

Dell EMC Networking Plug-in for VMware vCenter User Guide

May 2017

Notes, cautions, and warnings

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

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

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

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Dell Networking plug-in features

The Dell EMC Networking plug-in extends the vSphere user interface to give a physical network view to the vSphere user. The plug-in adds new capabilities within vSphere to monitor Dell top-of-rack (TOR) switches within the virtualized environment, such as:

- Map of the virtual machines (VMs) to the physical network
- View physical switch ports connected to the ESXi hosts NICs
- View virtual local area networks (VLANs) configured on physical switch ports connected to ESXi hosts
- Traps, usage, and switch-health monitoring
- Inventory of Dell Networking switches deployed in the virtualized environment
- Optical connector information resources

You can download the Dell Networking Plug-In for VMware vCenter free from the vCenter Marketplace.

The Dell Networking Plug-In for VMware vCenter is supported on the following Dell Networking equipment:

- S4048-ON
- S4048T-ON
- S6000-ON
- S6010-ON

⚠ CAUTION: The plug-in works only using Chrome. Do not use the plug-in with Microsoft Edge or Firefox.

Getting Started

ⓘ NOTE: Before you use the plug-in, you must set up a Dell EMC Networking appliance virtual machine (see the *Dell EMC Networking Plug-in for VMware vCenter Installation and Release Notes Guide*) so the appliance can communicate with the switches via SNMPv2 or SNMPv3. Next, to allow the plug-in to communicate with the appliance, you must add switch IP addresses by creating switch profiles. Then, you create the credential profiles—username and keys—to access the switch.

Dell EMC recommends using the **Full setup** method of installation of the appliance. For installation instructions, see the *Dell Networking Plug-in for VMware vCenter Release Notes*.

ⓘ NOTE: The appliance keys for the switch profile and credential profile must match for the SNMPv2 and SNMPv3 protocols to communicate successfully. Mismatched keys are rejected; the appliance cannot receive information to display.

Dell EMC Networking plug-in home page

You can get to the Dell EMC Networking home page using the **Dell EMC Network Home** shortcut. At the Dell Networking home page, you have five options—Summary, Configuration, Inventory, and Connected VMs. At the left of the home page is the Global Inventory Lists link.

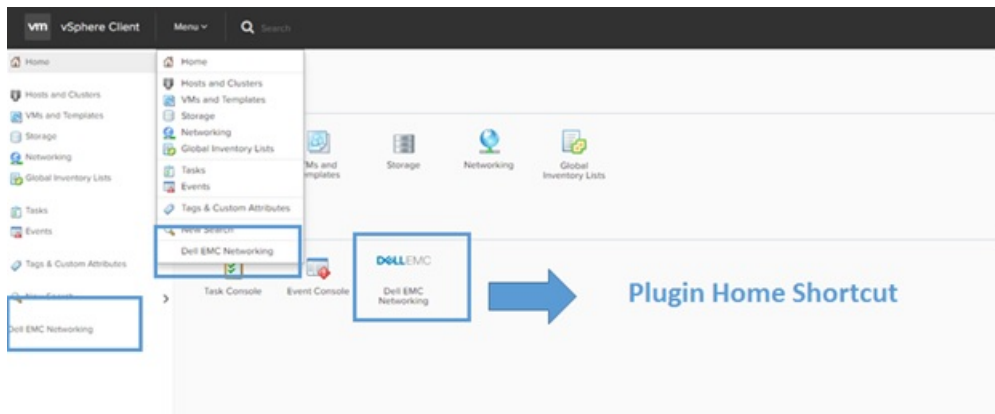


Figure 1. Dell EMC Networking Plug-in home shortcut

- Summary tab** Displays the network health.
- Configuration tab** Allows you to add credential profiles to access the switch, add a switch and associate the credentials profile, and monitor logs for errors.
- Inventory tab** Displays the Dell Networking switches.
- Connected VMs** Displays the VMs connected to each port of monitored switches.

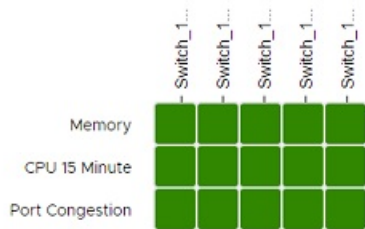
Global inventory list

On the left-side of the Dell Networking plug-in home page is the Global Inventory lists feature. Select this feature and then select the **Physical Network** option to navigate to the physical network. From the physical network list you can select a specific switch. There are three tabs at the switch level:

- Summary tab** The summary tab displays switch information; such as the switch name, IP address, service tag, MAC address, system description, OS version, switch type, serial number, and switch health.
- Monitor tab** The monitor tab displays port status, port speed, transceiver type, transceiver vendor name and part number. Also displayed is the input and output utilization percentages.
- VLAN tab** The VLAN tab displays the port, VLAN, and neighbor name, port, and MAC address.

At the bottom of the Dell Networking plug-in home page are references to the Dell Networking Plug-in for VMware vCenter and Getting Started. Before you can monitor a network, you must add the switches and the switch credentials to the system. To create, edit, and delete credential profiles, use the Configuration tab. From this tab you can also add or delete switches and associate credential profiles to the switches and monitor appliance log messages.

DELL EMC Network Health



Switches 5

Active Ports 20

Active Vlans 6

DELL EMC Networking Plugin

Dell EMC Networking Plugin is a tool to monitor the physical network of Dell switches. Dell EMC Netwc such as:

- o Map of the virtual machines to the physical network
- o Alerts, utilization, and environment health monitoring
- o Inventory of all Dell Networking switches deployed in the virtualized environment
- o Provides Field Replacable Units connector information

Figure 2. Dell Networking plug-in home page

Summary tab

The Summary tab displays the current health of the network. On the left-side of the page you can navigate to the Global Inventory Lists. You can review the CPU and port health on the **Summary** page. The chart columns display the switch names. The chart rows display the switch resources:

- Memory—the average memory usage.
- CPU 15 Minutes—the average CPU usage in the last 15 minutes from the SNMP poll. The boxes display green, amber, and red depending on the health per category and switch.
- Port Congestion- The port utilization field displays red if a switch has any ports with dropped packets, amber if 25 percent of the active ports have a utilization higher than 75 percent, and green when working within normal operating conditions.

Below the Network Health chart, the display lists the Inventory Details:

- Switches—the number of switches in the inventory
- Active Ports—the number of operationally up ports in the inventory
- Active VLANs—the number of operationally up VLANs in the inventory

You can click each of the boxes of the Network Health chart to navigate directly to the corresponding switch page.

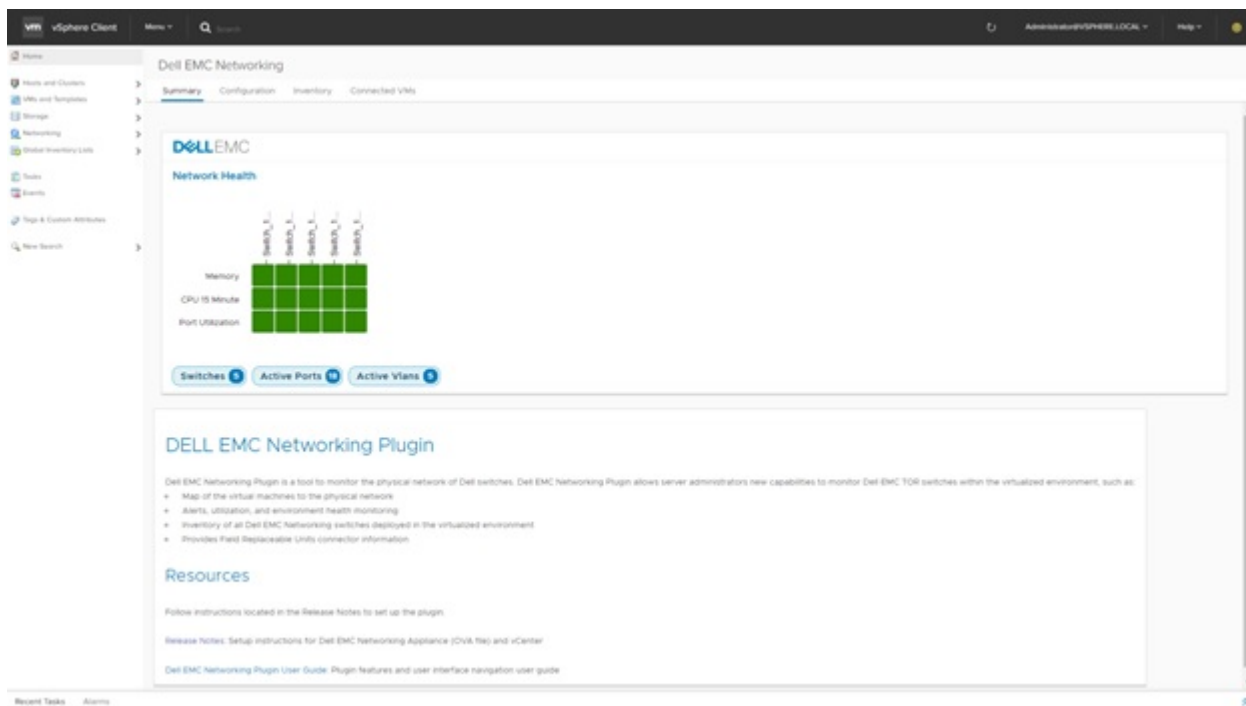


Figure 3. Summary tab

Configuration tab

There are three options at the Configuration tab—Credential Profiles, Switches, and Appliance Server.

- Credential Profiles** Create, edit or delete SNMPv2 or SNMPv3 credential profiles. See the [Credential profiles tab](#).
- Switches** Set up, add, edit or delete switches. See the [Switches tab](#).
- Appliance** Configure the REST connection to the appliance and appliance logs settings. See the [Appliance tab](#).

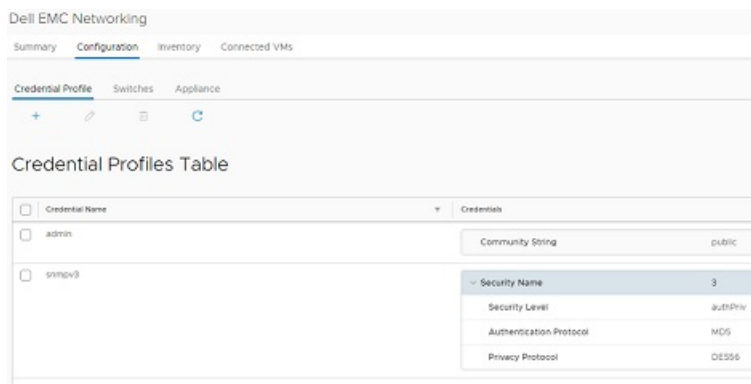


Figure 4. Configuration tab

Topics:

- [Credential profiles tab](#)
- [Switches tab](#)
- [Appliance tab](#)
- [Appliance REST](#)
- [Log configuration](#)

Credential profiles tab

To set up, add, edit, or delete the SNMPv2 or SNMPv3 credential profiles, use the **Configuration > Credential Profiles** tab.

- SNMPv2—you must include the Community String to the SNMPv2 credential profile to access a switch using the SNMPv2 protocol.
- SNMPv3—you must include security information to access a switch using the SNMPv3 protocol.

The **Credential Profiles** page displays the following sections:

- Credential ID** Lists of credential IDs previously created. To filter by credential ID, use the filter icon. Click the **Credential ID** header to reorder the list.
- Credentials - SNMPv2** Lists the community strings. To filter by the SNMPv2 community string name, use the filter icon. Click the **Credentials** header to reorder the list.

Credentials - SNMPv3

Lists the SNMPv3 information including the Security name, security level, Authentication protocol, and privacy protocol.

- Security name—the name of the SNMPv3 credential group
- Security level—the encryption and authentication level for SNMPv3 communication
- Authentication Protocol—the authentication protocol for the SNMPv3 credential profile
- Privacy Protocol—the privacy protocol for the SNMPv3 credential profile

NOTE: As a security measure, security key information does not display.

Select the **v** icon to display details. To filter by SNMPv3 details, use the filter icon. Click the **Credentials** header to reorder the list.

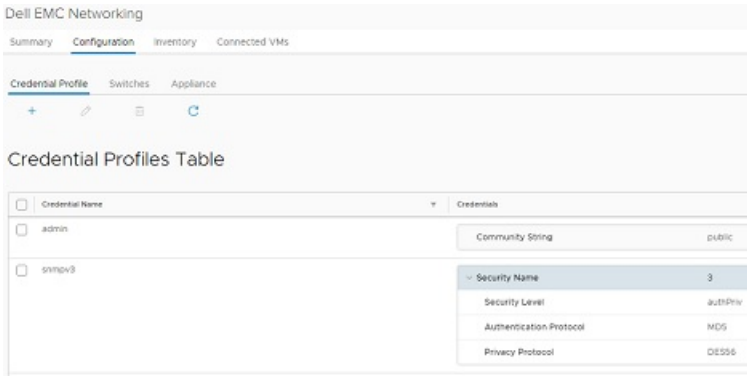


Figure 5. Configuration — credential profiles tab

Add a credential profile

To add a credential, select the **+** icon on the **Configuration > Credential Profiles** page. Fields with the red asterisk (*) are required. To refresh the page, use the circular arrow refresh icon.

- 1 Enter a credential ID name.
You can only use alphanumeric, underscore (_), or dashes (-) in the credential ID name. Duplicate credential names are not allowed.
- 2 Select **SNMPv2** or **SNMPv3** from the SNMP version drop-down list.
- 3 Enter the SNMPv2 Community String Key.
The range is from 1 to 32 characters with no spaces.
- 4 Select the SNMPv3 Security Level.

NOTE: As a security measure, security key information does not display. This implementation uses pre-shared keys.

- **noAuthNoPriv**—no authentication protocol and no privacy required. This setting has no encryption or message digest. If you use this setting, no other fields are required.
- **authNoPriv**—authentication protocol required but no privacy required. This setting has no encryption but has a message digest. SNMP packets are sent in clear text over the network but they cannot be tampered with.
- **authPriv**—authentication protocol and privacy required. This setting has both encryption and message digest.
 - a Authentication Protocol—Select **MD5** or **SHA-1** from the drop-down list. Dell EMC Networking recommends the **SHA-1** authentication protocol.
 - b Authentication Key—Enter the Authentication Key. Do not use spaces.
 - c Privacy Protocol—Select **DES56** or **AES-128** from the drop-down list. Dell EMC Networking recommends the **AES-128** privacy protocol.
 - d Private Key—Enter the Private Key. Do not use spaces.

Add Credential Profile [Close]

Credential Name *

SNMP Version *

Security Name *

Security Level *

Authentication Protocol *

Authentication Key *

Privacy Protocol *

Private Key *

Figure 6. Add a credential profile

- 5 Select **Create Profile**.
Select **Cancel** to not create a Credential profile.

Alert messages at the bottom of the screen indicate success (green) or errors (red).



Figure 7. Alert message

Edit a credential profile

To edit a credential, select the **pencil** icon on the **Configuration > Credential** Profiles page. Fields with the red asterisk (*) are required. To refresh the page, use the circular arrow refresh icon.

- 1 Select the **Verify Current Credentials** option.
- 2 Enter the current credentials as needed and click **Next**.
 - Credential ID—Alphanumeric, underscore (_), or dashes (-) only. Do not use duplicate credential names.
 - SNMP Version—SNMPv2 or SNMPv3.
 - Security Name
 - Security Level for SNMPv3—noAuthNoPriv, authNoPriv, or authPriv.
 - Authentication Protocol and Key—MD5 or SHA-1. No spaces allowed for the key.
 - Privacy Protocol and Key—DES56 or AES-128. No spaces allowed for the key.

For SNMPv3, verify the previous Community String.

- 3 Select **Finish**.
Select **Cancel** to not change the credential profile.

Alert messages at the bottom of the screen indicate success (green) or errors (red).

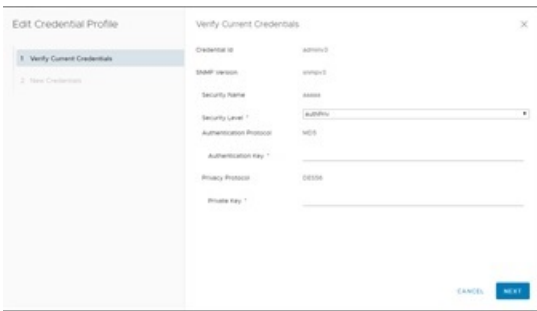


Figure 8. Edit a credential profile

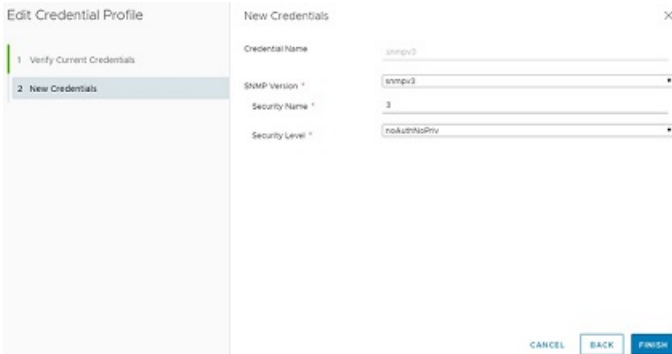


Figure 9. Edit a credential profile—new credential

Delete a credential profile

To add a credential, select the trash icon on the **Configuration > Credential Profiles** page. Fields with the red asterisk (*) are required. To refresh the page, use the circular arrow refresh icon.

- 1 Select the credential profile to delete.
To delete multiple profiles at one time, select all the profiles to delete.
- 2 Select **Delete**.
Select **Cancel** to keep the credential profile.

NOTE: When you delete a credential profile that is in use by a switch, a warning message displays. You can delete the credential profile but the switches that require that credential profile can no longer provide data and are removed from the active inventory list within five minutes.

Alert messages at the bottom of the screen indicate success (green) or errors (red).

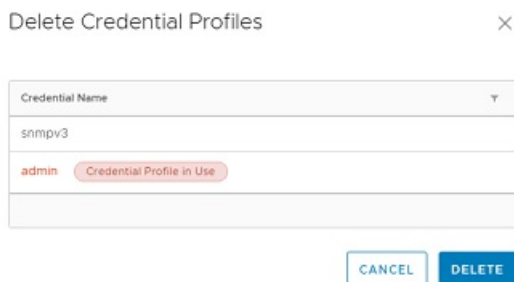


Figure 10. Delete a credential profile

Switches tab

To set up, add, edit, or delete switches, use the Configuration > Switches tab. To select a switch, click the box to the left of the switch name. The switches page displays the following sections:

- Switch Name** Lists the user-created switch name. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
- IP Address** Lists the user datagram protocol (UDP) IP address that SNMP uses to access switch information. To filter by the switch IP address, use the filter icon. Click the **IP Address** header to reorder the list.
- Management Port** Lists the UDP port that SNMP uses to access switch information. To filter by the management port ID, use the filter icon. Click the **Management Port ID** header to reorder the list.
- Host Name** Lists the system name as described in the SNMP system data. To filter by system name, use the filter icon. Click the **System Name** header to reorder the list.
- Operational Status** Lists the status of switch access; if the system is up or not reachable. To filter by the operation status, use the filter icon. Click the **Operational Status** header to reorder the list.
- Credential Profile** Lists the credential profile in use to access the switch. To filter by the credential profile, use the filter icon. Click the **Credential Profile** header to reorder the list.

Switch Name	IP Address	Management Port	Hostname	Operational Status	Credential Profile
Switch_10.11.182.5	10.11.182.5	161		Switch is not reachable	admin
Switch_10.11.182.7	10.11.182.7	161		Switch is not reachable	admin
5h_A	10.11.182.4	161		Switch is not reachable	admin
Switch_10.11.182.5	10.11.182.5	161		Switch is not supported or discoverable	admin
Switch_10.11.182.13	10.11.182.13	161		Snmp Timeout, check credential profile	admin
Switch_10.11.182.15	10.11.182.15	161		Snmp Timeout, check credential profile	admin
Switch_10.11.182.210	10.11.182.210	161	innov-n1000e-S-1-B1	UP	admin
Switch_10.11.182.245	10.11.182.245	161	innov-n1000e-S-1-C1	UP	admin
Switch_10.11.182.246	10.11.182.246	161	innov-n1000e-S-1-C2	UP	admin
Switch_10.11.182.244	10.11.182.244	161	innov-n1000e-S-1-B2	UP	admin

Figure 11. Configuration > Switches tab

Add a switch

To add a switch, select the + icon on the Configuration > Switch page.

NOTE: You must create Credential Profiles before you can add a switch.

Fields with the red asterisk (*) are required. To refresh the page, use the circular arrow refresh icon.

- Enter the IPv4 Management IP address.
You cannot have duplicate management IP addresses.
- Enter the Switch name.
You can only use alphanumeric, underscore (_), or dashes (-) in the switch name. Duplicate switch names are not allowed.

NOTE: If you do not assign a switch name, the system creates a default switch name from the IP address; for example, `switch-<IP address>`.

- 3 Enter the port ID.
The range is from 1 to 65535. The SNMP default port is 161.
- 4 Select the **Credential Profiles** type from the drop-down list.
- 5 Select **Create** to add the switch.

Alert messages at the bottom of the screen indicate success (green) or errors (red).



Figure 12. Add a switch

NOTE: The switch discovery process—the polling cycle—takes approximately five minutes before a newly added switch displays in Inventory or Physical Network.

Alert messages at the bottom of the screen indicate success (green) or errors (red).



Figure 13. Alert message

Edit a switch

To edit a switch, select the pencil icon on the **Configuration > Switch** page.

Fields with the red asterisk (*) are required. To refresh the page, use the circular arrow refresh icon.

- 1 Select the switch name to edit.
- 2 Edit as needed.
 - Management IPv4 IP address
 - Port number—The range is from 1 to 65535.
 - Credential Profiles
- 3 Select **Submit**.
Select **Cancel** to not change the switch information.

NOTE: Using an incorrect profile makes the switch inaccessible from the Dell Networking Plug-in. To recover access to the switch, assign an appropriate profile.

Alert messages at the bottom of the screen indicate success (green) or errors (red).

Edit Switches ×

Switch Name SI_A

Management IP * 10.11.181.4

Port * 161

Credential Profiles * admin

Figure 14. Edit a switch

Delete a switch

To add a switch, select the trash icon on the **Configuration > Switch** page. Fields with the red asterisk (*) are required. To refresh the page, use the circular arrow refresh icon.

⚠ WARNING: Deleting a switch removes all data from the Dell Networking Plug-In. Adding the switch back to the Dell Networking Plug-In does not recover the deleted data.

- 1 Select the switch to delete.
- 2 Select **Delete**.
Select **Cancel** to keep the switch.

Alert messages at the bottom of the screen indicate success (green) or errors (red).

Delete Switches ×

Switch Name	IP Address	Credential Profile
SI_A	10.11.181.4	admin
Switch_10.11.181.7	10.11.181.7	admin

Figure 15. Delete a switch

ⓘ NOTE: The switch discovery process—the polling cycle—takes approximately two minutes before a deleted switch is removed from Inventory or Physical Network.

Appliance tab

To configure the connection to the Dell EMC Networking Appliance and REST key, or configure logs settings for the appliance, use the **Configuration > Appliance tab**.

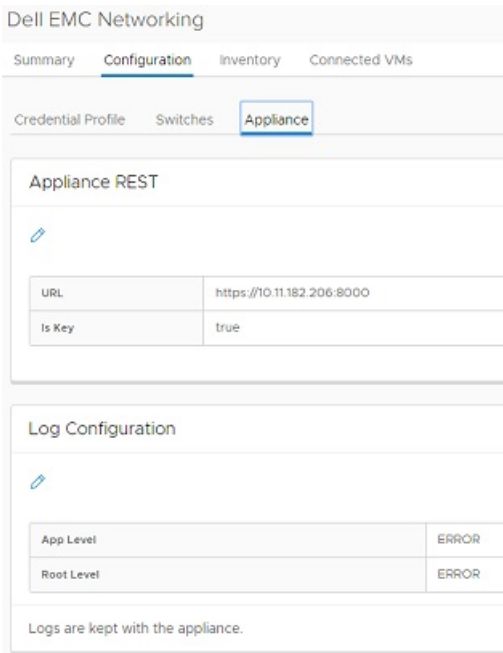


Figure 16. Configuration > Appliance REST tab

- Appliance REST** Click the edit (pencil) icon to edit the URL of the appliance or input the REST key.
- Log Configuration** Click the edit (pencil) icon to configure the log message types for the appliance. Logs are kept on the appliance.



Figure 17. Appliance REST



Figure 18. Log Configuration

Appliance REST

This section displays the IP address of the appliance and the state of the REST key. Under normal operations, these are set appropriately by the installation and registration process.

The REST key status shows whether a REST key is installed in the system. It is set to `False` when you install the plug-in for the first time. Under normal operations, the value is `True`.

NOTE: If you install a new OVA, or change the OVA which changes the REST key, you must re-enter the REST key even if it displays `True`.

Log configuration

This log configuration card shows the log severity level for the appliance log messages. The default setting is `Error`—that logs all logs in the `syslog` file of the appliance that are at least the error severity level. You can change the severity level for specific troubleshooting and debugging scenarios. The *App* level controls the log messages that the appliance generates. The *Root* level controls the severity level of the Linux infrastructure/OS logs.

Inventory tab

Use the Inventory tab to review the switches included in the network. Information includes the switch name, switch system name, system description, and Dell Networking operating system (OS) version.

Switch Name Lists the user-created switch name. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.

Switch Hostname Lists the system name as described in the SNMP system data. To filter by the switch system name, use the filter icon. Click the **Switch System Name** header to reorder the list.

System Description Lists the version information about the current software version from `show version` command from the switch. To view the Dell Networking system details, select the **>** icon next to the Dell Networking OS name. To filter by system description name, use the filter icon. Click the **System Description** header to reorder the list.

- Operating system version—the OS version number. This version is always "2" for all OS9 switches.
- Application Software version—the software version. This is the Network operating system version number.
- Series—the switch model ID
- Build Time—The software build's date stamp

Network OS Version Lists the version of the operating software. To filter by the software version, use the filter icon. Click the **OS Version** header to reorder the list.

Dell EMC Networking

Summary Configuration **Inventory** Connected VMs

Switch Name	Switch Hostname	System Description	Network OS Version
SWITCH_10.11.182.6	0VW-54810-3	Dell Networking OS Operating System Version 2.0 Application Software Version 9.10(0.3P5) Series S4810 Build Time Wed Sep 21 04:49:31 2016	9.10(0.3P5)
SWITCH_10.11.182.210	Innov-1000e-5-1-B1	> Dell Networking OS	9.10(0.3P5)
SWITCH_10.11.182.244	Innov-1000e-5-1-B2	> Dell Networking OS	9.10(0.3P5)
SWITCH_10.11.182.245	Innov-1000e-5-1-C1	> Dell Networking OS	9.10(0.3P5)
SWITCH_10.11.182.246	Innov-1000e-5-1-C2	> Dell Networking OS	9.10(0.3P5)

Figure 19. Inventory tab

Connected VMs tab

Use the Connected VMs tab page to view the VMs included in the network. Information includes the switch name, switch system name, switch port ID, ESXi host address, and VM name.

- Switch Name** Lists the user-created switch name. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list. Clicking a Switch in this list displays the corresponding switch page.
- Switch Hostname** Lists the system name as described in the SNMP system data. To filter by switch system name, use the filter icon. Click the **Switch System Name** header to reorder the list.
- Switch Port** Lists the UDP port that SNMP uses to access switch information. To filter by port ID, use the filter icon. Click the **Switch Port** header to reorder the list.
- ESXi Host** Lists the IP address of the connected server on a switch port. Click on the blue host IP address to view vCenter screens of the host or VM. To filter by the ESXi host IP address, use the filter icon. Click the **ESXi Host** header to reorder the list. Clicking a host IP address in this list displays the vSphere's corresponding host page.
- PNIC** Lists the MAC address of the PNIC connected to the switch on this port. To filter by VM NIC address, use the filter icon. Click the **VM NIC** header to reorder the list.
- VMs Name** Lists the name of the VMs connected to the physical ports. To filter by the VM names, use the filter icon. Click the **VMs Name** header to reorder the list. Clicking a VM in this displays the vSphere's corresponding VM page.

Dell EMC Networking

Summary Configuration Inventory **Connected VMs**

Switch Name	Switch Hostname	Switch Port	ESXi Host	PNIC	VMs Name
SWITCH_10.11.182.210	INOVN10000-5-1-01	TenGigabitEthernet 0/24	10.11.182.62	VMNIC6	
SWITCH_10.11.182.210	INOVN10000-5-1-01	TenGigabitEthernet 0/3	10.11.182.61	VMNIC6	ADITYA
SWITCH_10.11.182.210	INOVN10000-5-1-01	TenGigabitEthernet 0/2	10.11.182.60	VMNIC6	
SWITCH_10.11.182.210	INOVN10000-5-1-01	TenGigabitEthernet 0/5	10.11.182.59	VMNIC6	OWANIT-0-BETA_VM_VCENTER COMPELLENT INTEGRATION TOOLS FOR VMW
SWITCH_10.11.182.244	INOVN10000-5-1-02	TenGigabitEthernet 0/2	10.11.182.60	VMNIC7	
SWITCH_10.11.182.244	INOVN10000-5-1-02	TenGigabitEthernet 0/3	10.11.182.59	VMNIC7	OWANIT-0-BETA_VM_VCENTER COMPELLENT INTEGRATION TOOLS FOR VMW
SWITCH_10.11.182.244	INOVN10000-5-1-02	TenGigabitEthernet 0/4	10.11.182.62	VMNIC7	
SWITCH_10.11.182.244	INOVN10000-5-1-02	TenGigabitEthernet 0/3	10.11.182.61	VMNIC7	ADITYA

Figure 20. Connected VMs tab

If there are more than three VMs connected to a switch port, when clicked on the list, the system displays an additional window. The additional window shows all the VMS that are communicating over the switch port.

Global inventory lists tab

On the left side of the Dell Networking Plug-in landing page is the Global Inventory Lists link. To view the inventory in your network, select the link on the left then select the **Global Inventory Lists** option.

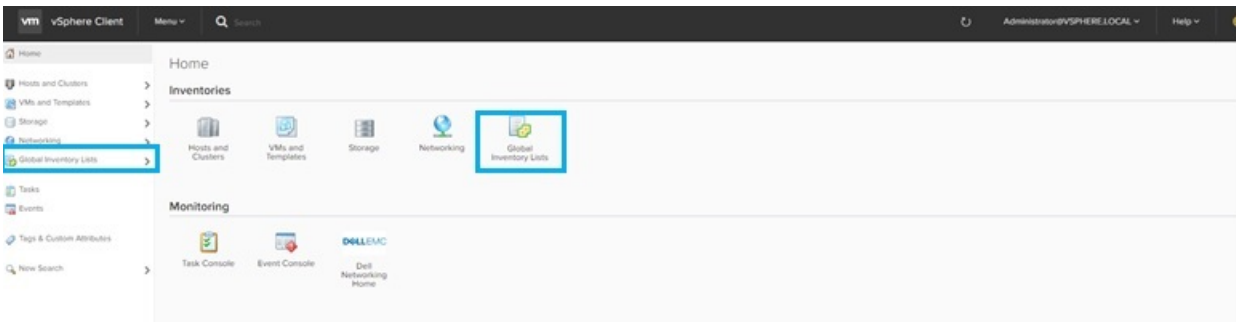


Figure 21. Global inventory lists tab

At the vCenter home page, on the left side of the page, select **Physical Network**.

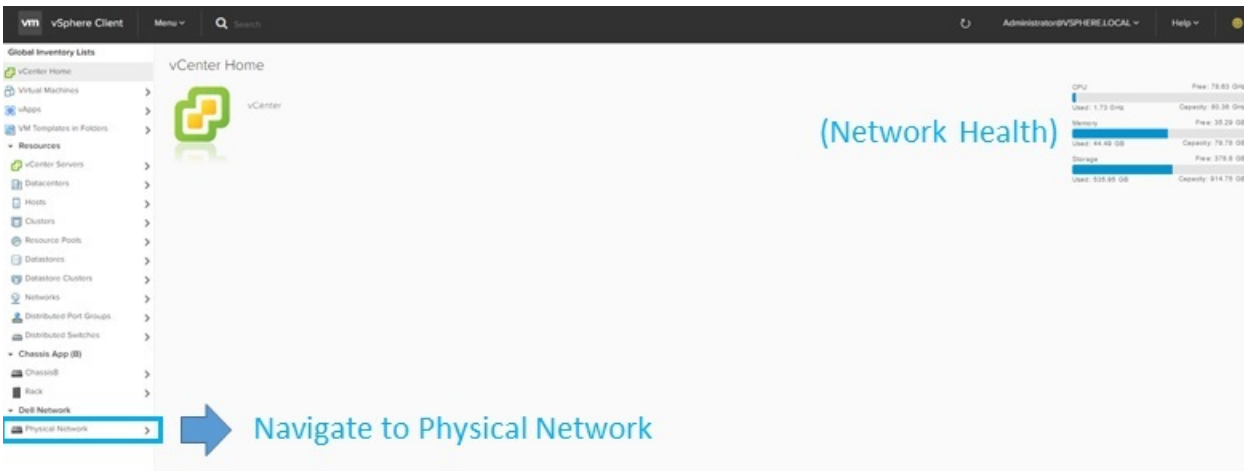


Figure 22. Global inventory lists > physical network

After you select the switch from the physical network, you have three options to choose from—Summary, Monitor, and VLAN tabs.

Select a switch

To view the Physical Network of a switch, select the switch.

The Physical Network displays the following sections:

- Switch Name** Lists the user-created name for the switch.
- Management IP** Lists the UDP IP address that SNMP uses to access switch information.

Operational State Lists the status of the switch access.

Switch Type Lists the switch model ID; if the system is up or not reachable.

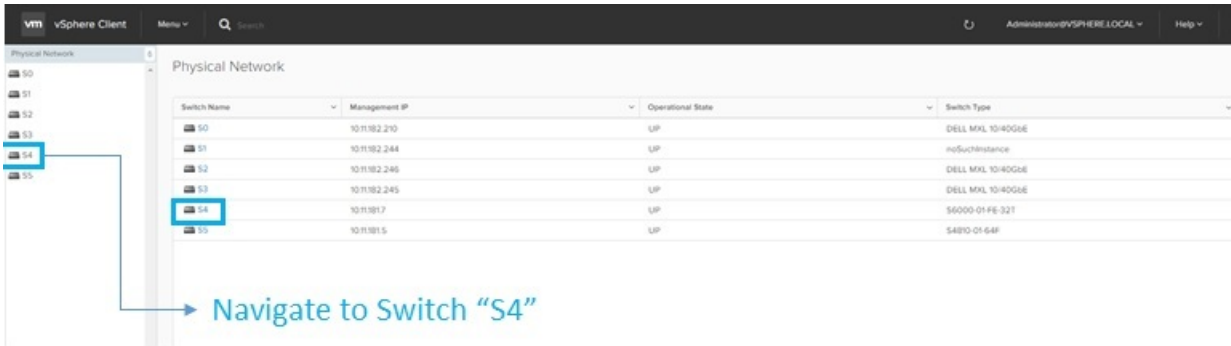


Figure 23. Select a physical network switch

Switch Summary tab

Use the Switch Summary tab page to view the information related to the selected switch. Switch health information displays on the right-side of the page; switch description information displays in the center of the page. Trap alert messages sent from the switch display at the bottom of the page.

Switch description:

Switch Hostname Lists the system name as described in the SNMP system data.

IP Address Lists the UDP IP address that SNMP uses to access switch information.

Service Tag Lists the switch service tag.

MAC Lists the switch MAC address.

System Description Lists the switch description.

OS Version Lists the switch network OS version.

Switch Type Lists the switch model ID.

Serial Number Lists the switch serial number.

Switch health:

Slot Lists the stack member ID number.

CPU Usage 15 Minutes Lists the average CPU usage in the last 15 minute from the SNMP poll.

Memory Usage Lists the average memory usage.

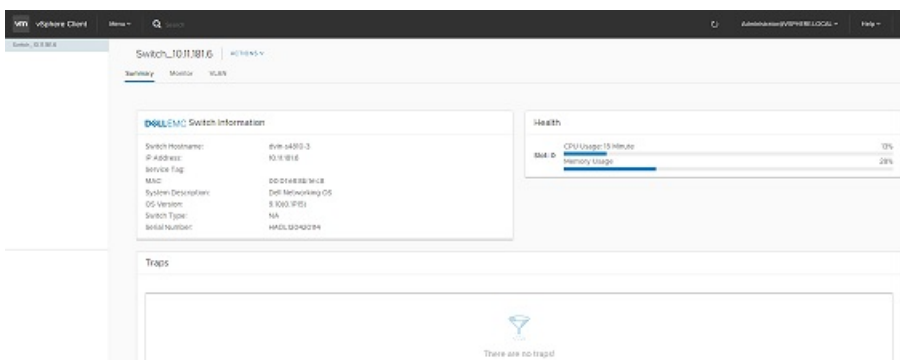


Figure 24. Physical Network - Switch - Summary tab

Switch Monitor tab

Use the Physical Network Switch Monitor tab page to view switch information included in the network. Information includes:

- Port** Lists the UDP port that SNMP uses to access switch information. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
- Status** Lists the status of the switch access.. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
- Speed** Lists the interface speed. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
- Transceiver** To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
 - Transceiver type lists the type of transceiver in the network.
 - Transceiver vendor name lists the transceiver manufacturer.
 - Transceiver part number lists the manufacturer-specific transceiver part number.
- Input (Utilization Percentage)** Lists the average port congestion input information. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
- Output (Utilization Percentage)** Lists the average port congestion output information. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
- tx Dropped Packets** Lists the TX dropped packets of the port. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.
- rx Dropped Packets** Lists the RX dropped packets of the port. To filter by the switch name, use the filter icon. Click the **Switch Name** header to reorder the list.

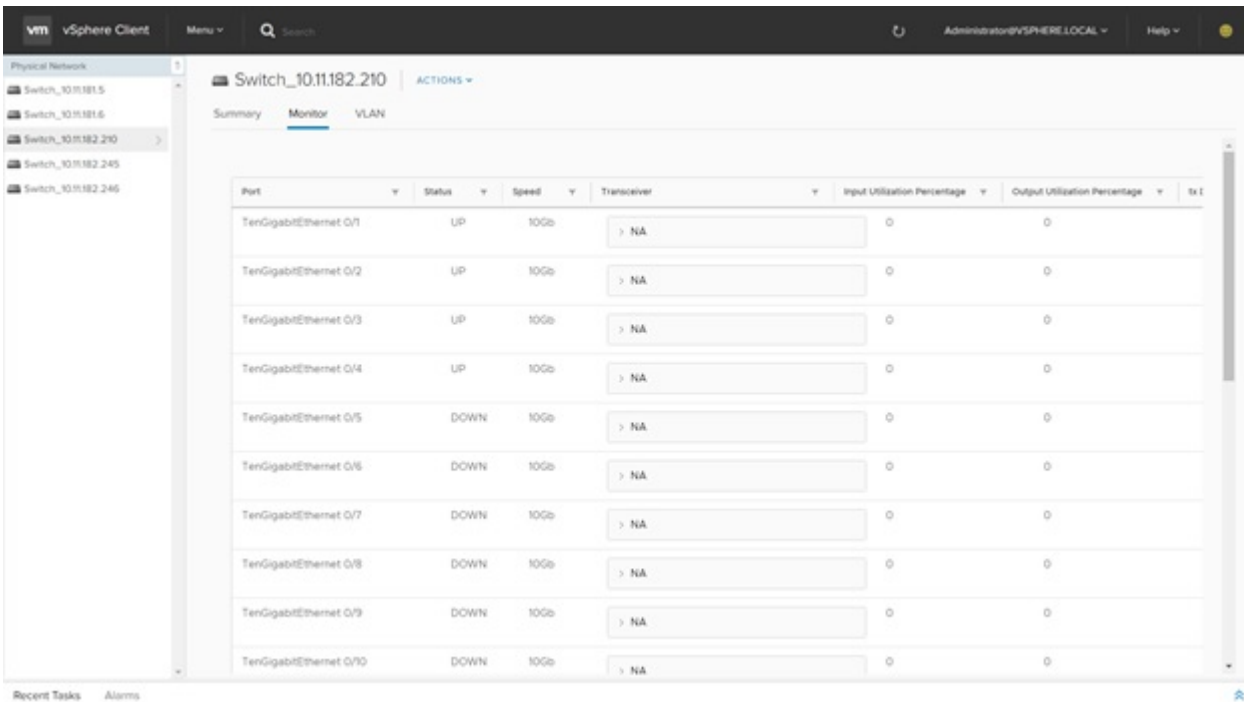


Figure 25. Physical Network - Switch - Monitor tab

Switch VLAN tab

Use the Physical Network Switch VLAN tab page to view VLANs included in the network. Information includes:

- Port** Lists the Port ID.
- VLAN** Lists the VLAN name. To filter by switch system name, use the filter icon. Click the **Switch System Name** header to reorder the list.
- Neighbor Name** Lists the neighbor name as advertised over LLDP. To filter by switch system name, use the filter icon. Click the **Switch System Name** header to reorder the list.
- Neighbor Port** Lists the neighbor port name as advertised over LLDP. To filter by switch system name, use the filter icon. Click the **Switch System Name** header to reorder the list.
- Neighbor MAC** Lists the MAC address of the neighbor as advertised over LLDP. To filter by switch system name, use the filter icon. Click the **Switch System Name** header to reorder the list.

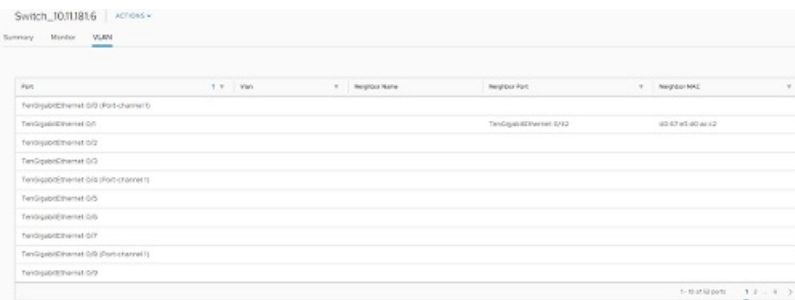


Figure 26. Physical Network - Switch - VLAN tab

Troubleshooting

If the Dell EMC Networking appliance VM is operating but switch or network information is missing from the display, check the following:

- Connectivity of the switches to the network
- Switch access credential accuracy
- User privileges

For more troubleshooting options, contact your network administrator.

More troubleshooting tips

- If the switch is not reachable or the SNMP Timeout/Incorrect credential profile in the Switches tab under the Switch Configuration tab:
 - The **Switch Configuration** page displays the status of switch. When the switch is not reachable, this situation is created when the appliance cannot reach the switch using SNMP. For other network reachability issues, if you modified the network or appliance from the default settings, check the network and appliance firewalls.
- Configured Switch does not display in the Inventory tab:
 - It may take up to five minutes for a newly added switch to display in all the tables. The physical switch inventory table only shows switches that have successfully established an SNMP session with the appliance. For all missing switches, check the switch configuration table for error conditions.
- Missing information from data table columns:
 - Occasionally, some components do not have a preconfigured identification information in the device. In these situations, the system does not display a default string.