Dell OpenManage Connection Version 3.0 for IBM Tivoli Network Manager (ITNM) IP Edition Installation 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.

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Introduction

This guide provides information about the software requirement, system requirements and the steps to install, configure, and uninstall the Dell OpenManage Connection version 3.0 for IBM Tivoli Network Manager (ITNM) IP Edition.

Dell OpenManage Connection for IBM Tivoli Network Manager (ITNM) IP Edition provides end-to-end monitoring capability for Dell Original Equipment Manufacturing (OEM) Servers, Dell Datacenter Scalable Solutions (DSS), Dell PowerEdge servers, chassis, workstations, storage arrays and network switches. You can monitor the Dell infrastructure from the ITNM IP Edition console, which is a single point of management for the complete hardware environment in your data center. It also supports console launch of Dell devices and other Dell tools to perform troubleshooting, configuration, and management activities.

The following Dell devices are supported by the Dell OpenManage Connection:

- Dell OEM servers
- Dell Datacenter Scalable Solutions (DSS)
- Dell 10th generation of PowerEdge servers to Dell 13th Generation of PowerEdge servers
- Dell Precision rack workstations
- Dell Remote Access Controllers:
  - Integrated Dell Remote Access Controller 8 (iDRAC8)
  - Integrated Dell Remote Access Controller 7 (iDRAC7)
  - Integrated Dell Remote Access Controller 6 (iDRAC6)
  - Dell Remote Access Controller 5 (DRAC5)
- Dell Chassis:
  - Dell PowerEdge FX2
  - Dell PowerEdge VRTX
  - Dell PowerEdge M1000e
- Dell Storage Arrays:
  - Dell Compellent Storage Arrays
  - Dell PowerVault NX 10th Generation (10G) to 12th Generation (12G) Storage Arrays
  - Dell EqualLogic PS-Series Storage Arrays
  - Dell PowerVault MD Storage Arrays
- Dell Network Switches:
  - S-Series Switches
  - M-Series Switches
  - Z-Series Switches
  - C-Series Switches

- N-Series Switches
- W-Series Switches

For more information on the supported Dell devices and their supported firmware versions, see Supported Dell devices and firmware.

Dell OpenManage Connection Version 3.0 for ITNM IP Edition supports ITNM IP Edition 3.9, 4.1, and 4.1.1

Before installing this version of Dell OpenManage Connection for IBM Tivoli Network Manager (ITNM) IP Edition, download the latest documents from **dell.com/omconnectionsEnterpriseSystemsManagement**. Dell OpenManage Connection version 3.0 for IBM Tivoli Netcool/OMNIbus is a prerequisite for using Dell OpenManage Connection Version 3.0 for IBM Tivoli Network Manager (ITNM) IP Edition.

For more information about accessing documents, see Accessing documents from the Dell support site.

Supported operating systems and browsers for managing systems

The following tables list the operating systems that support ITNM IP edition 4.1.1, 4.1 and 3.9 components:

Table 1. Supported operating systems for Dell OpenManage Connection version 3.0 for ITNM IP Edition 4.1.1

Red Hat Enterprise Linux Server (RHEL)	SUSE Linux Enterprise Server (SLES)
RHEL 6.0-7 (64-bit)	SLES 11 SP3 (64-bit)
RHEL 5.0-10 (64-bit)	

Table 2. Supported operating systems for Dell OpenManage Connection version 3.0 for ITNM IP Edition 4.1

Red Hat Enterprise Linux Server (RHEL)
RHEL 7.0-1 (64-bit)
RHEL 6.0-7 (64-bit)
RHEL 5.0 Advanced Platform (64-bit)

Table 3. Supported operating systems for Dell OpenManage Connection version 3.0 for ITNM IP Edition 3.9

Virtualization Environment	Windows Server	SUSE Linux Enterprise Server (SLES)	Red Hat Enterprise Linux Server (RHEL)	Windows Client	SUSE Linux for Desktop
ESXi 5.0	Windows Server 2008 R2 (64-bit) (Enterprise, Datacenter, Standard)	SLES 11.0-4 (64-bit)	RHEL 7.0-1 (64-bit)	Windows Enterprise 7 (64-bit) SP1	SUSE Linux Enterprise Desktop 11.0-4 (64-bit)
ESXi 4.1	Windows Server 2008 R2 (64-bit) SP1 (Enterprise,	SLES 11.0-4 (32-bit)	RHEL 6.0-7 (64-bit()	Windows Enterprise 7 (64-bit)	

Virtualization Environment	Windows Server	SUSE Linux Enterprise Server (SLES)	Red Hat Enterprise Linux Server (RHEL)	Windows Client	SUSE Linux for Desktop
	Datacenter, Standard)				
ESXi 4.0	Windows Server 2008 (64-bit) SP2 (Enterprise, Standard)	SLES 10.0-4 (64-bit)	RHEL 6.0-5 (32-bit)	Windows Vista Ultimate SP2 (64-bit)	
ESXi 3.5	Windows Server 2008 (32-bit) SP2 (Enterprise, Standard)	SLES 10.0-4 (32-bit)	RHEL 5.0-10 Advanced Platform (64-bit)		
ESX 3.5	Windows Server 2008 (64-bit) (Enterprise, Standard)		RHEL 5.0-10 Advanced Platform (32-bit)		
	Windows Server 2008 (32-bit) (Enterprise, Standard)				

NOTE: Dell OpenManage Connection Version 3.0 for IBM Tivoli Network Manager (ITNM) IP Edition is supported on Guest operating systems (Microsoft Windows, Red Hat Enterprise Linux, and SUSE Linux Enterprise Server) for VMware ESXi listed in the preceding table.

Supported Operating Systems for managed systems

The following table lists the operating systems supported on the supported Dell devices:

Table 4. Supported operating systems for Dell Workstations

VMware vSphere ESXi	Windows Server	SUSE Linux Enterprise Server (SLES)	Red Hat Enterprise Linux Server (RHEL)
ESXi 6.0 U1	Windows Server 2012 R2 (Datacenter, Foundation, Essentials, and Standard editions)	SLES 12 64-bit	RHEL 7.2 64-bit
ESXi 5.5 U3	Windows 8.1 Professional 64 bit	SLES 11 SP4 64-bit	RHEL 7.1 64-bit
ESXi 5.5 U2	Windows 7 Professional 32-bit and 64-bit		RHEL 7.0 64-bit
	Microsoft Windows Server 2008 SP1		RHEL 6.7 64-bit

VMware vSphere ESXi	Windows Server	SUSE Linux Enterprise Server (SLES)	Red Hat Enterprise Linux Server (RHEL)
	Microsoft Windows Server 2008 R2		

Table 5. Supported operating systems for Dell Servers

VMware vSphere ESXi	Windows Server	SUSE Linux Enterprise Server (SLES)	Red Hat Enterprise Linux Server (RHEL)
ESXi 6.0 U1	Windows Server 2012 R2 (Datacenter, Foundation, Essentials, and Standard editions)	SLES 12 64-bit	RHEL 7.2 64-bit
ESXi 6.0	Microsoft Windows Server 2012 Essentials	SLES 11 SP4 64-bit)	RHEL 7.1 64-bit
ESXi 5.5 U3	Windows Essential Business Server 2008 SP1		RHEL 7.0 64-bit
ESXi 5.5 U2	Windows Essential Business Server 2008 SP1		RHEL 6.7 64-bit
ESXi 5.5	Windows Server 2008 SP2 32-bit and 64-bit		RHEL 6.5 64-bit
ESXi 5.1 U3	Windows Server 2008 R2 64-bit		RHEL 6.2 64-bit
ESXi 5.1 U2	Windows Server 2008 R2 SP1 64-bit		RHEL 6.0 64-bit
ESXi 5.1 U1	Windows Server 2008 R1 and R2 (HPC Edition)		RHEL 5.9 64-bit and 32-bit
ESXi 5.1	Windows Storage Server 2008 SP2		RHEL 5.5 64-bit and 32-bit
ESXi 5.0 U3	Windows Small Business Server 2008 SP2		RHEL 5.3 64-bit and 32-bit
ESXi 5.0 U2	Windows Small Business Server 2008 R2		RHEL 5.0 64-bit and 32-bit
ESXi 5.0 U1	Microsoft Windows Small Business Server 2011		
	Microsoft Windows Server 2012		
	Windows Small Business Server 2003 R2 SP2		

VMware vSphere ESXi	Windows Server	SUSE Linux Enterprise Server (SLES)	Red Hat Enterprise Linux Server (RHEL)
	Windows Server 2003 R2 32-bit and 64-bit Windows Storage Server 2003 R2 Windows Server 2003 (Compute Cluster Edition) Windows Unified DataStorage Server 64-bit		

NOTE: If you have installed the Dell OpenManage connection for ITNM on a system running Windows, then ensure that you have also installed `ActivePerl` in the system.

Supported Dell devices and firmware

The following table lists the Dell devices and their supported firmware versions for Dell OpenManage Connection.

Table 6. Dell devices and firmware

Dell Devices	Supported OMSA Versions	Supported Firmware Versions
Dell OEM Servers	• 8.3 • 8.2 • 8.1	NA
Dell PowerEdge servers	• 8.3 • 8.2 • 8.1	NA
Dell Workstations	• 8.3 • 8.2 • 8.1	NA
Dell Datacenter Scalable Solutions (DSS 1500 and DSS 2500)	NA	• 2.30.30.30 • 2.16.16.12
Dell Datacenter Scalable Solutions (DSS 1510)	NA	• 2.30.30.30 • 2.17.17.13
iDRAC8	NA	• 2.30.30.30 • 2.20.20.20
iDRAC7	NA	• 2.30.30.30 • 2.20.20.20

Dell Devices	Supported OMSA Versions	Supported Firmware Versions
iDRAC6 Modular	NA	• 3.6 • 3.5
iDRAC6 Monolithic	NA	• 1.97 • 1.96
DRAC5	NA	• 1.6 • 1.5
FX2 CMC	NA	• 1.4 • 1.3
VRTX CMC	NA	• 2.2 • 2.1
CMC	NA	• 5.2 • 5.1
Dell PowerVault NX Storage Arrays	• 8.3 • 8.2 • 8.1	NA
Dell Compellent Storage Arrays	NA	6.6.2
Dell EqualLogic PS-Series Storage Arrays	NA	• 8.1 • 8.0
Dell PowerVault MD Storage Arrays	NA	• 08.20.09.60 • 08.10.05.60
Dell Network Switches	NA	S-Series • S55 (8.3.5.5 and 8.3.5.3) • S60 (8.3.3.9 and 8.3.3.8) • S4810 (9.6 and 9.5) • S4820T (9.5 and 9.4) • S5000 (9.1 and 9.0) • S6000 (9.5 and 9.4) M-Series • MXL (9.6 and 9.5) • MIOA (9.5 and 9.4) Z-Series • Z9500 (9.2) • Z9000 (9.5 and 9.4) C-Series • C150 (8.4.6.0) • C300 (8.4.5.0)

Dell Devices	Supported OMSA Versions	Supported Firmware Versions
		N-Series • 6.1.2 and 6.1 W-Series • W-Series Mobility Controllers (6.4)

NOTE: Dell Workstations refers to Dell Precision R7910 Rack Workstations.

2
Installing Dell OpenManage Connection

Download the **Dell-OpenManage-Connection-for-ITNM-3.0.zip** file From **dell.com/support** and extract the contents to a folder. The following folders and files are extracted:

- Dell-MIBS
- Dell-OMC-ITNM-Core-Integration
- Dell-OMC-ITNM-TIP-Server-Integration
- Dell-OMC-ITNM-Topology-Database-Integration
- Dell-Utilities
- Dell_OMC_3_0_for_ITNM_IG.pdf
- Dell_OMC_3_0_For_ITNM_Readme.txt
- license_en.txt

Once the files have been extracted, and the system requirements are met with, ensure that you see the **Dell_OMC_3_0_For_ITNM_Readme.txt** and the **license_en.txt** files and then follow the order of the installation steps listed in the chapters below.

NOTE: The file separator for Windows is back slash (\) and for Linux, forward slash (/).
When using environment variables follow these formats, **%<ENV_VARIABLE>%** on systems running Windows and **$<ENV_VARIABLE>** on systems running Linux.

For Example:

```
Windows: %NCHOME%
Linux: $NCHOME
```

Installing Dell OpenManage Connection on Database (DB) components

You can install Dell OpenManage Connection for ITNM IP Edition on DB components for both ITNM IP Edition 3.9, 4.1, and 4.1.1

NOTE:
To deploy Dell OpenManage Connection on a system running ITNM IP Edition 3.9, skip steps 1 and 2.

To deploy Dell OpenManage Connection on a system running ITNM IP Edition 4.1 or 4.1.1, ensure that the ITNM core services are running and then follow all the steps listed below.

1. Navigate to the **Dell-OMC-ITNM-Topology-Database-Integration** folder and copy the following files into **$NCHOME/precision/scripts/sql/solid** folder:
   - `create_dellDevice_SOLIDDB.sql`

- `populate_dell_custom.sh`

  NOTE: During installation, provide the **solsql** path in the `populate_dell_custom.sh` file as per your installation. The default binary path provided is **$NCHOME/platform/linux2x86/soliddb-6.5.0.1/bin/solsql**.

2. Navigate to the **$NCHOME/precision/scripts/sql/solid** folder and run the following command:

   ```
   sh populate_dell_custom.sh <CATLOG> <User> <Password> Create [<Port>]
   ```

   For example:

   ```
   populate_dell_custom.sh itnm root admin Create 50000
   ```

3. Stop the ITNM core services by using the following commands depending on your operating system:
   - On systems running Windows: **Stop ncp_ctrl service**
   - On systems running Linux: **itnm_stop ncp**
4. Navigate to the **Dell-OMC-ITNM-Topology-Database-Integration** folder and run the following commands:
   - For Informix database:

     Log in as an Informix user and then run the following command:

     ```
     dbaccess itnm create_dellDevice_Informix.sql
     ```

   - For DB2 database, log in to DB2 and run following command:

     ```
     $NCHOME/platform/<arch>/db2/bin/db2batch -d itnm -f
     create_dellDevice_DB2.sql
     ```

   - For MySQL database:

     ```
     mysql -u <db user name> -p < create_dellDevice_Mysql.sql
     ```

   - For Oracle database:

     ```
     sqlplus -s <Oracle DB user name>/<Password> @create_dellDevice_Oracle.sql
     ```

5. Start the ITNM core services by using the following commands depending on your operating system:
   - On systems running Windows: **Start ncp_ctrl service**
   - On systems running Linux: **itnm_start ncp**
6. Copy the **dellomc_int_itnm_topo_db.ver** file to the **%NCHOME%\precision** folder.

Installing Dell OpenManage Connection on Core components

The `Dell-OMC-ITNM-Core-Integration` core component folder contains the following folders and files:

- **agents**
- **aoc**
- **configuration**
- **perlAgents**
- **dellomc_int_itnm_core.ver**

To install Network Manager on core components:

1. Navigate to the **Dell-OMC-ITNM-Core-Integration\agents** folder and copy the following discovery agent files to the **%NCHOME%\precision\disco\agents** folder.
   - **DellDRAC.agnt**

- DellOOBServer.agnt
- DellServerSNMP.agnt
- DellServerWsman.agnt
- DellCompellent.agnt
- DellEqualLogic.agnt
- DellMDArray.agnt
- DellCSeriesSwitch.agnt
- DellMSeriesSwitch.agnt
- DellNSeriesSwitch.agnt
- DellSSeriesSwitch.agnt
- DellWSeriesSwitch.agnt
- DellZSeriesSwitch.agnt

2. Navigate to the **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-OMC-ITNM-Core-Integration \perlAgents** folder and copy the following perl agent files to the **%NCHOME%\precision\disco\agents \perlAgents** folder.
   - DellDRAC.pl
   - DellOOBServer.pl
   - DellServerSNMP.pl
   - DellServerWsman.pl
   - DellCompellent.pl
   - DellEqualLogic.pl
   - DellMDArray.pl
   - DellCSeriesSwitch.pl
   - DellMSeriesSwitch.pl
   - DellNSeriesSwitch.pl
   - DellSSeriesSwitch.pl
   - DellWSeriesSwitch.pl
   - DellZSeriesSwitch.pl
3. To register the agents, run the command:

   ```
   %NCHOME%\precision\bin\ncp_agent_registrar -register <Agent Name1,Agent Name2,..Agent Name'n'>
   ```

   For Example:

   ```
   %NCHOME%\precision\bin\ncp_agent_registrar -register DellServerSNMP,DellOOBServer,DellServerWsman,DellDRAC,DellCompellent,DellCSeriesSwitch
   ```
4. Navigate to the **Dell-OMC-ITNM-Core-Integration\aoc** folder and copy the following files to the **%NCHOME%\precision\aoc** folder.
   - OEMiDRAC7.aoc
   - OEMiDRAC8.aoc
   - OEMServerModularESXi.aoc
   - OEMServerModularLinux.aoc
   - OEMServerModularWindows.aoc
   - OEMServerMonolithicWindows.aoc
   - OEMServerMonolithicESXi.aoc

- OEMServerMonolithicLinux.aoc
- DellServerModularESXi.aoc
- DellServerModularLinux.aoc
- DellServerModularWindows.aoc
- DellServerMonolithicESXi.aoc
- DellServerMonolithicLinux.aoc
- DellServerMonolithicWindows.aoc
- DellWorkstationESXi.aoc
- DellWorkstationLinux.aoc
- DellWorkstationWindows.aoc
- DelliDRAC8.aoc
- DelliDRAC7.aoc
- DelliDRAC6.aoc
- DellDRAC5.aoc
- DellCMC.aoc
- DellFX2CMC.aoc
- DellVRTXCMC.aoc
- DellCompellent.aoc
- DellPowerVaultNX.aoc
- DellEqualLogic.aoc
- DellMDArray.aoc
- DellMDArraySNMP.aoc
- DellCSeriesSwitch.aoc
- DellMSeriesSwitch.aoc
- DellNSeriesSwitch.aoc
- DellSSeriesSwitch.aoc
- DellWSeriesMobilityController.aoc
- DellZSeriesSwitch.aoc

5. Navigate to **Dell-OMC-ITNM-Core-Integration\configuration** folder and insert the contents of the **EndNode.aoc** file to the **%NCHOME%\precision\aoc\EndNode.aoc** file.

   For information about the contents of the **EndNode.aoc** file that you must insert, see the section "Dell Specified Changes for **EndNode.aoc**" in Appendix.

6. To deploy Dell OpenManage Connection on a system running ITNM IP Edition 3.9, navigate to **Dell-OMC-ITNM-Core-Integration\configuration** folder and copy the **Dell.aoc** and the **DellSNMP.aoc** files to the **%NCHOME%\precision\aoc** folder.

   To deploy Dell OpenManage Connection on a system running ITNM IP Edition 4.1 or 4.1.1, navigate to **Dell-OMC-ITNM-Core-Integration\configuration** folder and merge the contents of the **Dell.aoc** and the **DellSNMP.aoc** file to the **%NCHOME%\precision\aoc\Dell.aoc** and the **%NCHOME%\precision\aoc\DellSNMP.aoc** files respectively.

   For information about the contents of the **Dell.aoc** and the **DellSNMP.aoc** file that you must insert, see "Dell Specified Changes for **Dell.aoc**" and "Dell Specified Changes for **DellSNMP.aoc**" in Appendix.

7. Navigate to **Dell-OMC-ITNM-Core-Integration\configuration** folder and append the contents of the **ClassSchema.cfg** file to the **%NCHOME%\etc\precision\ClassSchema.cfg** file, and change the class ID values if they already exist.

To deploy Dell OpenManage Connection on a system running ITNM IP Edition 4.1 or 4.1.1, do not append the entries for the ClassName **Dell** and **DellSNMP**.

For information about the contents of the **ClassSchema.cfg** file that you must append, see "Dell Specified Changes for **ClassSchema.cfg**" in Appendix.

8. To deploy Dell OpenManage Connection on a system running ITNM IP Edition 3.9, navigate to **Dell-OMC-ITNM-Core-Integration\configuration** folder and copy the contents of the **DbEntityDetails.domain.cfg** file to the **%NCHOME%\etc\precision\DbEntityDetails.<domain>.cfg** file.

   To deploy Dell OpenManage Connection on a system running ITNM IP Edition 4.1 or 4.1.1, copy the contents of the `ModelNcimDb.domain.cfg` file to the `$NCHOME\etc\precision\ModelNcimDb.<domain>.cfg` file.

   NOTE: If the **DbEntityDetails.domain.cfg** file does not exist, append the contents to the **%NCHOME%\etc\precision\DbEntityDetails.cfg** file. If multiple domains are configured, then append the contents of the **DbEntityDetails.domain.cfg** file to the individual **DbEntityDetails.domain.cfg** file.

   If the **ModelNcimDb.domain.cfg** file does not exist, append the contents to the **%NCHOME%\etc\precision\ModelNcimDb.cfg** file. If multiple domains are configured, then append the contents of the **ModelNcimDb.domain.cfg** file to the individual **ModelNcimDb.domain.cfg** file.

   For information about the contents of the **ModelNcimDb.domain.cfg** and **DbEntityDetails.domain.cfg** file that you must copy, see "Dell Specified Changes for **ModelNcimDb.domain.cfg**" and "Dell Specified Changes for **DbEntityDetails.domain.cfg**" in Appendix.

9. Navigate to **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-Utilities** and copy the **dell** folder to **%NCHOME%\precision** folder.
10. Navigate to the **Dell-OMC-ITNM-Core-Integration** folder and copy the **dellomc_int_itnm_core.ver** file to the **%NCHOME%\precision** folder.
11. Ensure that the Java path provided by Network Manager exists before the custom Java path in the environmental variable "PATH". If the path does not exist, configure the path as follows:

    `%NCHOME%\platform\<Arch>\jre_1.6.7\jre\bin`

    NOTE:
    - *On Systems running Windows:* The **<Arch>** is **win32**.
    - *On systems running Linux:* The **<Arch>** is **linux2x86**.
12. Configure the environmental variable `DELL_OMC_ITNM_JAVA_PATH`. This should contain the complete IBM Java path (including the Java binary). Copy the environmental variable `DELL_OMC_ITNM_JAVA_PATH` to `/etc/profile` file, to ensure that the environment variable is available in all shells

    For Example:

    - *On Systems running Windows:*
      `%NCHOME%\platform\win32\jre_1.6.7\jre\bin\java.exe`
    - *On systems running Linux:*
      `$NCHHOME/platform/linux2x86/jre_1.6.7/jre/bin/java`

    NOTE: If you are monitoring Dell servers or Workstations running VMware ESXi version 5.5 or later, then configure the environment variable `DELL_OMC_ITNM_JAVA_PATH` using Oracle JRE version 1.6.0_18 (6u18) or later. For more information, see the ITNM version 3.0 User's Guide.
13. Perform the following steps to restart the Network Manager core services:
    - *On systems running Windows:*
      Restart the service **ncp_ctrl** service.

- *On systems running Linux:*

  Run the commands **itnm_stop ncp** and **itnm_start ncp**.

14. Navigate to the **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-MIBS** folder and copy the MIB files to the `%NCHOME%\precision\mibs` folder.
15. To load the new MIBs, run the command:

    ```
    %NCHOME%\precision\platform\<Arch>\bin\ncp_mib
    ```

    NOTE: Copy all the dependent MIB files before running the **ncp_mib**.
16. Navigate to the **Dell-OMC-ITNM-Core-Integration\configuration** folder, import the following poll policies:
    - **DellServerPollPolicy.XML** — For polling Dell servers
    - **DellWorkstationPollPolicy.XML** — For polling Dell Workstations
    - **DelliDRAC8PollPolicy.XML** — For polling iDRAC8 systems
    - **DelliDRAC7PollPolicy.XML** — For polling iDRAC7 systems
    - **DellDRACPollPolicy.XML** — For polling iDRAC6 and DRAC5
    - **DellFX2CMCPollPolicy.XML** — For polling FX2 CMC systems
    - **DellVRTXCMCPollPolicy.XML** — For polling VRTX CMC systems
    - **DellCMCPollPolicy.XML** — For polling CMC systems
    - **DellCompellentPollPolicy.XML** — For polling Compellent storage arrays
    - **DellPowerVaultNXPollPolicy.XML** — For polling PowerVault NX storage arrays
    - **DellMDStoragePollPolicy.XML** — For polling MD storage arrays
    - **DellC-SeriesPollPolicy.XML** — For polling C-Series switches
    - **DellM-SeriesPollPolicy.XML** — For polling M-Series switches
    - **DellN-SeriesPollPolicy.XML** — For polling N-Series switches
    - **DellW-SeriesPollPolicy.XML** — For polling W-Series switches
    - **DellZ-SeriesPollPolicy.XML** — For polling Z-Series switches
    - **OEMiDRACPollPolicy.XML** — For polling OEM DRACs
    - **OEMiServerPollPolicy.XML** — For polling OEM servers

    To import the policies listed above, run the following command:

    ```
    %NCHOME%\precision\bin\ncp_perl  %NCHOME%\precision\scripts\perl\scripts
    \get_policies.pl -domain <Domain Name> -to domain=<DOMAIN_NAME> -from
    file=<Dell-OMC-ITNM-Core-Integration\configuration\Poll Policy Filename>

    For example: %NCHOME%\precision\bin\ncp_perl %NCHOME%\precision\scripts\perl
    \scripts\get_policies.pl -domain NCOMS -to domain=NCOMS -from file=C:
    \workarea\build\Dell-OpenManage-Connection-for-ITNM-3.0\Dell-OMC-ITNM-Core-
    Integration\configuration\DellCMCPollPolicy.xml
    ```

    NOTE: Ensure that the class IDs for Dell devices in the **ClassSchema.cfg** and the corresponding poll policies are the same.
17. Navigate to the **Dell-OMC-ITNM-Core-Integration\configuration** folder and insert the contents of the **nco_p_ncpmonitor.rules** file, to **%NCHOME%\probes\<Arch>\nco_p_monitor.rules** file,

    ```
    if (match(@AlertGroup, "ITNM Status") || match(@AlertGroup, "ITNM Disco"))
    {
    ...
    }
    else
    {
    ```

```
...
switch ($EventName)
{
                    ...
//Insert Dell Specified Changes For nco_p_ncpmonitor.rules here

}
                    ...
# Append the value of @Identifier, with the new variable $tmpVal, as given
below #
#
#@Identifier = $EntityName + @LocalPriObj + "->" + $EventName + @Type +
@NmosDomainName  + $tmpVal
```

The contents must be copied under the **$EventName** switch statement for **AlertGroup**. Edit the value of `@Identifier` by appending `$tmpVal` with a '+' sign .

For information about the contents of the **nco_p_ncpmonitor.rules** file that you must insert, see "Dell Specified Changes for **nco_p_ncpmonitor.rules**" in Appendix.

18. Restart the **ncp_poller** service.
19. Navigate to **Administration** → **Network** → **Network Polling** and verify that the Dell specific poll policies and poll definitions are created on the Tivoli Integrated Portal.

    For information about the Dell specific poll policies and poll definitions, see "Dell specific poll policies and poll definitions" in Appendix.
20. Copy the following database-specific jar files from **%TIPHOME%\profiles\TIPProfile\installedApps \TIPCell\isc.ear\ncp_topoviz.war\WEB-INF\lib** to the **%NCHOME%\precision\dell** folder. The jar files and their availability are as follows:
    - Informix — **ifxjdbc.jar**
    - Oracle — **ojdbc14.jar** or later
    - MySQL — **mysql-connector-java-3.1.10-bin.jar** or later
    - DB2
      - While deploying Dell OpenManage Connection on a system running ITNM IP Edition 3.9, use **db2jcc.jar, db2jcc_license_cu.jar**
      - While deploying Dell OpenManage Connection on a system running ITNM IP Edition 4.1 or 4.1.1, use **db2jcc4.jar, db2jcc_license_cu.jar**

NOTE: If the database driver bears a name other than those database driver names given above, then copy the actual database driver to the **%NCHOME%\precision\dell** folder and then create a link to the actual database driver name by running the following commands:

For systems running Windows:

```
mklink <Given Database Driver> <Actual Database Driver>
```

For systems running Linux:

```
ln -s <Actual Database Driver> <Given Database Driver>
```

For Example:

If the actual database driver for MYSQL is **mysql-connector-java-5.1.27-bin.jar**, then create a link by running the following command:

Windows:

```
mklink mysql-connector-java-3.1.10-bin.jar mysql-connector-java-5.1.27-
bin.jar
```

Linux:

```
ln -s mysql-connector-java-5.1.27-bin.jar mysql-connector-java-3.1.10-
bin.jar
```

If the actual database driver for Oracle is **ojdbc6.jar**, then create a link by running the following command:

Windows:

```
mklink ojdbc14.jar ojdbc6.jar
```

Linux:

```
ln -s ojdbc6.jar ojdbc14.jar
```

The database-specific jar files can also be found at the location where the database is deployed (custom path).

21. Navigate to **%NCHOME%\precision\dell\scripts folder** and run the following commands to configure the periodic polling.
    - DCLM
      - On systems running Windows:
        `scheduleTask.bat add DCLM_POLL`
      - On systems running Linux:
        `sh cronJob.sh add DCLM_POLL`
    - Dell Workstations running VMware ESXi
      - On systems running Windows:
        `scheduleTask.bat add ESXi_WORKSTATION_POLL`
      - On systems running Linux
        `sh cronJob.sh add ESXi_WORKSTATION_POLL`
    - EqualLogic Storage Array
      - On systems running Windows:
        `scheduleTask.bat add EQL_POLL`

- On systems running Linux:
  `sh cronJob.sh add EQL_POLL`

- Dell servers running VMware ESXi
  - On systems running Windows:
    `scheduleTask.bat add ESXi_POLL`
  - On systems running Linux:
    `sh cronJob.sh add ESXi_POLL`
- Dell PowerVault MD Storage Array (With no SNMP support)
  - On systems running Windows:
    `scheduleTask.bat add MDARRAY_POLL`
  - On systems running Linux:
    `sh cronJob.sh add MDARRAY_POLL`
- Dell S-Series switches
  - On systems running Windows:
    `scheduleTask.bat add DELL_S_SERIES_POLL`
  - On systems running Linux:
    `sh cronJob.sh add DELL_S_SERIES_POLL`
  - Dell OEM servers running VMware ESXi
    * On systems running Windows:
      `scheduleTask.bat add ESXi_OEM_POLL`
    * On systems running Linux:
      `sh cronJob.sh add ESXi_OEM_POLL`

22. Configure the periodic license synchronization by running the following command from the **%NCHOME%\precision\dell\scripts** folder.
    - On systems running Windows:
      `scheduleTask.bat add LICENSE_SYNCH`
    - On systems running Linux:
      `sh cronJob.sh add LICENSE_SYNCH`

    NOTE: The periodic polling for Dell devices listed above and the license synchronization for DCLM is added to `Scheduler Task` on the managing systems running Windows and to `Crontab` on managing systems running Linux.

    For all the periodic polling tasks added in Scheduler Task, ensure that the option **Run whether user is logged in or not** is selected in the Security Options.
23. Ensure that you configure the `DCLM`, `DB`, and `WS-MAN` parameters before you begin to discover the Dell devices.

Installing Dell OpenManage Connection on Tivoli Integrated Portal (TIP) components

The **Dell-OMC-ITNM-TIP-Server-Integration** folder contains the following folders and files:

- **cgi-bin**
- **configuration**
- **dynamictemplates**

- menus
- resource
- tools_3.9
- tools_4.1
- dellomc_int_itnm_tip_server.ver

1. Navigate to the **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-OMC-ITNM-TIP-Server-Integration\resource** folder and copy the icon files (.svg) from the **resource** folder to the **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\resource** folder.
2. Navigate to the **configuration** folder and insert the contents of the **topoviz.properties** file to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\topoviz.properties** file.

   For information about the contents of the **topoviz.properties** file that you must insert, see "Dell Specified Changes for **topoviz.properties**" in Appendix.
3. Insert the content of the **Dell-OMC-ITNM-TIP-Server-Integration\configuration\ncimMetaData.xml** file to the **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\ncimMetaData.xml** file.

   For information about the contents of the **ncimMetaData.xml** file that you must insert, see "Dell Specified Changes for **ncimMetaData.xml**" in Appendix.
4. Insert the content of the **Dell-OMC-ITNM-TIP-Server-Integration\dynamictemplates\ip_default.xml** file to the **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\dynamictemplates\ip_default.xml** file.

   For information about the contents of the **ip_default.xml** file that you must insert, see "Dell Specified Changes for **ip_default.xml**" in Appendix.
5. Navigate to **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-OMC-ITNM-TIP-Server-Integration\menus** and insert contents of the **ncp_topoviz_device_menu.xml** file to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\menus\ncp_topoviz_device_menu.xml** before the end of the definition (**</definition>**) tag.

   For information about the contents of the **ncp_topoviz_device_menu.xml** file that you must insert, see "Dell Specified Changes for **ncp_topoviz_device_menu.xml** " in Appendix.
6. Navigate to **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-OMC-ITNM-TIP-Server-Integration\menus** and copy the **ncp_delltools.xml** file to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\menus** folder.
7. To deploy Dell OpenManage Connection on a system running ITNM IP Edition version 3.9, navigate to the **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-OMC-ITNM-TIP-Server-Integration\tools_3.9** and copy the following files to the **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** folder.

   If you are deploying Dell OpenManage Connection on a system running ITNM IP Edition version 4.1 or 4.1.1, navigate to the **Dell-OpenManage-Connection-for-ITNM-3.0\Dell-OMC-ITNM-TIP-Server-Integration\tools_4.1** and copy the following files to the **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** folder.
   - ncp_dell_idrac_launch
   - ncp_dell_drac_launch
   - ncp_dell_fx2_cmc_launch
   - ncp_dell_vrtx_cmc_launch
   - ncp_dell_cmc_launch
   - ncp_dell_compellent_console_launch
   - ncp_dell_compellent_enterprise_console_launch
   - ncp_dell_eql_console_launch
   - ncp_dell_mdarray_console_launch
   - ncp_dell_aruba_launch

- ncp_dell_nseriesswitchadmin_console_launch
- ncp_dell_omnm_launch
- ncp_dell_omsa_launch
- ncp_dell_ome_launch
- ncp_dell_ompc_launch
- ncp_dell_dws_launch
- ncp_dell_dclm_launch
- ncp_dell_warranty_info

8. Navigate to the **Dell-Utilities** folder and copy the **dell** folder to **%NCHOME%\precision** folder.

   NOTE: This step is not applicable for a standalone setup.

9. Navigate to the **cgi-bin** folder, open the **delltoollauncher.cgi** file and add the Perl binary path (absolute) in the first line, based on the operating system installed and the location where Perl is installed. The default path is:
   - *On systems running Windows* — `%NCHOME%\precision\perl\bin\perl.exe`
   - *On systems running Linux* — `$NCHOME/precision/perl/bin/perl`
10. Restart the Web GUI services.
11. Navigate to the **configuration** folder and run the following command:

    ```
    %NCHOME%\omnibus_webgui\waapi\bin\runwaapi -host <IP address/host name> -
    user <user name> -password <Web GUI password> -file export.xml
    ```

    NOTE: To run WAAPI commands, you must be a member of the Webtop Administrator group.

12. For distributed servers, from the core component's **%NCHOME\etc\security\keys** folder, copy the **conf.key** file to the**%NCHOME%\etc\security\keys** folder.

    NOTE: Before copying the **conf.key** file from the core component, create a backup of the original **conf.key** in the TIP Server.

13. Navigate to **%TIPHOME%/profiles/TIPProfile/installedApps/TIPCell/isc.ear/ncp_webtools_tip.war/WEB-INF/lib** folder and verify the driver name. If the driver bears a name other than **ifxjdbc.jar**, **ojdbc14.jar**, **mysql-connector-java-3.1.10-bin.jar**, or **db2jcc.jar**, then create a link to the actual database driver name by running the following commands:

    For systems running Windows:

    ```
    mklink <Given Database Driver> <Actual Database Driver>
    ```

    For systems running Linux:

    ```
    ln -s <Actual Database Driver> <Given Database Driver>
    ```

    For Example:

    If the actual database driver for MYSQL is **mysql-connector-java-5.1.27-bin.jar**, then create a link by running the following command:

    Windows:

    ```
    mklink mysql-connector-java-3.1.10-bin.jar mysql-connector-java-5.1.27-
    bin.jar
    ```

    Linux:

    ```
    ln -s mysql-connector-java-5.1.27-bin.jar mysql-connector-java-3.1.10-
    bin.jar
    ```

If the actual database driver for Oracle is **ojdbc6.jar**, then create a link by running the following command:

Windows:

```
mklink ojdbc14.jar ojdbc6.jar
```

Linux:

```
ln -s ojdbc6.jar ojdbc14.jar
```

14. Navigate to the **Dell-OMC-ITNM-TIP-Server-Integration** folder and copy the **dellomc_int_itnm_tip_server.ver** file to the **"%NCHOME%\precision"** folder.
15. Restart the TIP server component.
16. Discover the Dell devices.

    After the discovery is complete, you can view the Dell Managed systems hierarchy in **Availability → Network View.**

3

Configuring Dell OpenManage Connection

The Dell OpenManage Connection for ITNM IP Edition should be configured for various components in order to monitor Dell devices. The configuration procedure for the various Dell tools are provided in the sections below.

Configuring Dell Connections License Manager (DCLM) parameters

The DCLM parameters should be configured in the Core Components to be able to use Dell Connections licenses in order to enable server management capabilities and integrations such as out-of-band monitoring. To configure the DCLM parameters such as DCLM URL, domain, user name, and password, run the following command:

```
%NCHOME%\precision\dell java –jar dell_OMC_ITNM_ConfigUtility_v_3_0.jar -
<parameter>=<value>
```

You can configure DCLM using one or more of the following parameters:

- `dclmusername` — Specifies the DCLM web service username.
- `dclmpassword` — Specifies the DCLM web service password.
- `dclmwebserviceurl` — Specifies the DCLM web service URL.
- `dclmdomain` — Specifies the DCLM domain name.

For example:

```
java –jar dell_OMC_ITNM_ConfigUtility_v_3_0.jar -dclmusername=Administrator  -
dclmwebserviceurl=http://dclmserver.domain.com:8543/web/LicenseService.asmx  -
dclmdomain=dclmdomain.com -dclmpassword
```

NOTE: When running the command, type in a password value when prompted for `dclmpassword`. Ensure that you are using Java version `jre1.7.0_21` or above.

Configuring Database parameters

The Database (DB) parameters should be configured in both the Core Components and the Web GUI components to establish communication between the installed database and the discovered Dell devices. To configure the database (DB) parameters, run the following command:

```
java –jar dell_OMC_ITNM_ConfigUtility_v_3_0.jar -<parameter>=<value>
```

You can configure the database using one or more of the following parameters:

- `dbusername` — Specifies the database username.

- `dbpassword` — Specifies the database password.
- `dbhostname` — Specifies the database host name with port.
- `dbtype` — Specifies the database type. The possible options for database type are:
  - Informix
  - Oracle
  - DB2
  - MySQL

For example:

```
java –jar dell_OMC_ITNM_ConfigUtility_v_3_0.jar -dbusername=ncim -
dbhostname=DBHOST:9088 -dbtype=Informix -dbpassword
```

NOTE: When running the command, type in a password value when prompted for `dbpassword`.

Configuring WS-MAN parameters

The WS-MAN parameters should be configured in both the Core Components and the Web GUI Components to monitor (in-band) the discovered Dell servers and workstations running ESXi. To configure the WS-MAN parameters, run the following command.

```
java –jar dell_OMC_ITNM_ConfigUtility_v_3_0.jar -<parameter>=<value> ..
```

You can configure WS-MAN using one or more of the following parameters:

- `wsmanusername` — Specifies the WS-MAN username.
- `wsmanpassword` — Specifies the WS-MAN password.
- `wsmantimeout` — Specifies the WS-MAN time-out value in milliseconds.

For example:

```
java –jar dell_OMC_ITNM_ConfigUtility_v_3_0.jar –wsmanusername=root –
wsmanpassword –wsmantimeout=15000
```

NOTE: When running the command, type in a password value when prompted for `wsmanpassword`.

Configuring Dell OpenManage Essentials console launch tool

The Dell OpenManage Essentials (OME) console should be configured in the Web GUI Component. To configure the OME console launch tool, navigate to **%NCHOME%\precision\profiles\TIPProfile \etc\tnm\tools** and edit the **ncp_dell_ome_launch.xml** file by replacing the placeholders for the OME IP address and port in the following URL:

```
https://OME_IP_Address_OR_Host:OME_Port
```

For example:

https://test.domain.com:2607

Configuring Dell OpenManage Power Center console launch tool

The Dell OpenManage Power Center (OMPC) console should be configured in the Web GUI Component. To configure the OMPC console launch tool, navigate to **%NCHOME%\precision \profiles\TIPProfile\etc\tnm\tools** and edit the **ncp_dell_ompc_launch.xml** file by replacing the placeholders for the OMPC IP address and port in the following URL:

```
https://OMPC_IP_Address_OR_Host:OMPC_Port/powercenter
```

For example:

https://host.domain.com:8643/powercenter

Configuring Dell OpenManage Web Server Administrator (DWS) console launch tool

The DWS console should be configured in the Web GUI Component. To configure the DWS console launch tool, navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** and edit the **ncp_dell_dws_launch.xml** file by replacing the placeholders for the OMSA web server host and port in the following URL:

```
https://OMSA_Web_Server_Host:OMSA_Web_Server_Port
```

For example:

https://host.domain.com:1311

Configuring Dell Connections License Manager (DCLM) tool

The DCLM console launch tool should be configured in the Web GUI Component. To configure the DCLM console launch tool, navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** and edit the **ncp_dell_dclm_launch.xml** file by replacing the placeholders for DCLM IP address and port in the following URL:

```
http://DCLM_IP:DCLM_Port/DellLicenseManagement
```

For example:

```
http://DCLM.domain.com:8544/DellLicenseManagement
```

Configuring Dell Compellent Enterprise Manager Client console launch tool

The Compellent Enterprise Manager Client console must be configured in the Web GUI component. To configure the Dell Compellent Enterprise Manager Client console launch tool:

Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** folder and edit the **ncp_dell_compellent_enterprise_console_launch.xml** file by replacing the value of the `text` tag in the command element with the path where the Dell Compellent Enterprise Manager Client is installed. For example:

- *For systems running Windows:*

  ```
  "cd %ProgramFiles(x86)%\\Compellent Technologies\\Compellent Enterprise
  Manager\\msagui\\ &amp;amp; start EnterpriseClient.exe &amp;amp; exit"
  ```

Configuring Dell Modular Disk Storage Manager console launch tool

The Dell PowerVault Modular Disk Storage Manager must be configured in the Web GUI component. To configure the Dell PowerVault Modular Disk Storage Manager console launch tool:

Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** folder and edit the **ncp_dell_mdarray_console_launch.xml** file by replacing the value of the `text` tag in the command element with the path where the Dell PowerVault Modular Disk Storage Manager client is installed. For example:

- *For systems running Windows:*

  ```
  "C:\\Program Files (x86)\\Dell\\MD Storage Software\\MD Storage Manager\
  \client\\Modular Disk Storage Manager Client.exe"
  ```

- *For systems running Linux:*

  ```
  "/opt/dell/mdstoragesoftware/mdstoragemanager/client/SMclient"
  ```

Configuring Dell OpenManage Network Manager (OMNM) console launch tool

You can monitor Dell switches by launching the OMNM console. The OMNM console should be configured in the Web GUI component.

To configure the OMNM console launch tool, navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** and edit the **ncp_dell_omnm_launch.xml** file by replacing the placeholders for OMNM IP address and port in the following URL:

```
http://OMNM_IP_Address_OR_Host:OMNM_Port
```

For example:

```
http://192.168.10.12:8080
```

Configuring Dell AirWave Management Platform console

You can monitor Dell W-Series switches by launching the Dell AirWave Management Platform console. The Dell AirWave Management Platform console should be configured in the Web GUI Component.

To configure the Dell AirWave Management Platform console launch tool, navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** and edit the **ncp_dell_aruba_launch.xml** file by replacing the placeholders for Dell AirWave Management Platform IP address in the following URL:

```
https://airwavemanagementplatform_IP_Address
```

For example:

```
https://192.168.10.13
```

Configuring Dell Warranty Report tool

The Dell Warranty Report tool is used to retrieve warranty information about the Dell devices that you are monitoring.

The Warranty Report tool should be configured in the Web GUI server if you do not have direct internet access and are using proxy settings to access the internet. In this case, on systems running Linux, ensure to resolve the host name `api.dell.com` in the file `/etc/host`. On systems running Windows, ensure to resolve the host name `api.dell.com` in the file `C:\Windows\System32\drivers\etc\hosts`.

For example:

143.166.11.198 api.dell.com

NOTE: The following Dell tools do not require any specific configuration procedure:

- Dell OpenManage Server Administrator Console
- Dell iDRAC Console
- Dell Remote Access Controller Console
- Dell FX2 Chassis Management Controller Console
- Dell VRTX Chassis Management Controller Console
- Dell Chassis Management Controller Console
- Dell EqualLogic Group Manager Console
- Dell Compellent Storage Manager Console
- Dell OpenManage Switch Administrator Console

4

Upgrading Dell OpenManage Connection

To upgrade to Dell OpenManage Connection version 3.0 for ITNM IP Edition:

1. Uninstall the existing connection. For more information, see the *Dell OpenManage Connection for ITNM Installation Guide*, for the existing version, at **dell.com/omconnectionsEnterpriseSystemsManagement**.
2. Install the latest version using the installation procedure described in Installing Dell OpenManage Connection.

5

Uninstalling Dell OpenManage Connection

The steps for uninstalling Dell OpenManage Connection for ITNM IP Edition are described in the following sections:

- Uninstalling Dell OpenManage Connection from TIP Components.
- Uninstalling Dell OpenManage Connection from Core Components.
- Uninstalling Dell OpenManage Connection from Database Integration.

Uninstalling Dell OpenManage Connection from TIP components

To uninstall Dell OpenManage Connection for ITNM IP Edition from Tivoli Integrated Portal (TIP) components:

1. Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\topoviz.properties** and delete the Dell image-specific entries.

   For information about the contents of the **topoviz.properties** file that you must delete, see "Dell Specified Changes for **topoviz.properties**" in Appendix.
2. Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\resource** Network Manager TIP server folder and delete the **dell_*.svg** Dell icon files.
3. Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\dynamictemplates\ip_default.xml** and delete the Dell-specific content.

   For information about the contents of the **ip_default.xml** file that you must delete, see "Dell Specified Changes for **ip_default.xml**" in Appendix.
4. Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\menus \ncp_topoviz_device_menu.xml**, delete the **ncp_delltools.xml** file.

   For information about the contents of the **ncp_topoviz_device_menu.xml** file that you must delete, see "Dell Specified Changes for **ncp_topoviz_device_menu.xml**" in Appendix.
5. Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\menus** folder and delete **ncp_delltools.xml** file.
6. Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\tools** folder and delete all Dell-specific tool xml files (**ncp_dell_*.xml**).
7. Navigate to **%NCHOME%\precision\profiles\TIPProfile\etc\tnm\ncimMetaData.xml** and delete the Dell-specific content.

   For information about the contents of the **ncimMetaData.xml** file that you must delete, see "Dell Specified Changes for **ncimMetaData.xml**" in Appendix.
8. On TIP, navigate to **Administration → Event Management Tools → CGI Registry** and unregister the **delltoollauncher.cgi** file.

9. Navigate to **%NCHOME%\precision** and delete the **dell** folder.
10. Navigate to **%NCHOME%\omnibus_webgui\etc\cgi-bin** folder and delete the **delltoollauncher.cgi** file.
11. Navigate to **%NCHOME%\precision** and delete the **dellomc_int_itnm_tip.ver** file.
12. Restart the TIP service.

Uninstalling Dell OpenManage Connection from Core components

To uninstall the Dell OpenManage Connection for ITNM IP Edition from core components

1. Delete the Dell agents by running the command:

   ```
   %NCHOME%\precision\bin\ncp_agent_registrar -remove <Agent Name1,Agent Name2,..Agent Name'n'>
   ```

   For example:

   ```
   %NCHOME%\precision\bin\ncp_agent_registrar -remove DellServerSNMP,DellOOBServer,DellServerWsman,DellDRAC,DellCompellent,DellCSeriesSwitch
   ```
2. Navigate to **%NCHOME%\precision\disco\agents** Network Manager Core server folder and delete the **Dell*.agnt** files.
3. Navigate to **%NCHOME%\precision\disco\agents\perlAgents** folder and delete the **Dell*.pl** files.
4. If you are uninstalling Dell OpenManage Connection for ITNM IP edition 3.9, navigate to **%NCHOME %\precision\aoc** folder and delete the Dell specific **.aoc** files.

   If you are uninstalling Dell OpenManage Connection for ITNM IP edition 4.1 or 4.1.1, then navigate to **%NCHOME%\precision**, undo the changes made to the contents of the **Dell.aoc** and the **DellSNMP.aoc** files during installation and then delete all the Dell specific `.aoc` files.
5. Navigate to **%NCHOME%\etc\precision\aoc\EndNode.aoc** file and delete the Dell device-specific changes from the file.

   For information on the contents of the **EndNode.aoc** file that you must delete, see "Dell Specified Changes for **EndNode.aoc**" in Appendix.
6. Navigate to **%NCHOME%\etc\precision\ClassSchema.cfg** file and delete the Dell device-specific class ID from the file.

   For information on the contents of the **ClassSchema.cfg** file that you must delete, see "Dell Specified Changes for **ClassSchema.cfg**" in Appendix.
7. To uninstall Dell OpenManage Connection on a system running ITNM IP Edition 3.9, navigate to **%NCHOME%\etc\precision\DbEntityDetails.<domain>.cfg** and delete the Dell specific contents.

   To uninstall Dell OpenManage Connection on a system running ITNM IP Edition 4.1 or 4.1.1, navigate to**$NCHOME\etc\precision\ModelNcimDb.<domain>.cfg** and delete the contents of the `ModelNcimDb.domain.cfg` file.

   For information about the contents of the **ModelNcimDb.domain.cfg** and **DbEntityDetails.domain.cfg** file that you must copy, see "Dell Specified Changes for **ModelNcimDb.domain.cfg**" and "Dell Specified Changes for **DbEntityDetails.domain.cfg**" in Appendix.
8. Navigate to the **%NCHOME%\probes\<ARCH>\nco_p_ncpmonitor.rules** file and delete the Dell specific content.

   For information on the contents of the **nco_p_ncpmonitor.rules** file that you must delete, see "Dell Specified Changes for **nco_p_ncpmonitor.rules**" in Appendix.

9. On the Tivoli Integrated Portal, navigate to **Administration → Network → Network Polling → PollPolicies**, disable and delete the Dell poll policy files.

   For information about the Dell poll policy files, see "Dell specific poll policies, poll policy files, and poll definitions" in Appendix.

10. On the Tivoli Integrated Portal, navigate to **Administration → Network → Network Polling → PollDefinitions** tab and delete the Dell specific poll definitions.

    For information about the Dell specific poll policies and poll definitions, see "Dell specific poll policies, poll policy files, and poll definitions" in Appendix.

11. Navigate to the **%NCHOME%\precision\dell\scripts** folder and delete the configured periodic polling supported Dell devices by running the following commands:

    - DCLM
      - On systems running Windows:
        `scheduleTask.bat remove DCLM_POLL`
      - On systems running Linux:
        `sh cronJob.sh remove DCLM_POLL`
    - Dell Servers running VMware ESXi
      - On systems running Windows:
        `scheduleTask.bat remove ESXi_POLL`
      - On systems running Linux:
        `sh cronJob.sh remove ESXi_POLL`
    - Dell Workstations running VMware ESXi
      - On systems running Windows:
        `scheduleTask.bat remove ESXi_WORKSTATION_POLL`
      - On systems running Linux
        `sh cronJob.sh remove ESXi_WORKSTATION_POLL`
    - EqualLogic PS-Series Storage Array
      - On systems running Windows:
        `scheduleTask.bat remove EQL_POLL`
      - On systems running Linux:
        `sh cronJob.sh remove EQL_POLL`
    - Dell PowerVault MD Storage Array
      - On systems running Windows:
        `scheduleTask.bat remove MDARRAY_POLL`
      - On systems running Linux:
        `sh cronJob.sh remove MDARRAY_POLL`
    - Dell S-Series switches
      - On systems running Windows:
        `scheduleTask.bat remove DELL_S_SERIES_POLL`
      - On systems running Linux:
        `sh cronJob.sh remove DELL_S_SERIES_POLL`
    - Dell OEM servers running VMware ESXi
      - On systems running Windows:
        `scheduleTask.bat remove ESXi_OEM_POLL`

– On systems running Linux:
`sh cronJob.sh remove ESXi_OEM_POLL`

12. Navigate to the **%NCHOME%\precision\dell\scripts** folder and delete the periodic license synchronization with DCLM by running the following command:
    - *On systems running Windows* — `scheduleTask.bat remove LICENSE_SYNCH`
    - *On systems running Linux* — `cronJob.sh remove LICENSE_SYNCH`
13. Delete the **%NCHOME%\precision\dell** folder.
14. Navigate to the **%NCHOME%\precision\mibs** folder and delete the Dell specific MIB files.
15. Run the following command:
    `%NCHOME%\precision\platform\<Arch>\bin\ncp_mib`
16. Navigate to the **%NCHOME%\precision** folder and delete the **dellomc_int_itnm_core.ver** file.
17. On systems running Windows, restart the **ncp_ctrl** service to restart the Network Manager core services. On systems running Linux, use the commands **itnm_stop ncp** and **itnm_start ncp** to restart the Network Manager core services.

Uninstalling Dell OpenManage Connection from Database integration

To uninstall Dell OpenManage Connection on a system running ITNM IP Edition 3.9, skip steps 1 and 2.

1. Navigate to the **%NCHOME%/precision/scripts/sql/solid** folder and run the following command:
   `populate_dell_custom.sh <CATLOG> <User> <Password> delete [<Port>]`

   For example:

   `populate_dell_custom.sh itnm root admin delete 50000`

   NOTE: Ensure that the **ncp_disco** process is running.
2. Navigate to the **$NCHOME/precision/scripts/sql/solid** folder and delete the following files:
   - `create_dellDevice_SOLIDDB.sql`
   - `populate_dell_custom.sh`
3. Stop the ITNM core services by using the following commands depending on your operating system:
   - On systems running Windows: **Stop ncp_ctrl service**
   - On systems running Linux: **itnm_stop ncp**
4. Drop all Dell-specific tables and views by running the corresponding database-specific script file **drop_dellDevice_<Database>.sql**.
   - For Informix database:
     `dbaccess itnm drop_dellDevice_Informix.sql`

     NOTE: Log in as an Informix user before running the command.
   - For DB2 database, connect to DB2 and run the following command:
     `db2batch -d itnm -f drop_dellDevice_DB2.sql`
   - For MySQL database:
     `mysql -u <db user name> -p < drop_dellDevice_Mysql.sql`
   - For Oracle database:
     `sqlplus -s <Oracle DB user name>/<Password> @drop_dellDevice_Oracle.sql`
5. Navigate to **%NCHOME%\precision** folder and delete the **%NCHOME%\precision \dellomc_int_itnm_topo_db.ver** file.

6

Appendix

This section contains information present in the files that are used to install the Dell OpenManage Connection version 3.0 for IBM Tivoli Network Manager (ITNM) IP Edition.

How to insert or append information format

The information in the files are presented in the following format:

- // Dell specified changes - START — This commented text marks the start of the file information.
- The information that you must include in the ITNM component files.
- // Dell specified changes - END — This commented text marks the end of the file information.

When inserting or appending information to ITNM component files, include the commented text so that you can distinguish the file information.

Dell specific poll policies, poll policy files, and poll definitions

Table 7. Dell Devices and their supported poll policies, Poll policy files and definitions

Dell Device	Dell Poll Policy (Poll Policy File)	Poll Definition
Dell OEM Servers (Agent free)	OEMiDRACPoll OEMiDRACPollPolicy.xml	OEMiDRACCriticalDef OEMiDRACWarningDef
Dell OEM Servers	OEMServerPoll OEMServerPollPolicy.xml	OEMServerCriticalDef OEMServerWarningDef
Dell PowerEdge Servers	DellServerPoll (DellServerPollPolicy.XML)	DellServerCriticalDef DellServerWarningDef
Dell Workstations	DellWorkstationPoll (DellWorkstationPollPolicy.XML)	DellWorkstationWarningDef DellWorkstationCriticalDef
iDRAC8	DelliDRAC8Poll (DelliDRAC8PollPolicy.XML)	DelliDRAC8CriticalDef DelliDRAC8WarningDef
iDRAC7	DelliDRAC7Poll (DelliDRAC7PollPolicy.XML)	DelliDRAC7CriticalDef DelliDRAC7WarningDef
iDRAC6 and DRAC5	DellDRACPoll	DellDRACCriticalDef

Dell Device	Dell Poll Policy (Poll Policy File)	Poll Definition
	(DellDRACPollPolicy.XML)	DellDRACWarningDef
FX2 CMC	DellFX2CMCPoll (DellFX2CMCPollPolicy.XML)	DellFX2CMCCriticalDef DellFX2CMCWarningDef
VRTX CMC	DellVRTXCMCPoll (DellVRTXCMCPollPolicy.XML)	DellVRTXCMCCriticalDef DellVRTXCMCWarningDef
CMC	DellCMCPoll (DellCMCPollPolicy.XML)	DellCMCCriticalDef DellCMCWarningDef
Dell Compellent Storage Arrays	DellCompellentPoll (DellCompellentPollPolicy.XML)	DellCompellentCriticalDef DellCompellentWarningDef
Dell PowerVault NX Storage Arrays	DellPowerVaultNXPoll (DellPowerVaultNXPollPolicy.XML)	DellPowerVaultNXCriticalDef DellPowerVaultNXWarningDef
Dell PowerVault MD Storage Arrays	DellMDStoragePoll (DellMDStoragePollPolicy.XML)	DellMDStorageArrayWarningDef
M-Series switches	DellM-SeriesPoll (DellM-SeriesPollPolicy.XML)	DellMSeriesSwitchCriticalDef DellMSeriesSwitchWarningDef
Z-Series switches	DellZ-SeriesPoll (DellZ-SeriesPollPolicy.XML)	DellZSeriesSwitchCriticalDef DellZSeriesSwitchWarningDef
C-Series switches	DellC-SeriesPoll (DellC-SeriesPollPolicy.XML)	DellCSeriesSwitchCriticalDef DellCSeriesWarningDef
N-Series switches	DellN-SeriesPoll (DellN-SeriesPollPolicy.XML)	DellNSeriesSwitchCriticalDef DellNSeriesSwitchWarningDef
W-Series switches	DellW-SeriesPoll (DellW-SeriesPollPolicy.XML)	DellWSeriesSwitchCriticalDef

NOTE: To configure the periodic polling for other Dell devices such as DCLM, Dell servers or Workstations running VMware ESXi, EqualLogic Storage Arrays, Dell PowerVault MD Storage Arrays (with no SNMP support), or Dell S-Series switches, run the respective commands as listed in step 21. in the section *Installing Dell OpenManage Connection for Network Manager on Core Components*.

Dell specified changes for ModelNcimDb.domain.cfg

```
// Dell specified changes - START

insert into dbModel.entityMap
(
        EntityFilter,
        TableName,
```

```
        FieldMap
)
values
(
    "(m_EntityType = 1 OR m_EntityType = 8) AND (m_ExtraInfo->m_Dell-
>m_ProductType IS NOT NULL)",
    "delldevicemaster",

 {
           entityId        = "eval(int,  '&m_EntityId')",
            classname       = "eval(text, '&m_ExtraInfo->m_ClassName')",
            servicetag      = "eval(text, '&m_ExtraInfo->m_Dell-
>m_ServiceTag')",
            chassistag      = "eval(text, '&m_ExtraInfo->m_Dell-
>m_ChassisServiceTag')",
            producttype     = "eval(text, '&m_ExtraInfo->m_Dell-
>m_ProductType')",
           isOEM             = "eval(text, '&m_ExtraInfo->m_Dell->m_isOEM)",
            osname          = "eval(text, '&m_ExtraInfo->m_Dell->m_OSName')",
            eqlMemberIndex  = "eval(text, '&m_ExtraInfo->m_Dell-
>m_EqlMemberIndex')",
            eqlGroupIP      = "eval(text, '&m_ExtraInfo->m_Dell-
>m_EqlGroupIP')",
            eqlStoragePool  = "eval(text, '&m_ExtraInfo->m_Dell-
>m_EqlStoragePool')",
            cmcservicetags  = "eval(text, '&m_ExtraInfo->m_Dell-
>m_CMCServersServiceTag')"
    }
);

// Dell specified changes - END
```

Dell specified changes for Dell.aoc

```
// Dell specified changes – START

active object 'Dell'
{


    super_class = 'NetworkDevice';

    instantiate_rule = "EntityOID like '1\.3\.6\.1\.4\.1\.674\.' OR
                        EntityOID like '1\.3\.6\.1\.4\.1\.1981\.'";

    visual_icon = 'NetworkDevice';

};

// Dell specified changes - END
```

Dell specified changes for DellSNMP.aoc

```
// Dell specified changes – START

active object 'DellSNMP'
{
    super_class = 'Dell';

    instantiate_rule = "EntityOID = '1.3.6.1.4.1.674.10892.2'
                       OR
```

```
                        EntityOID = '1.3.6.1.4.1.674.10892.5'
                        OR
                        EntityOID = '1.3.6.1.4.1.674.10893.2.31'
                        OR
                        EntityOID like '1\.3\.6\.1\.4\.1\.674\.10895' ";

    visual_icon = 'NetworkDevice';
};

// Dell specified changes - END
```

Dell specified changes for ClassSchema.cfg

```
// Dell specified changes – START

insert into class.classIds values (17950, 'DellServerMonolithicWindows');
insert into class.classIds values (17951, 'DellServerMonolithicLinux');
insert into class.classIds values (17952, 'DellServerModularWindows');
insert into class.classIds values (17953, 'DellServerModularLinux');
insert into class.classIds values (17954, 'DellCMC');
insert into class.classIds values (17956, 'DellDRAC5');
insert into class.classIds values (17957, 'DelliDRAC6');
insert into class.classIds values (17958, 'DelliDRAC7');
insert into class.classIds values (17959, 'DellEqualLogic');
insert into class.classIds values (17960, 'DellServerMonolithicESXi');
insert into class.classIds values (17961, 'DellServerModularESXi');
insert into class.classIds values (17962, 'DellMDArray');
insert into class.classIds values (17963, 'DellVRTXCMC');
insert into class.classIds values (17964, 'DellFX2CMC');
insert into class.classIds values (17965, 'DellCompellent');
insert into class.classIds values (17966, 'DellWorkstationWindows');
insert into class.classIds values (17967, 'DellWorkstationLinux');
insert into class.classIds values (17968, 'DellWorkstationESXi');
insert into class.classIds values (17979, 'DelliDRAC8');
insert into class.classIds values (17980, 'DellMDArraySNMP');
insert into class.classIds values (17981, 'DellMSeriesSwitch');
insert into class.classIds values (17982, 'DellZSeriesSwitch');
insert into class.classIds values (17983, 'DellSSeriesSwitch');
insert into class.classIds values (17984, 'DellCSeriesSwitch');
insert into class.classIds values (17985, 'DellNSeriesSwitch');
insert into class.classIds values (17986, 'DellWSeriesMobilityController');
insert into class.classIds values (17987, 'DellPowerVaultNX');
insert into class.classIds values (17988, 'OEMServerMonolithicWindows');
insert into class.classIds values (17989, 'OEMServerMonolithicLinux');
insert into class.classIds values (17990, 'OEMServerModularWindows');
insert into class.classIds values (17991, 'OEMServerModularLinux');
insert into class.classIds values (17992, 'OEMServerMonolithicESXi');
insert into class.classIds values (17993, 'OEMServerModularESXi');
insert into class.classIds values (17994, 'OEMiDRAC7');
insert into class.classIds values (17995, 'OEMiDRAC8');

// Dell specified changes - END
```

Dell specified changes for DbEntityDetails.domain.cfg

```
// Dell specified changes – START

insert into dbModel.entityMap
(
 EntityFilter,
 TableName,
```

```
 FieldMap
)
values
(
    "(EntityType = 1 or EntityType = 8) and (ExtraInfo->m_Dell->m_ProductType
is not NULL)",
    "delldevicemaster",
    {
    entityid = "eval(int, '&ObjectId')",
    classname = "eval(text, '&ClassName')",
    servicetag = "eval(text, '&ExtraInfo->m_Dell->m_ServiceTag')",
    chassistag = "eval(text, '&ExtraInfo->m_Dell->m_ChassisServiceTag')",
    producttype = "eval(text, '&ExtraInfo->m_Dell->m_ProductType')",
    isOEM = "eval(text, '&ExtraInfo->m_Dell->m_isOEM)",
    osname = "eval(text, '&'ExtraInfo->m_Dell->m_OSName')",
    eqlMemberIndex = "eval(text, '&ExtraInfo>m_Dell->m_EqlMemberIndex')",
    eqlGroupIP = "eval(text, '&ExtraInfo>m_Dell->m_EqlGroupIP')",
    eqlStoragePool = "eval(text, '&ExtraInfo>m_Dell->m_EqlStoragePool')",
    cmcservicetags = "eval(text, '&ExtraInfo>m_Dell-
>m_CMCServersServiceTag')
   }
);

// Dell specified changes - END
```

Dell specified changes for nco_p_ncpmonitor.rules

```
// Dell specified changes - START

case "POLL-DellServerCriticalDef" | "POLL-DellServerWarningDef":
    @Class = 2080
    @AlertGroup = "DellServer"
case "POLL-OEMServerCriticalDef" | "POLL-OEMServerWarningDef":
    @Class = 2080
    @AlertGroup = "OEMServer"
case "POLL-DellWorkstationCriticalDef" | "POLL-DellWorkstationWarningDef":
    @Class = 2080
    @AlertGroup = "DellWorkstation"
case "POLL-DellPowerVaultNXCriticalDef" | "POLL-DellPowerVaultNXWarningDef":
    @Class = 2080
    @AlertGroup = "DellPowerVaultNX"
case "POLL-DellCMCCriticalDef" | "POLL-DellCMCWarningDef":
    @Class = 2094
    @AlertGroup = "DellCMC"
case "POLL-DellDRACCriticalDef" | "POLL-DellDRACWarningDef":
    @Class = 2087
    @AlertGroup = "DellDRAC"
case "POLL-DelliDRAC7CriticalDef" | "POLL-DelliDRAC7WarningDef":
    @Class = 2088
    @AlertGroup = "Dell iDRAC7"
case "POLL-DelliDRAC8CriticalDef" | "POLL-DelliDRAC8WarningDef":
    @Class = 2088
    @AlertGroup = "Dell iDRAC8"
case "POLL-OEMiDRACCriticalDef" | "POLL-OEMiDRACWarningDef":
    @Class = 2088
    @AlertGroup = "OEM iDRAC"
case "POLL-DellVRTXCMCCriticalDef" | "POLL-DellVRTXCMCWarningDef":
    @Class = 2094
    @AlertGroup = "DellVRTXCMC"
case "POLL-DellFX2CMCCriticalDef" | "POLL-DellFX2CMCWarningDef":
    @Class = 2094
    @AlertGroup = "DellFX2CMC"
```

```
case "POLL-DellCompellentCriticalDef" | "POLL-DellCompellentWarningDef":
    @Class = 2090
    @AlertGroup = "DellCompellent"
case "POLL-DCLMStatus":
    @Class = 2081
    if (match(@Severity, "5"))
    {
        $tmpVal = "5"
    }
    else if (match(@Severity, "2"))
    {
        $tmpVal = "2"
    }
case "POLL-DellEqualLogicStatus":
    @Class = 2085
    if (match(@Severity, "5"))
    {
        $tmpVal = "5"
    }
    else if (match(@Severity, "2"))
    {
        $tmpVal = "2"
    }
    else if (match(@Severity, "3"))
    {
        $tmpVal = "3"
    }
case "POLL-DellESXiServerStatus" | "POLL-DellESXiWorkstationStatus":
    @Class = 2080
    if (match(@Severity, "5"))
    {
        $tmpVal = "5"
    }
    else if (match(@Severity, "2"))
    {
        $tmpVal = "2"
    }
case "POLL-DellMDStorageArrayStatus" | "POLL-DellMDStorageArrayWarningDef":
    @Class = 2809
    @AlertGroup = "DellPowerVaultMD"
    if (match(@Severity, "2"))
    {
        $tmpVal = "2"
    }
    else if (match(@Severity, "3"))
    {
        $tmpVal = "3"
    }
case "POLL-DellMSeriesSwitchCriticalDef" | "POLL-
DellMSeriesSwitchWarningDef":
    @Class = 2091
    @AlertGroup = "DellM-SeriesSwitch"

case "POLL-DellZSeriesSwitchCriticalDef" | "POLL-DellZSeriesSwitchWarningDef":
    @Class = 2091
    @AlertGroup = "DellZ-SeriesSwitch"

case "POLL-DellCSeriesSwitchCriticalDef" | "POLL-DellCSeriesSwitchWarningDef":
    @Class = 2091
    @AlertGroup = "DellC-SeriesSwitch"

case "POLL_DellSSeriesSwitchPoll":
    @Class = 2091
    @AlertGroup = "DellS-SeriesSwitch"
```

```
    if (match(@Severity, "5"))
    {
        $tmpVal = "5"
    }
    else if (match(@Severity, "2"))
    {
        $tmpVal = "2"
    }
case "POLL-DellNSeriesSwitchCriticalDef" | "POLL-
DellNSeriesSwitchWarningDef":
    @Class = 2092
    @AlertGroup = "DellN-SeriesSwitch"

case "POLL-DellWSeriesSwitchCriticalDef":
    @Class = 2093
    @AlertGroup = "DellW-SeriesSwitch"
# Dell specific changes – END

# Append the value of @Identifier, with the new variable $tmpVal, as given
below #
#
#@Identifier = $EntityName + @LocalPriObj + "->" + $EventName + @Type +
@NmosDomainName  + $tmpVal

// Dell specified changes - END
```

Dell specified changes for EndNode.aoc

```
// Dell specified changes - START

OR
(
    EntityOID like '1\.3\.6\.1\.4\.1\.6876\.4\.1'
)

// Dell specified changes - END
```

Dell specified changes for ncimMetaData.xml

```
// Dell specified changes - START

<entityMetaData table="delldevicemaster" manager="AllManagers"
entitySearch="true">
 <dataField tableAlias="d" dataType="int" column="entityid"/>
 <dataField tableAlias="d" dataType="str" column="classname"/>
 <dataField tableAlias="d" dataType="str" column="servicetag"/>
 <dataField tableAlias="d" dataType="str" column="chassistag"/>
 <dataField tableAlias="d" dataType="str" column="producttype"/>
 <dataField tableAlias="d" dataType="str" column="osname"/>
 <dataField tableAlias="d" dataType="str" column="eqlMemberIndex"/>
 <dataField tableAlias="d" dataType="str" column="eqlGroupIP"/>
 <dataField tableAlias="d" dataType="str" column="eqlStoragePool"/>
 <fromTables>
  FROM _ncim_.delldevicemaster d
  INNER JOIN _ncim_.entityDetails ed ON ed.entityId=d.entityId
  WHERE d.entityId = ?
 </fromTables>
</entityMetaData>

// Dell specified changes - END
```

Dell specified changes for topoviz.properties

```
// Dell specified changes - START

topoviz.image.DellServerMonolithic=dell_monolithic.svg
topoviz.image.DellServerModular=dell_modular.svg
topoviz.image.DellCMC=dell_cmc.svg
topoviz.image.DellDRAC5=dell_drac5.svg
topoviz.image.DelliDRAC6=dell_idrac6.svg
topoviz.image.DelliDRAC7=dell_idrac7.svg
topoviz.image.DellEqualLogic=dell_equallogic.svg
topoviz.image.DellMDArray=dell_mdarray.svg
topoviz.image.DellVRTXCMC=dell_vrtxcmc.svg
topoviz.image.DelliDRAC8=dell_idrac8.svg
topoviz.image.DellCompellent=dell_compellent.svg
topoviz.image.DellWorkstationRack=dell_precisionrack.svg
topoviz.image.DellMSeriesSwitch=dell_mseriesswitch.svg
topoviz.image.DellZSeriesSwitch=dell_zseriesswitch.svg
topoviz.image.DellCSeriesSwitch=dell_cseriesswitch.svg
topoviz.image.DellSSeriesSwitch=dell_sseriesswitch.svg
topoviz.image.DellWSeriesMobilityController=dell_wseriesswitch.svg
topoviz.image.DellFX2CMC=dell_fx2cmc.svg
topoviz.image.DellPowerVaultNX=dell_powervaultnx.svg
topoviz.image.DellNSeriesSwitch=dell_nseriesswitch.svg
topoviz.image.OEMServerMonolithic=dell_monolithic.svg
topoviz.image.OEMServerModular=dell_modular.svg
topoviz.image.OEMiDRAC7=dell_idrac7.svg
topoviz.image.OEMiDRAC8=dell_idrac8.svg

// Dell specified changes - END
```

Dell specified changes for ip_default.xml

```
<container id="DellManagedSystems" label="Dell Managed Systems">

// Dell specified changes - START

<container id="DellManagedSystems" label="Dell Managed Systems">
 <container id="DellServers"  label="Dell Servers">
    <dynamicDistinct id="MonolithicServers" label="Monolithic Servers"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellmonolithicservers" field="servicetag"/>
    </dynamicDistinct
    <dynamicDistinct id="ModularServers" label="Modular Servers"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellmodularservers" field="servicetag"/>
    </dynamicDistinct>
    <dynamicDistinct id="WindowsServers" label="Windows Servers"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellwindowsservers" field="servicetag"/>
    </dynamicDistinct>
    <dynamicDistinct id="LinuxServers" label="Linux Servers"
connectivity="ipsubnets" endNodes="true">
        <tableField table="delllinuxservers" field="servicetag"/>
    </dynamicDistinct>
    <dynamicDistinct id="ESXiServers" label="ESXi Servers"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellesxiservers" field="servicetag"/>
    </dynamicDistinct>
</container>
```

```
<container id="DellStorage"  label="Dell Storage">
    <filtered id="MDArrays" label="PowerVault MD Storage"
connectivity="ipsubnets" endNodes="true">
            <filter schema="ncim" table="chassis" filter="className in
('DellMDArray','DellMDArraySNMP')"/>
    </filtered>
    <dynamicDistinct id="EqualLogic" label="EqualLogic PS-Series Storage"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellequallogic" field="eqlGroupIp"/>
        <tableField table="dellequallogic" field="eqlStoragePool"/>
    </dynamicDistinct>
      <dynamicDistinct id="Compellent" label="Compellent Storage"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellcompellent" field="eqlGroupIp"/>
    </dynamicDistinct>
  <dynamicDistinct id="PowerVaultNX" label="PowerVault NX Storage"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellpowervaultnx" field="servicetag"/>
    </dynamicDistinct></container>

<container id="DellChassis"  label="Dell Chassis">
    <dynamicDistinct id="CMC" label="CMC" connectivity="ipsubnets"
endNodes="true">
        <tableField table="dellcmc" field="chassistag"/>
        <tableField table="dellcmc" field="servicetag"/>
    </dynamicDistinct>
    <dynamicDistinct id="VRTXCMC" label="VRTX CMC" connectivity="ipsubnets"
endNodes="true">
        <tableField table="dellvrtxcmc" field="chassistag"/>
        <tableField table="dellvrtxcmc" field="servicetag"/>
    </dynamicDistinct>
      <dynamicDistinct id="FX2CMC" label="FX2 CMC" connectivity="ipsubnets"
endNodes="true">
        <tableField table="dellfx2cmc" field="chassistag"/>
        <tableField table="dellfx2cmc" field="servicetag"/>
    </dynamicDistinct>
</container>

<container id="DellDRACs"  label="Dell DRACs">
    <filtered id="DRAC5" label="DRAC5" connectivity="ipsubnets" endNodes="true">
        <filter schema="ncim" table="delldracs" filter="classname='DellDRAC5'"/>
    </filtered>

    <filtered id="iDRAC7Monolithic" label="iDRAC7 Monolithic"
connectivity="ipsubnets" endNodes="true">
        <schema="ncim" table="delldracs" filter="classname='DelliDRAC7' and
producttype='Monolithic'"/>
    </filtered>

    <filtered id="iDRAC7Modular" label="iDRAC7 Modular"
connectivity="ipsubnets" endNodes="true">
     <filter schema="ncim" table="delldracs" filter="classname='DelliDRAC7' and
producttype='Modular'"/>
    </filtered>

    <filtered id="iDRAC8Monolithic" label="iDRAC8 Monolithic"
connectivity="ipsubnets" endNodes="true">
        <filter schema="ncim" table="delldracs" filter="classname='DelliDRAC8'
and producttype in ('Monolithic','Workstation')"/>
    </filtered>

    <filtered id="iDRAC8Modular" label="iDRAC8 Modular"
connectivity="ipsubnets" endNodes="true">
```

```
        <filter schema="ncim" table="delldracs" filter="classname='DelliDRAC8'
and producttype='Modular'"/>
    </filtered>

    <filtered id="iDRAC6Monolithic" label="iDRAC6 Monolithic"
connectivity="ipsubnets" endNodes="true">
        <filter schema="ncim" table="delldracs" filter="classname='DelliDRAC6'
and producttype='idrac6mono'"/>
    </filtered>

    <filtered id="iDRAC6Modular" label="iDRAC6 Modular"
connectivity="ipsubnets" endNodes="true">
     <filter schema="ncim" table="delldracs" filter="classname='DelliDRAC6' and
producttype='idrac6mod'"/>
    </filtered>
</container>

    <filtered id="DCLM" label="Dell Connection Licensing"
connectivity="ipsubnets" endNodes="true">
    <filter schema="ncmonitor" table="activeEvent"
filter="alertgroup='DellAgentFreeServerLicense'"/>
    </filtered>
</container>

<container id="DellWorkstations"  label="Dell Workstations">
    <dynamicDistinct id="RackWorkstations" label="Rack Workstations"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellrackworkstations" field="servicetag"/>
    </dynamicDistinct>

    <dynamicDistinct id="WindowsWorkstations" label="Windows Workstations"
connectivity="ipsubnets" endNodes="true">
     <tableField table="dellwindowsworkstations" field="servicetag"/>
    </dynamicDistinct>

    <dynamicDistinct id="LinuxWorkstations" label="Linux Workstations"
connectivity="ipsubnets" endNodes="true">
        <tableField table="delllinuxworkstations" field="servicetag"/>
    </dynamicDistinct>

    <dynamicDistinct id="ESXiWorkstations" label="ESXi Workstations"
connectivity="ipsubnets" endNodes="true">
        <tableField table="dellesxiworkstations" field="servicetag"/>
    </dynamicDistinct>

</container>

<container id="DellNetworkSwitches"  label="Dell Network Switches">
    <filtered id="MSwitches" label="M-Series Switches" connectivity="ipsubnets"
endNodes="true">
        <filter schema="ncim" table="chassis"
filter="classname='DellMSeriesSwitch'"/>
      </filtered>

    <filtered id="ZSwitches" label="Z-Series Switches" connectivity="ipsubnets"
endNodes="true">
        <filter schema="ncim" table="chassis"
filter="classname='DellZSeriesSwitch'"/>
      </filtered>

    <filtered id="CSwitches" label="C-Series Switches" connectivity="ipsubnets"
endNodes="true">
        <filter schema="ncim" table="chassis"
filter="classname='DellCSeriesSwitch'"/>
```

```
      </filtered>

    <filtered id="SSwitches" label="S-Series Switches" connectivity="ipsubnets"
endNodes="true">
        <filter schema="ncim" table="chassis"
filter="classname='DellSSeriesSwitch'"/>
      </filtered>

    <filtered id="NSwitches" label="N-Series Switches" connectivity="ipsubnets"
endNodes="true">
        <filter schema="ncim" table="chassis"
filter="classname='DellNSeriesSwitch'"/>
      </filtered>

    <filtered id="WSwitches" label="W-Series Switches" connectivity="ipsubnets"
endNodes="true">
        <filter schema="ncim" table="chassis"
filter="classname='DellWSeriesMobilityController'"/>
      </filtered>
</container>

<container id="DellOEMDevices"  label="Dell OEM Devices">
    <container id="OEMServers"  label="Servers">
        <dynamicDistinct id="OEMMonolithicServers" label="Monolithic Servers"
connectivity="ipsubnets" endNodes="true">
            <tableField table="oemmonolithicservers" field="servicetag"/>
        </dynamicDistinct>
        <dynamicDistinct id="OEMModularServers" label="Modular Servers"
connectivity="ipsubnets" endNodes="true">
            <tableField table="oemmodularservers" field="servicetag"/>
        </dynamicDistinct>
        <dynamicDistinct id="OEMWindowsServers" label="Windows Servers"
connectivity="ipsubnets" endNodes="true">
            <tableField table="oemwindowsservers" field="servicetag"/>
        </dynamicDistinct>
        <dynamicDistinct id="OEMLinuxServers" label="Linux Servers"
connectivity="ipsubnets" endNodes="true">
            <tableField table="oemlinuxservers" field="servicetag"/>
        </dynamicDistinct>
        <dynamicDistinct id="OEMESXiServers" label="ESXi Servers"
connectivity="ipsubnets" endNodes="true">
            <tableField table="oemesxiservers" field="servicetag"/>
        </dynamicDistinct>
    </container>>
</container>


// Dell specified changes - END
```

Dell specified changes for ncp_topoviz_device_menu.xml

```
// Dell specified changes - START

<separator/>
<menu id="ncp_delltools"/>
<separator/>

// Dell specified changes - END
```

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Accessing documents from Dell support site

You can access the required documents in one of the following ways:

- Using the following links:
  - For all Enterprise Systems Management documents — Dell.com/SoftwareSecurityManuals
  - For OpenManage documents — Dell.com/OpenManageManuals
  - For Remote Enterprise Systems Management documents — Dell.com/esmmanuals
  - For OpenManage Connections Enterprise Systems Management documents — Dell.com/OMConnectionsEnterpriseSystemsManagement
  - For Serviceability Tools documents — Dell.com/ServiceabilityTools
  - For OpenManage Connections Client Systems Management documents — Dell.com/DellClientCommandSuiteManuals
- From the Dell Support site:
  a. Go to Dell.com/Support/Home.
  b. Under **Select a product** section, click **Software & Security**.
  c. In the **Software & Security** group box, click the required link from the following:
     - **Enterprise Systems Management**
     - **Remote Enterprise Systems Management**
     - **Serviceability Tools**
     - **Dell Client Command Suite**
     - **Connections Client Systems Management**
  d. To view a document, click the required product version.
- Using search engines:
  - Type the name and version of the document in the search box.

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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. Go to **Dell.com/support.**
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.