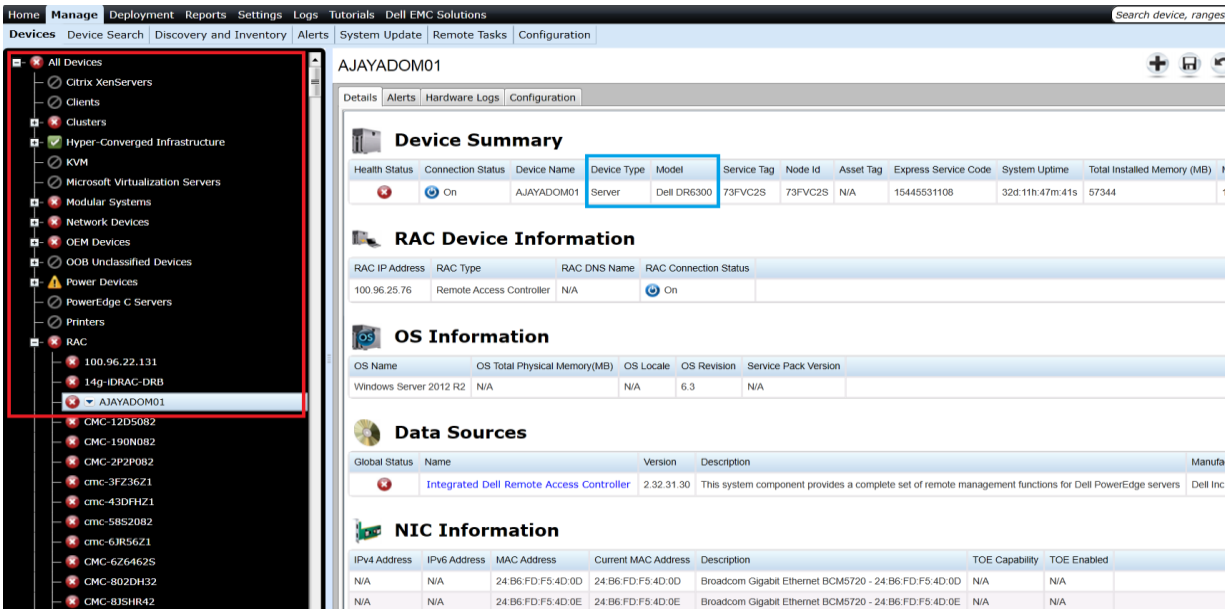

Figure 13 Disk Backup Appliance Classification and Inventory

4.5.1 Disc Backup appliance supported by OpenManage Essentials

Refer to the Table 11 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

4.6 Dell EMC Networking X-Series Smart Managed Switches

Dell EMC Networking X-Series Smart Managed devices are classified under **All Devices → Network Devices → Dell EMC Networking Switches** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the sample screen shot.

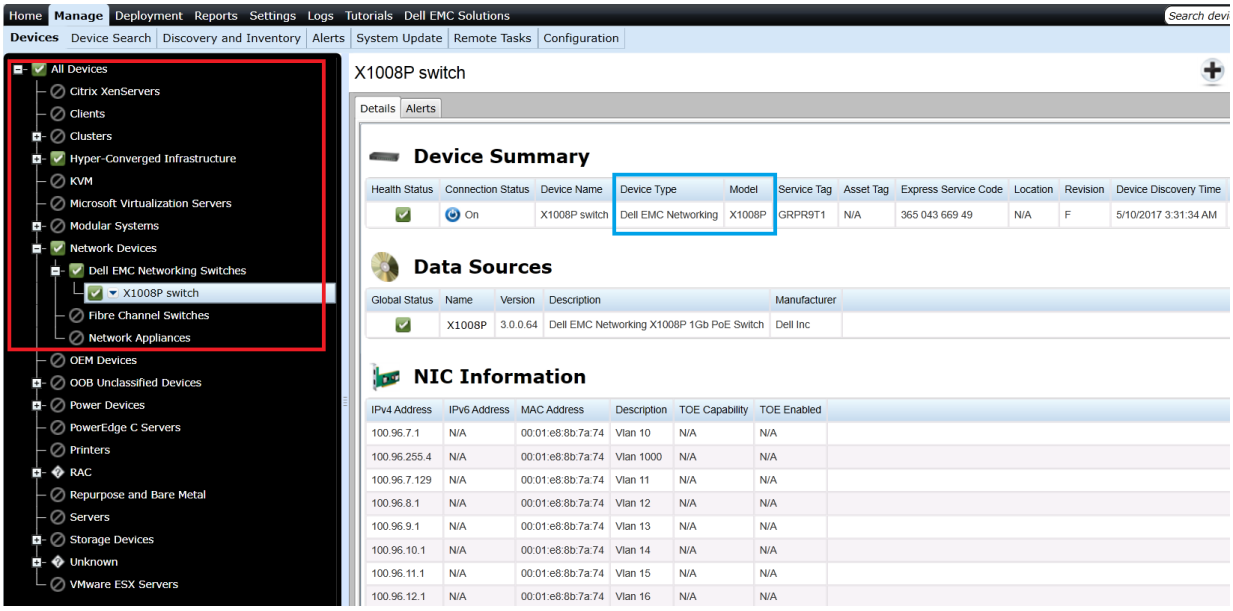

Figure 14 Dell EMC Networking X-Series Smart Managed Classification and Inventory

4.6.1 Networking X-Series Smart Managed switch models supported by OpenManage Essentials

Refer to the Table 12 in *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

4.7 View Dell EMC EqualLogic groups in OpenManage Essentials

Dell EMC EqualLogic groups are classified under **All Devices → Storage Devices → Dell EMC EqualLogic Groups** in the device tree. A discovered Dell EMC EqualLogic Group is represented as shown in the sample screen shot.

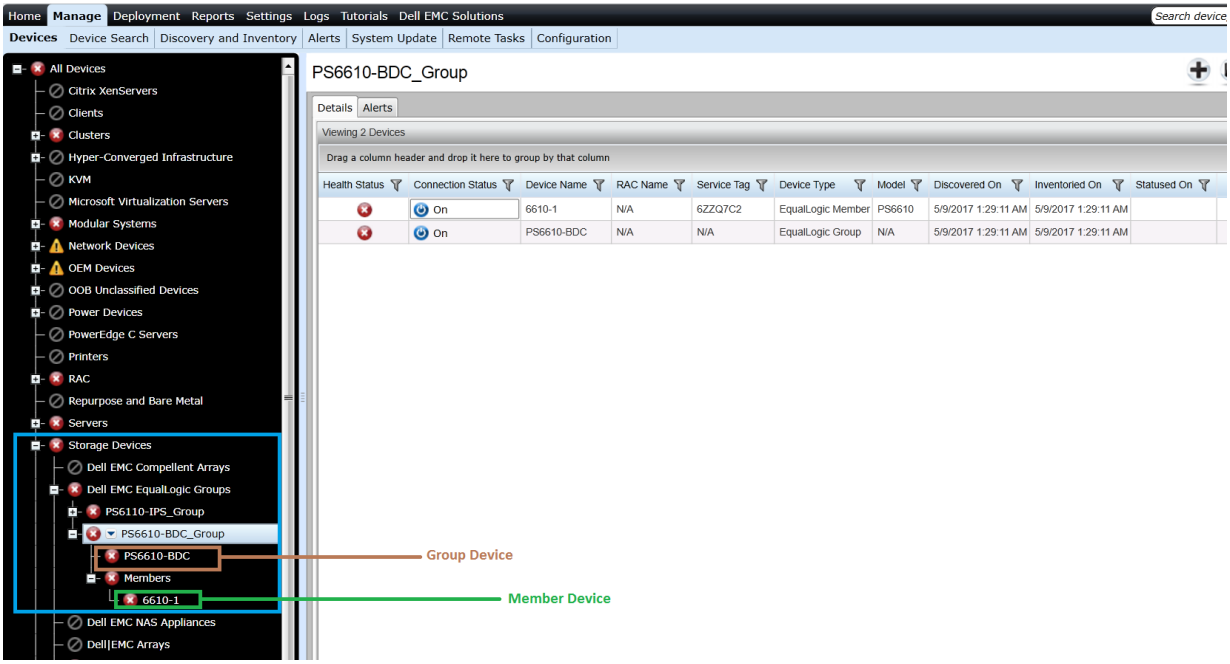

Figure 15 Dell EMC EqualLogic Group Representation

The Dell EMC EqualLogic device is no longer represented as a single device. Instead, it is represented as a group, where:

- The Group Device contains group-level data.
- The Member Device contains member-specific data.

Dell EMC EqualLogic groups are auto-generated during the discovery process. The groups are deleted automatically when either the group device or the corresponding discovery range is deleted. Every discovered EqualLogic group will have one group device and multiple member devices based on the number of enclosures added to the group.

4.7.1 Group device tables in OpenManage Essentials

The following tables are displayed as part of the Inventory Details page for the EqualLogic Group device:

- Device Summary—Model and Service Tag will be displayed as N/A for the EqualLogic Group device.
- Data Sources—Displays the group-level health status and other details.
- NIC Information—Lists only the EqualLogic management and storage group IP addresses.
- Storage Group Information—Displays information about the storage group.
- EqualLogic Volume Information—Lists the volumes created under a group.

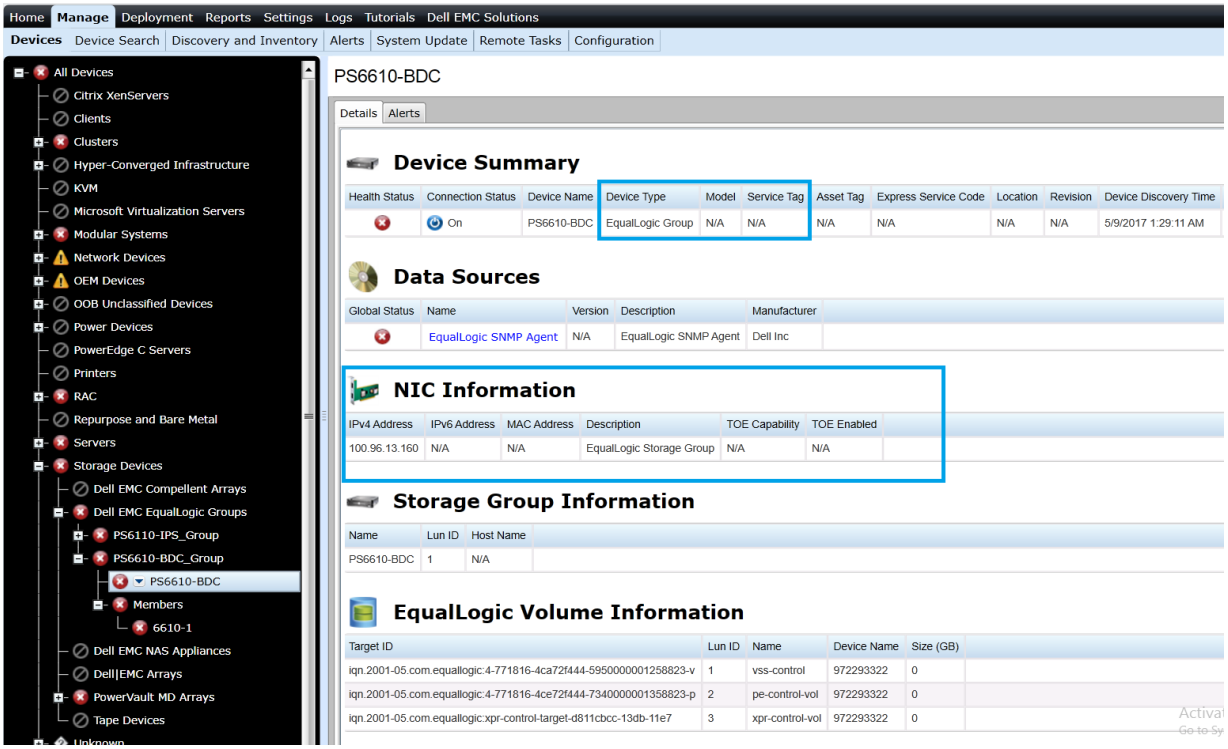

Figure 16 Dell EMC EqualLogic Group Device Inventory

4.7.2 Member device tables in OpenManage Essentials

The following tables are displayed as part of the Inventory Details page for the EqualLogic member device:

- Device Summary—Displays the member-specific model and Service Tag.
- Data Sources—Displays the member-specific health status and other details.
- NIC Information—Lists only the member-specific IP addresses.
- Controller Information—Lists the controllers associated to the selected member.
- Enclosure Information—Lists more details about the selected member.
- Physical Disk Information—Lists the disks residing in the selected member enclosure.

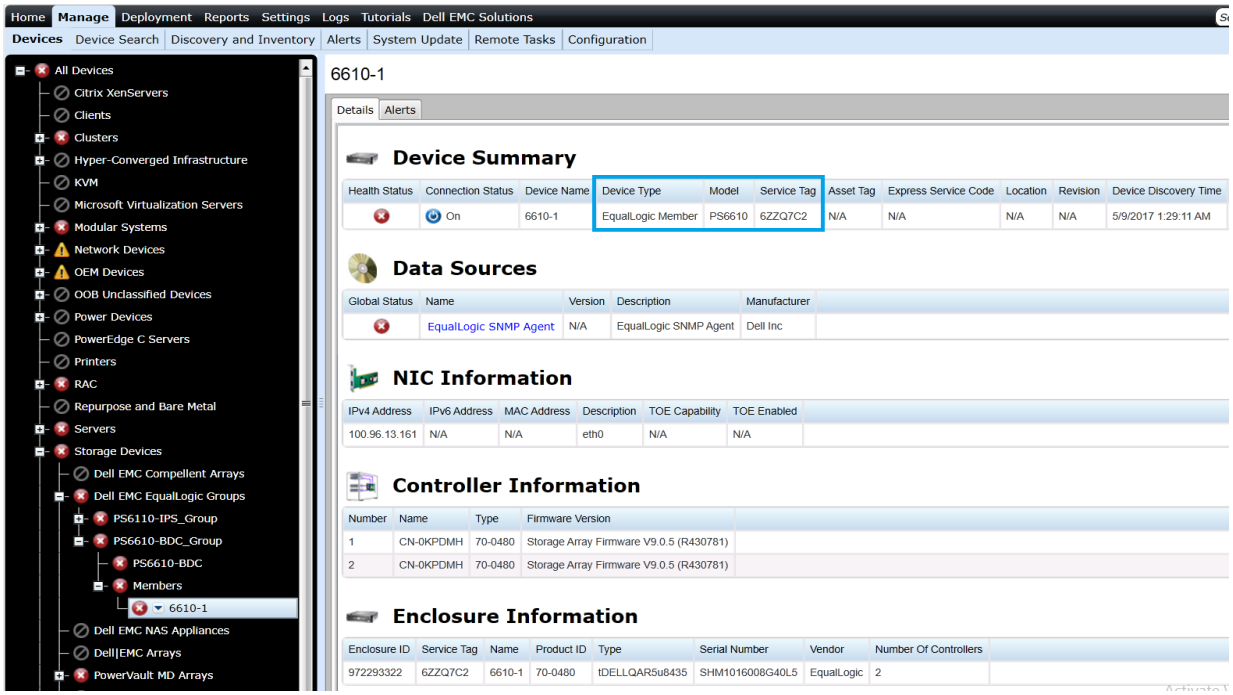

Figure 17 Dell EMC EqualLogic Member Device Inventory I

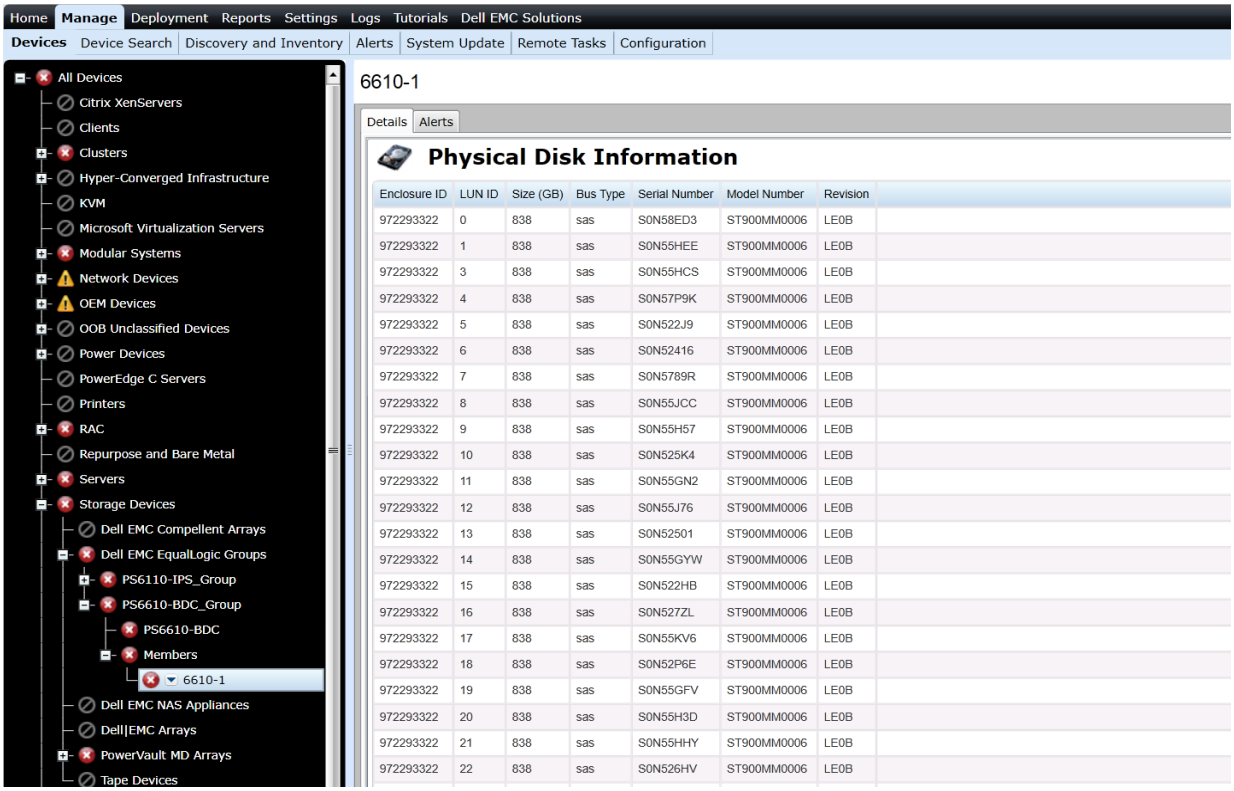

Figure 18 Dell EMC EqualLogic Member Device Inventory II

4.7.3 Supported actions for Dell EqualLogic group in OpenManage Essentials

The following table lists the supported actions and their behavior for Dell EMC EqualLogic groups.

Table 2 Dell EMC EqualLogic Group - Supported Actions

Action	Group Device	Member Device
Application Launch	Dell EMC EqualLogic console	**View and renew warranty**
Refresh Inventory	Updates inventory for the entire group; re-creates any deleted members.	**Updates inventory for the entire group; re-creates any deleted members.**
Refresh Status	Updates the status of the entire group including all members.	**Updates the status of the entire group including all members.**
Add to New Group	Supported.	**Supported.**
Ignore All Alerts from	Ignores all alerts coming from the EqualLogic Group device only.	**Ignores all alerts coming from the selected member only.**
Exclude	Supported.	**Not Supported.**
Delete	**Deletes the entire group including all members.**	**Deletes only the selected member.**

4.7.4 Event association for Dell EMC EqualLogic Group

Dell EMC EqualLogic member SNMP alerts are associated at member-device level and not at the group-device level. Alerts tab for the EqualLogic member device will list all the alerts received from the selected member as shown in the following sample screen shots:

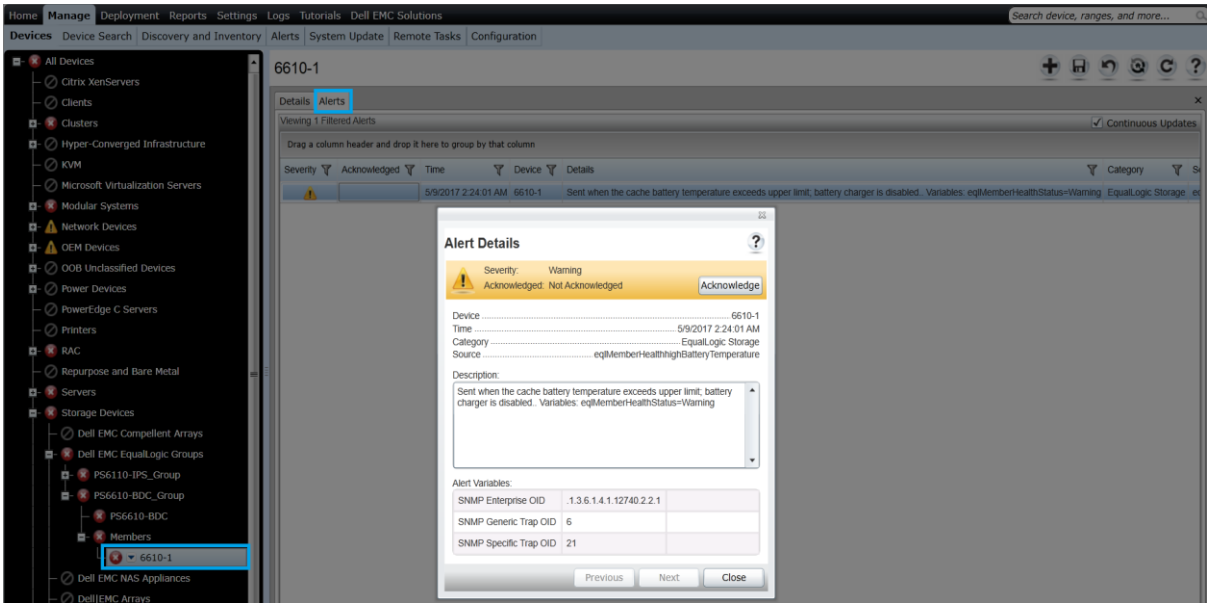

Figure 19 Dell EMC EqualLogic Member Event Association I

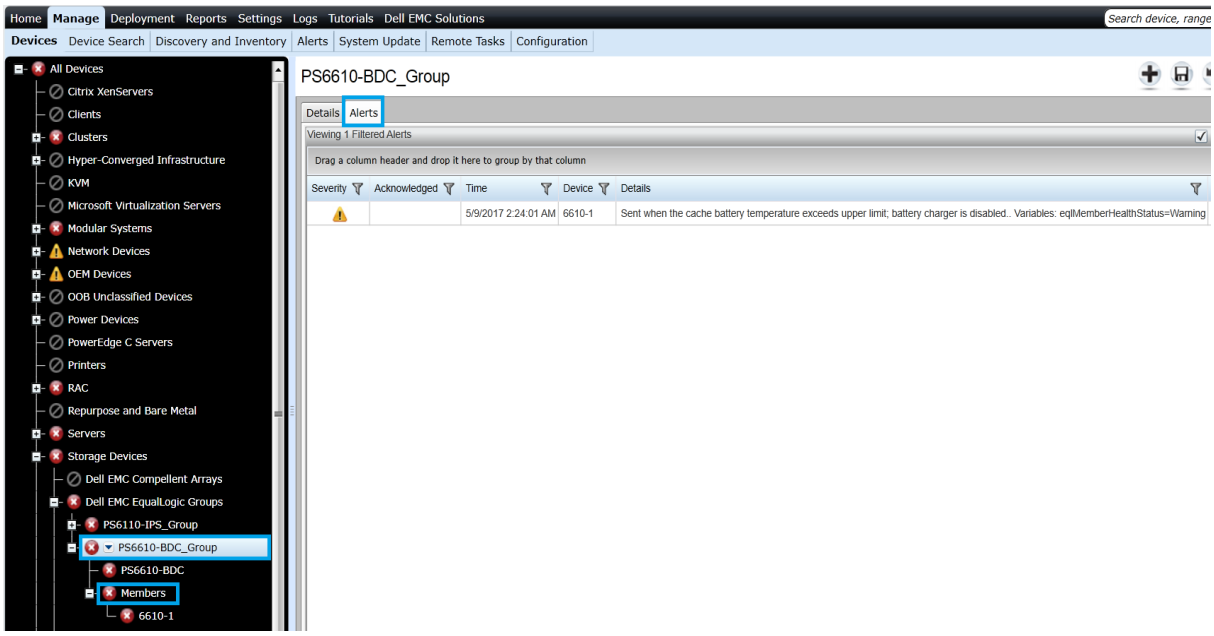

Figure 20 Dell EMC EqualLogic Member Event Association II

4.7.5 Recommendations for Dell EMC EqualLogic group discovery

The following are recommended for proper support of Dell EMC EqualLogic groups in OpenManage Essentials:

- After upgrading from previous versions of OpenManage Essentials, it is mandatory to perform re-discovery of all the discovered Dell EMC EqualLogic devices to ensure proper functionality.
- It is recommended to discover Dell EMC EqualLogic storage arrays by using the group management IP address or storage group IP address only, and not include any of the member IP addresses in the discovery range configuration.

Note—The back-end Dell EMC EqualLogic storage of a FS7500, FS7600, and FS7610 NAS setup is classified as Dell EMC EqualLogic Groups instead of Dell EMC NAS Appliances in OpenManage Essentials.

4.7.6 Dell EMC EqualLogic supported models in OpenManage Essentials

Refer to the Table 7 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

4.8 Dell EMC NAS appliances

The Dell EMC NAS appliances are classified under **All Devices → Storage Devices → Dell EMC NAS Appliances** in the device tree. You can click the discovered device to see all the inventoried tables.

4.8.1 View NAS Appliances with FluidFS v1.0 in OpenManage Essentials

The classification and inventory for Dell EMC NAS Appliances with FluidFS v1.0 is done as shown in the following sample screen shot.

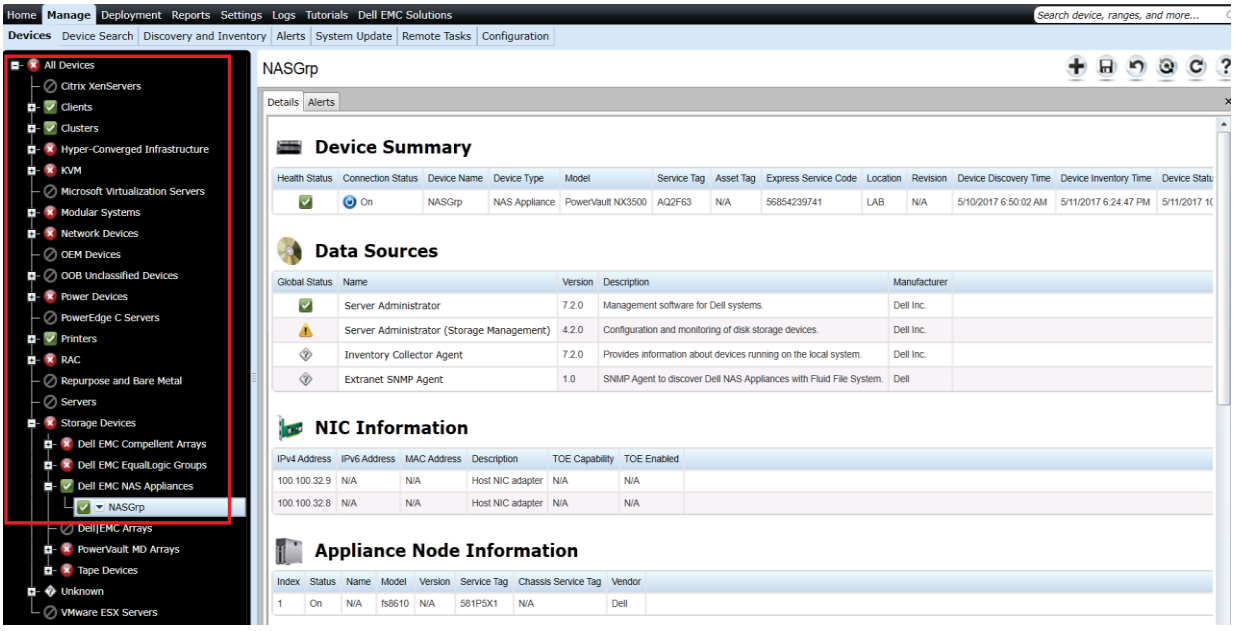

Figure 21 Dell EMC PowerVault NX3500 Classification and Inventory

Note—For the Dell EMC NAS appliances with FluidFS v1.0, discovery, inventory, and alerts/traps support are provided only for the solutions with Fluid File System (FluidFS) v1.0 that have

OpenManage Server Administrator (OMSA) services running on the nodes. This is the default setting for any node with FluidFS v1.0. The Appliance Node Information table lists the applicable details about the nodes present in the NAS solution. Other inventory details match the standard PowerEdge server inventory in OpenManage Essentials.

4.8.2 View NAS Appliances with FluidFS v3.0 in OpenManage Essentials

The classification and inventory for Dell EMC NAS Appliances with FluidFS v3.0 is shown in the following sample screen shot.

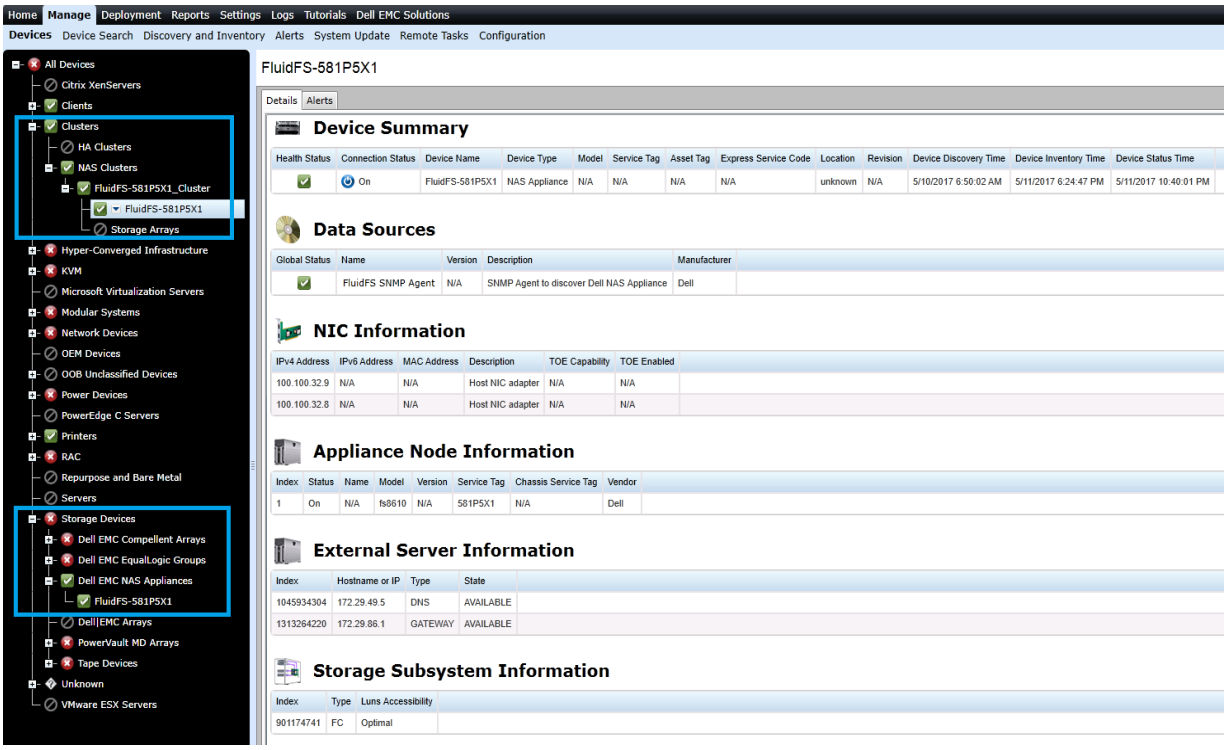

Figure 22 Dell EMC NAS Appliance with FluidFS v3.0 Classification and Inventory

A Dell EMC NAS Appliance with FluidFS v3.0 discovered in OpenManage Essentials represents a cluster of nodes. The Appliance Node Information table lists the nodes participating in a particular cluster. It is highly recommended to include all node IP addresses in the discovery range configuration while discovering a NAS cluster with FluidFS v3.0. This enables OpenManage Essentials to properly associate SNMP alerts coming from various participating nodes with the discovered cluster.

The **NAS Clusters** device group will group together Dell EMC NAS appliance and the participating Dell EMC EqualLogic group(s). This grouping is available only for Dell EMC EqualLogic-based Dell EMC NAS appliances that are running with Fluid FS v3.0.

Note—The NAS Clusters device group displays only the Dell EMC NAS Appliance association with the Dell EMC EqualLogic Group device. The Dell EMC EqualLogic member devices will not be displayed in this grouping.

A new device group (Clusters) is created to group together HA Clusters and NAS Clusters as shown in the following sample screen shot:

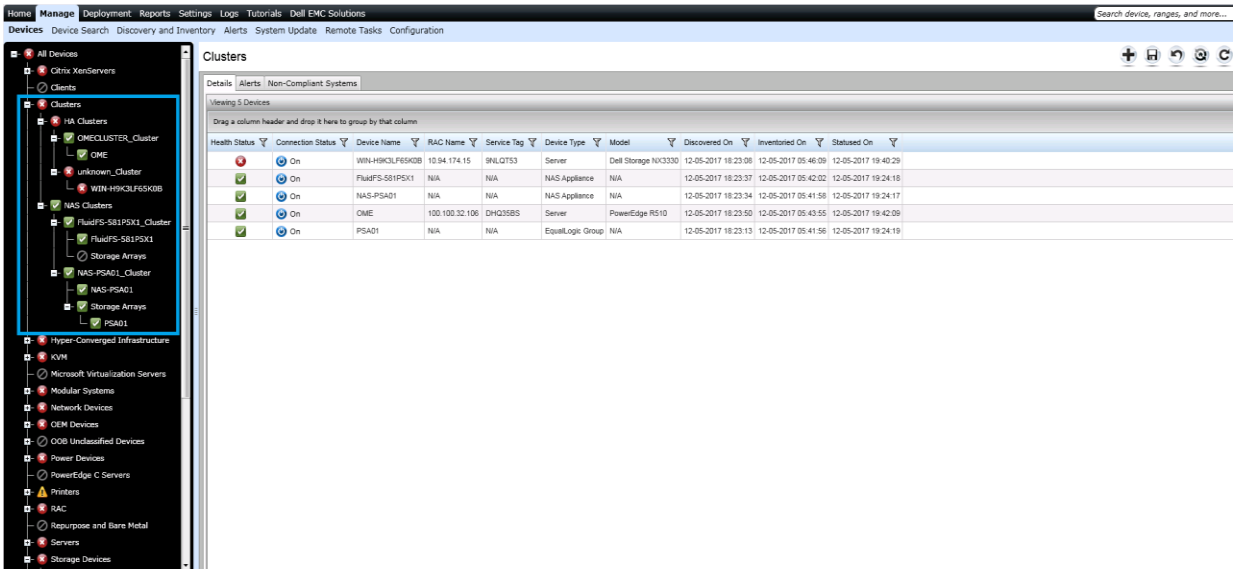

Figure 23 Clusters device group – HA Clusters and NAS Clusters

4.8.3 NAS appliances supported by OpenManage Essentials

OpenManage Essentials currently supports following Dell EMC NAS appliances:

- Appliances with FluidFS v1:
  - Dell PowerVault NX3500 (see the Table 8 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix*)
- Appliances with FluidFS v3:
  - Dell EqualLogic FS7500, FS7600, and FS7610 (see the Table 7 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix*)
  - Dell Compellent FS8600 (see the Table 10 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix*)
- Windows Dell EMC NAS Appliances:
  - Dell PowerVault NX3230 (see the Table 8 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix*)
  - Dell PowerVault NX3330 (see the Table 8 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix*)

4.9 SonicWALL Firewall

The SonicWALL Firewall devices are classified under **All Devices → Network Devices → Network Appliances** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shot.

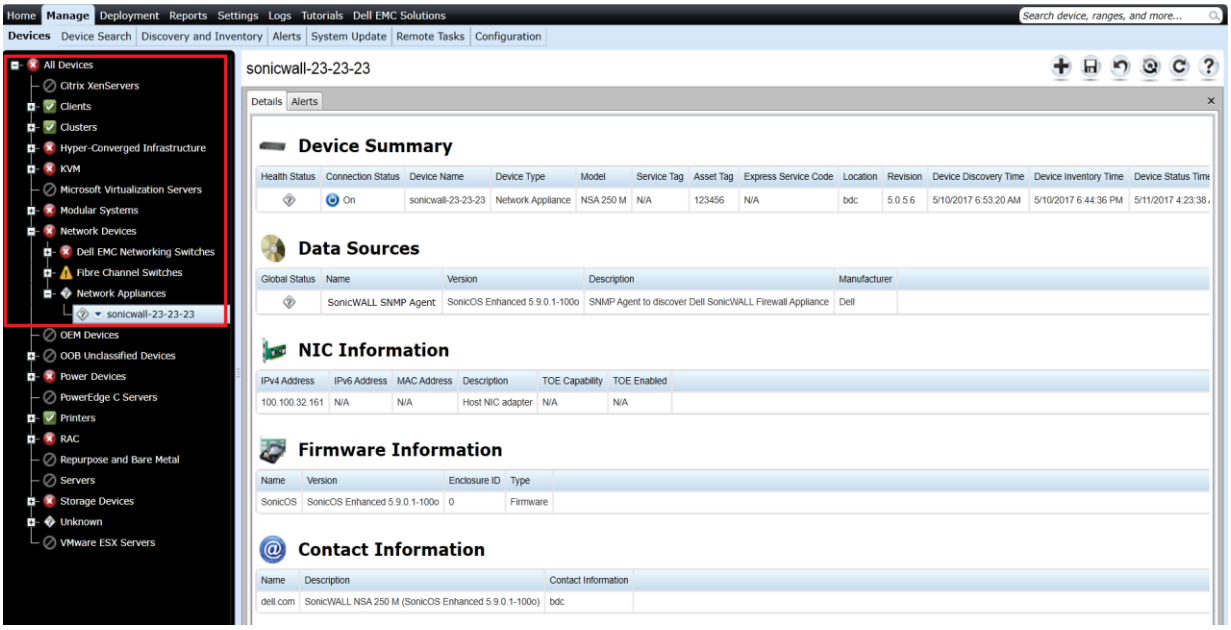

Figure 24 SonicWALL Firewall Classification and Inventory

Supported Models

Refer to the Table 13 in *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

Global health status for SonicWALL Firewall devices will always be displayed as 'Unknown' in OpenManage Essentials. This is because the SonicWALL SNMP agent does not report device health through its Management Information Base (MIB). SonicWALL SNMP agent runs on SonicOS, which is also available on the following platforms:

- TZ 100/100W, TZ 105/105W, TZ 200/200W, TZ 210 and TZ210W, and TZ 215 and TZ215W
- NSA 220 NAS 220W, NSA 240, and NSA 250M and NSA 250MW
- NSA 2400 and NSA 2400MX, NSA 3500, NSA 4500, and NSA 5000
- E-Class NSA E5500, E6500, E7500, E8500, and E8510

Because these models run the same firmware, they may also be classified in OME similar to NSA 250M.

4.10 View PowerConnect W-Series devices in OpenManage Essentials

PowerConnect W-Series devices are classified under **All Devices → Network Devices → Dell EMC Networking Switches** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shot.

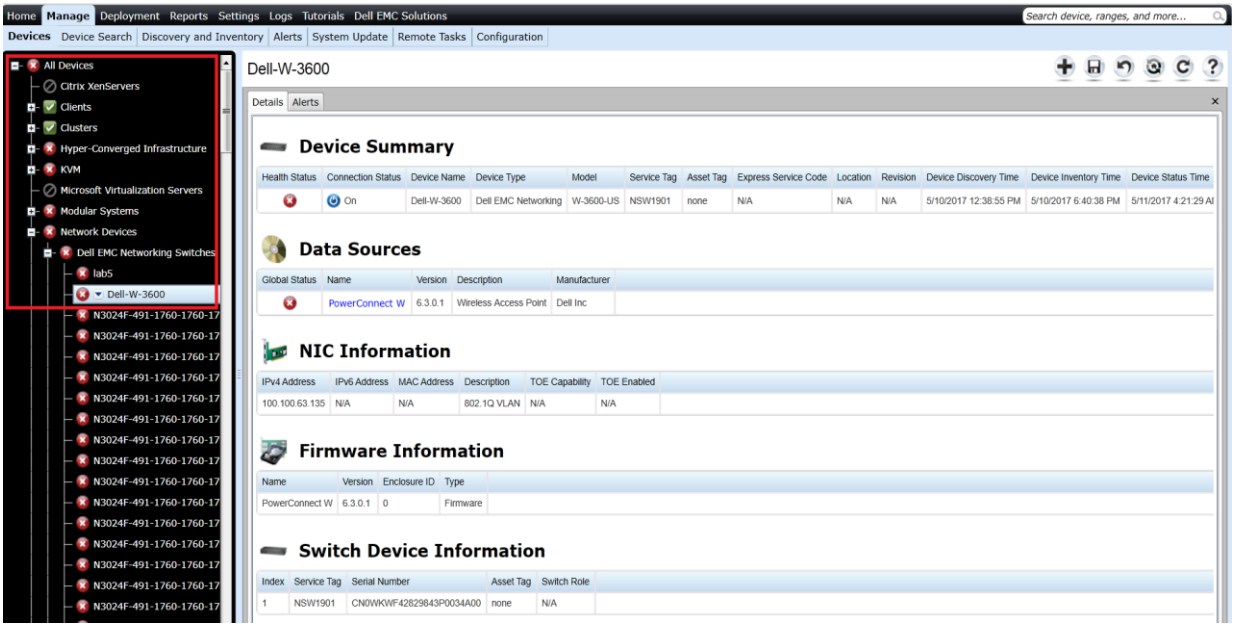

Figure 25 PowerConnect W-Series Classification and Inventory

4.10.1 PowerConnect W-Series models supported in OpenManage Essentials

Refer to the Table 12 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

Note—The PowerConnect W-Series devices will report only Normal or Critical (for active or inactive controllers) global health status. It is recommended to have the ArubaOS version 6.3 or later installed on the mobility controllers for proper discovery and classification in OME.

4.11 View Brocade Fibre Channel devices in OpenManage Essentials

The Brocade Fibre Channel devices are classified under **All Devices → Network Devices → Fibre Channel Switches** in the tree on the left side. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shot.

4.11.1 Broacade Fibre Channel devices supported in OpenManage Essentials

Refer to the Table 14 in *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

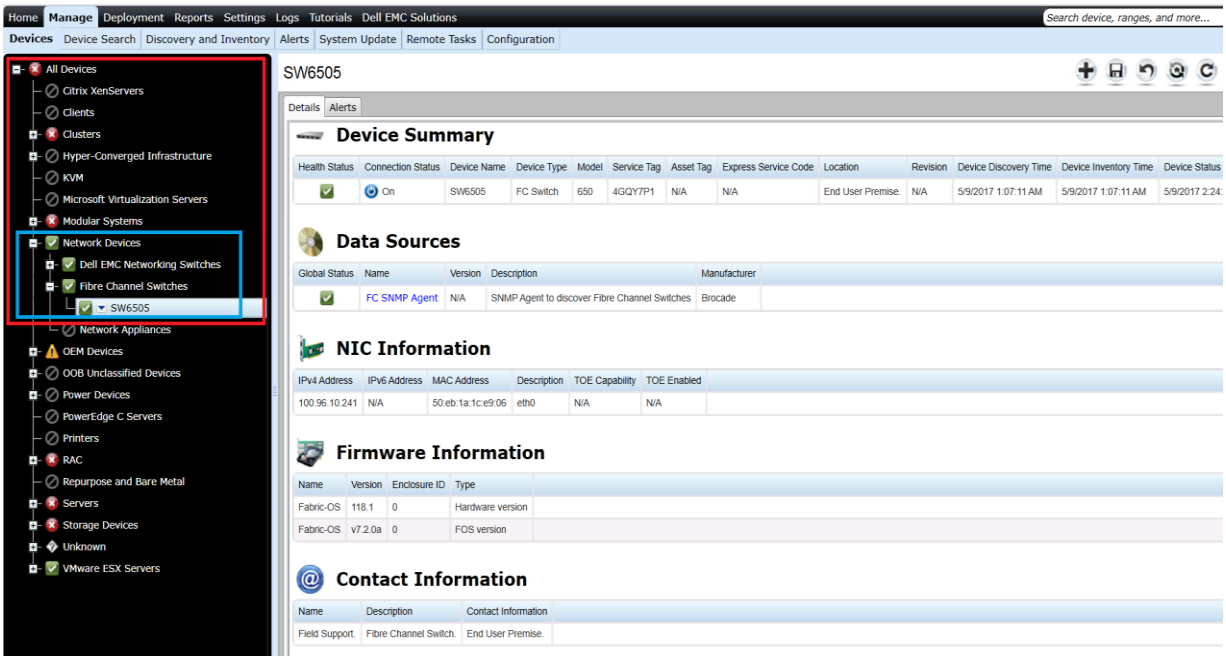

Figure 26 Brocade Fiber Channel Classification and Inventory

4.12 View Dell EMC Compellent arrays in OpenManage Essentials

The Dell EMC Compellent devices are classified under **All Devices → Storage Devices → Dell EMC Compellent Arrays** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shots.

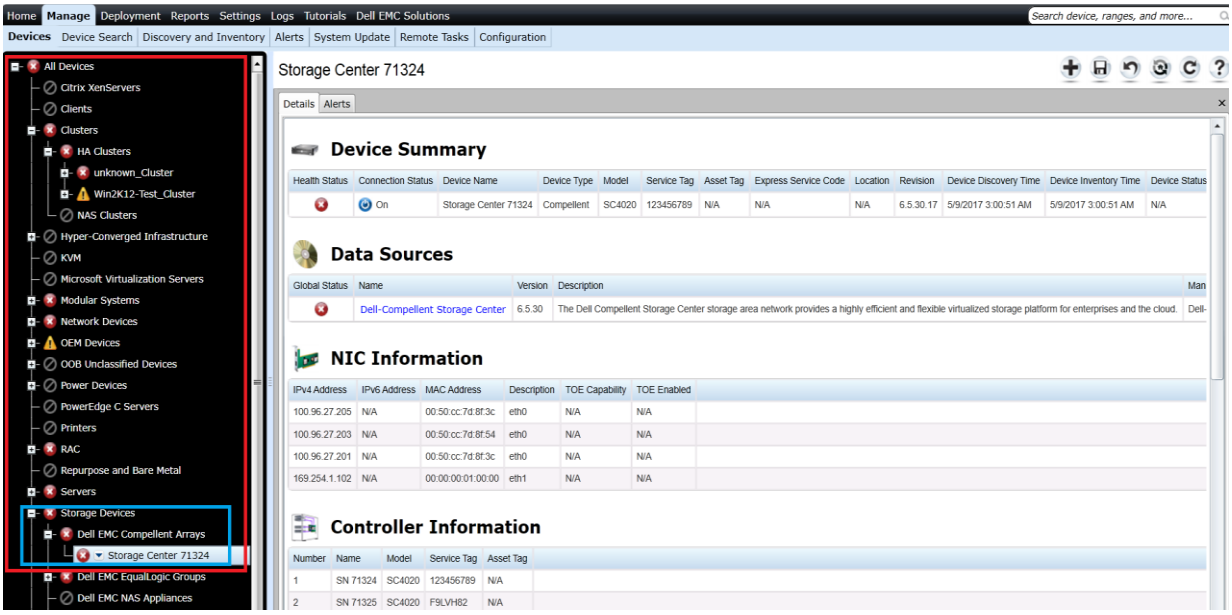

Figure 27 Dell EMC Compellent Arrays Classification

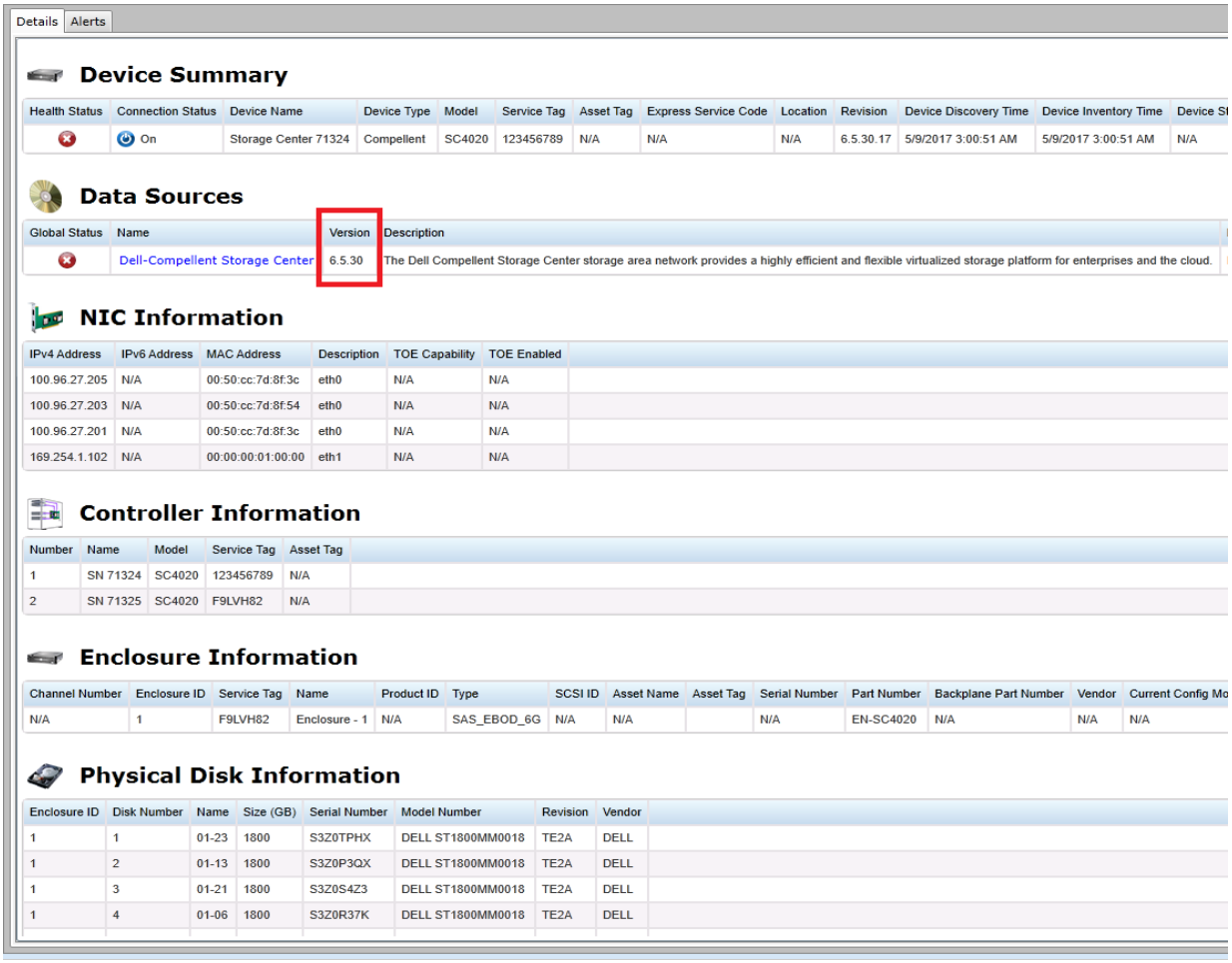

Figure 28 Dell EMC Compellent Array Inventory Details

4.12.1 Compellent arrays Supported in OpenManage Essentials

Refer to the Table 10 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

Note—The Device Summary and Enclosure Information tables display the Service Tag in the Service Tag column only if the Dell EMC Compellent device is running the firmware version 6.4.1 or later. If the firmware version is earlier than 6.4.1, the “Service Tag” column displays “N/A”. The firmware version can be viewed under the “Agent Version” column of the “Data Sources” table as highlighted in Figure 28. It is suggested to update all target devices with the latest available firmware.

4.13 View Dell EMC Networking Switches in OpenManage Essentials

Dell EMC Networking devices are classified under **All Devices → Network Devices → Dell EMC Networking Switches** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shot.

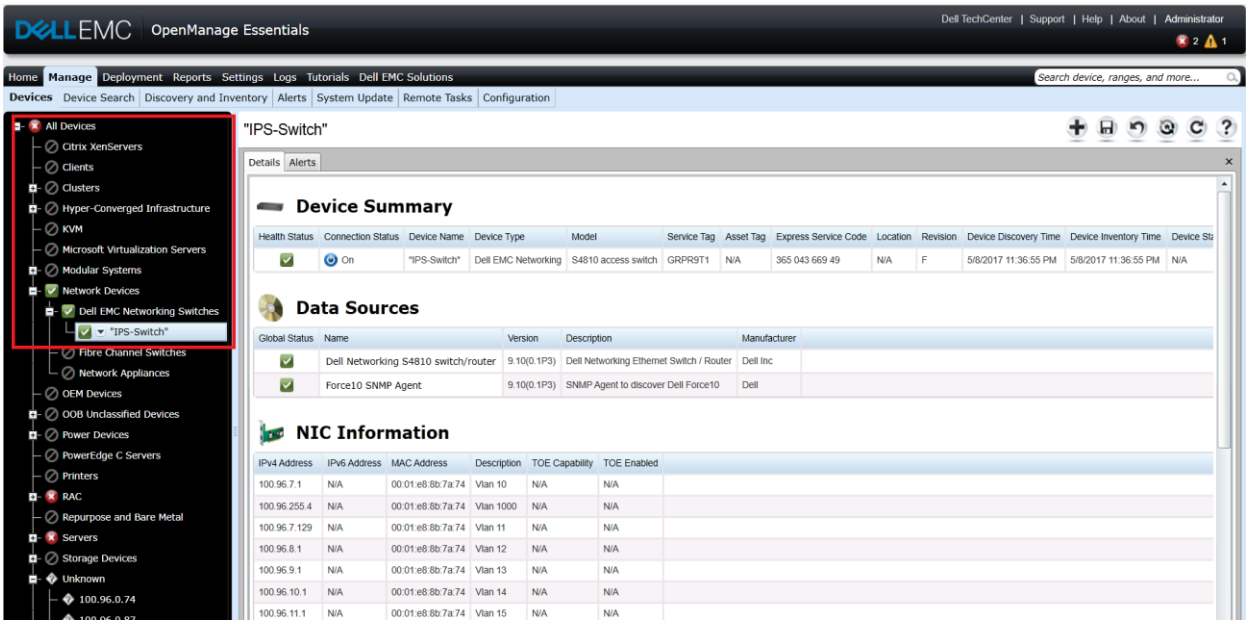

Figure 29 Dell EMC Networking Switch Classification and Inventory

4.13.1 Networking switches supported in OpenManage Essentials

Refer to the Table 12 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

Note—Device type for the entire portfolio of Dell EMC switches is shown as Dell EMC Networking (this does not include Brocade Fiber Channel switches). This behavior is irrespective of whether or not the firmware on the switch device has been upgraded to the rebranded one.

Note—The “Device Summary” and “Switch Device Information” tables display the Service Tag in the “Service Tag” column only if the Dell EMC Networking device is running with the supported firmware versions or later. See Table 3 for firmware versions supporting Service Tag for corresponding Dell EMC Networking models. If the firmware version is earlier than those listed in Table 3, the “Service Tag” column displays “N/A”. The firmware version can be located in the “Version” column of the “Firmware Information” table.

4.14 View KVM devices in OpenManage Essentials

The KVM devices are classified under **All Devices → KVM** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shot.

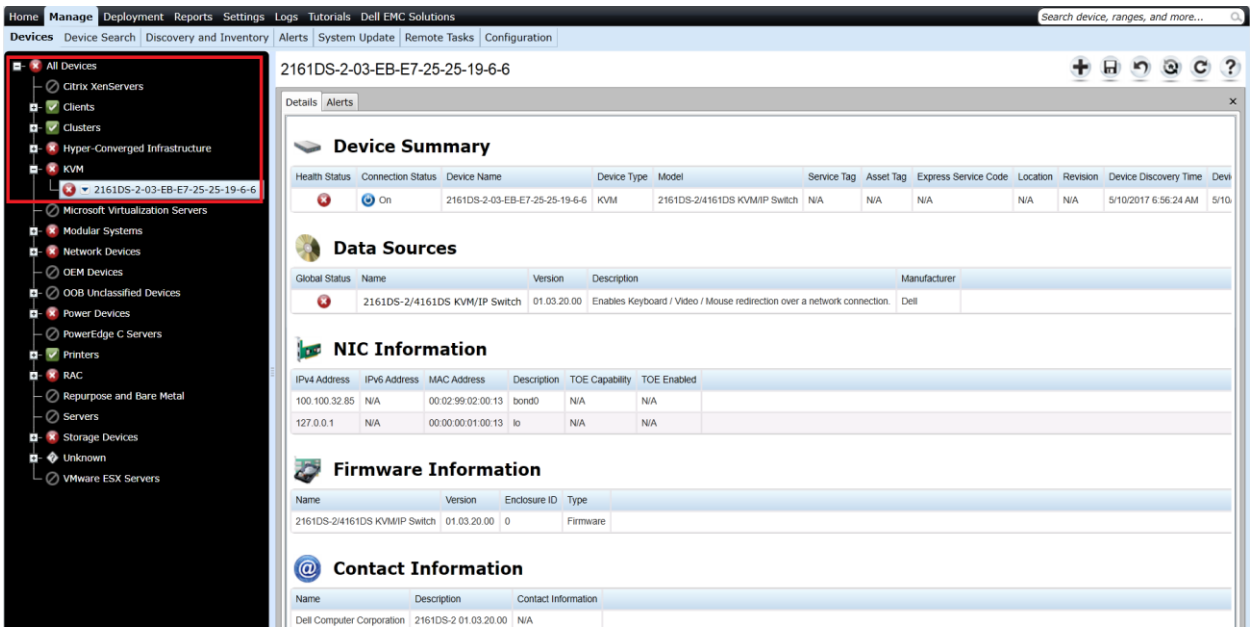

Figure 30 KVM Classification and Inventory

4.14.1 KVM devices Supported in OpenManage Essentials

Refer to the Table 17 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

Note: It is recommended to have latest firmware (version 1.16) installed on the KVM device for proper discovery and classification of the device in OpenManage Essentials.

4.15 View Power Device Units (PDUs) in OpenManage Essentials

The PDU devices are classified under **All Devices → Power Devices → PDU** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shot.

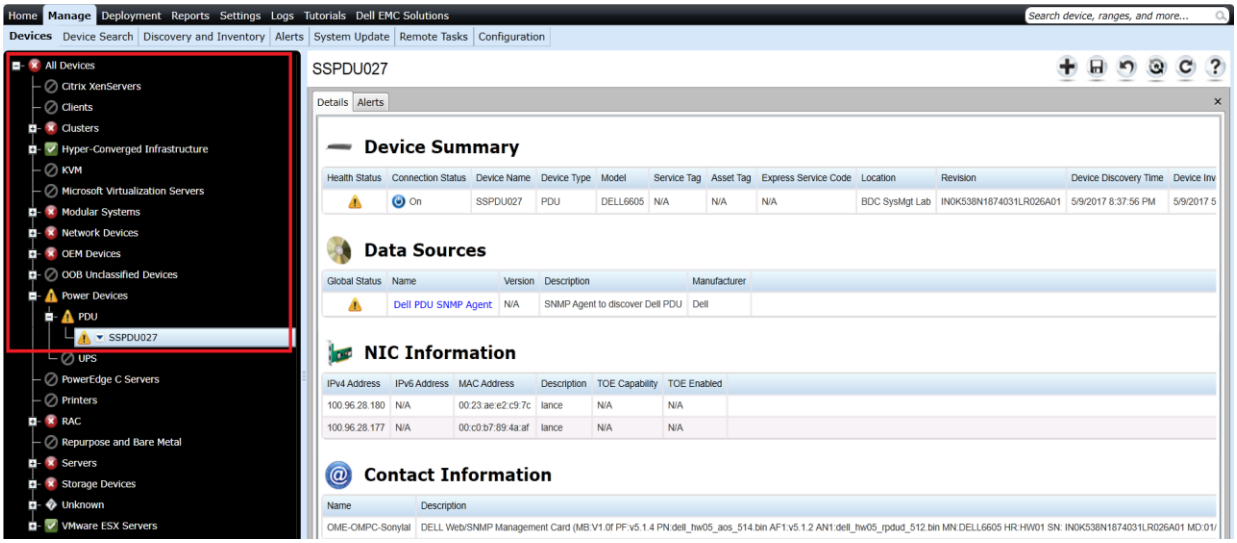

Figure 31 PDU Classification and Inventory

4.15.1 PDUs supported in OpenManage Essentials

Refer to the Table 15 and Table 16 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

4.16 View UPS devices in OpenManage Essentials

The UPS devices are classified under **All Devices → Power Devices → UPS** in the device tree. You can click the discovered device to see all the inventoried tables as shown in the following sample screen shot.

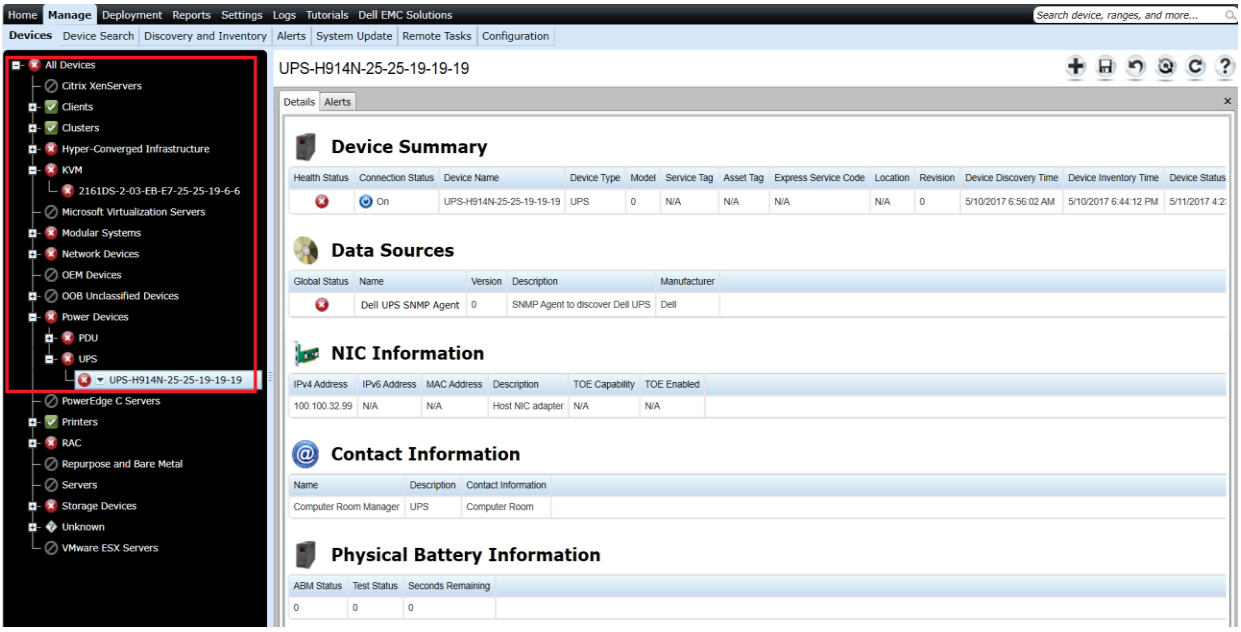

Figure 32 UPS Classification and Inventory

4.16.1 UPS devices supported in OpenManage Essentials

Refer to the Table 18 in the *Dell EMC OpenManage Essentials Version 2.5 Support Matrix* which is available in Introduction.

5 View device health in OpenManage Essentials

The device health status reflects the overall health of the device contributed by their SNMP agent. The health status can be Critical, Warning, Normal, or Unknown.

Table 3 Device health status symbols in OpenManage Essentials

Symbol	Description
	**Indicates that the device is critical and requires attention. This information is rolled up to the parent device type. For example if a PDU is in a critical state and requires attention the same symbol is assigned to the parent device type, for example, power devices. The critical health state is given the highest priority. That is, in a group, if different devices are in different states, and if one device is in a critical state, then the state of the parent device type is set to**
	**Indicates that there is a deviation from the expected behavior, but the device is still manageable.**
	**Indicates that the device is working as expected.**
	**Indicates the device does not have proper instrumentation or the proper protocol was not used to discover the device.**

6 View Warranty in OpenManage Essentials

OpenManage Essentials supports device warranty information through the Warranty Information report. You can view and renew warranty on the Warranty Information report page. This warranty information is collected at the run time from the Dell Support website by providing corresponding Service Tag of the hardware.

The Warranty information is based on the Service Tag and is available for Dell EMC EqualLogic Groups, PowerVault NX3500, Brocade Fibre Channel, Dell EMC Compellent Arrays, Hyper-Converged Infrastructure, and Dell EMC Networking switches. Warranty information is not available for SonicWALL Firewall, PowerConnect W-Series, KVM, PDU, and UPS devices.

The warranty report can be viewed by clikcing **Reports → Warranty & License → Warranty Information** as shown in following sample screen shot.

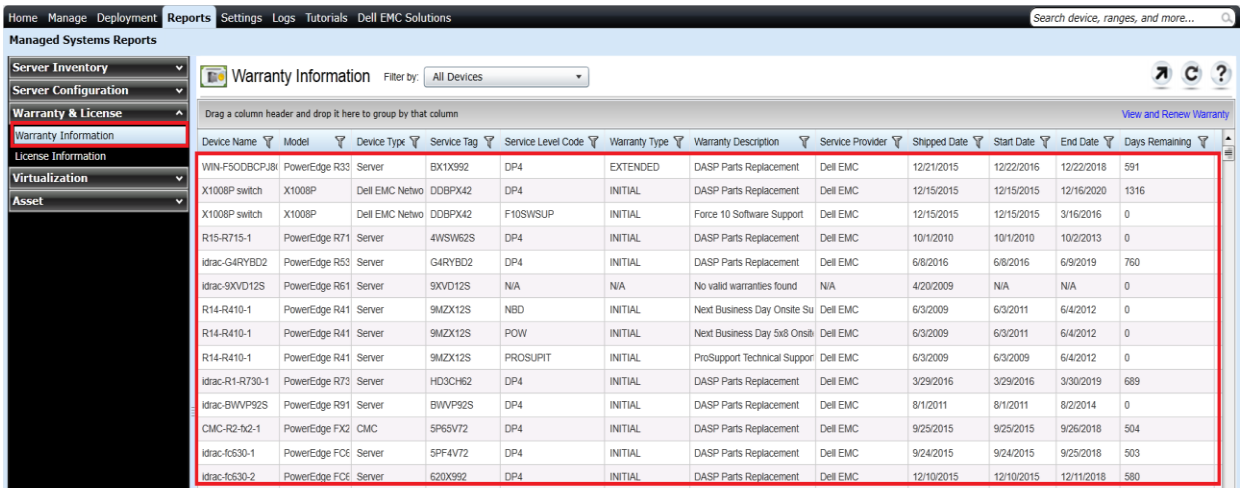

Figure 33 OpenManage Essentials Warranty information

7 Start device-specific application in OpenManage Enterprise

The Application Launch feature provides a right-click action menu item on the discovered device to launch 1×1 console or application. OpenManage Essentials provides the capability to launch and navigate to the device-specific console for Dell EMC EqualLogic Groups, Dell EMC NAS Appliances, SonicWALL Firewall, PowerConnect W-Series, Brocade Fibre Channel, Dell EMC Compellent Arrays, Disk Backup Appliances, VxRail Appliances, XC Series Appliances, KVM, PDU, and UPS. The application launch action can be performed as shown in the following sample screen shot.

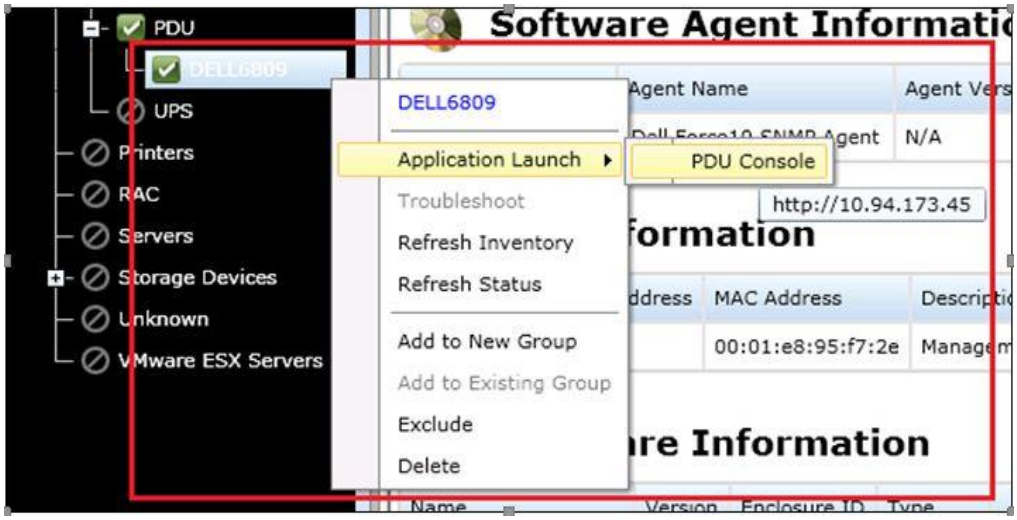

Figure 34 Application Launch for Dell PDU

7.1 Configure custom URLs

OpenManage Essentials supports creating and starting custom URLs on all device groups. This feature is useful when you want to visit the same URL for a group of devices. When created, any device classified under the group is added with the custom URL launch.

7.2 Create a Custom URL

To create a custom:

1. Click **Settings** → **Settings**.
2. In the left pane, click **Custom URL Settings**.
3. In the working pane, click  .
4. Enter the name, URL, description, and then select the device type from the drop-down menu.
5. Enter the URL, click the **Test URL** button to test the custom URL.
6. Click **Ok**.

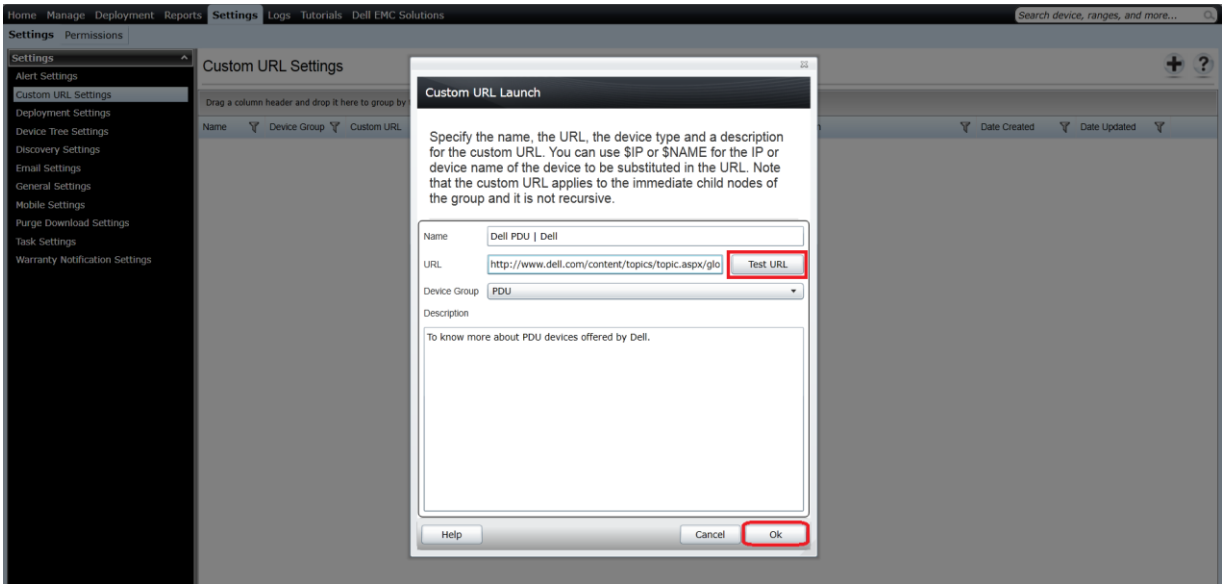

Figure 35 Creating a Custom URL

7.3 Launch the Custom URL

1. Click **Manage → Devices**.
2. Right-click the device in the device tree and select **Application Launch**.

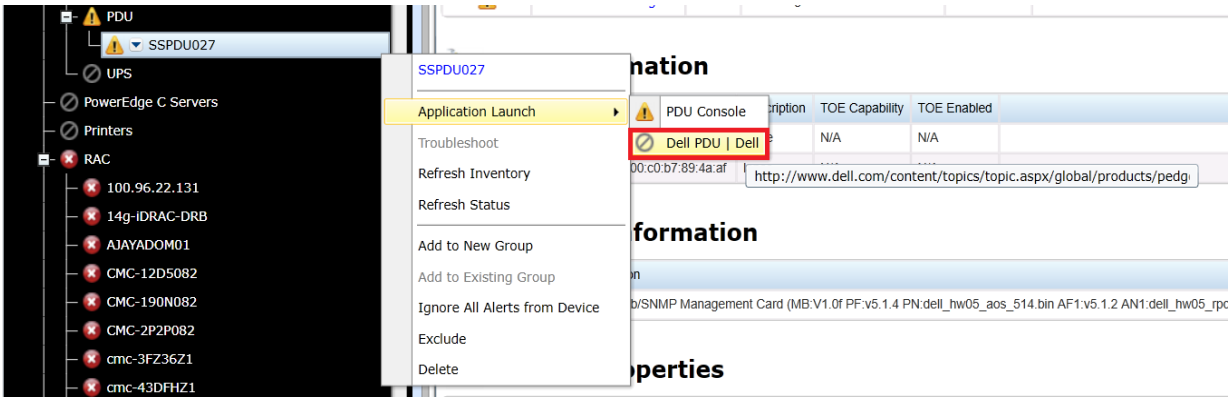

Figure 36 Launching the Custom URL

8 Alerts (SNMP Traps) in OpenManage Essentials

The SNMP alerts received from discovered Dell EMC devices are displayed under the Alerts tab of the respective device. OpenManage Essentials currently supports SNMP V1, V2, and V3 alerts. The status of the device is polled every time an SNMP trap is received from that device. For example, if a trap with critical severity is received from a device, status of that device is set to Critical.

8.1 Alert type definitions in OpenManage Essentials

Table 4 Alert types in OpenManage Essentials

Icon	Alert	Description
	Normal alerts	**An event from a device that describes the successful operation of a unit, such as a power supply turning on.**
	Warning alerts	**An event that is not necessarily significant, but may indicate a possible future problem, such as crossing a warning threshold.**
	Critical alerts	**A significant event that indicates actual or imminent loss of data or loss of function, such as crossing a failure threshold or a hardware failure.**
	Unknown Alerts	**An event has occurred but there is insufficient information to classify the event.**
	**Information Alerts**	**Provides information only.**

8.2 View alerts from a device in OpenManage Essentials

To view alerts from a device, click the device in the device tree and navigate to the **Alerts** tab as shown in the following sample screen shot.

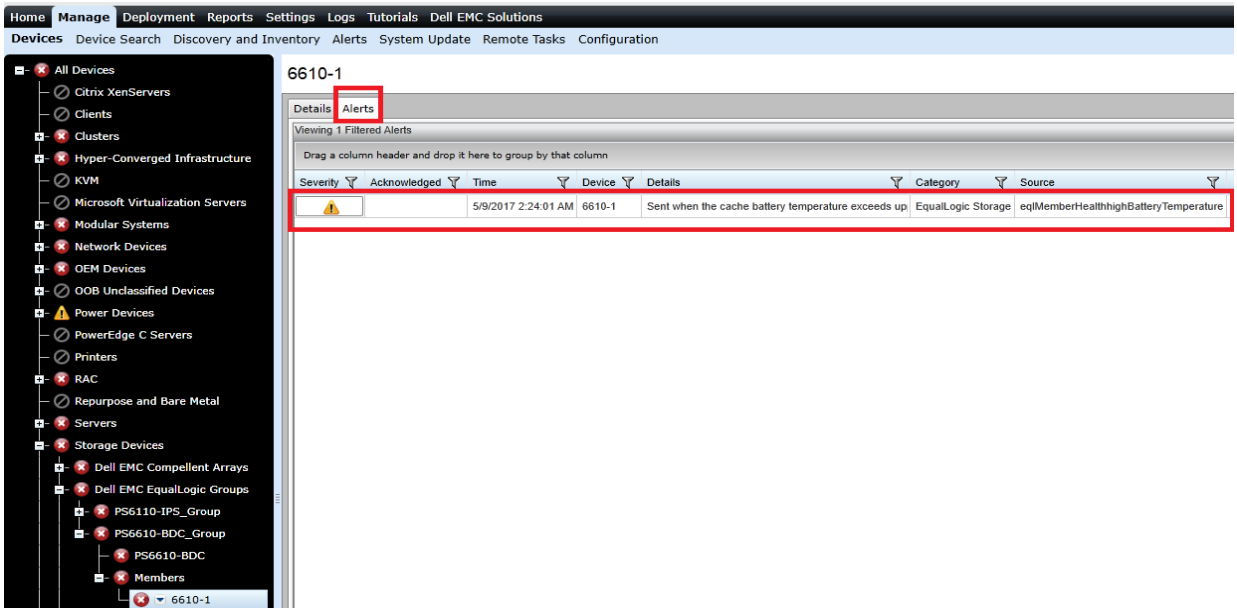

Figure 37 SNMP Alert from a Dell EMC EqualLogic Member

8.3 View alert categories in OpenManage Essentials

Predefined alerts for Dell EMC EqualLogic Groups, Dell EMC NAS Appliances, SonicWALL Firewall, PowerConnect W- Series, Brocade Fibre Channel, Dell EMC Compellent Arrays, Dell EMC Networking Switches, KVM, PDU, and UPS devices can be seen under the Alert Categories section in OpenManage Essentials. Click to **Manage → Alerts → Alert Categories & Definitions**, and then click the appropriate alert category.

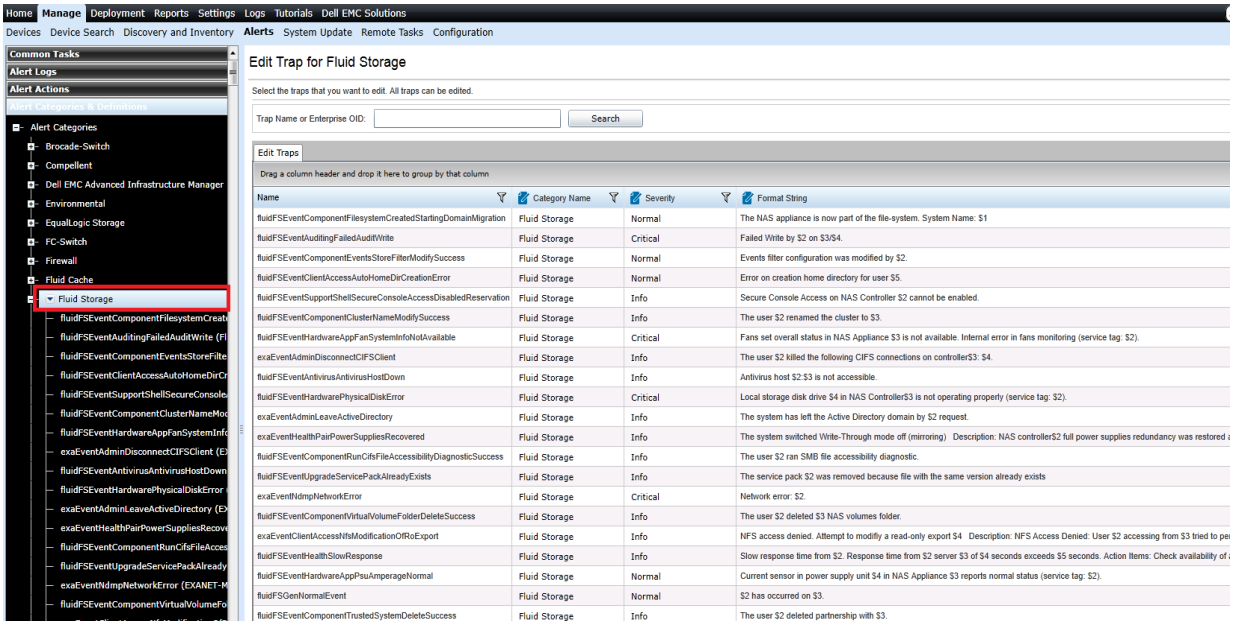

Figure 38 Alert Sources for Dell EMC NAS Appliances

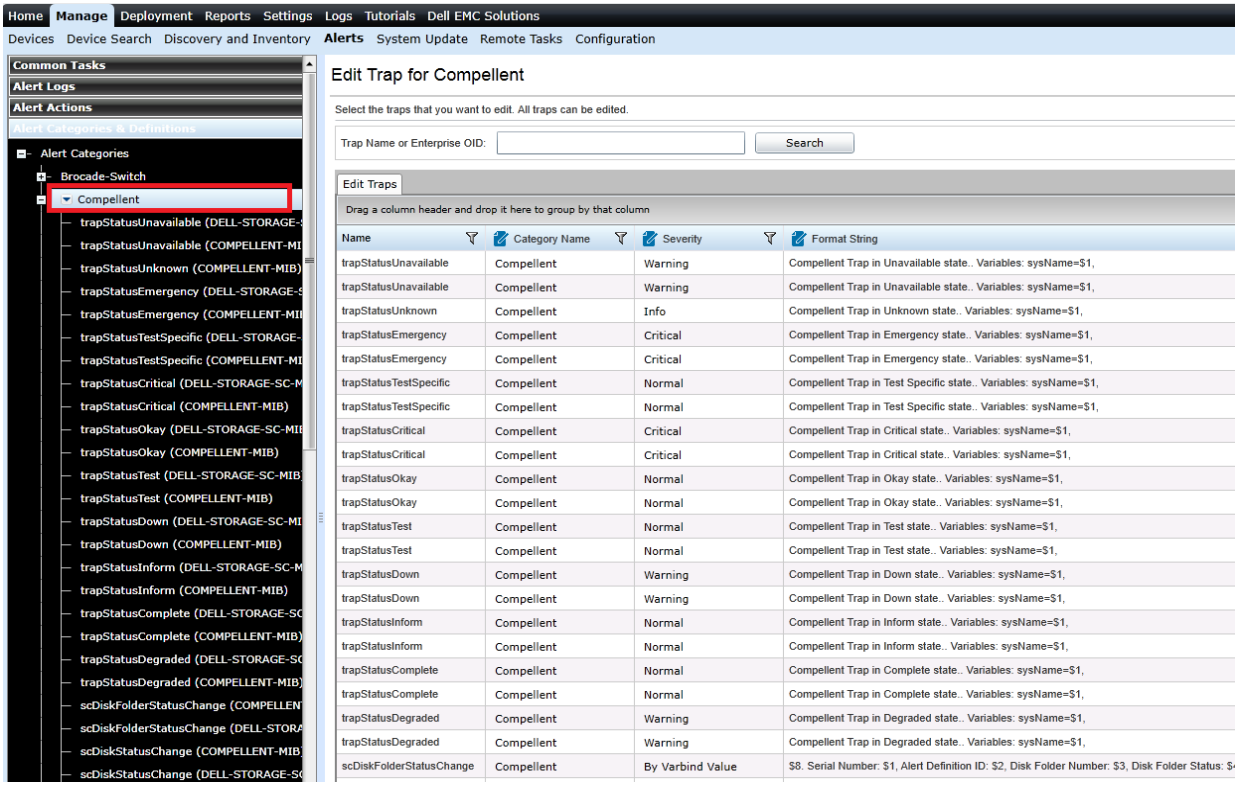

Figure 39 Alert Sources for Dell EMC Compellent Arrays

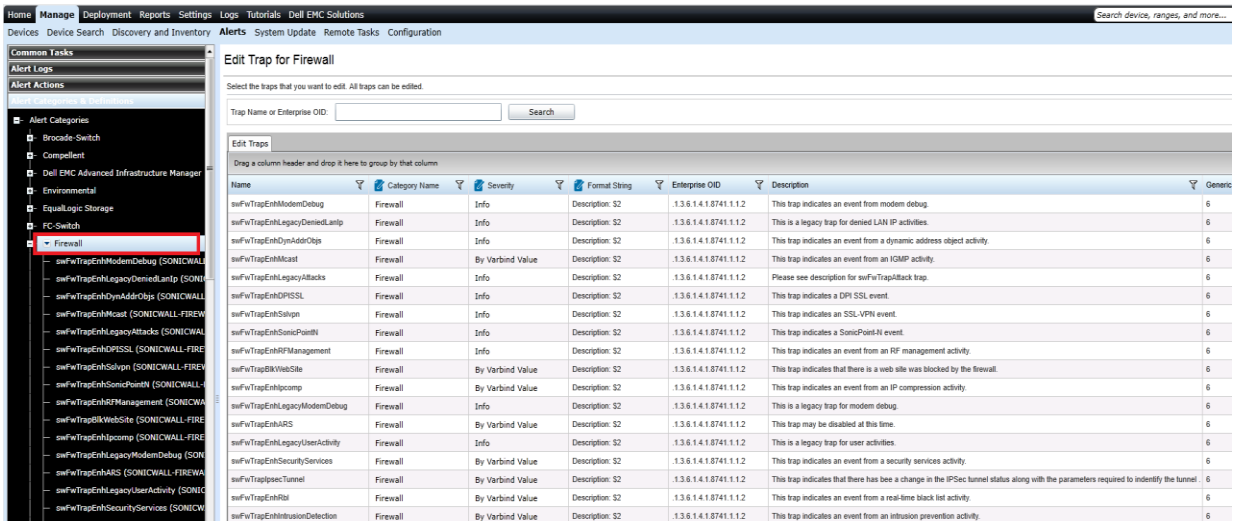

Figure 40 Alert Sources for SonicWALL Firewall

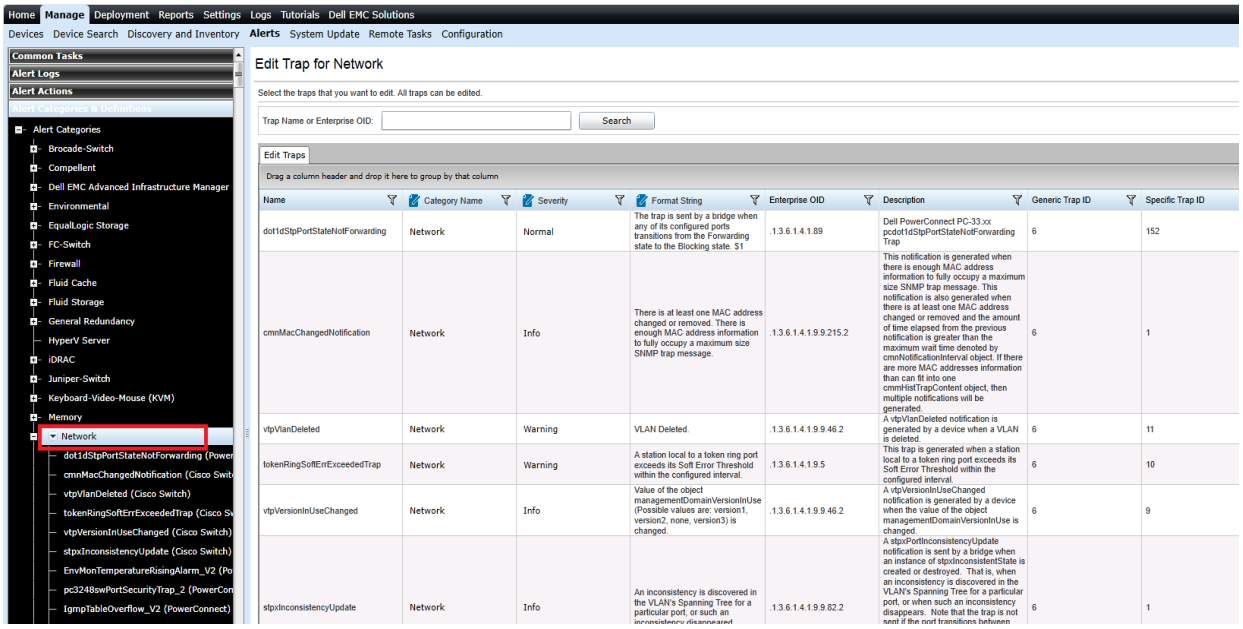

Figure 41 Alert Sources for Dell EMC Networking Switches

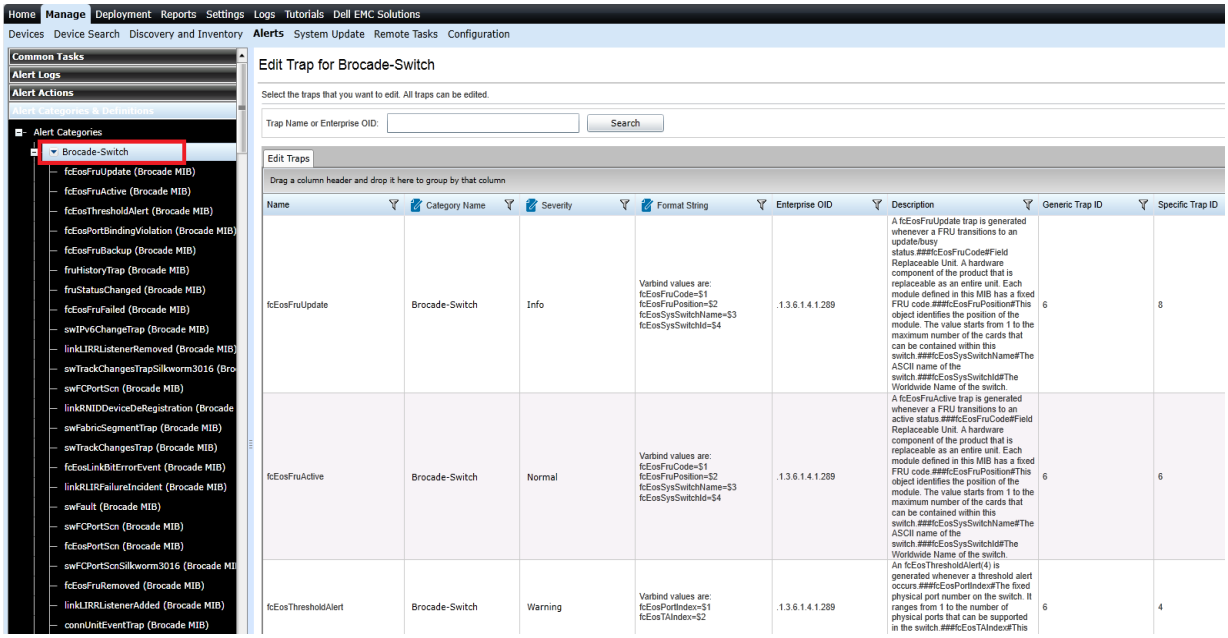

Figure 42 Alert Sources for Brocade Fiber Channel

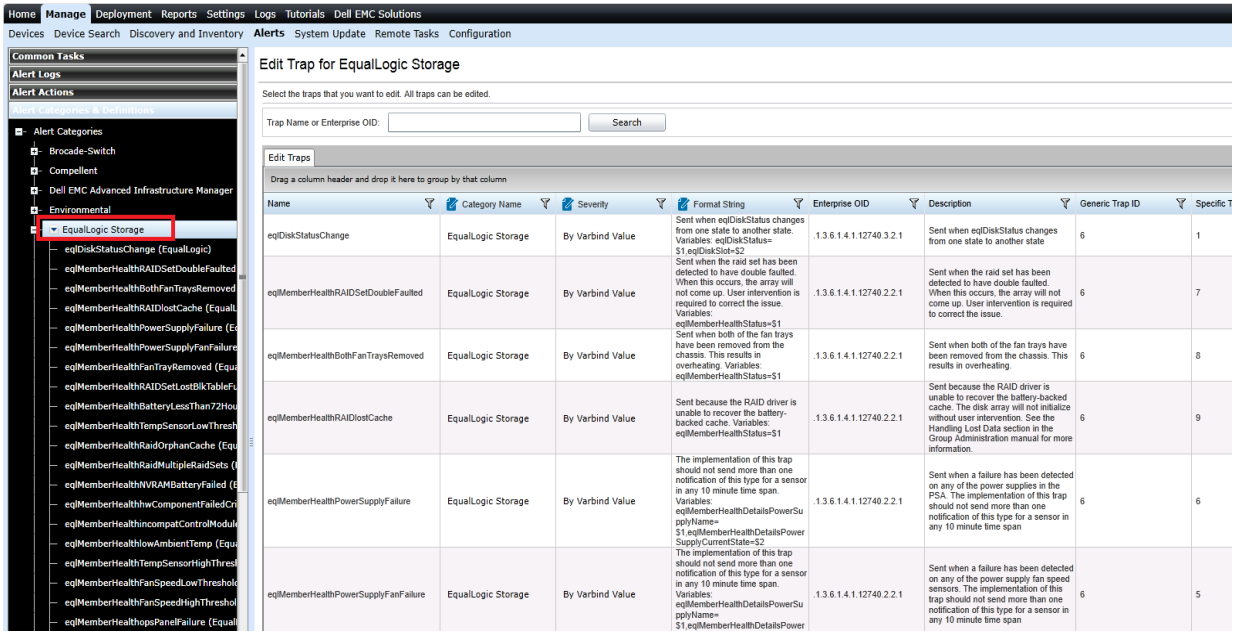

Figure 43 Alert Sources for Dell EMC EqualLogic Storage

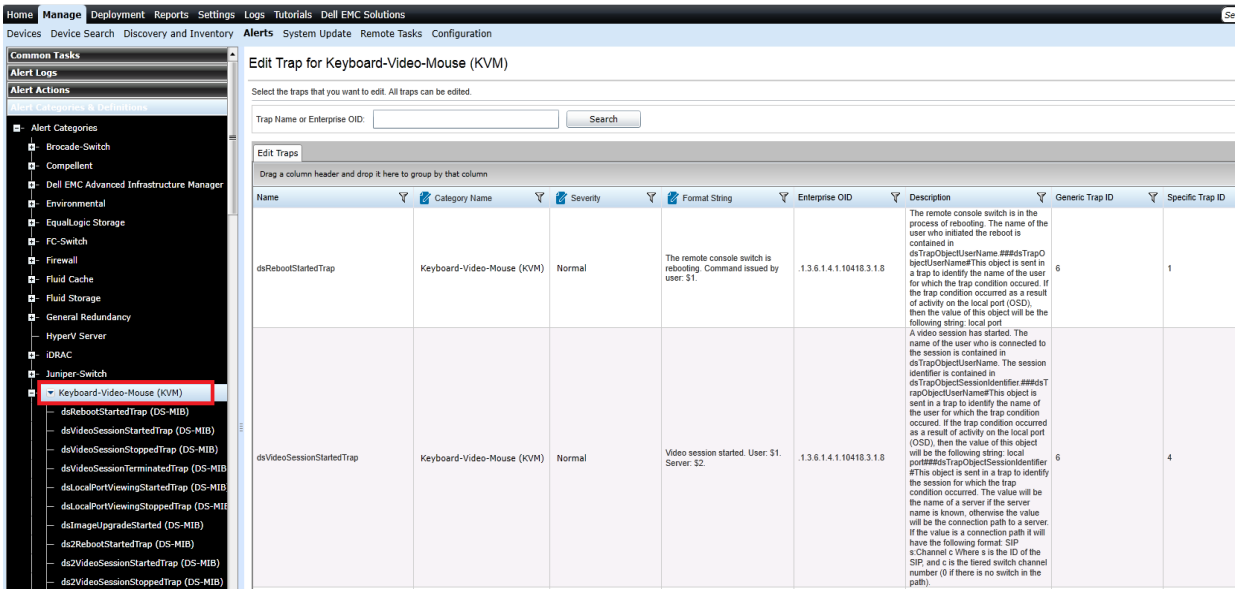

Figure 44 Alert Sources for Dell KVM

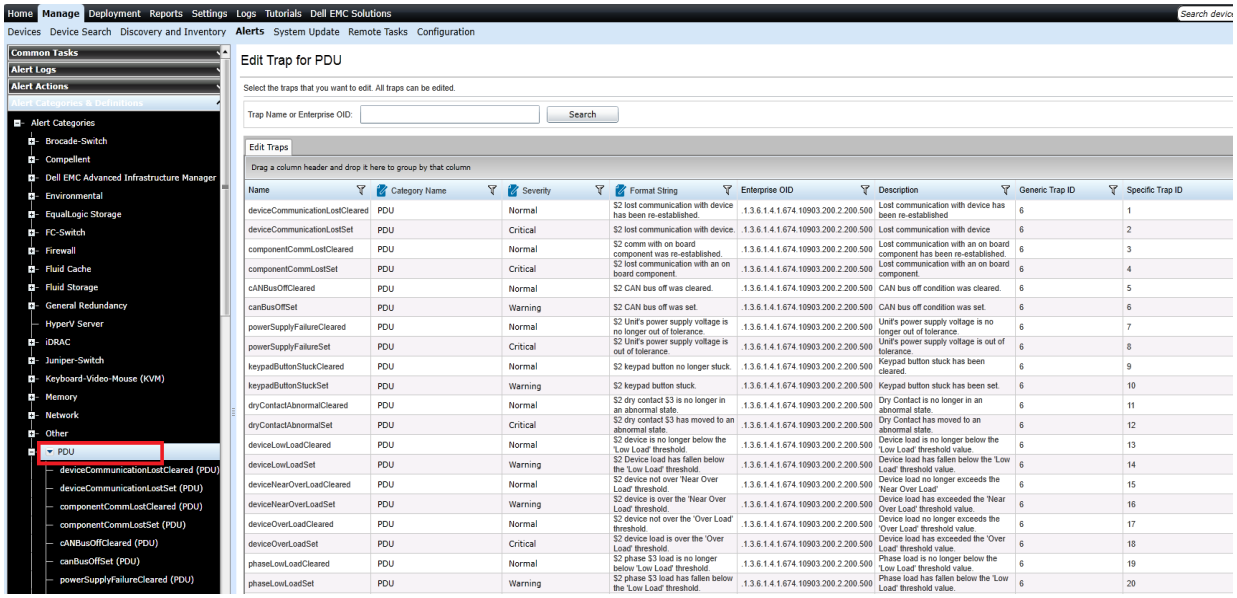

Figure 45 Alert Sources for Dell PDU

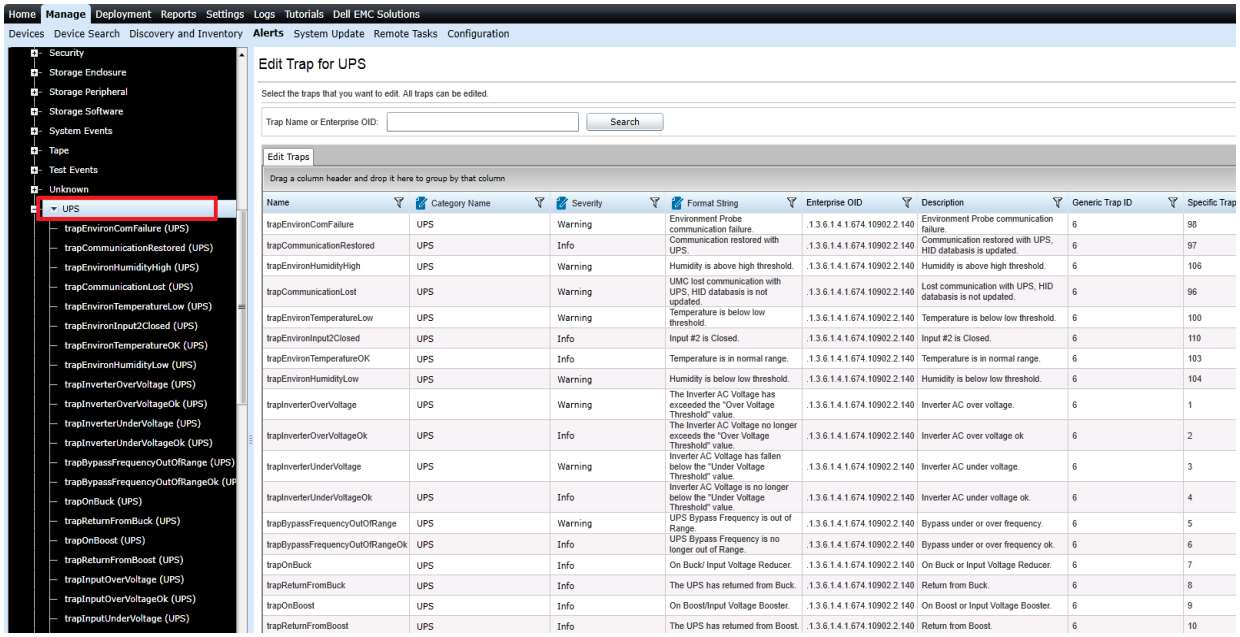

Figure 46 Alert Sources for Dell UPS

8.4 Configure alert actions in OpenManage Essentials

Alert actions occur on all alerts received in the OpenManage Essentials console. The alert is received and processed to take appropriate action depending on the user configuration for that alert. To configure an alert action, navigate to **Manage → Alerts → Alert Actions** and right-click the appropriate category as shown in the following sample screen shot.

The following alert actions are supported in OpenManage Essentials:

- Application Launch
- E-mail Notification
- Ignoring Alerts
- Forwarding Alerts

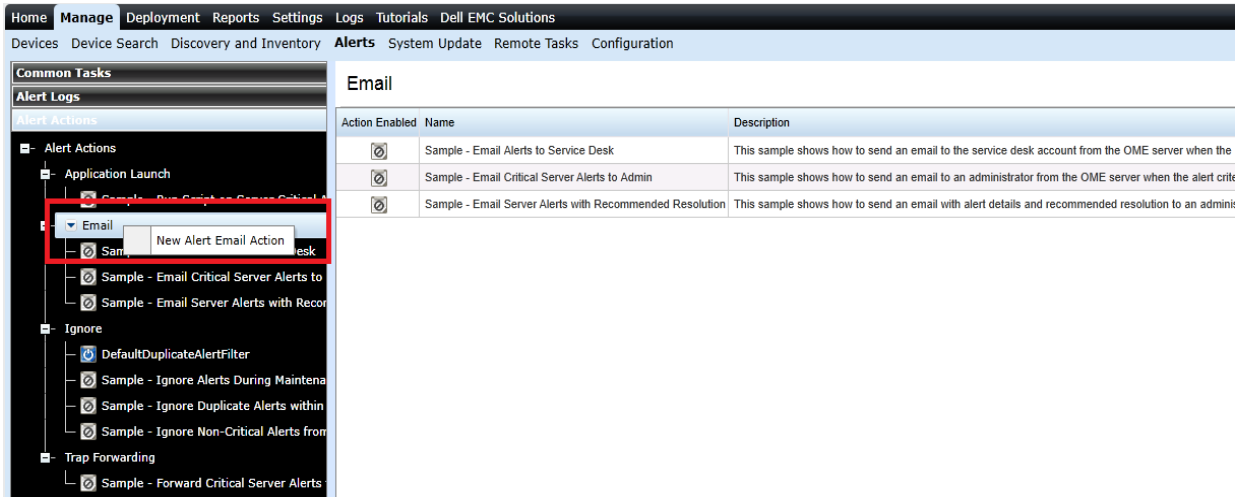

Figure 47 Configuring Email Alert Action

8.5 Configure Warranty email notifications

You can configure OpenManage Essentials to send a warranty notification of your devices at periodic intervals through email, based on your preference. The warranty notification email provides a list of devices and appropriate links that you can click to renew the warranty of the devices. To configure Warranty Email Notifications:

1. Click **Settings → Settings**.
2. In the left pane, click **Warranty Notification Settings**.
3. Under **Warranty Email Notifications**, select **Enable Warranty Email Notifications**.
4. In the **To** box, type the email addresses of the recipients (semicolon-separated).
5. In the **From** box, type the email address from which the warranty notification email is to be sent.
6. Set the criteria for the devices to be included in the warranty notification email.
7. Set the frequency at which you want to receive the warranty notification email.
8. To include devices with expired warranty or no warranty information in the warranty notification email, select **Include Expired Warranties**.
9. In the **Next Email will Send On** box, select the date and time at which you want to receive the next warranty notification e-mail.
10. If you want to configure the SMTP email server, click **Email Settings**.
11. Click **Apply**.

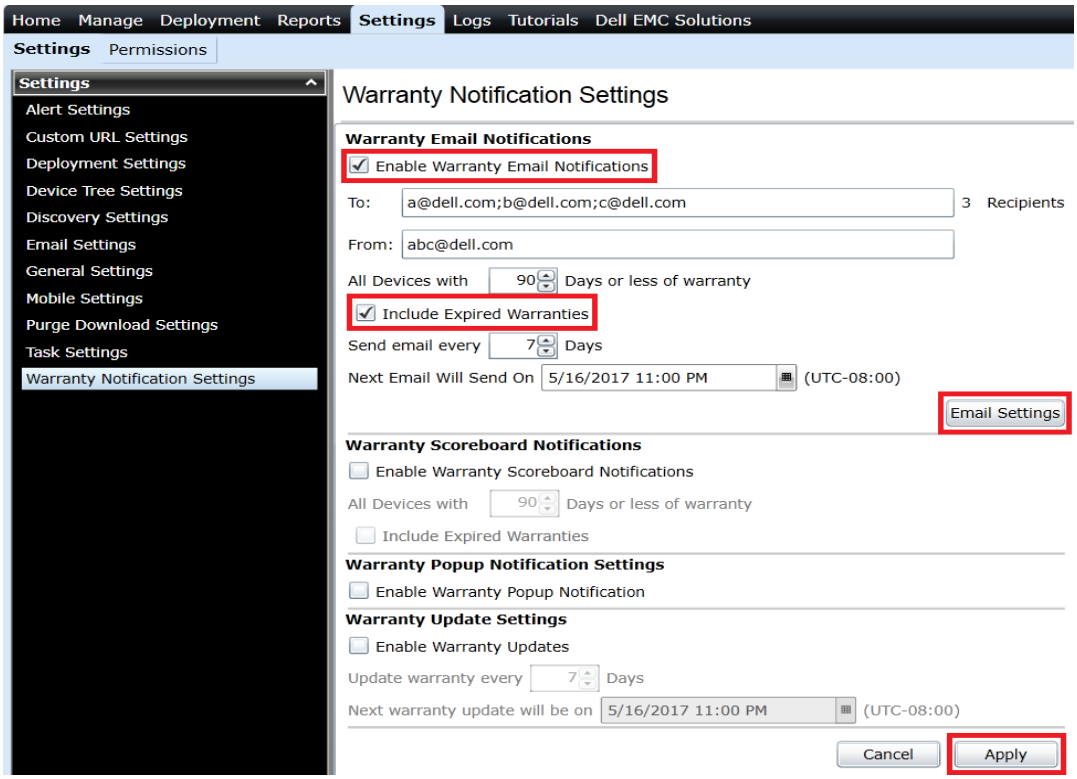

Figure 48 Warranty Email Notification Settings

8.6 Configure warranty scoreboard notifications

You can configure OpenManage Essentials to display a warranty scoreboard notification icon in the heading banner. If any device fulfills the set criteria, the OpenManage Essentials heading banner displays the warranty scoreboard notification icon including the number of devices.

To configure Warranty Scoreboard Notifications:

1. Click **Settings** → **Settings**.
2. In the left pane, click **Warranty Notification Settings**.
3. Under **Warranty Scoreboard Notifications**, select the **Enable Warranty Scoreboard Notifications** check box.
4. Set the criteria for the devices to be included in the warranty notification scoreboard.
5. To include devices with expired warranty or no warranty information in the warranty notifications scoreboard, select the **Include Expired Warranties** check box.
6. Click **Apply**.

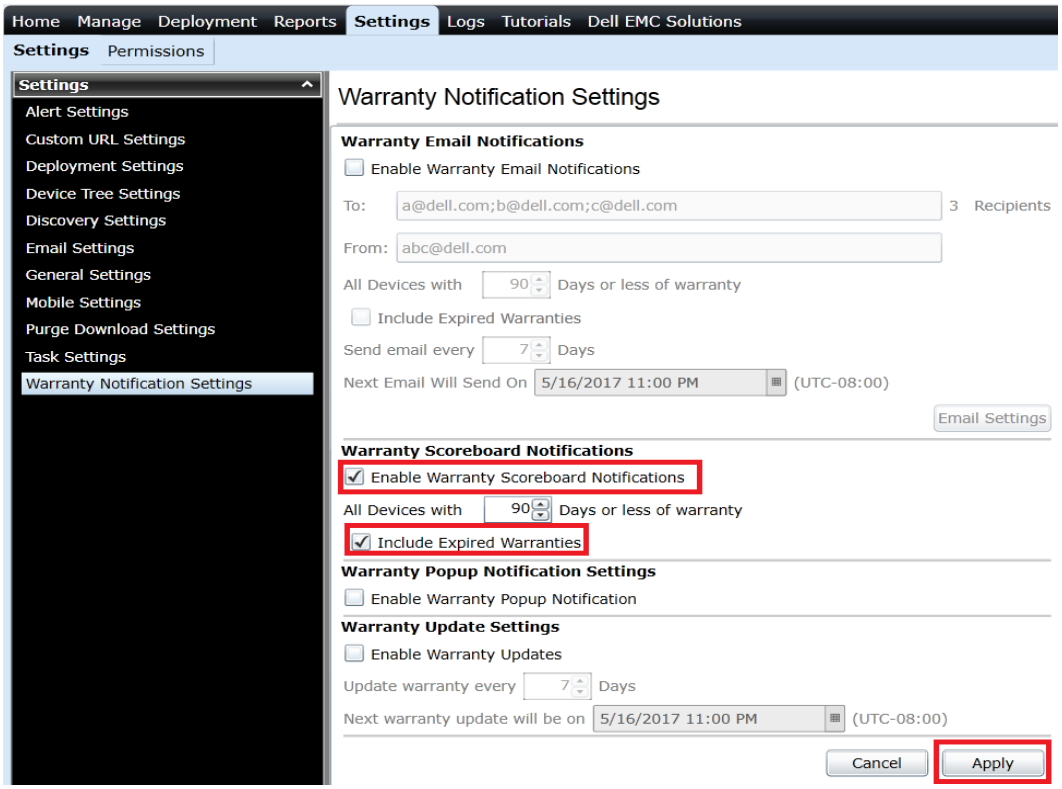

Figure 49 Warranty Scoreboard Notification Settings

8.7 Configure warranty notifications in OpenManage Essentials

1. Click **Settings → Settings**.
2. In the left pane, click **Warranty Notification Settings**.
3. Under **Warranty Popup Notification Settings,** select the **Enable Warranty Popup Notification** check box**.**
4. Click **Apply**.

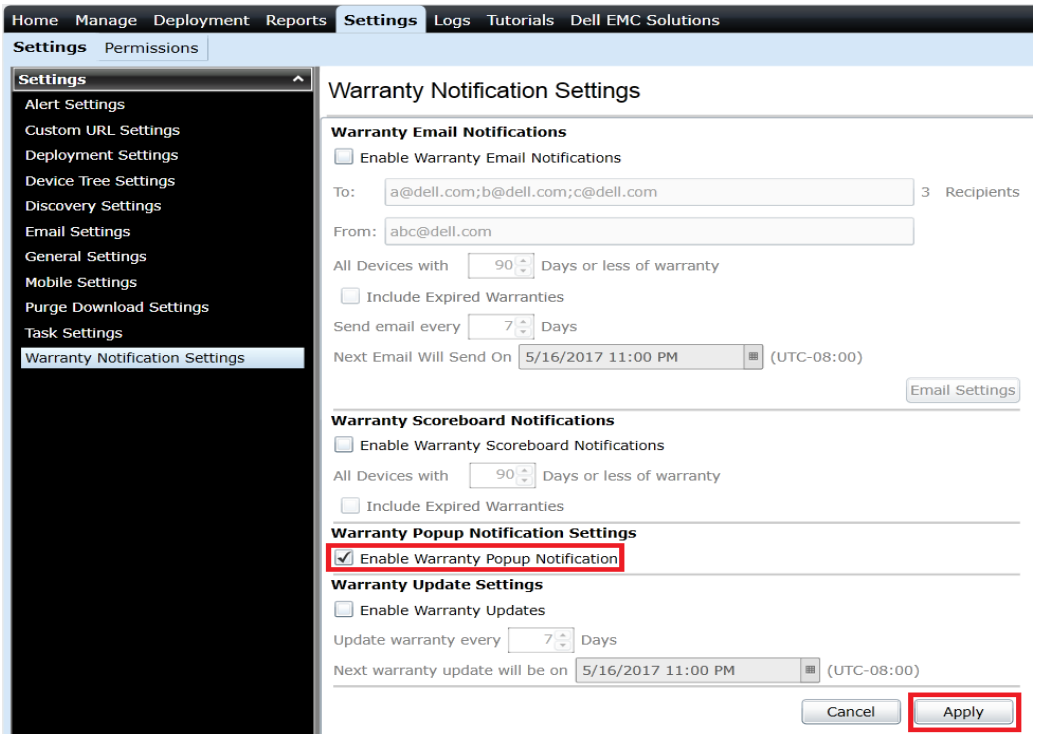

Figure 50 Warranty Popup Notification Settings

8.8 Configure warranty update settings

To configure warranty update settings:

1. Click **Settings → Settings**.
2. In the left pane, click **Warranty Notification Settings**.
3. Under **Warranty Update Settings,** select the **Enable Warranty Updates** check box.
4. Set the frequency at which you want to update the warranty.
5. In the **Next warranty update will be on** calendar, select the date and time at which you want to update the warranty.
6. Click **Apply**.

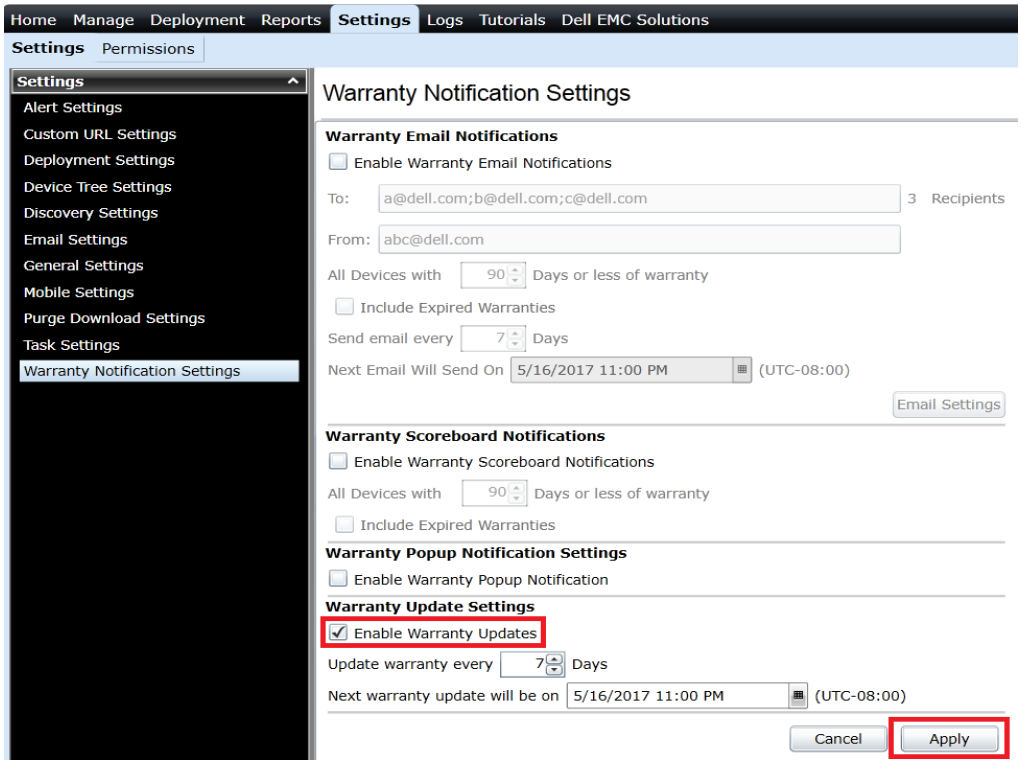

Figure 51 Warranty Update Settings

9 Troubleshooting issues in OpenManage Essentials

9.1 Dell EMC OpenManage Essentials Troubleshooting Tool

The Dell EMC OpenManage Essentials Troubleshooting Tool is a standalone tool that is installed along with Dell EMC OpenManage Essentials. You can use this tool for a wide array of protocol related problems that are often at the root of discovery and alert issues.

9.2 Troubleshoot discovery of a Dell EMC device

1. Ensure that SNMP is enabled and properly configured on the target device by accessing its web Interface.
2. Start the Dell EMC Troubleshooting Tool.
3. Navigate to **Protocols (Remote Box)**.
4. Enter the IP address of the target device.
5. Select required protocol in the **Select Protocol(s)** pane.
    - If you are selecting **SNMP** protocol, enter the correct community name and click **Run Test**.
    - If you are selecting **WS-Man** protocol, enter the user name and password in the respective fields and click **Run Test.**
    - If you are selecting **REST-GET** protocol and **MX Chassis** radio button, enter user name and password in the respective fields and click **Run Test.**
    - If you are selecting **REST-GET** protocol and **Generic** (only https) radio button, enter the URI, user name, and password in the respective fields, and then click **Run Test.**
6. The **Result** window displays test results of the target device.

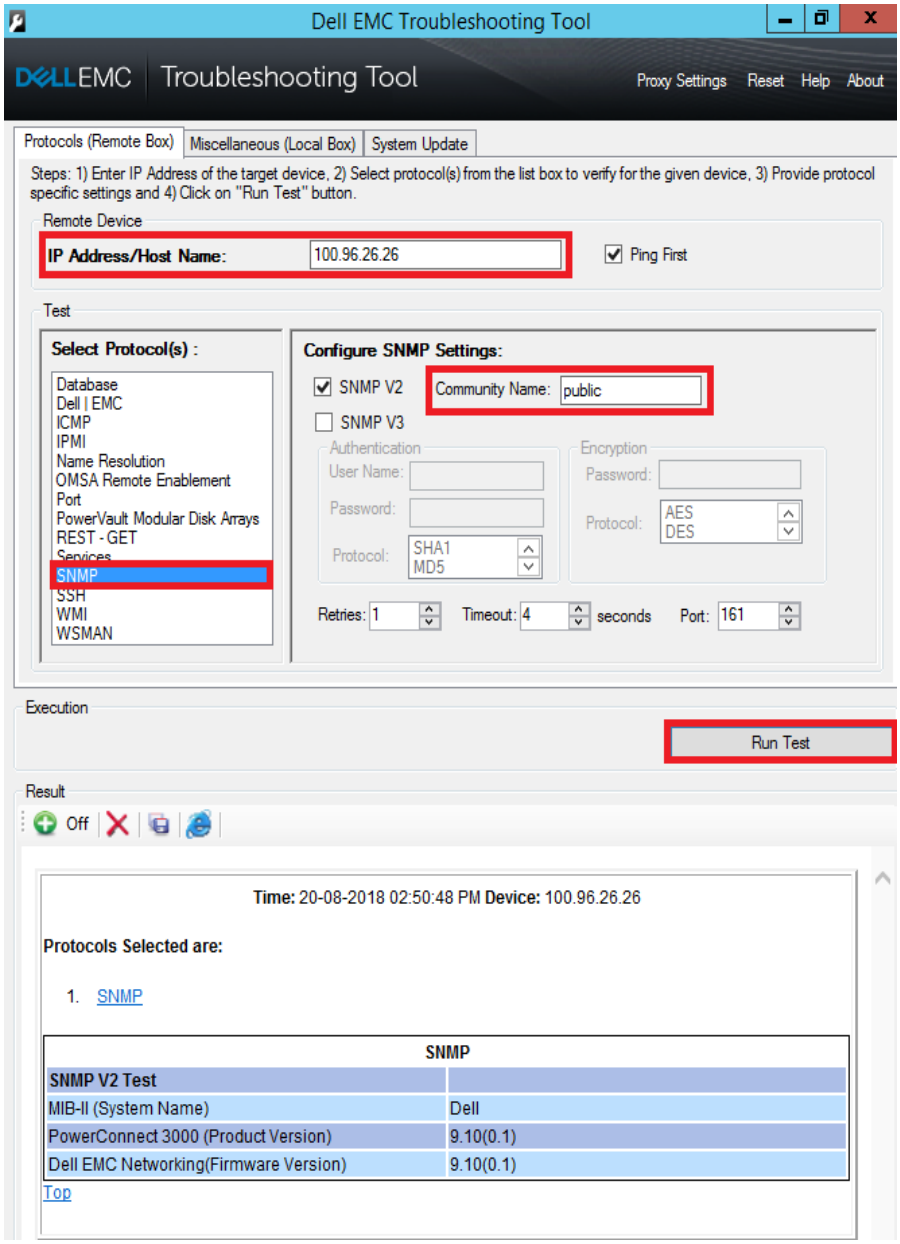

Figure 52 Troubleshooting Tool: SNMP Test for Dell EMC Networking Device

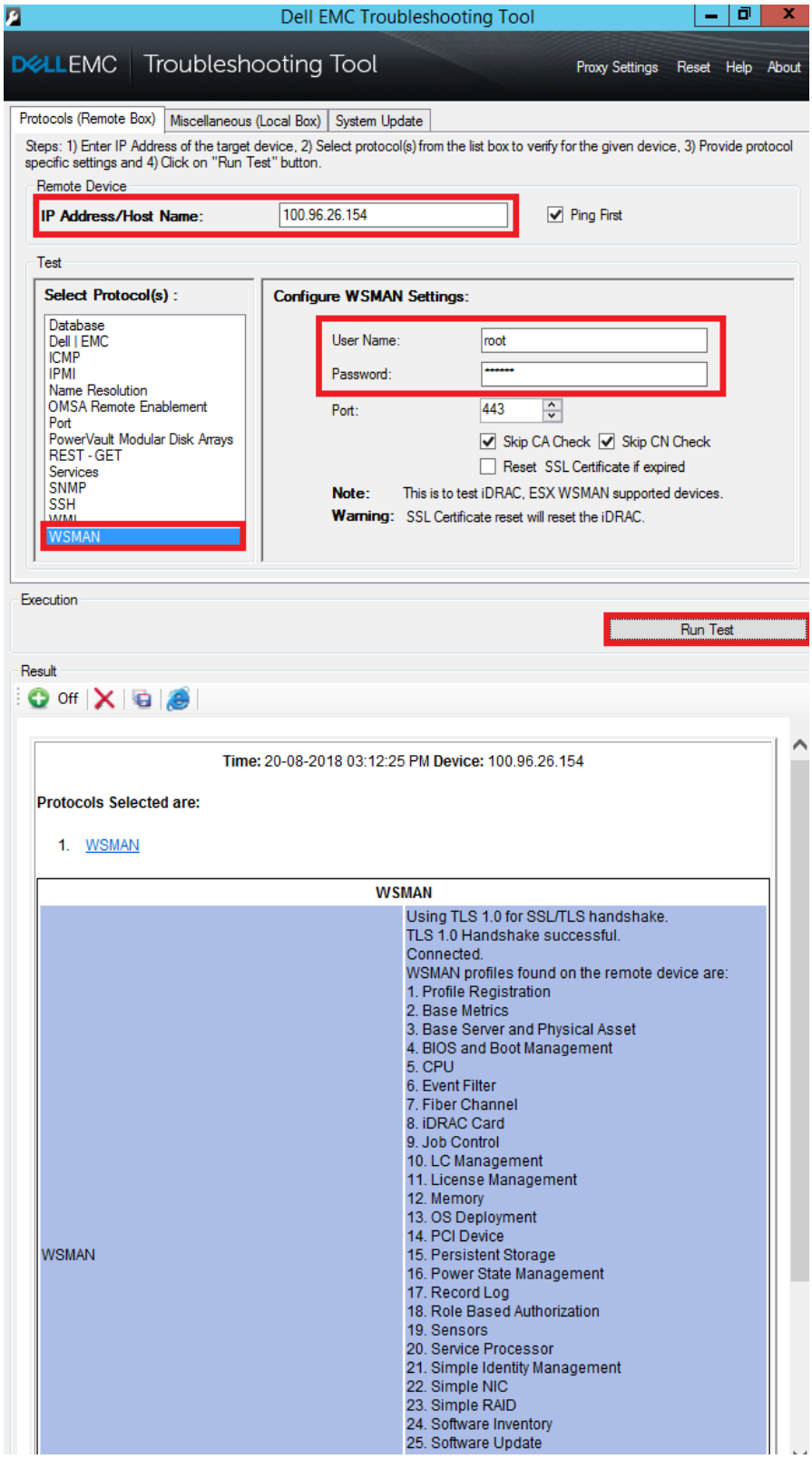

Figure 53 Troubleshooting Tool: WS-Man Test for Dell Server

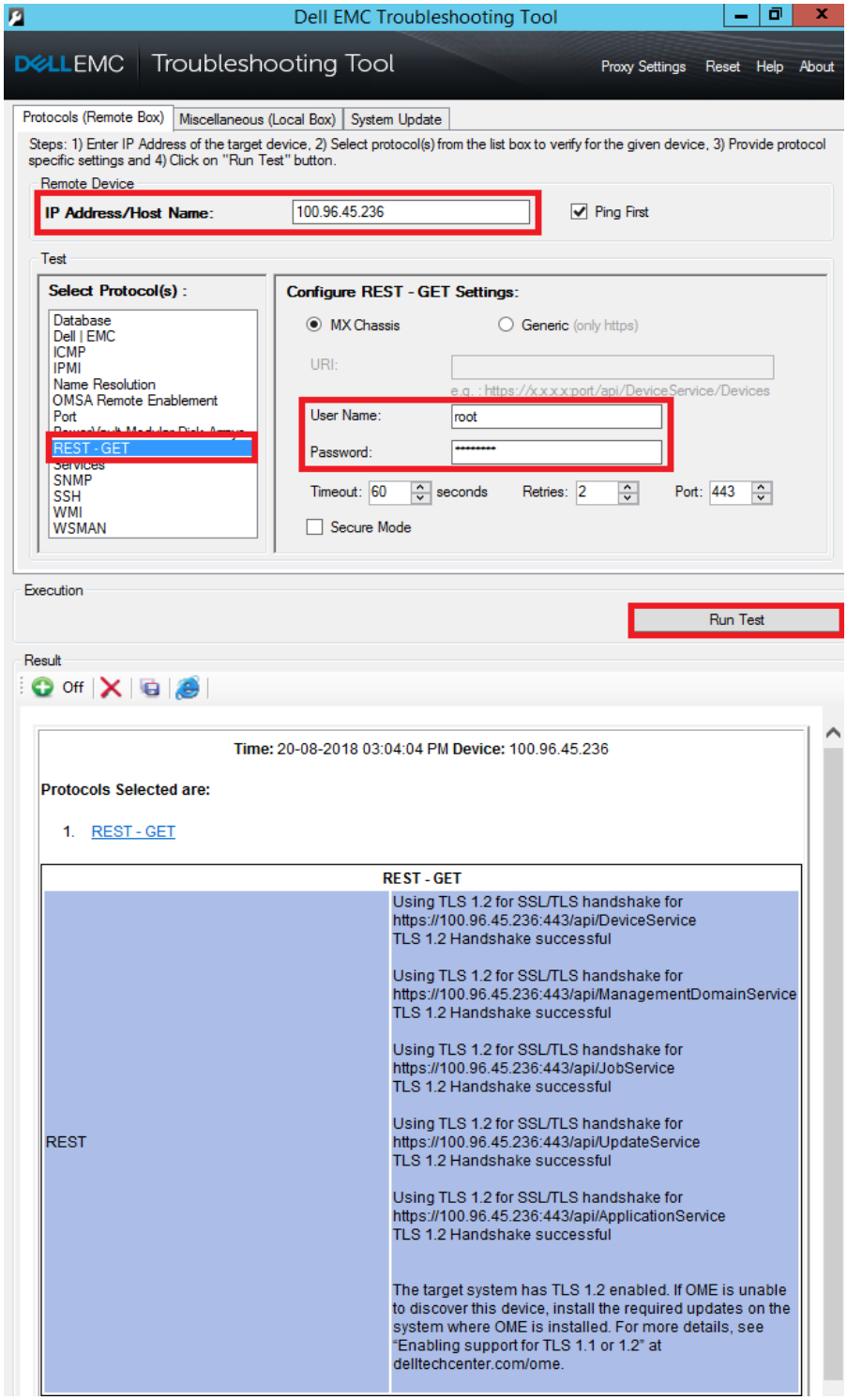

Figure 54 Troubleshooting Tool: REST Test for MX Chassis

Note—The displayed model name of VxFlex Ready Nodes is incorrect on the Troubleshooting Tool when an IPMI protocol test is run.

10 Proactive Support with Dell EMC SupportAssist Enterprise

The Dell EMC SupportAssist Enterprise plug-in for OpenManage Essentials proactively identifies hardware failures in your IT environment, and provides you with an efficient and personalized support experience. The Dell EMC SupportAssist Enterprise plug-in is bundled as part of the OpenManage Essentials installation package and can be installed from the package as required.

SupportAssist integrates with OpenManage Essentials to give you the added capabilities of secure remote monitoring so you know how your systems are performing at all times. SupportAssist is designed to help you manage your environment proactively with the following features:

- Detects and analyzes problems using automated data collection and diagnostics
- Helps accelerate resolution by automatically generating notifications and accurate case information with your Dell EMC Support team
- Provides parts replacement, as needed, directly from Dell EMC.

You can monitor Dell EMC Networking devices using Dell EMC SupportAssist Enterprise. The complete benefits of SupportAssist are available for devices with an active Dell EMC ProSupport Plus entitlement. For more information about SupportAssist, visit Dell.com/supportassist.

A Technical support and resources

Dell.com/support is focused on meeting customer needs with proven services and support.