Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 User's Guide

Notes, Cautions, and Warnings

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

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

Introduction

Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 facilitates device discovery, monitoring, topology view, and console launches for Dell PowerEdge Servers (9G-12G), Dell PowerVault Servers (9G-12G), Integrated Dell Remote Access Controller 7 (iDRAC7), Integrated Dell Remote Access Controller 6 (iDRAC6), Dell Remote Access Controller 5 (DRAC5), Dell PowerEdge M1000e (Dell Chassis Management Controller), Dell PowerEdge VRTX (VRTX Chassis Management Controller) , Dell PowerEdge 1955 Chassis (Dell Remote Access Controller/ Modular Chassis), Dell EqualLogic Storage Arrays, and Dell PowerVault MD Storage Arrays.

Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 supports ITNM 3.9 Fix Pack 2 and ITNM 3.9 Fix Pack 3. It is highly recommended that customers upgrade to ITNM 3.9 Fix Pack 3.

> **NOTE:** This document is intended for system administrators who are familiar with IBM Tivoli Network Manager (ITNM) IP Edition 3.9.

> **NOTE:** Dell Out-of-Band (OOB) 12G servers and Integrated Dell Remote Access Controller 7 (iDRAC7) are used interchangeably in the document.

> **NOTE:** Dell EqualLogic Storage Arrays refers to Dell EqualLogic PS Series in this document.

Key Features

The following table lists the key features of Dell OpenManage Connection.

Table 1. Features and Functionalities

Feature	Functionality
Discovery, classification, and monitoring of Dell PowerEdge, PowerVault servers, and other supported Dell Devices	Discovers, classifies, and monitors the Dell PowerEdge and Dell PowerVault servers using an agent-based, in-band mode via Dell Open Manage Server Administrator (OMSA). The 12G systems also support an agent-free, out-of-band mode, using Integrated Dell Remote Access Controller 7 (iDRAC7).
Topology and hierarchical view of Dell devices	Topology and hierarchical view of the Dell devices, Dell Servers, Dell Storage, Dell Chassis, and Dell DRACs.
Dell device association	Associates 12G Servers with Dell DRAC, Dell modular servers and DRAC with VRTX CMC, EqualLogic Blade Array with CMC, modular server and DRAC with CMC, and modular servers with DRAC/MC.
Monitoring licensing availability	Periodic monitoring of the Dell Connections License Manager for license availability.
Launching Dell OpenManage Server Administrator (OMSA) console	Launches the OMSA console for the Dell Servers, iDRAC7 you are monitoring. For more information, see Dell OpenManage Server Administrator Console.

Feature	Functionality
Launching Dell OMSA web server console	Launches the OMSA web server console for the Dell Servers you are monitoring. For more information, see Dell OpenManage Server Administrator Web Server Console.
Launching iDRAC console	Launches the iDRAC console for the iDRAC7 system you are monitoring. For more information, see Launching iDRAC Console.
Launching DRAC console	Launches the DRAC console for the iDRAC6, DRAC5, DRAC/MC and Dell Servers you are monitoring. For more information, see Launching DRAC Console.
Launching Dell CMC console	Launches the CMC console for the CMC devices you are monitoring. For more information, see Launching Dell Chassis Management Controller Console.
Launching Dell VRTX CMC console	Launches the VRTX CMC console for the VRTX CMC devices you are monitoring. For more information, see Launching Dell PowerEdge VRTX Chassis Management Controller (VRTX CMC) Console
Launching Dell OpenManage Power Center (OMPC) Console	Launches the OMPC console for the Dell servers, CMC, and VRTX CMC devices you are monitoring. For more information, see Launching OpenManage Power Center Console.
Launching Dell Modular Disk Storage Manager Console	Launches the Modular Disk Storage Manager (MDSM) console for the Dell PowerVault MD Storage Array devices you are monitoring. For more information, see Launching Dell Modular Disk Storage Manager Console from Dell PowerVault MD Storage Arrays.
Launching Dell EqualLogic Group Manager console	Launches the EqualLogic Group Manager console for the Dell EqualLogic Storage Arrays you are monitoring. For more information, see Launching EqualLogic Group Manager Console from Dell EqualLogic PS Arrays.
Launching Dell OpenManage Essentials console	Launches the OpenManage Essentials console for all supported Dell devices. For more information, see Launching Dell OpenManage Essentials Console.
Launching Dell Connections License Manager Console	Launches the DCLM console from DCLM events and iDRAC7 devices. For more information, see Launching Dell Connections License Manager Console From iDRAC7 Devices.
Launching Warranty Console	Launches the Warranty Console from Dell servers, iDRAC7, iDRAC6, DRAC5, CMC, VRTX CMC, DRAC/MC, EqualLogic PS arrays, and Dell PowerVault MD Storage arrays. For more information, see Launching Warranty Console.

Other Documents You May Need

In addition to this guide, you can access the following guides available at **dell.com/support/manuals**. Under **Do you have your Service Tag or Express Service Code?** click **Choose from a list of all Dell products → Continue → Software, Monitors, Electronics & Peripherals → Software.** Under **Choose your Dell Software**, click the appropriate product category to access the documents.

- *Dell OpenManage Connection for Netcool/OMNIbus Installation Guide*
- *Dell OpenManage Connection for Netcool/OMNIbus User's Guide*
- *Dell Connections License Manager Installation Guide*
- *Dell Connections License Manager User's Guide*
- *Dell OpenManage Server Administrator User's Guide*
- *Dell OpenManage Server Administrator Compatibility Guide*
- *Dell OpenManage Essentials User's Guide*
- *Dell OpenManage With VMware ESX/ESXi Systems Management Guide*. To access this guide at **dell.com/support/manuals**, click **Software → Virtualization Solutions → VMware Software.**

Also, see **publib.boulder.ibm.com/infocenter/tivihelp/v8r1/index.jsp** for:

- *IBM Tivoli Network Manager Installation Guide*
- *IBM Tivoli Network Manager User's Guide*

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Prerequisites

The prerequisites for Network Manager are:

- General prerequisites
- Feature specific prerequisites

General Prerequisites

The general prerequisites are:

- IBM Tivoli Network Manager IP Edition 3.9 with Fix Pack 2 or Fix Pack 3 is installed and configured as per the IBM guidelines.
- Discovery of Dell devices is done using an IP address or a range of IP addresses. For more information, see Discovering and Classifying Dell Devices.
- Event Monitoring and alert Correlation for Dell devices are supported using Dell OpenManage Connection version 2.1 for IBM Tivoli Netcool/OMNIbus.

Feature-Specific Prerequisites

The feature-specific prerequisites are:

- For discovering and classifying iDRAC7

    - Dell Connections License Manager (DCLM) is installed and configured, and the Out-of-Band (OOB) Monitoring licenses are imported.
    - Network connectivity between Network Manager and DCLM, and Network Manager and iDRAC7 servers exists.
    - Simple Network Management Protocol (SNMP) is enabled in iDRAC7
- For discovering and classifying Dell devices

    - Simple Network Management Protocol (SNMP) is enabled on Dell servers (running Windows and Linux operating systems), Dell Remote Access Controller/ Modular Chassis (DRAC/MC), associated Remote Access Controllers (RACs), Dell PowerEdge M1000e (Dell Chassis Management Controller), Dell PowerEdge VRTX Chassis Management Controller (VRTX CMC), and Dell EqualLogic Storage Arrays.
    - WS-MAN is enabled on Dell servers running ESXi.
    - Dell OpenManage Server Administrator (OMSA) for Windows and Linux operating systems is installed on Dell servers.
    - OMSA Virtual Install Bundle (VIB) for Dell servers running ESXi is installed.
    - Network connectivity between Network Manager and Dell devices exists.
- For monitoring Dell devices

    - Dell devices are discovered and classified.
    - Polling policies are configured in Network Manager.
- For one-on-one console launches

- OMSA is installed and SNMP is enabled on Dell servers running Windows and Linux operating systems.
- Remote Management is installed for Server Administrator installed on systems running Windows, Linux, and ESXi operating systems.
- MDSM is installed and configured for launching the MDSM console from Dell PowerVault MD Storage Arrays.

- For launching other Dell consoles

  - Internet is accessible from the system on which Network Manager web client is accessed.
  - Network connectivity between Network Manager and Dell devices exists.
  - Dell devices are discovered.
  - The URLs for OMSA web server, OpenManage Essentials (OME), OpenManage Power Center (OMPC), Dell Connection License Manager Console (DCLM), and warranty information are configured.

Use Case Scenarios

- I want to monitor Dell 9G to 12G servers

  - [Feature-Specific Prerequisites](#)
  - [Discovering and Classifying Dell Servers](#)
  - [Viewing Dell Modular Servers](#)
  - [Viewing Dell Monolithic Servers](#)
  - [Polling Discovered Dell Devices](#)
  - [Launching Dell OpenManage Server Administrator Console From Dell Servers](#)
  - [Launching Dell OpenManage Server Administrator Console From Dell Server Polled Events](#)
  - [Launching Dell OpenManage Server Administrator Web Server Console From Dell Servers](#)
  - [Launching OpenManage Server Administrator Web Server Console From Dell Server Polled Events](#)

- I want to monitor Dell OOB servers

  - [Feature-Specific Prerequisites](#)
  - [Discovering and Classifying Dell 12G Servers](#)
  - [Viewing Dell Modular iDRAC7 Devices](#)
  - [Viewing Dell Monolithic iDRAC7 Devices](#)
  - [Polling Discovered Dell Devices](#)
  - [Launching DCLM Console From Dell OOB Servers](#)
  - [Launching Dell OpenManage Server Administrator Console From iDRAC7](#)
  - [Launching Dell OpenManage Server Administrator Web Server Console From iDRAC7](#)
  - [Launching iDRAC7 Console From iDRAC7](#)
  - [Launching iDRAC7 Console From iDRAC7 Polled Events](#)

- I want to monitor DRAC/MC

  - [Feature-Specific Prerequisites](#)
  - [Discovering and Classifying DRAC/MC Devices](#)
  - [Viewing DRAC/MC Devices](#)
  - [Polling Discovered Dell Devices](#)
  - [Launching DRAC Console From DRAC/MC Devices](#)
  - [Launching DRAC Console From DRAC/MC Polled Events](#)

- I want to monitor iDRAC6 systems

  - [Feature-Specific Prerequisites](#)
  - [Discovering and Classifying iDRAC6 Devices](#)
  - [Viewing Dell Modular iDRAC6 Devices](#)
  - [Viewing Dell Monolithic iDRAC6 Devices](#)
  - [Polling Discovered Dell Devices](#)
  - [Launching iDRAC6 Console From iDRAC6 Polled Events](#)

- I want to monitor DRAC5 systems

    – [Feature-Specific Prerequisites](#)
    – [Discovering and Classifying Dell DRAC5 Devices](#)
    – [Viewing DRAC5 Devices](#)
    – [Polling Discovered Dell Devices](#)
    – [Launching Dell DRAC5 Console From DRAC5 Polled Events](#)

- I want to monitor Dell CMC

    – [Feature-Specific Prerequisites](#)
    – [Discovering and Classifying Dell Chassis Management Controller Devices](#)
    – [Viewing Dell Chassis Management Controller Devices](#)
    – [Polling Discovered Dell Devices](#)
    – [Launching Chassis Management Controller Console From Dell CMC Devices](#)
    – [Launching Chassis Management Controller Console From Dell CMC Polled Events](#)

- I want to monitor Dell VRTX CMC

    – [Feature-Specific Prerequisites](#)
    – [Discovering and Classifying Dell VRTX Chassis Management Controller Console Devices](#)
    – [Viewing Dell VRTX CMC Devices](#)
    – [Polling Discovered Dell Devices](#)
    – [Launching VRTX Chassis Management Controller Console From Dell VRTX CMC Devices](#)
    – [Launching VRTX Chassis Management Controller Console From VRTX CMC Polled Events](#)

- I want to monitor Dell EqualLogic PS Storage Arrays

    – [Feature-Specific Prerequisites](#)
    – [Discovering and Classifying EqualLogic PS Arrays](#)
    – [Viewing EqualLogic PS Arrays](#)
    – [Polling Discovered Dell Devices](#)
    – [Launching EqualLogic Group Manager Console From Dell EqualLogic PS Arrays](#)
    – [Launching EqualLogic console From EqualLogic Polled Events](#)

- I want to monitor Dell PowerVault MD Storage Arrays

    – [Feature-Specific Prerequisites](#)
    – [Discovering and Classifying PowerVault MD Storage Arrays](#)
    – [Viewing Dell PowerVault MD Storage Arrays](#)
    – [Polling Discovered Dell Devices](#)
    – [Launching Modular Disk Storage Manager Console From Dell PowerVault MD Storage Arrays](#)
    – [Launching Modular Disk Storage Manager console From Modular Disk Storage Manager Polled Events](#)

- I want to monitor Dell One to Many Device consoles

    – [Launching OpenManage Essentials Console From Dell Devices](#)
    – [Launching OpenManage Power Center Console From Dell Devices](#)

- I want to retrieve Warranty Information for Dell Devices

    – [Launching Warranty Console From Dell Devices](#)

Discovering and Classifying Dell Devices

Network manager facilitates discovery and classification of all Dell PowerEdge and Dell PowerVault systems (9G to 12G), iDRAC7, iDRAC6, DRAC5, DRAC/MC, CMC, VRTX CMC and Dell storage devices such as Dell EqualLogic Storage Arrays and Dell PowerVault MD Storage Array systems.

To discover and classify Dell devices configure the following on Tivoli Integrated Portal (TIP):

- **Scope tab** — Using full Subnet with mask or using Subnet with wildcard characters (*)
- **Seed tab** — Using a direct IP or subnet IP
- **SNMP Password** menu — Using SNMP community strings for SNMP version 1 and version 2

After the devices are discovered, they are displayed in the **Network View** and **Network Hop View**, along with their details.

Discovering and Classifying Dell PowerEdge 9G to 12G Servers

Make sure the `DellServerSNMP` discovery agent is enabled for discovering Dell servers running Windows and Linux operating systems and the `DellServerWsman` discovery agent is enabled for systems running VMware ESXi operating systems.

The discovered Dell servers are classified under the following class names:

- `DellServerMonolithicLinux` — For monolithic servers running Linux operating systems
- `DellServerModularWindows` — For modular servers running Windows operating systems
- `DellServerModularLinux` — For modular servers running Linux operating systems
- `DellServerMonolithicWindows` — For monolithic servers running Windows operating systems
- `DellServerModularESXi` — For modular servers running ESXi operating systems
- `DellServerMonolithicESXi` — For monolithic servers running ESXi operating systems

In the left pane on the Tivoli Integrated Portal (TIP), click **Availability → Network Availability → Network View → Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see:

- [Viewing Dell Monolithic Servers](#).
- [Viewing Dell Modular Servers](#).
- [Viewing Servers running Windows](#).
- [Viewing Servers Running Linux](#).
- [Viewing Servers Running ESXi](#).

By default, the 12G in-band server discovery is enabled. When you use both in-band and OOB discovery methods for 12G servers, they may create redundant information. You can avoid the redundant information by disabling the in-band discovery.

The Dell 12G in-band server discovery can be controlled using a configured value. The discovery and classification is based on the values:

- Enable

- Disable

```
java -jar dell_OMC_ITNM_ConfigUtility_v_1_0.jar -<option>=<value>
```

For example:

```
java -jar dell_OMC_ITNM_ConfigUtility_v_1_0.jar -monitor12ginband=enable
java -jar dell_OMC_ITNM_ConfigUtility_v_1_0.jar -monitor12ginband=disable
```

> **NOTE:** If an ESXi system has IPv4 and IPv6 address and both of them are discovered, the addresses appear as different managed nodes under the **Dell Managed Systems → ESXi Servers.** You can avoid the redundant service tag by excluding these IP addresses in the discovery configuration.
>
> If the IPv6 address of a Dell server running ESXi is configured as a **seed** in the Network Manager, then the trap association will not occur. To view the trap association, discover the Dell servers running ESXi using an IPv4 address.

Discovering and Classifying Dell PowerEdge 12G Servers Using iDRAC7 Devices

Make sure the `DellOOBServer` discovery agent is enabled for discovering Dell 12G OOB servers (iDRAC7). DCLM must be installed and configured, and the DCLM parameters must be configured using the Config Utility. For more information on DCLM features, see Licensing

For more information on configuring the DCLM parameters, see the *Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager IP Edition 3.9 Installation Guide.*

The discovered Dell 12G OOB servers (iDRAC7) are classified under the `DellOOBServer` class name.

In the left pane on the Tivoli Integrated Portal (TIP), click **Availability → Network Availability → Network View → Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see:

- Viewing Dell Modular iDRAC7 Systems
- Viewing Dell Monolithic iDRAC7 Systems.
- Viewing Dell Modular Servers
- Viewing Dell Monolithic Servers

Discovering and Classifying DRAC5 Devices

Make sure the `DellDRAC` discovery agent is enabled for full and partial discovery of Dell DRAC5 devices.

The discovered DRAC5 devices are classified under the `DellDRAC5` class name.

In the left pane on TIP, click **Availability → Network Availability → Network View → Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see Viewing Dell DRAC5 Systems.

Discovering and Classifying iDRAC6 Devices

Make sure the `DellDRAC` discovery agent is enabled for partial and full discovery of Dell iDRAC6 monolithic and modular devices.

The discovered iDRAC6 devices are classified under the `Dell iDRAC6` class name.

You can view the discovered iDRAC6 devices in the **Network View**. In the left pane, click **Availability → Network Availability → Network View → Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see Viewing Dell Modular iDRAC6 Systems and Viewing Dell Monolithic iDRAC6 Systems.

Discovering and Classifying DRAC/MC Devices

Make sure the `DellDRAC` discovery agent is enabled for full and partial discovery of DRAC/MC devices.

The discovered DRAC/MC devices are classified under the `DellDRACMC` class name.

In the left pane on TIP, click **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see [Viewing DRAC/MC Systems](#).

Discovering and Classifying CMC Devices

Make sure the `DellDRAC` discovery agent is enabled for full and partial discovery of Dell CMC devices.

The discovered CMC devices are classified under the `DellCMC` class name.

In the left pane on TIP, click **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see [Viewing Dell CMC Systems](#).

Discovering and Classifying VRTX CMC Devices

Make sure the `DellDRAC` discovery agent is enabled for full and partial discovery of Dell VRTX CMC devices.

The discovered VRTX CMC devices are classified under the `DellVRTXCMC` class name.

In the left pane on TIP, click **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see [Viewing Dell VRTX CMC Systems](#).

Discovering and Classifying Dell EqualLogic PS Arrays

Make sure the `DellEqualLogic` discovery agent is enabled for partial and full discovery of Dell EqualLogic PS Arrays.

The discovered Dell EqualLogic PS Arrays are classified under class name `Dell EqualLogic`.

You can view the discovered Dell EqualLogic PS Arrays in the **Network View**. In the left pane, click **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see [Viewing EqualLogic Storage Arrays](#)

> **NOTE:** Administrators must ensure that the EqualLogic group IP is not provided in the seed list of **Discovery Configuration**. If the subnet is provided in the **Seed** list, administrators must exclude the EqualLogic group IP in the **Scope** of **Discovery Configuration**. If the same group IP is used one of the members in the storage pool may be dropped.

Discovering and Classifying Dell PowerVault MD Storage Arrays

Make sure the `DellMDArray` discovery agent is enabled for partial and full discovery of Dell PowerVault MD Storage Arrays.

The discovered Dell Powervault MD Storage Arrays are classified under class name `Dell MDArray`.

You can view the discovered PowerVault MD Storage Arrays in the **Network View**. In the left pane, click **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems.** The **Dell Managed Systems** pane is displayed on the right-hand side. For more information, see [Viewing Dell PowerVault MD Storage Arrays.](#)

NOTE: While discovering a subnet, administrators must ensure that a single IP address of an enclosure is provided in the seed list of **Discovery Configuration**. If the subnet is provided in the **Seed** list, administrators must exclude multiple IP addresses in the **Scope** of **Discovery Configuration**. If multiple IP addresses exist for the same enclosure, all the management IP addresses of the enclosure are discovered and multiple enclosures for the Dell PowerVault MD Storage Arrays are displayed.

If the IPv6 address of a Dell PowerVault MD Storage Array is configured as a **seed** in the Network Manager, then the trap association will not occur. To view the trap association, discover the Dell PowerVault MD Storage Arrays using an IPv4 address.

Viewing Dell Devices in Topology View

You can view the discovered Dell devices in the **Network View**.

To view the devices:

1. In the left pane on the Tivoli Integrated Portal (TIP), click **Availability** → **Network Availability** → **Network View.**
   The **Network View** pane is displayed on the right-hand side.
2. Click the required **<View Name>** → **Dell Managed Systems.**
   The Dell Devices are displayed as follows:
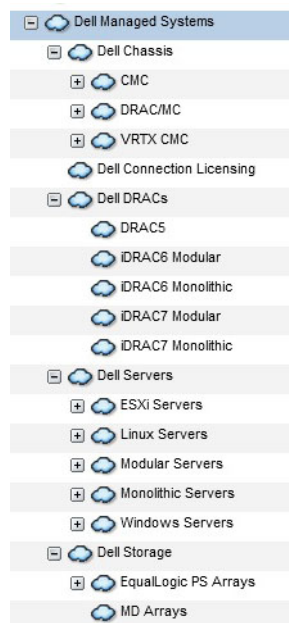
The following table lists the icons and the devices they represent:

Table 2. Dell Device Icons and Descriptions

Icons	Description
	Indicates Dell in-band modular servers.
	Indicates Dell in-band monolithic servers.

Icons	Description
iDRAC7	Indicates iDRAC7 (OOB) devices.
iDRAC6	Indicates iDRAC6 devices.
DRAC5	Indicates DRAC5 devices.
CMC	Indicates Dell CMC devices.
VRTX	Indicates Dell VRTX CMC devices.
DRACMC	Indicates DRAC/MC devices.
EQUAL LOGIC	Indicates Dell EqualLogic Storage Arrays.
MDArray	Indicates Dell PowerVault MD Storage Arrays.

Viewing Dell Monolithic Servers

1. Perform the steps described in <u>Viewing Dell Devices in Topology View.</u>
2. Under **Dell Managed Systems**, click **Dell Servers** → **Monolithic Servers.**
   The discovered monolithic servers are displayed in the right pane.
3. Expand **Monolithic Servers** to view the service tags of the discovered in-band and OOB monolithic servers.
4. Click the required service tag to view the managed node in the right pane.
   The discovered discovered in-band and OOB monolithic servers are displayed in the right-pane.

Viewing Dell Modular Servers

1. Perform the steps described in <u>Viewing Dell Devices in Topology View.</u>
2. Under **Dell Managed Systems**, click **Dell Servers** → **Modular Servers.**
3. Expand **Modular Servers** to view the service tags of the discovered in-band and OOB modular servers.
4. Click the required service tag to view the managed node in the right pane.

The discovered in-band and OOB modular servers are displayed in the right-pane.

Viewing Dell Servers Running Windows

1. Perform the steps described in [Viewing Dell Devices in Topology View.](#)
2. Under **Dell Managed Systems**, click **Dell Servers → Windows Servers.**
   The discovered Windows servers are displayed in the right pane.
3. Expand **Windows Servers** to view the discovered in-band and OOB Windows servers in the right pane.
4. Click the required service tag to view the managed node in the right pane.
   The discovered in-band and OOB Windows servers are displayed in the right-pane.

Viewing Dell Servers Running Linux

1. Perform the steps described in [Viewing Dell Devices in Topology View.](#)
2. Under **Dell Managed Systems**, click **Dell Servers → Linux Servers.**
   The discovered Linux servers are displayed in the right pane.
3. Expand **Linux Servers** to view the list of discovered in-band and OOB Linux servers in the right pane.
4. Click the required Linux server to view the managed node in the right pane.

Viewing Dell Servers Running ESXi

1. Perform the steps described in [Viewing Dell Devices in Topology View.](#)
2. Under **Dell Managed Systems**, click **Dell Servers → ESXi Servers.**
3. Expand **ESXi Servers** to view the discovered in-band and OOB ESXi servers in the right pane.
4. Click the required service tag to view the managed node in the right pane.

   > **NOTE:** For any communication with servers running VMware ESXi, certificate check will be ignored.

   The discovered servers running ESXi are displayed in the right pane.

Viewing Dell DRAC5 Systems

1. Perform the steps described in [Viewing Dell Devices in Topology View.](#)
2. Under **Dell Managed Systems**, expand **Dell DRACs → DRAC5.**
   The discovered DRAC5 systems are displayed in the right-pane.

Viewing Dell Monolithic iDRAC6 Systems

1. Perform the steps described in [Viewing Dell Devices in Topology View.](#)
2. Under **Dell Managed Systems**, expand **Dell DRACs → iDRAC6 Monolithic.**
   The discovered iDRAC6 monolithic systems are displayed in the right-pane.

Viewing Dell Modular iDRAC6 Systems

1. Perform the steps described in [Viewing Dell Devices in Topology View](#).
2. Under **Dell Managed Systems**, expand **Dell DRACs → iDRAC6 Modular.**
   The discovered iDRAC6 modular systems are displayed in the right-pane.

Viewing Dell Monolithic iDRAC7 Systems

1. Perform the steps described in <u>Viewing Dell Devices in Topology View</u>.
2. Under **Dell Managed Systems**, expand **Dell DRACs → iDRAC7 Monolithic.**
   The discovered iDRAC7 monolithic systems are displayed in the right pane.

Viewing Dell Modular iDRAC7 Systems

1. Perform the steps described in <u>Viewing Dell Devices in Topology View</u>.
2. Under **Dell Managed Systems**, expand **Dell DRACs → iDRAC7 Modular.**
   The discovered iDRAC7 modular systems are displayed in the right pane.

Viewing Dell DRAC/MC Systems

1. Perform the steps described in <u>Viewing Dell Devices in Topology View.</u>
2. Under **Dell Managed Systems**, click **Dell Chassis → DRACMC.**
   The discovered DRAC/MC systems are displayed under this category.
3. Expand **DRACMC** to view the service tags of the discovered DRAC/MC systems.
   Under the service tags, the IP addresses of the DRAC/MC systems are displayed in the format, **DRACMC_IP**.
4. Click the required IP address to view the details of the DRAC/MC system in the right pane.

Viewing Dell CMC Devices

1. Perform the steps described in <u>Viewing Dell Devices in Topology View.</u>
2. Under **Dell Managed Systems**, click **Dell Chassis → CMC.**
   The discovered CMC devices are displayed under this category.
3. Expand **CMC** to view the service tags of the discovered CMC systems.
   Under the service tags, the IP addresses of the CMC devices are displayed in the format, **CMC_IP**.
4. Click the required IP address to view the details of the CMC device in the right pane.

Viewing Dell PowerEdge VRTX CMC Devices

1. Perform the steps described in <u>Viewing Dell Devices in Topology View.</u>
2. Under **Dell Managed Systems**, click **Dell Chassis → VRTX CMC.**
   The discovered Dell PowerEdge VRTX CMC devices are displayed under this category.
3. Expand **VRTX CMC** to view the service tags of the discovered Dell PowerEdge VRTX CMC devices.
   Under the service tags, the IP addresses of the Dell PowerEdge VRTX CMC devices are displayed in the format,
   VRTXCMC_IP.
4. Click the required IP address to view the details of the Dell PowerEdge VRTX CMC device in the right pane.

Viewing Dell Connections License Manager (DCLM)

1. Perform the steps described in <u>Viewing Dell Devices in Topology View</u>.
2. Under **Dell Managed Systems**, click **Dell Connection Licensing.**

3. The discovered DCLM node will appear in the right pane only when the alert type is 'critical' or 'warning' for that node.

Viewing Dell EqualLogic Storage Arrays

1. Perform the steps described in Viewing Dell Devices in Topology View.

2. Under **Dell Managed Systems**, click **Dell Storage → EqualLogic PS Arrays.**

3. Expand **EqualLogic PS Arrays** to view the group IPs of the discovered EqualLogic member devices.

4. Expand the group IPs to view the storage pools associated with the EqualLogic members devices.

5. Click the storage pool to view all the EqualLogic members that are part of the storage pool, in the right pane.

Viewing Dell PowerVault MD Storage Arrays

1. Perform the steps described in Viewing Dell Devices in Topology View.

2. Under **Dell Managed Systems**, click **Dell Storage → MD Arrays.**

3. Click **MD Arrays** to view the discovered Dell PowerVault MD Storage Arrays in the right pane.

Associating Servers with DRAC/MC Systems

You can view and monitor the health of the discovered in-band modular servers that are associated with DRAC/MC systems, in the **Network View** of TIP.

1. On TIP, click **Availability → Network Availability → Network View → Dell Managed Systems → Dell Chassis → DRACMC.**

2. Expand **DRACMC** to view the IP address of the DRAC/MC systems.

   The service tags of the Dell servers associated with the DRAC/MC systems are displayed under the chassis tag of the DRAC/MC systems.

3. Click a service tag to view the associated managed nodes, on the right-hand side.

   NOTE: If a modular server and its DRAC/MC association is changed after the discovery, then the modular server has to be rediscovered to show their correct association.

Associating Servers With CMC Devices

You can view and monitor the health of the discovered in-band or out-of-band modular servers and their corresponding RACs that are associated with CMC devices, in the **Network View** of TIP.

1. On TIP, click **Availability → Network Availability → Network View → Dell Managed Systems → Dell Chassis → CMC.**

2. Expand **CMC** to view the service tags of the discovered Dell servers associated with the CMC devices.

3. Click a service tag to view the managed nodes of the associated servers, in the right pane.

   NOTE: If a modular server and its CMC association is changed after the discovery, then the modular server and the associated RAC has to be rediscovered to show their correct association.

Associating Dell EqualLogic Blade Array With CMC

You can view and monitor the health of the Dell EqualLogic Blade Arrays that are associated with CMC devices in the **Network View** of TIP.

1. On TIP, click **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems** → **Dell Chassis** → **CMC.**
2. Expand **CMC** to view the service tags of the CMC devices.

   The IP addresses of the CMC devicess are displayed in the format, **CMC_IP address**.
3. Click the required service tag to view the associated Dell EqualLogic Blade Array members, on the right-hand side.

   > **NOTE:** If a Dell EqualLogic Blade Array and its CMC association is changed after the discovery, then the CMC has to be rediscovered to show its correct association.

Associating Servers With VRTX CMC Systems

You can view and monitor the health of the discovered in-band and out-of-band Dell modular servers that are associated with VRTX CMC systems, in the **Network View** of TIP.

1. On TIP, click **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems** → **Dell Chassis** → **VRTX CMC.**
2. Expand **VRTX CMC** to view the service tags of the discovered Dell servers associated with the VRTX CMC systems.
3. Click a service tag to view the managed nodes of the associated servers, in the right pane.

   > **NOTE:** If a modular server and its VRTX CMC association is changed after the discovery, then the modular server and the associated RAC has to be rediscovered to show their correct association.

Polling of Discovered Dell Devices

In Network Manager, polling of the discovered Dell devices is a mechanism to monitor their global health status, using specific polling policies and polling definitions.

The health status of the polled device is displayed in the **Network View** and **Hop View** in the following format:

- Critical — Event that indicates loss of data or function such as a hardware failure.
- Normal — Event with successful operation of a component such as a power supply turning on.
- Warning — Event that may indicate a possible future problem such as crossing a warning threshold.

✎ **NOTE:** The **Store Poll Data** option is not available.

If the health of a device turns from one status to the other, the latest status overwrites the previous status of the device.

For polling DCLM, make sure that the Dell OOB servers are discovered on the systems and the DCLM parameters are configured. Based on the number of available licenses, the possible status of DCLM is:

- DCLM critical — License is not available.
- DCLM warning — License has reached the limit, but system is running with a grace license.
- DCLM normal — License is available.

On Dell PowerEdge 9th to 12th generation servers, the polling is done through the in-band process, but on Dell PowerEdge 12th generation servers, the polling is done through the in-band and out-of-band (OOB) mechanisms. You can enable or disable only the in-band polling on Dell PowerEdge 9th to 12th generation servers, or the OOB polling on Dell PowerEdge 12th generation servers, or both.

For polling Dell servers running ESXi, if the server is not reachable or WS-MAN communication fails, then a minor alert is generated. This alert is cleared by the next polling alert if the device is reachable and the WS-MAN communication is established.

For polling Dell EqualLogic storage arrays, if the EqualLogic device is not reachable or SNMP communication fails during the polling, then a minor alert is generated. This alert is cleared by the next polling alert if the device is reachable and SNMP communication is established.

For polling Dell PowerVault MD Storage Arrays, if the MD Array device is not reachable during the polling, a minor alert is generated. This alert is cleared by the next polling alert if the device is reachable.

Customizing Polling Parameters for Servers, DRAC, CMC, VRTX CMC and OOB Devices

To begin polling of Dell devices, configure the polling policies and definitions for each device. Following are the list of policies:

- **DellServerPoll** — This poll policy is used for polling Dell monolithic servers, modular servers and servers running Windows and Linux and contains the following poll definitions:
    - **DellServerCriticalDef** — Used for polling Dell servers for critical conditions.
    - **DellServerWarningDef** — Used for polling Dell servers for warning conditions.

- **DellOOBServerPoll** — This poll policy is used for polling Dell OOB servers and contains the poll definitions:
  - **DellOOBServerCriticalDef** — Used for polling Dell OOB servers for critical conditions.
  - **DellOOBServerWarningDef** — Used for polling Dell OOB servers for warning conditions.
- **DellDRACPoll** — This poll policy is used for polling iDRAC6, DRAC5, and DRAC/MC systems and contains the poll definitions:
  - **DellDRACCriticalDef** — Used for polling Dell DRAC devices for critical conditions.
  - **DellDRACWarningDef** — Used for polling Dell DRAC devices for warning conditions.
- **DellCMCPoll** — This poll policy is used for polling Dell CMC systems and contains the poll definitions:
  - **DellCMCCriticalDef** — Used for polling Dell CMC devices for critical conditions.
  - **DellCMCWarningDef** — Used for polling Dell CMC devices for warning conditions.
- **DellVRTXCMCPoll** — This poll policy is used for polling Dell VRTX CMC systems and contains the poll definitions:
  - **DellVRTXCMCCriticalDef** — Used for polling Dell VRTX CMC devices for critical conditions.
  - **DellVRTXCMCWarningDef** — Used for polling Dell VRTX CMC devices for warning conditions.

✎ **NOTE:** By default, the polling interval is four hours. However, you can configure it as per your requirements.

To customize the poll interval:

1. In TIP, navigate to **Administration** → **Network** → **Network Polling.**
2. In the **Configure Poll Definitions** pane, double-click a poll policy for which you want to change the time interval.
   The **Poll Policy Editor** window is displayed.
3. In the **Poll Policy Properties** tab, click the **Poll Interval** drop-down list corresponding to the required poll definition.

   ✎ **NOTE:** You must change the poll interval for all poll definitions of a particular poll policy. For example, if you want to change the poll interval for **DellServerCriticalDef** under the **DellServerPoll** poll policy, you must also change the poll interval for the **DellServerWarningDef** poll definition.

Enabling and Disabling Polling

You can enable or disable polling for a particular poll definition.

1. In TIP, click **Administration** → **Network** → **Network Polling.**
   The **Network Polling** pane is displayed with a list of poll policies and poll definitions, on the right-hand side.
2. Double-click the poll definition for which you want to enable or disable the polling.
   The **Poll Policy Editor** window is displayed
3. In the **Poll Policy Properties** tab, select the **Poll Enabled** check box to enable polling for the poll definition. To disable the polling, clear the check box.

Customizing Polling Parameters on Systems Running Linux

To customize the polling parameters for Dell servers running ESXi, Dell Connections License Manager (DCLM), License Synch, Dell EqualLogic Storage Arrays, and Dell PowerVault MD Storage Arrays, customize the duration of tasks in **Crontab**.

1. Edit the cron jobs in an editor by running the command: `crontab -e.`
2. Select a task and modify the following parameters as required.
   For example:

- `0 */4 * * * . $NCHOME/env.sh;$NCHOME/precision/perl/bin/perl $NCHOME/precision/dell/scripts/executeTask.pl  ESXi_POLL $NCHOME`

- `0 */4 * * * . $NCHOME/env.sh;$NCHOME/precision/perl/bin/perl $NCHOME/precision/dell/scripts/executeTask.pl  DCLM_POLL $NCHOME`

- `0 0 */5 * * . $NCHOME/env.sh;$NCHOME/precision/perl/bin/perl $NCHOME/precision/dell/scripts/executeTask.pl  LICENSE_SYNCH $NCHOME`

- `0 */4 * * * . $NCHOME/env.sh;$NCHOME/precision/perl/bin/perl $NCHOME/precision/dell/scripts/executeTask.pl  EQL_POLL $NCHOME`

- `0 */4 * * * . $NCHOME/env.sh;$NCHOME/precision/perl/bin/perl $NCHOME/precision/dell/scripts/executeTask.pl  MDARRAY_POLL $NCHOME`

0	*/4	*	*	*
Minute (0–59)	Hour (0–23)	Day of Month (1–31)	Month (1–12)	Day of Week (0–6), 0=Sunday
To repeat every 10 minutes, you can change it to */10	/4 — Implies a repeat pattern of every four hours.	For License Synch, /5 implies that the repeat pattern is every five days at midnight.		

3. For servers running Red Hat Enterprise Linux Server (RHEL), restart the cron service by running the command: `service crond restart.`

4. For servers running SUSE Linux Enterprise Server (SLES), restart the cron service by running the command: `service cron restart.`

Customizing Polling Parameters on Systems Running Windows

To customize the polling parameters for Dell servers running ESXi, Dell Connections License Manager (DCLM), OOB License Synch, Dell EqualLogic Storage Arrays, and Dell PowerVault MD Storage Arrays, customize the duration of tasks in **Task Scheduler**.

1. Navigate to **Start → Run** and execute the command: `taskschd.msc`.

2. In the left pane, select **Task Scheduler Library**.

3. In the right pane, select the following options:

   - **Dell DCLM Polling** — For polling DCLM
   - **Dell OOB License synch** — For license synchronization
   - **Dell ESXi Polling** — For polling ESXi systems
   - **Dell EqualLogic Polling** — For polling EqualLogic Storage Arrays
   - **Dell MDStorage Array Polling** — For polling Dell PowerVault MD Storage Arrays

4. Double-click the task, click the **Triggers** tab, and click **Edit.**

5. Make the appropriate changes for the required interval in the **Settings** and **Advanced Settings** frames.

   NOTE: A command window appears for each polling policy, when triggered, and will close automatically once completed.

Launching Consoles from Dell Polled Events in the Active Event List

To launch consoles from polled events, make sure that the Dell OpenManage Connection Version 2.1 for Netcool/OMNIbus is installed on the system.

You can launch the consoles from the respective polled events displayed in the **Availability → Events → Active Event List (AEL).**

The list of Dell polled events are displayed on the right-hand side.

Launching OpenManage Server Administrator Console From Dell Server Polled Events

1. On TIP, navigate to **Active Event List (AEL).**
2. Right-click a Dell server polled event and click **Dell Tools → Launch Dell Server Administrator Console.**
   The console is launched in a separate browser window.

Launching OpenManage Server Administrator Web Server Console From Dell Server Polled Events

1. On TIP, navigate to **Active Event List (AEL).**
2. Right-click a Dell server polled event and click **Dell Tools → Launch Dell Server Administrator Console.**
   The console is launched in a separate browser window.

Launching iDRAC Console from iDRAC7 Polled Events

1. On TIP, navigate to **Active Event List (AEL).**
2. Right-click a Dell iDRAC7 polled event and click **Dell Tools → Launch iDRAC Console.**
   The console is launched in a separate browser window.

Launching DCLM Console From DCLM Polled Events

1. On TIP, navigate to the **Active Event List (AEL).**
2. Right-click a DCLM polled event and click **Dell Tools → Launch Dell Connections License Manager.**
   The console is launched in a separate browser window.

Launching DRAC Consoles From iDRAC6, DRAC5, and DRAC/MC Polled Events

1. On TIP, navigate to **Active Event List (AEL).**
2. Right-click a Dell DRAC polled event and click **Dell Tools → Launch Dell Remote Access Controller Console.**
   The console is launched in a separate browser window.

Launching CMC Console From CMC Polled Events

1. On TIP, navigate to the **Active Event List (AEL).**
2. Right-click a CMC polled event and click **Dell Tools → Launch Dell Chassis Management Controller Console.**
   The console is launched in a separate browser window.

Launching VRTX CMC Console From VRTX CMC Polled Events

1. On TIP, navigate to the **Active Event List (AEL).**
2. Right-click a VRTX CMC polled event and click **Dell Tools → Launch Dell VRTX Chassis Management Controller Console.**
   The console is launched in a separate browser window.

Launching EqualLogic Group Manager console from EqualLogic Polled Events

1. On TIP, navigate to the **Active Event List (AEL)**.
2. Right-click a EqualLogic polled event and click **Dell Tools → Launch Dell EqualLogic Group Manager Console.**

   The console is launched in a separate browser window.

   > **NOTE:** If the console launch occurs using the host name of the EqualLogic group manager, ensure that the host name is resolvable in the web client.

Launching Dell Modular Disk Storage Manager Console From Dell Powervault MD Storage Array Polled Events

1. On TIP, navigate to the **Active Event List (AEL)**.
2. Right-click a Modular Disk Storage Manager (MDSM) polled event and click **Dell Tools → Launch Dell Modular Disk Storage Manager Console.**

   The console is launched in an MDSM window.

Launching OpenManage Essentials Console From Dell Device Polled Events

You can launch the OpenManage Essentials console from DRACs, Servers, CMC, VRTX CMC, DRAC/MC, Dell EqualLogic Storage Array, and Dell PowerVault MD Storage Array polled events.

1. On TIP, navigate to **Active Event List (AEL)**.
2. Right-click a Dell device polled event and click **Dell Tools → Launch Dell OpenManage Essentials Console.**

   The console is launched in a separate browser window.

Launching Consoles From the Discovered Dell Devices

In the Tivoli Integrated Portal (TIP), you can launch the consoles from the **Network View**.

On TIP, navigate to **Availability** → **Network Availability** → **Network View** → **Dell Managed Systems** → **<Managed System Groups>.**

Following are the managed system groups available:

- **Dell Chassis**
- **Dell DRACs**
- **Dell Servers**
- **Dell Storage**
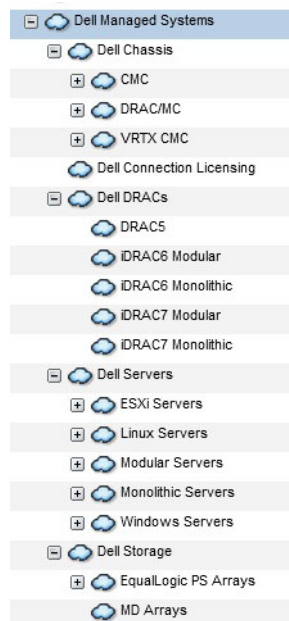
You can also launch the console from **Availability** → **Network Availability** → **Network View** → **Device Classes.**

Launching OpenManage Server Administrator Console From Dell Servers

1. On TIP, navigate to **Dell Servers.**

   The following options are displayed under **Dell Servers.**

   - **Linux Servers**

- Modular Servers
- Monolithic Servers
- Windows Servers

You can launch the Server Administrator console from the list of discovered servers under the **Dell Tools** options.

2. Expand the required option and click the service tag displayed under the option. The discovered servers are displayed on the right-hand side.

3. Right-click the server and select **Dell Tools → Launch Dell Server Administrator Console.**

The console is launched in a separate browser window.

Launching OpenManage Server Administrator Console From iDRAC7

1. On TIP, navigate to **Dell DRACs.**

The following options are displayed under **Dell DRACs.**

- DRAC5
- iDRAC6 Modular
- iDRAC6 Monolithic
- iDRAC7 Modular
- iDRAC7 Monolithic

2. Click the **iDRAC7 Modular** or **iDRAC7 Monolithic** option to view the discovered OOB modular or monolithic iDRAC7 servers.

3. Click the required iDRAC7 system to view the details on the right-hand side.

4. Right-click the OOB server and select **Dell Tools → Launch Dell Server Administrator Console.**

The console is launched in a separate browser window.

Launching OpenManage Server Administrator Web Server Console From Dell Servers

1. On TIP, navigate to **Dell Servers.**

The following options are displayed under **Dell Servers.**

- ESXi Servers
- Linux Servers
- Modular Servers
- Monolithic Servers
- Windows Servers

You can launch the Server Administrator Web Server console from the list of discovered servers under the respective options.

2. Expand the required option and click the service tag displayed under the option.

The discovered server is displayed on the right-hand side.

3. Right-click the server and select **Dell Tools → Launch Dell Server Administrator Web Server Console.**

The console is launched in a separate browser window.

Launching OpenManage Server Administrator Web Server Console From Dell iDRAC7

1. On TIP, navigate to **Dell Managed Systems** → **Dell DRACs.**

   The following options are displayed under **Dell DRACs.**

   – **DRAC5**
   – **iDRAC6 Modular**
   – **iDRAC6 Monolithic**
   – **iDRAC7 Modular**
   – **iDRAC7 Monolithic**

2. Click the **iDRAC7 Modular** or **iDRAC7 Monolithic** option to view the list of service tags of the discovered OOB modular or monolithic servers.

3. Click the required service tag to view the OOB server on the right-hand side.

4. Right-click the server and select **Dell Tools** → **Launch Dell Server Administrator Web Server Console.**

   The console is launched in a separate browser window.

   > ✍ **NOTE:** The console is launched only if Server Administrator has the default port 1311 and the FQDN of the in-band server is reachable from the system where the Network Manager console is opened.

Launching iDRAC Console From iDRAC7 Devices

1. On TIP, navigate to **Dell DRACs.**

   The following options are displayed under **Dell DRACs.**

   – **DRAC5**
   – **iDRAC6 Modular**
   – **iDRAC6 Monolithic**
   – **iDRAC7 Modular**
   – **iDRAC7 Monolithic**

2. Click the **iDRAC7 Modular** or **iDRAC7 Monolithic** option to view the list of service tags of the discovered iDRAC7 modular or monolithic servers.

3. Click the required iDRAC7 to view the details on the right-hand side.

4. Right-click the iDRAC7 server and select **Dell Tools** → **Launch Dell Integrated Remote Access Controller console.**

   The console is launched in a separate browser window.

Launching Dell Connections License Manager Console From iDRAC7 Devices

1. On TIP, navigate to **Dell DRACs.**

   The following options are displayed under **Dell DRACs.**

   – **DRAC5**
   – **iDRAC6 Modular**
   – **iDRAC6 Monolithic**
   – **iDRAC7 Modular**

– **iDRAC7 Monolithic**

2. Click the **iDRAC7 Modular** or **iDRAC7 Monolithic** option to view the list of service tags of the discovered OOB modular or monolithic servers.

3. Click the required iDRAC7 to view the details on the right-hand side.

4. Right-click the iDRAC7 server and select **Dell Tools** → **Launch Dell Connections License Manager console.**

   The console is launched in a separate browser window.

Launching DRAC Console From DRAC5, iDRAC6, and DRAC/MC Devices

You can launch the DRAC console from the 9G-11G systems — DRAC5, iDRAC6, and DRAC/MC.

1. On TIP, navigate to **Dell Managed Systems** → **Dell DRACs**.

   To launch the respective DRAC console from:

   – DRAC5 — Click **Dell DRACs** → **DRAC5.**
   – iDRAC6 — Click **Dell DRACs** → **DelliDRAC6 Modular** or **Dell DRACs** → **DelliDRAC6 Monolithic.**
   – DRAC/MC — Click **Dell Chassis** → **DRACMC.**

   The discovered DRAC and DRAC/MC devices are displayed in the left pane.

2. Click the required DRAC or DRAC/MC devices to view the managed nodes in the right pane.

3. Right-click the managed node and select **Dell Tools** → **Launch Dell Remote Access Controller Console.**

   The DRAC console is launched in a separate browser window.

Launching Dell Chassis Management Controller (CMC) Console

1. On TIP, navigate to **Dell Managed Systems.**

2. Expand **Dell Chassis** and click **CMC.**

   The service tags of the discovered Dell CMC devices are displayed in the left pane.

3. Expand the service tags to view the IP address of the CMC devices.

   The IP addresses are displayed in the format, **CMC_<IP address>.**

4. Click the IP address to view the managed node on the right-hand side.

5. Right-click the managed node and select **Dell Tools** → **Launch Dell Chassis Management Controller Console.**

   The CMC console is launched in a separate browser window.

Launching Dell PowerEdge VRTX Chassis Management Controller (VRTX CMC) Console

1. On TIP, navigate to **Dell Managed Systems.**

2. Expand **Dell Chassis** and click **VRTX CMC.**

   The service tags of the discovered Dell VRTX CMC devices are displayed in the left pane.

3. Expand the service tags to view the IP address of the VRTX CMC devices. The IP addresses are displayed in the format, **VRTXCMC_<IP address>.**

4. Click the IP address to view the managed node on the right-hand side.

5. Right-click the managed node and select **Dell Tools** → **Launch Dell VRTX Chassis Management Controller Console.**

   The VRTX CMC console is launched in a separate browser window.

Launching EqualLogic Group Manager Console from Dell EqualLogic PS Arrays

The EqualLogic console can be launched from discovered Dell EqualLogic Storage Arrays.

1. On TIP, navigate to **Dell Managed Systems** → **Dell Storage** → **EqualLogic PS Arrays.**

   The group IPs of the discovered Dell EqualLogic Storage Arrays are displayed under this category.

2. Expand the group IPs to view the storage pools.

3. Click the required storage pool to view the Dell EqualLogic member systems that are part of the storage pool, in the right pane.

4. Right-click the required member system and select **Dell Tools** → **Launch Dell EqualLogic Group Manager Console.**

   The EqualLogic console is launched in a separate browser window.

Launching Dell Modular Disk Storage Manager Console from Dell PowerVault MD Storage Arrays

The Modular Disk Storage Manager (MDSM) console can be launched from discovered Dell PowerVault MD Storage Arrays.

1. On TIP, navigate to **Dell Managed Systems** → **Dell Storage** → **MD Arrays.**

   The discovered Dell PowerVault MD Storage Arrays are displayed under this category.

2. Click the required Dell PowerVault MD Storage Array to view the details in the right pane.

3. Right-click the array and select **Dell Tools** → **Launch Dell Modular Disk Storage Manager Console.**

Launching Dell OpenManage Essentials Console

The OME console can be launched from Dell servers, DRACs, CMC, VRTX CMC, EqualLogic Storage Arrays, and Dell PowerVault MD Storage arrays.

1. On TIP, navigate to **Dell Managed Systems.**

   You can launch the Dell OpenManage Essentials (OME) console from the list of discovered Dell devices under the respective options.

2. Expand the required option and click the service tag displayed under the option.

   The managed node is displayed on the right-hand side.

3. Right-click the managed node and select **Dell Tools** → **Launch Dell OpenManage Essentials Console.**

   The OME console is launched in a separate browser window.

Launching OpenManage Power Center (OMPC) Console From Dell Devices

The OMPC console can be launched from Dell servers, CMC, and VRTX CMC.

1. On TIP, navigate to **Dell Managed Systems.**

2. Perform the steps described in <u>Viewing Dell CMC Devices</u>, <u>Viewing Dell Modular Servers</u>, and <u>Viewing Dell Monolithic Servers.</u>

3. Right-click the server, CMC or VRTX CMC device and select **Dell Tools** → **Launch Dell OpenManage Power Center Console.**

    The OMPC console is launched in a separate browser window.

Launching Warranty Console

The Warranty console can be launched from Dell servers, iDRAC7, iDRAC6, DRAC5, CMC, VRTX CMC, DRAC/MC, EqualLogic PS arrays, and Dell PowerVault MD Storage arrays.

1. Perform the steps described in <u>Launching Consoles.</u>
2. Right-click the managed node and select **Dell Tools** → **Launch Dell Warranty Report.**

    The warranty information for the discovered Dell device is launched in a separate browser window.

    NOTE: An active internet connection is required to view the warranty information.

Licensing

The Dell OpenManage Connection provides OOB monitoring support for Network Manager using Dell Connections License Manager (DCLM). Monitoring Dell Servers through OOB is a licensed feature. The administrator needs to procure connection licenses for monitoring OOB Dell Servers. The licensing feature facilitates monitoring of iDRAC7 systems in Network Manager. The licensing feature is used with 1, 100, 250, or unlimited nodes. Only the licensed nodes are classified.

Relinquishing Acquired Licenses

You can relinquish the licenses you have acquired if a licensed iDRAC7 is removed from Network Manager. The licenses can be relinquished by providing a service tag for which the DCLM license is acquired. Relinquish the license using the following command:

```
java –jar dell_OMC_ITNM_ConfigUtility.jar –relinquish=<service tag>
```

NOTE: You cannot use `–relinquish` with other options.

9

Troubleshooting

This section lists the problems that you may encounter while using the Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9.

I cannot see Dell device discovery agents in "Full Discovery Agent" and "Partial Discovery Agents" of discovery configuration page

Ensure that you have the performed following steps:

1. Navigate to the **$NCHOME/precision/disco/agents/** folder and ensure that the respective Dell devices **.agnt** files are available.
2. Navigate to the **$NCHOME/precision/disco/agents/perlAgents/** folder and ensure that the respective Dell devices **.pl** files are available.
3. Register the Dell device agents by running the following command:

   ```
   ncp_agent_register -register AgentName1[,AgentName2, …]
   ```

   📝 **NOTE:** Replace **AgentName1** with appropriate dell device discovery agent.

4. Restart the **ncp_disco** process.
5. Log out and login to the Tivoli Integrated Portal.

The Discovered Dell Devices are not Classified

Ensure that you have performed the following steps:

1. Navigate to the **$NCHOME/precision/disco/aoc/** folder and ensure that the respective Dell devices **.aoc** files are available.
2. Navigate to the **$NCHOME/etc/precision/classschema.cfg** file and ensure that the respective Dell device **. aoc** files are available and the class IDs are unique.
3. Navigate to the **$NCHOME/var/precision/active** file and ensure that the **aoc** names are found.
   Check that the **aoc** names are present, if not, restart the **ncp_class** service.

The Dell iDRAC7 Devices are not Classified as "DELLOOBSERVER" Although the Discovery Agents and the Respective AOCs are Correct

Ensure that you have performed the following steps:

1. Configure the DCLM related parameters (DCLM URL, DCLM User Name, DCLM Password, and DCLM Domain) using **dell_omc_itnm_configutility_v_1_0.jar**.
2. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files are available:

- apache_cxf_lib_v_2_7_3.jar
- dell_omc_itnm_client_v_1_0.jar
- dell_omc_itnm_helper_v_1_0.jar
- dell_config.properties
- LicenseClient.exe
- DellDCLMUtility.exe

3. Check that the DCLM server is reachable and accessible using the configured values.

4. Check that the license file is imported in the DCLM server and has enough licenses.

The Dell Servers Running ESXi are not Classified as "DellServerModularESXi" or "DellServerMonolithicESXi" Although the Discovery Agents and the AOCs are Correct

Ensure that you have performed the following steps:

1. Configure the ESXi parameters (ESXi User Name, ESXi Password, and ESXi Timeout) using **dell_OMC_ITNM_ConfigUtility_v_1_0.jar**.

2. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files are available:

- intel_wsman_v_1_0_1.jar
- dell_OMC_ITNM_Client_v_1_0.jar
- dell_OMC_ITNM_Helper_v_1_0.jar
- dell_config.properties

3. Check that the ESXi Server is reachable and accessible using the configured values.

The Dell Servers Running ESXi are Classified Irrespective of an Invalid Certificate

The certificate check is ignored during communication with the Dell servers running ESXi.

The Dell PowerVault MD Storage Arrays are not Classified as "DELLMDARRAY" Although the Discovery Agents and the AOCs are Correct

Ensure that you have performed the following steps:

1. Provide the MD Array controller IP.

2. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files and libraries are available:

- SYMsdk.jar
- dell_MD_Array_Common.jar
- dell_OMC_ITNM_Client_v_1_0.jar
- dell_OMC_ITNM_Helper_v_1_0.jar

3. Check that the MD Storage Array is reachable.

Polling for Dell Servers (Windows, Linux), Dell CMC, Dell PowerEdge VRTX CMC, Dell DRACs does not occur

Ensure that you have performed the following steps:

1. Check that the devices are not in the un-managed state
2. Check that the required poll policies XML file has been imported using **get_policies.pl**.
3. Check that the required poll policies are enabled.
4. Check that the appropriate devices are discovered and classified for polling.

Polling for Dell Servers Running ESXi does not Occur

Ensure that you have the performed the following steps:

1. Check that the ESXi Server is not in the un-managed state.
2. Check that the Dell Connection specific tables and views are created as mentioned in the Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 Installation Guide.
3. Navigate to the **$NCHOME/etc/precision/DBEntityDetails.<Domain>.cfg** file and ensure that is it updated as mentioned in the ITNM Installation Guide.
4. Check that the ESXi related parameters (ESXi User Name, ESXi Password, ESXi Timeout), Data Base (DB) related parameters (DB Type, DB Name, DB User, DB Password) are configured using the **dell_OMC_ITNM_ConfigUtility_v_1_0.jar** file.
5. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files and libraries are available:

    – **intel_wsman_v_1_0_1.jar**
    – **dell_OMC_ITNM_Client_v_1_0.jar**
    – **dell_OMC_ITNM_Helper_v_1_0.jar**
    – **DB specific jar files as mentioned in the** ITNM Installation Guide.
    – **dell_config.properties**
    – **dell_config.properties**
6. Check that the ESXi Server is reachable and accessible using the configured values.
7. Check that the periodic polling for ESXi is configured in the **Scheduler Task / Crontab** and is in the enabled state.

Polling for Dell EqualLogic Storage Arrays does not Occur

Ensure that you have performed the following steps:

1. Check that the Dell EqualLogic Storage Arrays are not in the un-managed state.
2. Check that the Dell Connection specific tables and views are created as mentioned in the ITNM Installation Guide.
3. Check that the **$NCHOME/etc/precision/DBEntityDetails.<Domain>.cfg** file is updated according to the information provided in the ITNM Installation Guide.
4. Check that the DataBase (DB) related parameters (DB Type, DB Name, DB User, DB Password) are configured using the **dell_OMC_ITNM_ConfigUtility_v_1_0.jar** file.
5. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files and libraries are available:

    – **snmp4j-2.1.0.jar**
    – **dell_OMC_ITNM_Client_v_1_0.jar**

    – dell_OMC_ITNM_Helper_v_1_0.jar

    – Database specific jar files. Please refer to the Installation Guide.

    – dell_config.properties

6. Check that the Dell EqualLogic Storage Array is reachable and SNMP is enabled.

7. Check that the Periodic polling for Dell EqualLogic Storage Array is configured in the **Scheduler Task / Crontab** and is in the enabled state.

Polling for Dell PowerVault MD Storage Arrays does not Occur

Ensure that you have performed the following steps:

1. Check that the Dell PowerVault MD Storage Arrays are not in the un-managed state.

2. Check that the Dell Connection specific tables and views are created as mentioned in the the Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 Installation Guide.

3. Check that the **$NCHOME/etc/precision/DBEntityDetails.<Domain>.cfg** file is updated according to the information provided in the ITNM Installation Guide.

4. Check that the DataBase (DB) related parameters (DB Type, DB Name, DB User, DB Password) are configured using the **dell_OMC_ITNM_ConfigUtility_v_1_0.jar** file.

5. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files and libraries are available:

    – SYMsdk.jar

    – dell_MD_Array_Common.jar

    – dell_OMC_ITNM_Client_v_1_0.jar

    – dell_OMC_ITNM_Helper_v_1_0.jar

    – Database specific jar files. Please refer to the Installation Guide.

    – dell_config.properties

6. Check that the Dell PowerVault MD Storage Array is reachable.

7. Check that the Periodic polling for Dell PowerVault MD Storage Array is configured in the **Scheduler Task / Crontab** and is in the enabled state.

Relinquish Licenses and Periodic polling for Dell Servers Running ESXi and MDArray Fails on Systems Running Windows When the Folder netcool is Named in Different Case (Such as Netcool or NETCOOL)

Ensure that you have performed following steps:

1. Check that the environment variable `ITNMHOME` and `NCHOME` contains the word **netcool** in lower case only. It is case sensitive.

   For Example:

   If `ITNMHOME` is set to **C:\IBM\tivoli\NETCOOL\precision** , then change it to **C:\IBM\tivoli\netcool\precision**.

   If `NCHOME` is set to **C:\IBM\tivoli\NetcooL**, then change it to **C:\IBM\tivoli\netcool**.

2. Open the properties window of the task scheduler and click **Actions** tab.

3. Click **Edit** and modify the last occurrence of the word **Netcool** into smaller case in the argument text box.

The Task Scheduler in Windows Fails to Launch the Periodic Polling for Dell EqualLogic Storage Arrays, Dell PowerVault MD Storage Arrays, Dell Servers Running ESXi, Dell Connection License Manager, and License Synchronization

Ensure that you have performed the following steps:

1. Check that the option **Run whether user is logged on or not** is selected in the Security Options.
2. Check that the correct user name and password have been provided.

I Cannot See the Dell Device Specific View Although They are Discovered and Classified

Ensure that you have performed the following steps:

1. Check that the **$NCHOME/precision/profiles/TIPprofile/etc/tnm/dynamictemplate/ip_default.xml** file is updated as mentioned in the Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 Installation Guide.
2. Check that the Dell Connection specific tables and views are created as mentioned in the ITNM Installation Guide.
3. Check that the **$NCHOME/etc/precision/DBEntityDetails.<Domain>.cfg** file is updated as mentioned in the ITNM Installation Guide.
4. Check that the **$NCHOME/precision/profiles/TIPprofile/etc/tnm/ncimmetadata.xml** file is updated as mentioned in the ITNM Installation Guide.
5. Log out and login to the Tivoli Integrated Portal .

The Dell Device Specific One to One Console Launch is not Visible

Ensure that you have performed the following steps:

1. Check that the **$NCHOME/precision/profiles/TIPprofile/etc/tnm/menus/ ncp_topoviz_device_menu.xml** file is updated as mentioned in the Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 Installation Guide.
2. Logout and login to the Tivoli Integrated Portal.

Console Launch Failed From Polled Events in AEL

Ensure that you have performed following steps:

1. Check that Perl is properly installed on the Web GUI server.
2. Navigate to the **cgi-bin** folder and ensure that the Perl path is properly configured in the **delltoollauncher.cgi** file as mentioned in the Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 Installation Guide.
3. Check that the **CGI** script is registered in the WEB GUI.
4. Verify that the **$NCHOME** environment variable is available.
5. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files and libraries are available:

    – snmp4j-2.1.0.jar

- dell_OMC_ITNM_Client_v_1_0.jar
- dell_OMC_ITNM_Helper_v_1_0.jar
- dell_config.properties
- Database specific jar files as mentioned in the ITNM Installation Guide.

6. Check that the **conf.key** file is copied from the core component to the **$NCHOME/etc/security/keys/conf.key** file for a distributed server.

I Cannot Launch the Device Specific One to One Console for Dell Devices Supporting SNMP

Ensure that you have performed the following steps:

1. Check that the console launch tool is configured as mentioned in the Dell OpenManage Connection Version 1.0 for IBM Tivoli Network Manager (ITNM) IP Edition 3.9 Installation Guide.
2. Navigate to the **$NCHOME/precision/dell/** folder and ensure that the following files and libraries are available:
   - **snmp4j-2.1.0.jar**
   - **dell_OMC_ITNM_Client_v_1_0.jar**
   - **dell_OMC_ITNM_Helper_v_1_0.jar**
   - **Database specific jar files as mentioned in the ITNM IG.**
   - **dell_config.properties**
3. Check that the **conf.key** file is copied from the core component to **$NCHOME/etc/security/keys/conf.key** for a distributed server.
4. Check that the Perl binary path is provided in the **$NCHOME/omnibus_webgui/etc/cgi-bin/delltoollauncher.cgi** file.

Getting Help

Contacting Dell

📝 **NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **dell.com/support**

2. Select your support category.

3. Verify your country or region in the Choose a Country/Region drop-down menu at the top of page.

4. Select the appropriate service or support link based on your need.

Accessing Documents From Dell Support Site

To access the documents from Dell Support site:

1. Go to **dell.com/support/manuals**.
2. In the **Tell us about your Dell system** section, under **No**, select **Choose from a list of all Dell products** and click **Continue**.
3. In the **Select your product type** section, click **Software and Security**.
4. In the **Choose your Dell Software** section, click the required link from the following:
   – **Client System Management**
   – **Enterprise System Management**
   – **Remote Enterprise System Management**
   – **Serviceability Tools**
5. To view the document, click the required product version.

📝 **NOTE:** You can also directly access the documents using the following links:

- For Enterprise System Management documents — **dell.com/openmanagemanuals**
- For Remote Enterprise System Management documents — **dell.com/esmmanuals**
- For Serviceability Tools documents — **dell.com/serviceabilitytools**
- For Client System Management documents — **dell.com/OMConnectionsClient**
- For OpenManage Connections Enterprise systems management documents — **dell.com/ OMConnectionsEnterpriseSystemsManagement**
- For OpenManage Connections Client systems management documents — **dell.com/OMConnectionsClient**